



Legal Department

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

October 18, 2017

Chairman Asim Z. Haque
180 East Broad Street
Columbus, Ohio 43215-3793

RE: Case No. 17-2109-EL-BLN
In the Matter of the Letter of Notification Application of AEP Ohio
Transmission Company, Inc. for a Certificate of Environmental
Compatibility and Public Need for the Trimble 138kV Transmission
Line Extension Project

Hector Garcia
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Dear Chairman Haque,

Attached please find a copy of AEP Ohio Transmission Company, Inc.'s ("AEP Ohio Transco") Letter of Notification application for the above-referenced project, which is being submitted pursuant to O.A.C. 4906-6-05.

Copies of this filing will also be submitted to the executive director or the executive director's designee and provided to the OPSB Staff via electronic message.

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

/s/ Christen M. Blend
Christen M. Blend (0086881), Counsel of Record
Hector Garcia (0084517)

Counsel for AEP Ohio Transmission Company, Inc.

cc: John Jones, Counsel OPSB Staff
Jon Pawley, OPSB Staff

LETTER OF NOTIFICATION for the Trimble 138 kV Transmission Line Extension Project



PUCO Case No. 17-2109-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.

October 18, 2017

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.'s Trimble 138 kV Transmission Line Extension 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 Section 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 is proposing to construct the Trimble 138 kV Extension Project (the "Project"), located in Trimble Township, Athens County, Ohio. The Project consists of constructing 1.21 miles of new 138 kV transmission line between the existing Trimble Substation and the existing Crooksville-Poston 138 kV transmission line. Figure 1.1 in Appendix A shows the location of the Project.

The Project meets the requirements for a Letter of Notification ("LON") because it is within the types of projects defined by Item 1(b) of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*.

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

The Project has been assigned PUCO Case No. 17-2109-EL-BLN.

B(2) Statement of Need

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

The Trimble 138 kV line extension is needed to feed the Trimble distribution delivery point. The Trimble distribution delivery point is currently served from the Poston station via the Poston – Trimble 69 kV line (approximately 9.7-mile radial line). Poston station will be removed and Lemaster station will be built to replace it. Thus, the Trimble distribution delivery point will be served from the Philo – Rutland 138 kV line (Poston – Strouds Run – Crooksville 138 kV circuit). The Trimble distribution delivery point is approximately one mile away from the Philo – Rutland 138 kV line.

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.

Figure 1-1 in Appendix A is a street map view of the project area. Figures 1-2 (aerial photograph) and 1-3 (USGS topographic map) in Appendix A show the location of the proposed Project in relation to the existing electric transmission system in the vicinity.

B(4) Alternatives Considered

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

Reasonable opportunities to connect the two endpoints of the Project were restricted by their relatively proximity and terrain. Typically, when looking for opportunities for transmission corridors, siting teams look for existing disturbed corridors through the study area, as well as less developed areas to minimize proximity to residences and other sensitive land uses. These areas have several advantages in that they often have existing access, some ROW can often be shared, access has usually already been established, and it is not necessary to create a new corridor through an undisturbed area. The AEP Ohio Transco siting team collected ecological, land use, and cultural information to help select and compare reasonable routes for the project. This resulted in three reasonable options that avoided constraints and maximized opportunities. The AEP Ohio Transco siting team compared three routes (Appendix A, Figure 1-2 and 1-3):

- Route 1 – Exits the Trimble station and heads west following the existing transmission line until crossing Congress Run Road. The route then follows congress Run Road until intersecting the existing Crooksville-Poston 138 kV Line. Route 1 is the most northerly of the three routes

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TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT

considered.

- Route 2 – Follows the same path as Route 1 until crossing Congress Run Road. Route 2 then parallels the existing 69 kV distribution line until it intersects the siting Crooksville-Poston 138 kV line.
- Route 3 – This is a cross-country route that follows a generally straight line between Trimble station and the existing Crooksville-Poston 138 kV transmission line, crossing the heavily wooded uplands.

Route Data			
Routing Factor	101	102	103
General			
Length (miles)	1.26	1.21	1.08
Number of parcels crossed (#)	14	14	13
Landowners within ROW (#)	8	8	10
Water Resources			
Total streams crossed (#)	0	0	2
Forested/PSS/PEM wetlands in the ROW (NWI) (acres)	0	0	0
Waterbody crossings (feet)	0	0	0
FEMA-designated floodplain crossed by ROW (acres)	1.6	7.0	1.0
FEMA-designated floodway crossed by ROW (acres)	0.0	0.0	0.0
Geological, Topographical, and Soil Resources			
Prime and unique farmland foil in the ROW (acres)	12.8	12.3	5.2
Farmland of statewide importance in the ROW (acres)	0	0	0
Hydric soils in the ROW (acres)	0	0	0
Predominantly non-hydric soils in the ROW (acres)	10.4	10.3	1.3
Non-hydric soils in the ROW (acres)	5.0	4.6	11.9
Wildlife and Habitat			
Tree clearing required in the ROW (digitized based on aerial photography) (acres)	3.3	3.7	9.6
Special natural areas crossed by/or within 250 feet of the ROW (acres)	0	0	0
Residential			
Barns, outbuildings, sheds, garages and silos in the ROW (excludes abandoned features) (#)	3	1	0
Residences/single-family dwellings within ROW (#)	0	0	0
Residences/single-family dwellings within 250 feet of centerline (#)	7	4	7
Residences/single-family dwellings within 500 feet of centerline (#)	23	17	19
Community/Recreational Facilities			
Schools within 500 feet of centerline (#)	0	0	0
Places of worship within 500 feet of centerline (#)	0	0	0
Cemeteries within 50 feet of centerline (#)	0	0	0
Hospitals, medical clinics, and assisted living facilities within 250 feet of centerline (#)	0	0	0

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Route Data			
Routing Factor	101	102	103
Parks and recreation areas crossed by the ROW (#)	0	0	0

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Undeveloped/Protected Land			
Conservation easements/federal/state/local public land crossed by the ROW (acres)	0	0	0
Cultural Resources			
Known NRHP/archaeological sites within one mile of the centerline (#)	0	0	0
Utility and Transportation Resources (count)			
Local roads and streets crossed (#)	2	2	2
Railroads crossed (#)	1	1	1
Oil and gas pipelines crossed			
Existing Transmission Lines Crossed (#)	0	0	0
Engineering and Construction Considerations			
Steep slopes crossed by ROW (>20%), percent of total length	45%	27%	80%
Heavy angles, greater than 30% (#)	4	1	1
Rights-of-Way Rebuild/Parallel (miles)			
Existing transmission lines paralleled (miles)	0.5	1.2	0.1
Existing distribution lines paralleled (miles)	0	0	0
Existing transmission lines rebuilt (miles)	0	0	0
Oil and Gas Pipeline paralleled (miles)	0.4	0.5	0.3
Interstate highways, U.S. highways, State highways, and local roads paralleled (miles)	0.6	0	0
Railroad paralleled (miles)	0	0	0

Route 3 was set aside as it had several significant disadvantages. It required more than 9 acres of forest clearing, was routed over steep terrain, and had limited access for construction and maintenance. Based on these factors, AEP Ohio Transco concentrated on evaluating Routes 1 and 2.

Routes 1 and 2 were very similar in most categories, but Route 2 parallels existing transmission for longer, and is a slightly shorter route. In addition, it has fewer nearby residences. Based on these advantages, the AEP Ohio Transco siting team selected Route 2 as the Preferred route.

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.

AEP Ohio Transco has contacted land owners along the Project route and has also posted a link to a “Virtual Open House” that provides detailed information concerning the Project. The site address is (<http://aeptransmission.com/ohio/Trimble/open-house.php>). Information on the website includes project need, line siting, project timeline, right-of-way, structures, and vegetation management.

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 of O.A.C. 4906-6-08(A)(1)-(6). Further, AEP Ohio Transco has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner AEP Ohio Transco may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). AEP Ohio Transco also maintains a website (<http://aeptransmission.com/ohio/>) which provides the public access to an electronic copy of this LON and the public notice for this LON. A paper copy of the LON will be served to the public library in each political subdivision for this Project. AEP Ohio Transco retains ROW land agents that discuss Project timelines, construction and restoration activities and convey this information to affected owners and tenants.

B(6) Construction Schedule

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

AEP Ohio Transco anticipates that construction of the Project will begin during the first quarter of 2018, and the in-service date (completion date) of the Project will be the beginning of the second quarter of 2019

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 1-3 in Appendix A identifies the location of the Project on the USGS quadrangle map with coverage of the Project area. Figure 1.2 in Appendix A is an aerial map of the Project.

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.

Fifteen private properties, owned by thirteen private citizens are crossed by the Project. In addition, one railroad easement and two road easements are crossed. The parcel identification (ID) numbers for these private properties along with their status are provided in Table 2 below.

Property Agreement Status	
Parcel ID	Status
M06-00200083-00	To be acquired
M06-00100029-00	To be acquired
M06-00100031-00	To be acquired
M06-00100030-00	To be acquired
M06-00100038-00	To be acquired
M01-00100131-00	To be acquired
M01-00100136-00	To be acquired
M01-00100134-00	To be acquired
M01-00100125-00	To be acquired
M01-00100124-00	To be acquired
M01-00100123-00	To be acquired
M01-00100120-00	To be acquired
M01-00100119-00	To be acquired
M01-00100121-02	To be acquired
M01-00100244-00	To be acquired

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.

AEP Ohio Transco will build steel, single pole structures averaging about 100-feet in height (Appendix B, Figure 1). The structures will be placed in an approximately 100-foot wide right-of-way. The line will be constructed and operated at 138 kV.

B(9)(b) Electric and Magnetic Fields

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:

B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

EMF calculations are in preparation by AEP Ohio Transco and will be provided to the OPSB Staff under separate cover.

B(9)(b)(ii) Design Alternatives

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.

Design alternatives were not considered because of EMF and their strength levels. Transmission lines, when energized, generate EMF. Laboratory results have failed to establish a material correlation between exposure to EMF and effects on human health. However, some people are concerned that exposure to EMF has impacts on human health. EMF levels were calculated for the Project at maximum load conditions and are reported in paragraph B(9)(b)(i) above. Normal daily EMF levels will be below those resulting from maximum load conditions. Based on studies from the National Institute of Health (NIH), the magnetic field (mG) associated with emergency loading at the highest EMF level for this transmission line is lower than those associated with normal household appliances like microwave ovens, electric razors and hair dryers. For additional information regarding EMF, the NIH has posted information on its website:

https://www.niehs.nih.gov/health/materials/electric_and_magnetic_fields_associated_with_the_use_of_electric_power_questions_and_answers_english_508.pdf

B(9)(b)(ii)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is composed of applicable tangible and capital costs, is approximately \$3,200,000.

B(10) Social and Economic Impacts

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

B(10)(a) Operating Characteristics

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 Trimble Township, Athens County, Ohio, in the unglaciated rolling terrain typical of the Appalachian foothills. Rolling hills reaching elevations of 830 feet above mean sea level (AMSL) are divided by scattered river and stream valleys with elevations in the range of 670-680 feet AMSL. The steep slopes and upland areas are mostly wooded.

Settlements in the immediate area are concentrated along the Sunday Creek river valley and include Glouster to the north of Trimble Substation and Trimble to the south. Lake Drive (SR 13) is the main transportation route through the Sunday Creek valley and connects Trimble, Glouster and Jacksonville. Residences and businesses are scattered frequently along Lake Drive between the settlements. The town of Trimble sits at the confluence of the Sunday Creek and Congress Run valleys. Congress Run Road begins in Trimble and runs along the north side of the Congress Run valley. Development is sparse in Congress Run valley but is most concentrated along the road. The valley floor is comprised of fields, and Congress Run flows along the southern side of the valley.

48 residences were identified within 1,000 feet of the proposed Project. Of these, 17 are within 500 feet and 4 within 250 feet. There are no parks, schools, churches, wildlife management areas, or nature preserve lands within 1,000 feet of the centerline of the Project. One cemetery was identified within 1,000 feet of the project. Queen of Heaven Cemetery occupied two sites along Cemetery Road 250 feet north and 650 feet north northwest of Trimble Substation. The lower cemetery is about 200 feet north of the proposed route, and the larger upper cemetery is approximately 250 feet north of the route.

One wetland was delineated along the proposed route for the project. This was identified as a 0.08-acre PFO wetland close to the eastern tie in point. One stream is identified in the area. Congress Run flows along the southern edge of the Congress Run valley and is not crossed by the proposed route. A copy of the ecological report generated for this project is provided in Appendix C.

B(10)(b) Agricultural Land Information

Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

The proposed Project is not located within agricultural district lands based on coordination with the Athens County Auditor's Office. Most of the land within the Congress Run Valley is agricultural, either used as pasture or for row crop production (See Figure 1.2 in Appendix A).

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 October 2017, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the Approximately 2 km (1.25 mi) Poston-Trimble 138kV Extension in Trimble Township, Athens County, Ohio. The project will involve the extension of an electric line in a rural part of Athens County. Sites 33ATT1067-1068 were identified during these archaeological investigations. These are not considered to be significant cultural resources or landmarks. There are no significant above-ground architectural sites involved in this project. No further cultural resource management work is considered to be necessary for this Project.

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.

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, and AEP Ohio Transco will implement and maintain best management practices as outlined in the project-specific Storm Water Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events. None of the three proposed steel pole structures will be installed in any streams or wetlands. Depending on the final precise alignment, up to 0.08 acres of Category II PFO wetland will be converted to PEM wetland by the project. Consequently, the Project will require a Nationwide 12 Permit from U.S. Army Corps of Engineers. No other wetland or stream permits or notification are anticipated.

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Portions of the Project are located within the Congress Run 100-year floodplain. Structures may be placed within the floodplain. AEP Ohio Transco will coordinate with the local floodplain coordinator to obtain the necessary permits prior to construction. 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.

AEP Ohio Transco's consultant conducted a field survey of potential threatened and endangered species habitat in conjunction with a wetland delineation of the proposed route (Appendix C). The survey followed correspondence with the ODNR and US Fish and Wildlife Service. A summary of that correspondence is provided below.

An environmental review request letter was sent to the Ohio Department of Natural Resources (ODNR)-Office of Real Estate. ODNR indicated that the Project area includes potentially suitable habitat for the following state-listed threatened and endangered species: Indiana bat, fawnsfoot, lake chubsucker, eastern massasauga, and black bear. However, no occurrences of these species are known from the Project area or within a one-mile radius, according to the ODNR Ohio Natural Heritage Program (ODNR-ONHP).

The ODNR-ONHP noted the following species or natural areas are located within a one-mile radius of the Project area: flattened sedge (*Carex complanata*), rattlesnake master (*Eryngium yuccafolium*), woodland fern-leaved false foxglove (*Aureolaria pedicularia* var. *pedicularia*), buttonbush shrub swamp plant community, maple ash oak swamp plant community, mixed emergent marsh plant community, mixed mesophytic forest plant community, caddisfly (*Brachycentrus numerosus*), Eastern box turtle (*Terrapene carolina*), Hamley Run Floodplain Forest Conservation Site, Ohio Mining Swamp Conservation Site, True Cemetery Marsh Conservation Site, Wayne National Forest- US Forest Service, and the Trimble Township Community Forest- Appalachia Ohio Alliance.

These species were not identified during surveys, and these areas are not expected to be affected by the Project. The ODNR-ONHP is unaware of any other geologic features, animal assemblages, scenic rivers, state nature preserves, parks or forests or national wildlife refuges, parks or forests within a one-mile radius of the Project area.

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The ODNR-Office of Real Estate response letter indicated that if suitable habitat Indiana bat occurs within the Project area, they recommend trees be conserved. If suitable habitat occurs within the Project area and trees must be cut, ODNR-Office of Real Estate recommends tree clearing occur between October 1 and March 31. If suitable trees must be cut during summer months, ODNR-Office of Real Estate recommends a mist net survey be conducted between June 1 and August 15, prior to any tree clearing. If no tree removal is proposed, this Project is not likely to impact this species (Appendix C). Suitable habitat was present within the Project area for black bear; however, due to the mobility of this species, the Project is unlikely to impact it. Suitable habitat was also present for the eastern massasauga. However, habitat for this species will likely be avoided and no impacts to this species are anticipated. No in-water work is proposed in perennial streams, so impacts to the fawnsfoot and lake chubsucker will likely be avoided.

A technical assistance request letter was submitted to the USFWS. The USFWS response letter indicated that all of Ohio is within range of the Indiana and northern long-eared bat. Should the proposed site contain trees ≥ 3 inches diameter at breast height (dbh), the USFWS recommends that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches diameter at breast height (dbh) cannot be avoided, the USFWS recommends that removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31 (seasonal tree cutting). If implementation of seasonal tree cutting is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the Project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied.

The USFWS identified the project is within the range of the American burying beetle. The USFWS recommends that the site be evaluated to determine if the species or its habitat exists in the Project area. The Project is also in the range of the timber rattlesnake. The USFWS encourages early coordination to avoid potential impacts to timber rattlesnakes and their habitat. They recommend delineations of suitable habitat, rattlesnake surveys where potential habitat is rated moderate to high, and if construction is proposed near timber rattlesnakes, staying greater than 100 feet from known dens. Due to the project type, size, and location, USFWS does not anticipate effects to any other federally endangered, threatened, proposed or candidate species (Appendix C).

The ODNR-Office of Real Estate and the USFWS recommended that impacts to wetlands and other water resources be avoided or minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation (Appendix C).

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.

AEP Ohio Transco's environmental consultant completed field surveys within the Project area on June 15-16 and June 19-21, 2017 for wetlands. One wetland was delineated along the proposed route for the Project (Figure 2, Appendix C). This was identified as Wetland 1, and is a 0.08-acre PFO ORAM Category II wetland (ORAM score was 54) close to the eastern tie in point. This wetland will be hand cleared (no mechanized clearing) with stumps remaining in place and crossed by timber mats with construction equipment. No structures will be placed within the wetland, and there will be no permanent fill or change in the preconstruction contours.

One stream is identified in the area. Congress Run is a perennial stream that flows along the southern edge of the Congress Run valley and is not crossed by Project. It eventually flows into Sunday Creek and was evaluated using the Qualitative Habitat Evaluation Index (QHEI) and scored 68.75. Congress Run flows on the south side of the existing distribution line that the proposed route parallels to the north. Therefore, there will be no clearing and no impacts to Congress Run or its riparian corridor from the Project.

No other wetlands or waters were field identified in the Project area.

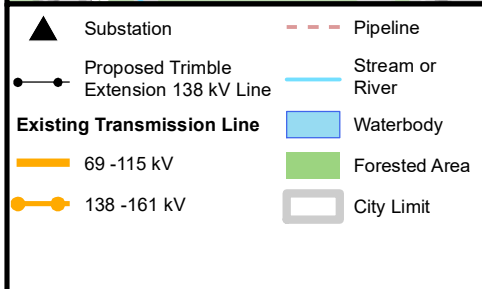
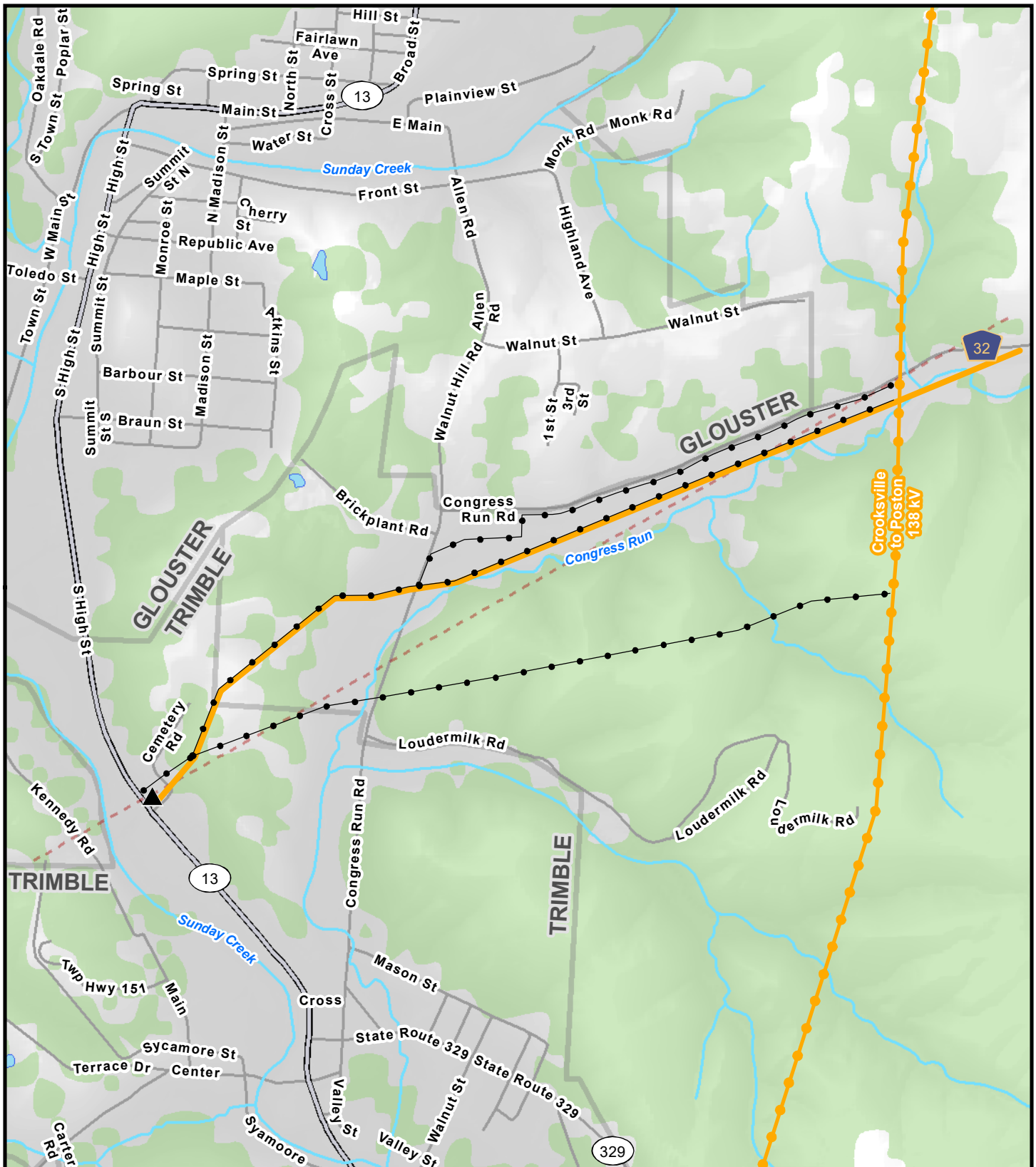
Correspondence received from USFWS (see Appendix C) indicates that there are no federal wilderness areas, wildlife refuges, or designated critical habitat near the Project area. A detailed description of the threatened and endangered species identified by ODNR and UDFWS in the area, and whether it was observed in the area is provide in paragraph B(10)(e).

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, there are no known unusual conditions that would result in significant environmental, social, health, or safety impacts.

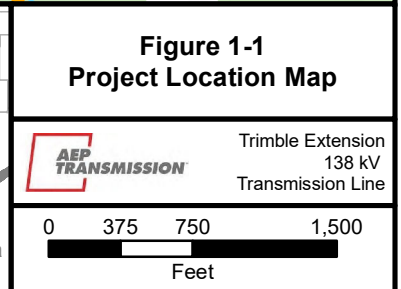
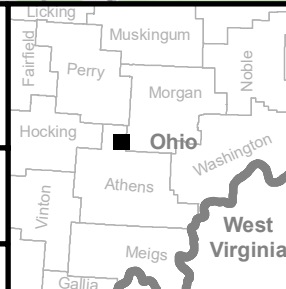
Appendix A: Project Figures

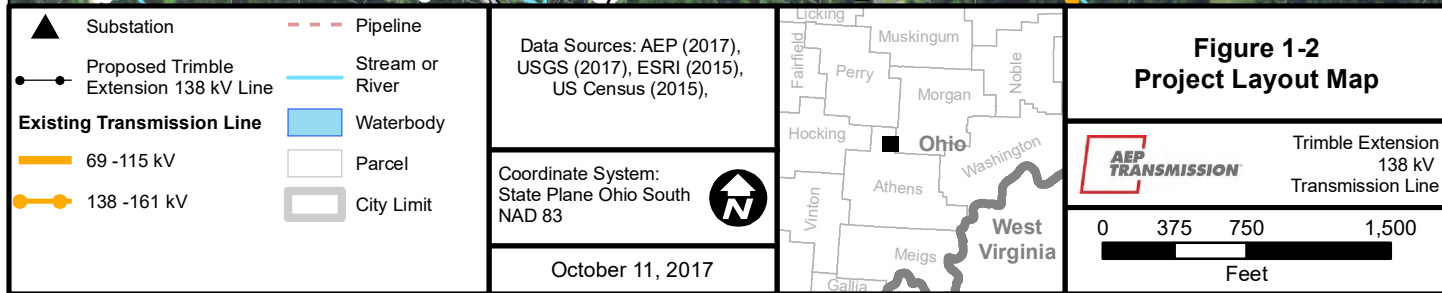
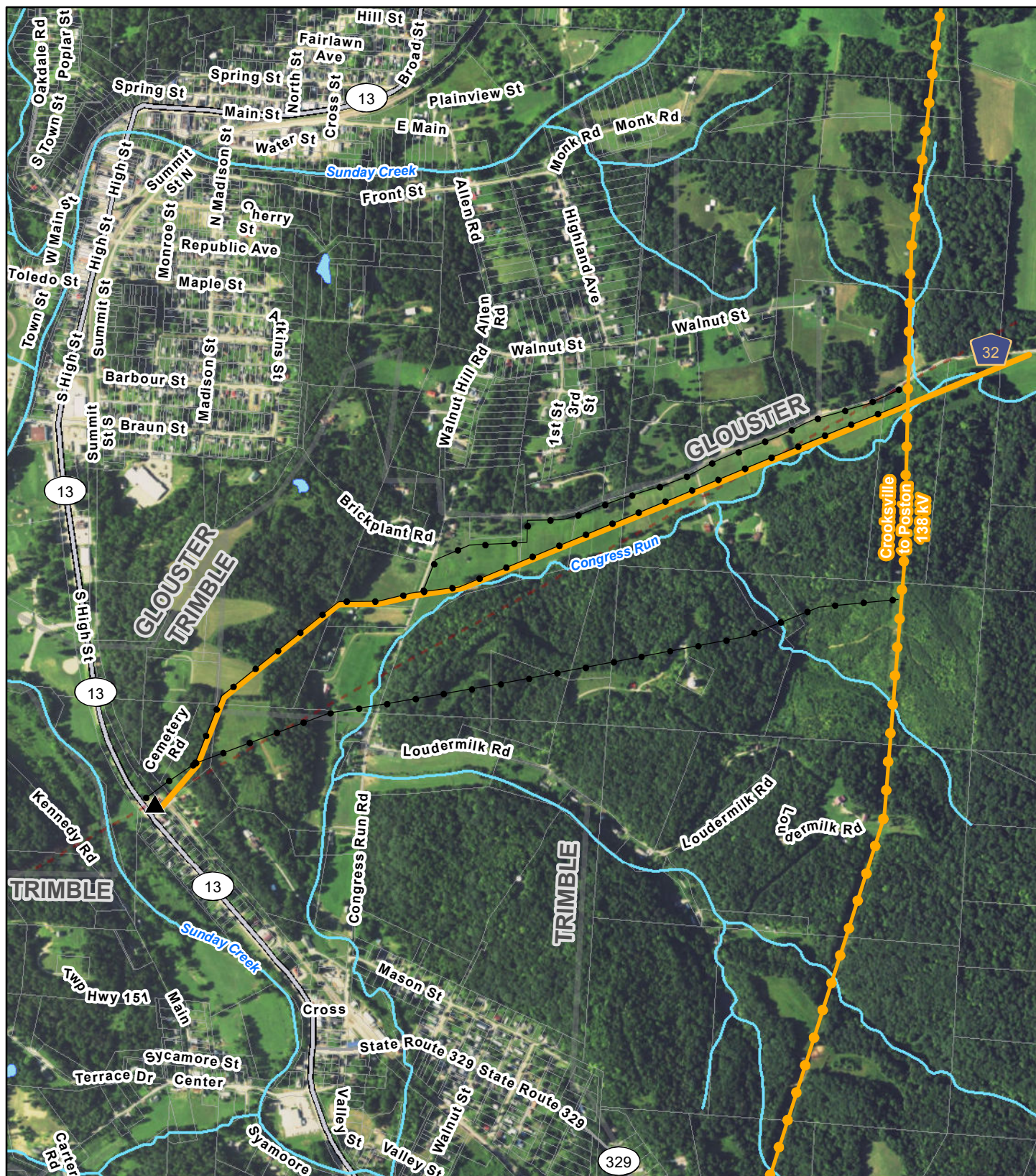


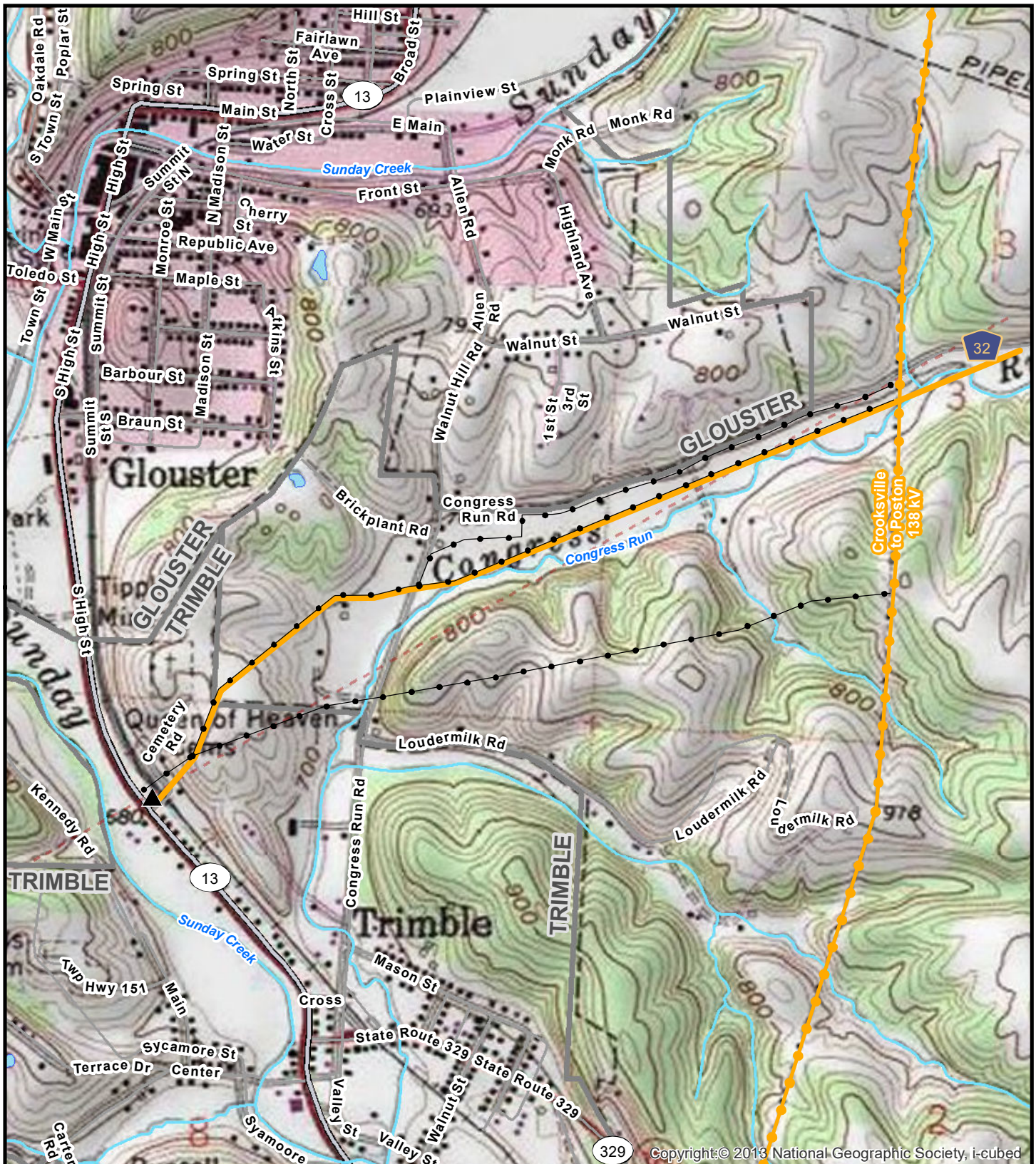
Data Sources: AEP (2017), USGS (2017), USDA (2011), ESRI (2015), US Census (2015),

Coordinate System: State Plane Ohio South NAD 83

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- ▲ Substation
- Proposed Trimble Extension 138 kV Line
- Existing Transmission Line
 - 69 - 115 kV
 - 138 - 161 kV
- Pipeline
- Stream or River
- Waterbody
- City Limit

Data Sources: AEP (2017), USGS (2017), USDA (2011), ESRI (2015), US Census (2015),

Coordinate System: State Plane Ohio South NAD 83

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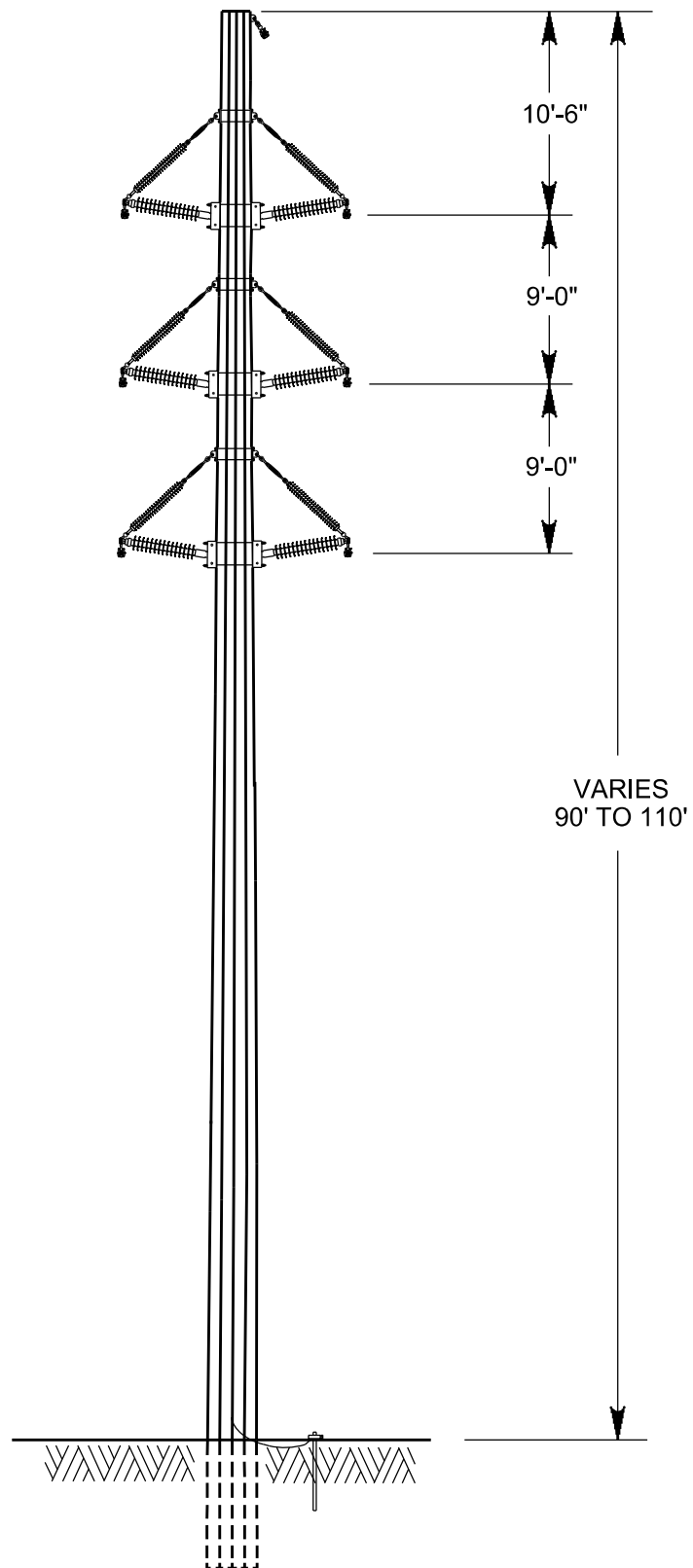
Figure 1-3
Project Topographic Map

AEP TRANSMISSION

Trimble Extension 138 kV Transmission Line

0 375 750 1,500 Feet

Appendix B: Project Design Drawings



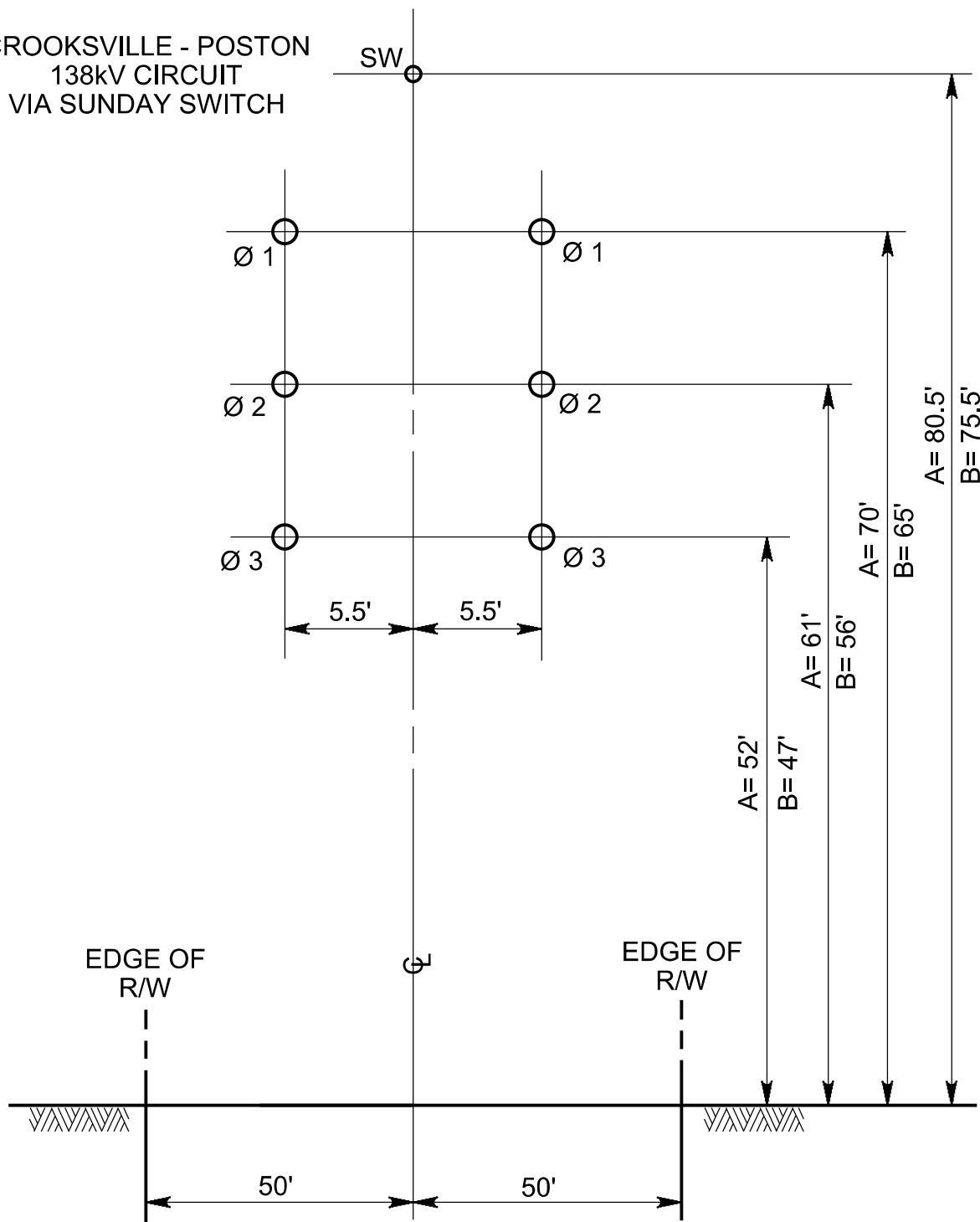
TRIMBLE 138kV
EXTENSION

TYPICAL TANGENT STRUCTURE
TUBULAR STEEL
BRACE POST

NOT TO SCALE

FIGURE 1

CROOKSVILLE - POSTON
138kV CIRCUIT
VIA SUNDAY SWITCH



DIMENSION "A" - DOUBLE CIRCUIT - VERTICAL CONFIGURATION.
(UNDER EMERGENCY & NORMAL MAX. LINE LOADING)

DIMENSION "B" - DOUBLE CIRCUIT - VERTICAL CONFIGURATION.
(UNDER WINTER NORMAL
CONDUCTOR RATING)



TRIMBLE 138kV
EXTENSION

138kV TYPICAL PHASE ARRANGEMENT
TUBULAR STEEL TANGENT
BRACE POST STRUCTURE

NOT TO SCALE

FIGURE 2

W:\AEP\SITING\TRIMBLE_EXT\FIG_2.DGN

Appendix C: Ecological Report

**Trimble 138 kV Transmission Line
Extension Project, Athens County,
Ohio**

**Ecological Resources Inventory
Report**



Prepared for:
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October 13, 2017

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1.0 Introduction

AEP Ohio Transmission Company, Inc. (AEP) is proposing an approximately 1.2-mile 138 kilovolt (kV) transmission line extension to the Trimble transmission line from the Trimble Station facility to the northeast of the existing substation (the Project) in Athens County, Ohio (Figure 1, Appendix A). Structure locations and locations of associated access roads needed to perform the line extension construction activities have not been identified to date and are not included in this report. A 200-foot study corridor for the proposed transmission line extension ROW and the Trimble Station property were surveyed for wetlands, waterbodies, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on June 14, 2017. The approximate locations of features located up to 50 feet outside of the transmission line survey corridor limits were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the structure workspaces. The locations of these features are shown on the Figure 2 maps in Appendix A as "approximate" wetlands, streams (waterways), 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* (USACE 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; OEPA 2012) and/or Qualitative Habitat Evaluation Index (QHEI; OEPA 2006). The centerline and/or the OHWM locations of each waterway was identified and surveyed using a handheld sub-meter accuracy GPS unit and mapped with GIS software. Additionally, the locations of 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 June 14, 2017, for threatened and endangered species or their habitats. Figure 3 (Appendix A) shows vegetation communities and the locations of any identified rare, threatened or endangered species habitat observed within the Project area. Representative photographs of the identified vegetative communities/habitats are included in Appendix C of this report (photo locations are shown on Figure 3, Appendix A). Information regarding the vegetation communities/habitats is provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the Trimble 138 kV Transmission Line Extension 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
Existing Roadway	Extreme disturbance/existing paved road	No	0.27
Residential Lawn	Extreme disturbance/ruderal community (dominated by opportunistic invaders or native highly tolerant taxa)	No	1.76
Industrial	Extreme disturbance/ruderal community (dominated by opportunistic invaders and/or native highly tolerant taxa)	No	0.45
Second Growth Deciduous Forest	Intermediate disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance)	No	9.39
Existing Railroad	Extreme disturbance/existing railroad	No	0.14
Old Field	Area of extreme disturbance/ruderal community dominated by opportunistic invaders or native highly tolerant taxa; An infrequently maintained area dominated by herbaceous species with a limited presence of low-growing woody species	No	19.2
Palustrine Forested Wetland	Moderate disturbance/natural community (dominated by native herbaceous species and/or opportunistic invaders)	No	0.08
Total			31.29

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3.2 WETLANDS

Stantec completed field surveys within the Project area on June 14, 2017 for wetlands. Figure 2 (Appendix A) shows the wetland identified by Stantec within the Project area. Representative photographs of the wetland are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A) and completed wetland determination and ORAM data forms are included in Appendix D. Information regarding the Cowardin classification (Cowardin et al. 1979) and ORAM category of the wetland identified within the Project area are provided in Table 2.

Table 2. Summary of Wetland Resources Found within the Trimble 138 kV Transmission Line Extension Project Area, Athens County, Ohio

Wetland Name	Photo Location ¹	Isolated?	Wetland Classification ²	ORAM Score ⁴	ORAM Category ⁴	Delineated Area (acres) within Project Area
Wetland 1	1	No	PFO ³	54	2	0.08
TOTAL						0.08
¹ Appendix C – Representative Photographs						
² Wetland classification is based on Cowardin et al. (1979).						
³ PFO=Palustrine Forested Wetland						
⁴ 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 June 14, 2017, for waterbodies (streams). Figure 2 (Appendix A) shows the location of the stream (Congress Run) identified by Stantec within the Project area. Representative photographs of the stream are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A) and a completed QHEI data form is included in Appendix D. Information regarding the stream identified within the Project area is provided in Table 3.

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

Table 3. Summary of Stream Resources Found within the Trimble 138 kV Transmission Line Extension Project Area, Athens County, Ohio

Stream Name	Photo Location ¹	Receiving Waters	Stream Flow Regime ²	Stream Evaluation Method	Stream Evaluation Score	OHWM Width (feet) ³	Delineated Length (feet) within Project Area
Stream 1 (Congress Run)	2	Sunday Creek	Perennial	QHEI	68.75	4	1,629
TOTAL							1,629
¹ Appendix C – Representative Photographs							
² Stream classification is based on Federal Register/Vol. 67, No. 10 (USACE 2002).							
³ OHWM = Ordinary High Water Mark							

3.4 OPEN WATER FEATURES

No open water features were identified within the Project area during the field surveys completed on June 14, 2017.

3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

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

Common Name	Scientific Name	State Status ¹	Known to Occur in Athens County? ²	Known Within One Mile of Project Area? ³	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Amphibians								
Eastern Hellbender	<i>Cryptobranchus alleganiensis alleganiensis</i>	E	Yes	No	Found mostly in unglaciated portion of Ohio and prefers large, swift flowing streams where they hide under larger rocks (ODNR Division of Wildlife 2017b).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
Eastern Spadefoot	<i>Scaphiopus holbrookii</i>	E	Yes	No	Found in areas of sandy soil associated with river valleys in southeastern Ohio (ODNR Division of Wildlife 2017b).	No	No suitable habitat occurs in the Project area.	No comments.
Midland Mud Salamander	<i>Pseudotriton montanus diastictus</i>	T	Yes	No	Found under large, flat stones in muddy areas (ODNR Division of Wildlife 2017b).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comments.
Reptiles								
Eastern Massasauga	<i>Sistrurus catenatus catenatus</i>	E	No	No	This snake is found in wetlands, wet prairies, sedge meadows, and early successional fields. Preferred wetland habitats are marshes and fens (ODNR Division of Wildlife 2017b).	Yes	Potentially suitable habitat (early successional fields) was found within the Project area. However, no impacts are anticipated because this species is not known to occur within Athens County.	The ODNR indicates that due to the location, the type of habitat present at the Project site and within the vicinity of the Project area, and the type of work proposed, this Project is unlikely to impact this species.
Spotted Turtle	<i>Clemmys guttata</i>	T	Yes	No	This turtle shows a marked preference for the shallow, sluggish waters of ditches, small streams, marshes, bogs, and pond edges, especially where vegetation is abundant (ODNR Division of Wildlife 2017b).	Yes	No in-water work is proposed to occur in streams, ponds, or marshes by AEP. Therefore, no impacts are anticipated.	No comments.
Eastern Box Turtle	<i>Terrapene carolina</i>	SOC	Yes	Yes	This turtle is found in woodlands beneath rotting logs, decaying leaves, or other plant debris (ODNR Division of Wildlife 2017b).	Yes	A small amount of suitable habitat (deciduous forest) was found within the Project area and this species is known to occur within one mile of the Project area. Impacts to this species may occur.	ODNR Natural Heritage Database indicates there is a record of this species within a one-mile radius of the Project Area.
Mussels								
Fanshell	<i>Cyprogenia stegaria</i>	E	Yes	No	This mussel is found in medium to large streams with gravel substrates and strong current, in both deep and shallow water (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

Common Name	Scientific Name	State Status ¹	Known to Occur in Athens County? ²	Known Within One Mile of Project Area? ³	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	No	Snuffbox is found buried in riffles of small and medium creeks, in large rivers, and in shoals and wave-washed shores of lakes. Except when spawning, adults are usually burrowed deep in sand, gravel or cobble substrates (NatureServe 2017).	Yes	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
Pink Mucket	<i>Lampsilis orbiculata</i>	E	Yes	No	Occurs in large rivers with strong currents, rocky or boulder substrates, with depths up to 1 m, but is also found in deeper waters with slower currents and sand and gravel substrates (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
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 substrate but usually has been reported from deep water (>2 m) with slight to swift currents and mud, sand, or gravel bottoms (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
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, runs having laminar flow (0.06-0.25 m/sec) within small to medium sized streams.	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
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. Found in sand, gravel, or silt (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
Threehorn Wartyback	<i>Obliquaria reflexa</i>	T	Yes	No	Habitat includes large rivers with moderately strong current and stable substrate of gravel, sand, and mud (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
Fawnsfoot	<i>Truncilla donaciformis</i>	T	Yes	No	Occurs in medium to large sized streams and rivers at variable depths. Substrates are typically either mud or sand with moderate current (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	The ODNR indicates that due to the location and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.
Fishes								
Channel Darter	<i>Percina copelandi</i>	T	Yes	No	Channel darters are found in large, coarse sand, or fine gravel bars in large rivers (ODNR Division of Wildlife 2017b).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.

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Common Name	Scientific Name	State Status ¹	Known to Occur in Athens County? ²	Known Within One Mile of Project Area? ³	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
River Darter	<i>Percina shumardi</i>	T	Yes	No	River darters are found in very large rivers typically in areas of swift current. They are found over a gravel or rocky bottom of three feet or more. They have been found in the large tributaries to the Ohio River, including the Hocking River (ODNR Division of Wildlife 2017b).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
Lake Chubsucker	<i>Erimyzon sucetta</i>	T	Yes	No	Lake chubsuckers are found in natural lakes and very sluggish streams or marshes with dense aquatic vegetation and clear waters (ODNR Division of Wildlife 2017b).	No	No suitable habitat occurs in the Project area. Therefore, no impacts are anticipated.	The ODNR indicates that due to the location and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.
Plants								
Woodland Fern-leaved False Foxglove	<i>Aureolaria pedicularia</i> var. <i>pedicularia</i>	E	Yes	Yes	This plant likes thin sandy or rocky soil, usually under oaks (ODNR Division of Natural Areas and Preserves 2017).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comment.
Flattened Sedge	<i>Carex complanata</i>	T	Yes	Yes	This species occurs in dry to moist, often sandy places, pinelands, clearings, fields, old fields, meadows, and ditches (NatureServe 2017).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comment.
Rattlesnake-master	<i>Eryngium yuccifolium</i>	P	Yes	Yes	A variety of moist or dry, open situations; usually in sandy soil, occasionally in acid clays, also in limey soils; open woods, thickets, prairies, bogs, savannas, and dry banks (ODNR Division of Natural Areas and Preserves 2017).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comment.
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 2017a). 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 suitable winter hibernacula were observed in the Project area. However, suitable summer roost habitat was observed in the Project area. AEP intends to avoid areas with summer roost habitat to the extent possible. AEP will determine if any summer tree clearing is necessary in areas containing suitable roost habitat and will proceed in accordance with agency requirements.	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 suitable trees must be cut during the summer months, ODNR recommends a net survey be conducted between June 1 and August 15, prior to any cutting. If no tree removal is proposed, this Project is not likely to impact this species.

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Common Name	Scientific Name	State Status ¹	Known to Occur in Athens County? ²	Known Within One Mile of Project Area? ³	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Allegheny Woodrat	<i>Neotoma magister</i>	E	Yes	No	Typical habitat for this species consists of rocky cliffs, caves, and slopes (NatureServe 2017).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comments.
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 2017).	Yes	Suitable habitat was observed within the Project area, but due to the mobility of this species, impacts to this species are not anticipated.	The ODNR indicates that due to the mobility of this species, this Project is unlikely to impact this species.
Insects								
American Burying Beetle	<i>Nicrophorus americanus</i>	E	Yes	No	American burying beetles are habitat generalists with a slight preference for grassland and open understory of oak-hickory forests (ODNR Division of Wildlife 2017b).	Yes	Suitable habitat (forests, old fields) was found within the Project area. However, this species is not known to occur within a one mile radius of the Project area. Therefore, no impacts are anticipated.	No comments.
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 with exposed rock (ODNR Division of Wildlife 2017b).	No	No suitable habitat occurs in the Project area. This species is unlikely to be impacted by this Project.	No comments.
Regal Fritillary	<i>Speyeria idalia</i>	E	Yes	No	Found in open grassy habitats ranging from xeric to quite hydric (NatureServe 2017).	Yes	Suitable habitat was observed within the Project area, but due to the mobility of this species, impacts to this species are not anticipated.	No comments.
Caddisfly	<i>Brachycentrus numerosus</i>	E	Yes	Yes	This caddisfly is widely distributed in North America and requires perennial water (NatureServe 2017).	Yes	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	No comments.
¹ E=Endangered; T=Threatened; P= Potentially Threatened; SOC=Species of Concern ² According to Ohio Department of Natural Resources Division of Wildlife (ODNR Division of Wildlife 2017a) ³ According to Ohio Natural Heritage Program (Appendix B)								

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

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

Common Name	Scientific Name	Federal Status ¹	Known to Occur in Athens County? ²	Habitat Preference	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 2017a). 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 suitable winter hibernacula were observed in the Project area. However, suitable summer roost habitat was observed in the Project area. AEP intends to avoid areas with summer roost habitat to the extent possible. AEP will determine if any summer tree clearing is necessary in areas containing suitable roost habitat and will proceed in accordance with agency requirements.	Should the proposed site contain trees ≥3 inches dbh, the USFWS recommends that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, the USFWS recommends that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. If implementation of seasonal tree cutting is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the Project area during the summer.
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 suitable winter hibernacula were observed in the Project area. However, suitable summer roost habitat was observed in the Project area. AEP intends to avoid areas with summer roost habitat to the extent possible. AEP will determine if any summer tree clearing is necessary in areas containing suitable roost habitat and will proceed in accordance with agency requirements.	Should the proposed site contain trees ≥3 inches dbh, the USFWS recommends that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, the USFWS recommends that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. If implementation of seasonal tree cutting is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the Project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied.

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Common Name	Scientific Name	Federal Status ¹	Known to Occur in Athens County? ²	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
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 Division of Wildlife 2017b).	Yes	Suitable habitat (forests, old fields) was found within the Project area. However, this species is not known to occur within one mile of the Project area. Therefore, no impacts are anticipated.	The USFWS recommends that the proposed project site be evaluated by a federally permitted surveyor to determine if the species or habitat exists in the Project area(s).
Mussels							
Fanshell	<i>Cyprogenia stegaria</i>	E	Yes	This mussel is found in medium to large streams with gravel substrates and strong current, in both deep and shallow water (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	Due to the project type, size, and location, the USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.
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 substrate but usually has been reported from deep water (>2 m) with slight to swift currents and mud, sand, or gravel bottoms (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	Due to the project type, size and location, USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.
Pink Mucket Pearly Mussel	<i>Lampsilis orbiculata</i>	E	Yes	Occurs in large rivers with strong currents, rocky or boulder substrates, with depths up to 1 m, but is also found in deeper waters with slower currents and sand and gravel substrates (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	Due to the project type, size and location, USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.
Snuffbox	<i>Epioblasma triquetra</i>	E	Yes	Snuffbox is found buried in riffles of small and medium creeks, in large rivers, and in shoals and wave-washed shores of lakes. Except when spawning, adults are usually burrowed deep in sand, gravel or cobble substrates (NatureServe 2017).	No	No in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated.	Due to the project type, size and location, USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.
Reptiles							
Timber Rattlesnake	<i>Crotalus horridus horridus</i>	SOC	Yes	In Ohio, the timber rattlesnake is restricted to the unglaciated Allegheny Plateau and utilizes specific habitat types during different seasons. Winters are spent in dens usually associated with high, dry ridges. From these dens, timber rattlesnakes radiate throughout the surrounding hills and move distances as great as 4.5 miles. In the fall they return to the same den (USFWS 2017c).	Yes	Some potentially suitable habitat was observed within the Project area. However, the ODNR has no records of this species within one-mile of the Project area. Therefore, no impacts are anticipated.	Timber rattlesnake habitat should be delineated within the project boundaries. Timber rattlesnake surveys may be necessary. Construction activities should take place at least 100 feet from known dens.
Plants							
Running Buffalo Clover	<i>Trifolium stoloniferum</i>	E	Yes	Running buffalo clover requires periodic disturbance and a somewhat open habitat. Found in partially shaded woodlots, mowed areas, and along streams and trails.	Yes	Some potentially suitable habitat was observed within the Project area (deciduous forest). However, the ODNR has no records of this species within one-mile of the Project area. Therefore, impacts are possible but not anticipated.	Due to the project type, size and location, USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

Common Name	Scientific Name	Federal Status ¹	Known to Occur in Athens County? ²	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Birds							
Bald Eagle	<i>Haliaeetus leucocephalus</i>	SOC	Yes	Typically nests in forested areas adjacent to large bodies of water, staying away from heavily developed areas when possible (Cornell Lab of Ornithology 2016a).	No	Suitable habitat was not observed within the Project area and no bald eagle nests were observed during the field surveys. Therefore, no impacts to this species are anticipated.	Due to the project type, size and location, USFWS does not anticipate effects to this or any other federally endangered, threatened, proposed or candidate species.
¹ E=Endangered; T=Threatened; SOC=Species of Concern							
² According to USFWS (2017b).							

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 June 14, 2017. During the field surveys, one palustrine forested wetland totaling 0.08 acre was delineated in the Project area. Wetland 1 was classified as a Category 2 wetland. One perennial stream (Congress Run) totaling 1,629 linear feet was delineated 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.

An environmental review request letter was sent to the Ohio Department of Natural Resources (ODNR) Office of Real Estate. ODNR indicated that the Project area is within the range of the following state-listed threatened and endangered species: Indiana bat, fawnsfoot, lake chubsucker, eastern massasauga, and black bear. However, no occurrences of these species are known from the Project area or within a one-mile radius, according to the ODNR Ohio Natural Heritage Program (ODNR-ONHP). Additionally, the eastern massasauga is not listed by the USFWS (2017b) or the ODNR (2017b) as occurring in Athens County. The ODNR-ONHP noted the following species or natural areas are located within a one-mile radius of the Project area: flattened sedge (*Carex complanata*), rattlesnake-master (*Eryngium yuccaefolium*), woodland fern-leaved false foxglove (*Aureolaria pedicularia* var. *pedicularia*), buttonbush shrub swamp plant community, maple ash oak swamp plant community, mixed emergent marsh plant community, mixed mesophytic forest plant community, caddisfly (*Brachycentrus numerosus*), eastern box turtle (*Terrapene carolina*), Hamley Run Floodplain Forest Conservation Site, Ohio Mining Swamp Conservation Site, True Cemetery Marsh Conservation Site, Wayne National Forest- US Forest Service, and the Trimble Township Community Forest- Appalachia Ohio Alliance. These species and natural areas were not identified within the Project area during surveys. Other than the eastern box turtle, none of these species or natural areas are anticipated to potentially be affected by the Project. The ODNR-ONHP is unaware of any other geologic features, animal assemblages, scenic rivers, state nature preserves, parks or forests or national wildlife refuges, parks or forests within a one-mile radius of the Project area (Appendix B).

The ODNR Office of Real Estate response letter indicated that if suitable habitat Indiana bat occurs within the Project area, they recommend trees be conserved. If suitable habitat occurs within the Project area and trees must be cut, ODNR Office of Real Estate recommends tree clearing occur between October 1 and March 31. If suitable roost trees must be cut during the summer months, the ODNR Office of Real Estate recommends a mist net survey be conducted between June 1 and August 15, prior to any tree clearing. If no tree removal is proposed, this Project is not likely to impact this species (Appendix B). Potentially suitable habitat (potential roost trees) for the Indiana bat was observed within the Project area. Additionally, potentially suitable foraging habitat for the black bear was present within the Project area. However, due to the mobility of this species,

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

the Project is unlikely to impact it. Suitable habitat was also present for the eastern massasauga. However, this species is not known to occur in Athens County (USFWS 2017b; ODNR 2017b). Therefore, no impacts to the eastern massasauga are anticipated. No in-water work is proposed in perennial streams, so no impacts to the fawnsfoot and lake chubsucker are anticipated.

A technical assistance request letter was submitted to the USFWS. The USFWS response letter indicated that all of Ohio is within range of the Indiana and northern long-eared bat. Should the proposed site contain trees ≥ 3 inches dbh, the USFWS recommends that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches diameter at breast height (dbh) cannot be avoided, the USFWS recommends that removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31 (seasonal tree cutting). If implementation of seasonal tree cutting is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the Project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. The USFWS stated that the Project is within the range of the American burying beetle. The USFWS recommends that the site be evaluated to determine if the species or its habitat exists in the Project area. The Project is also in the range of the timber rattlesnake. The USFWS encourages early coordination to avoid potential impacts to timber rattlesnakes and their habitat. They recommend delineations of suitable habitat, rattlesnake surveys where potential habitat is rated moderate to high, and if construction is proposed near timber rattlesnake dens, staying greater than 100 feet from known dens. Due to the project type, size, and location, USFWS does not anticipate effects to any other federally endangered, threatened, proposed or candidate species (Appendix B).

The ODNR-Office of Real Estate and the USFWS recommended that impacts to wetlands and other water resources be avoided or minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation (Appendix B).

5.0 References

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TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

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Appendix A Figures

A.1 FIGURE 1 – PROJECT LOCATION MAP

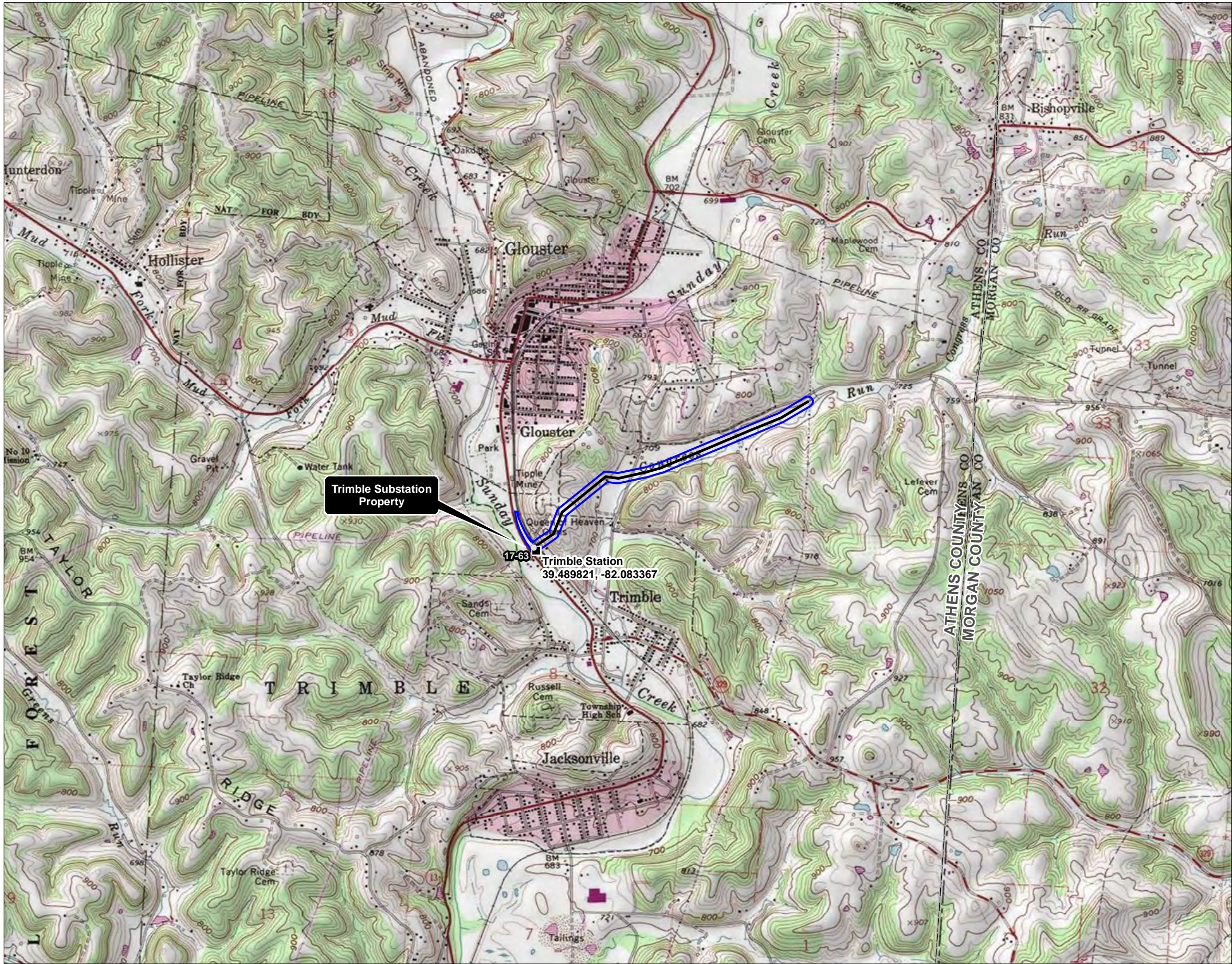


Figure No. 1

Title

Project Location Map

Client/Project

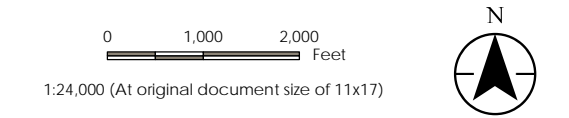
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

Project Location

Athens County, Ohio

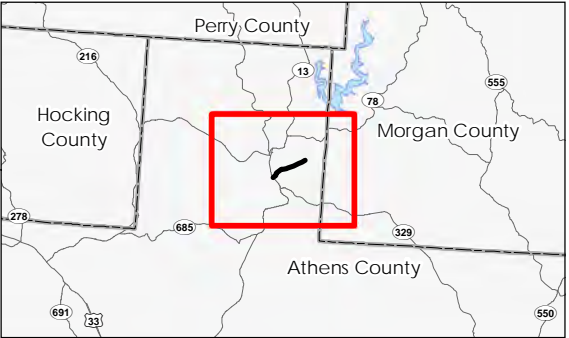
193705300

Prepared by JH on 2017-10-10
Technical Review by HDB on 2017-10-11
Independent Review by MJT on 2017-10-12



Legend

- AEP Substation
- Existing Structure
- Proposed Trimble 138 kV Transmission Line Extension
- Project Area (200' Wide Line Extension Corridor and Substation Property)



Notes

- Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
- Data Sources Include: Stantec, AEP, NADS
- Background: USGS 7.5' Topographic Quadrangles Jacksonville, OH (1985)



A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP



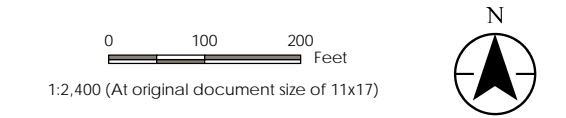
Figure No.
2

Title
Wetland and Waterbody
Delineation Map

Client/Project
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

Project Location
Athens County, Ohio

193705300
Prepared by JH on 2017-10-10
Technical Review by HDB on 2017-10-11
Independent Review by MJT on 2017-10-12



Legend

■

AEP Substation

○

Existing Structure

—

Proposed Trimble 138 kV
Transmission Line
Extension

□

Project Area (200' Wide
Line Extension Corridor
and Substation Property)

▲

Existing Culvert

●

Wetland Determination
Sample Point

○

Photo Location

—

Upland Drainage
Feature

—

Approximate Upland
Drainage Feature

—

Field Delineated
Waterway

—

Approximate Waterway

—

Field Delineated
Forested Wetland

—

Approximate Wetland

—

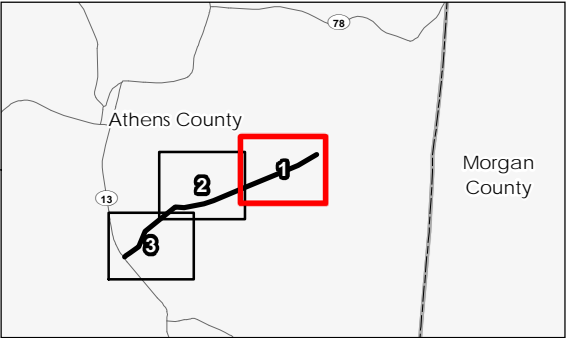
FEMA Flood Hazard Area

—

100-year Flood Zone

—

100-year Floodway



Notes

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



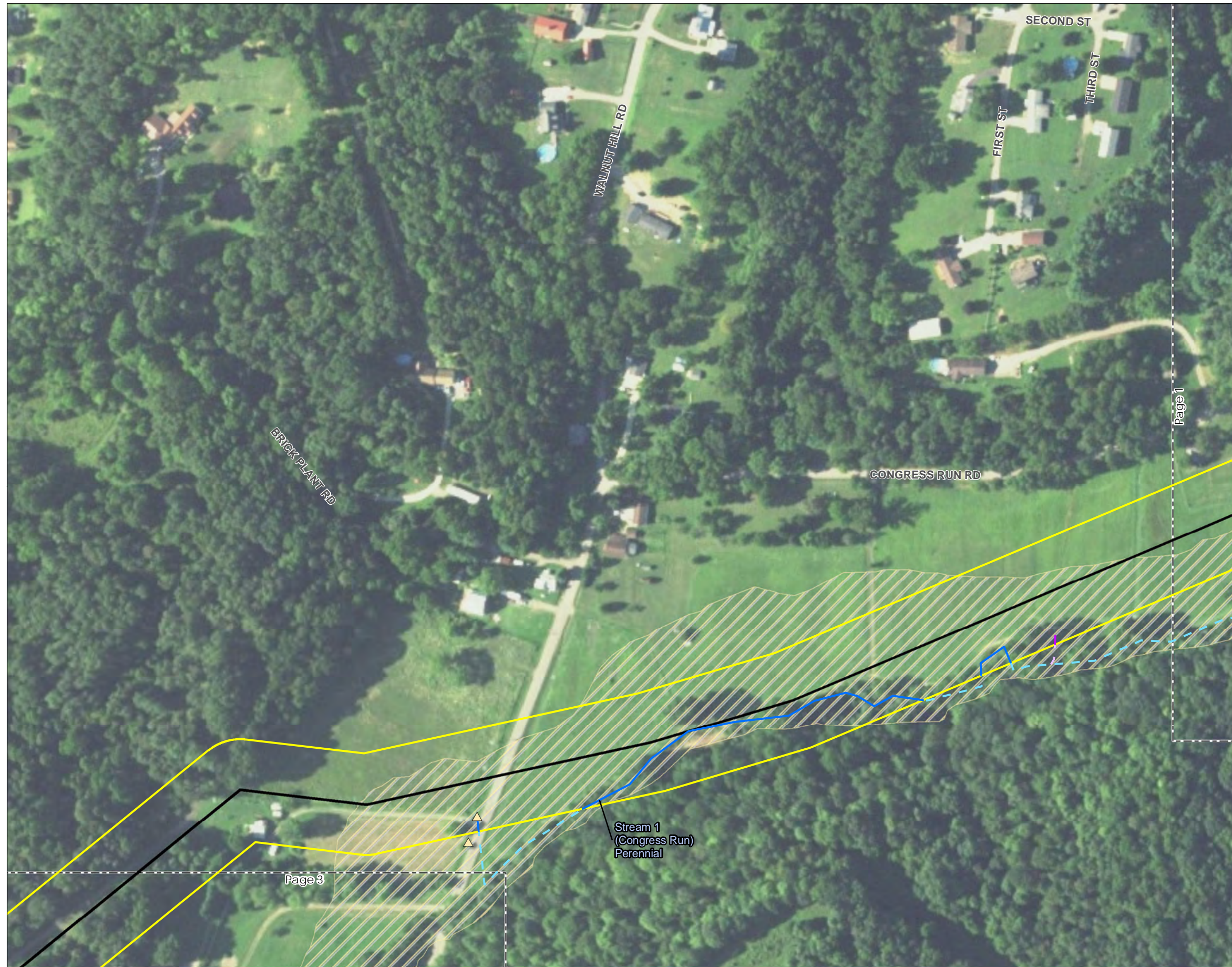
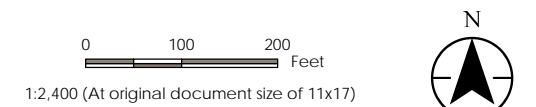


Figure No.
2
















Title
Wetland and Waterbody
Delineation Map

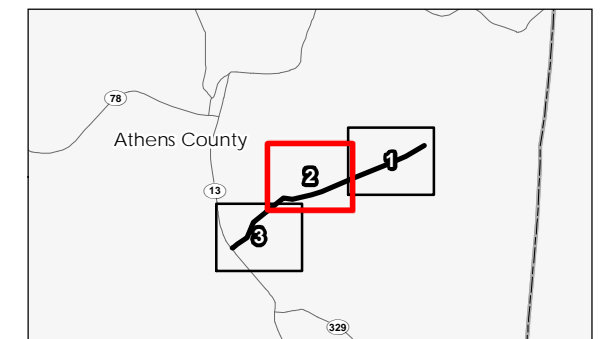
Client/Project
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

Project Location	193705300
Athens County, Ohio	Prepared by JLH on 2017-10-10 Technical Review by HDB on 2017-10-11 Independent Review by MJT on 2017-10-12



Legend

-  AEP Substation
-  Existing Structure
-  Proposed Trimble 138 kV Transmission Line Extension
-  Project Area (200' Wide Line Extension Corridor and Substation Property)
-  Existing Culvert
-  Wetland Determination Sample Point
-  Photo Location
-  Upland Drainage Feature
-  Approximate Upland Drainage Feature
-  Field Delineated Waterway
-  Approximate Waterway
-  Field Delineated Forested Wetland
-  Approximate Wetland
-  FEMA Flood Hazard Area
-  100-year Flood Zone
-  100-year Floodway



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, FEMA, NADS, USGS, OGRIP
3. Orthophotography: 2015 NAIP





Figure No.
2

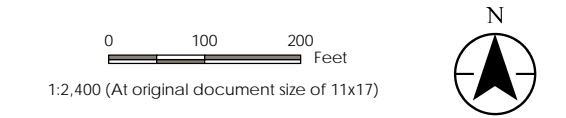
Title
**Wetland and Waterbody
Delineation Map**

Client/Project
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

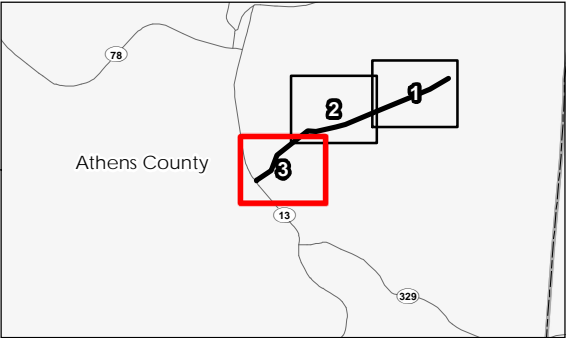
Project Location
Athens County, Ohio

193705300

Prepared by JH on 2017-10-10
Technical Review by HDB on 2017-10-11
Independent Review by MJT on 2017-10-12



- Legend**
- | | |
|--|-------------------------------------|
| ■ AEP Substation | Upland Drainage Feature |
| ○ Existing Structure | Approximate Upland Drainage Feature |
| Proposed Trimble 138 kV Transmission Line Extension | Field Delineated Waterway |
| Project Area (200' Wide Line Extension Corridor and Substation Property) | Approximate Waterway |
| △ Existing Culvert | Field Delineated Forested Wetland |
| Wetland Determination Sample Point | Approximate Wetland |
| ○ Photo Location | FEMA Flood Hazard Area |
| | 100-year Flood Zone |
| | 100-year Floodway |



- Notes**
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
 2. Data Sources Include: Stantec, AEP, FEMA, NADS, USGS, OGRIP
 3. Orthophotography: 2015 NAIP



A.3 FIGURE 3 – HABITAT ASSESSMENT MAP

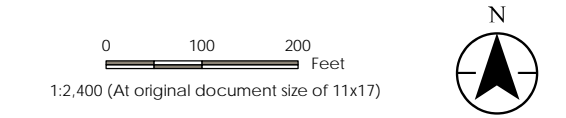


Figure No.
3
Title
Habitat Assessment Map

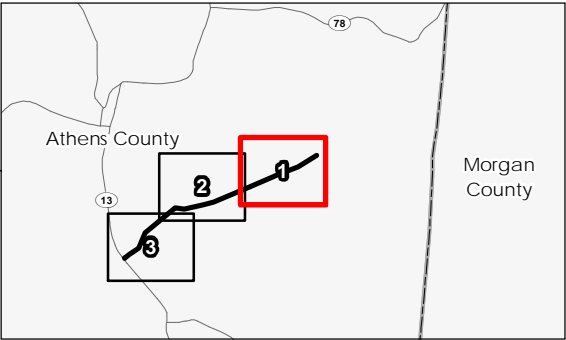
Client/Project
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

Project Location
Athens County, Ohio

193705300
Prepared by JH on 2017-10-10
Technical Review by HDB on 2017-10-11
Independent Review by MJT on 2017-10-12



- Legend
- | | |
|--|--------------------------------|
| ■ AEP Substation | Habitat Area |
| ● Existing Structure | Second Growth Deciduous Forest |
| ~ Proposed Trimble 138 kV Transmission Line Extension | Old Field |
| □ Project Area (200' Wide Line Extension Corridor and Substation Property) | Residential Lawn |
| ○ Photo Location | Existing Roadway |
| ~ Upland Drainage Feature | Industrial |
| ~ Approximate Upland Drainage Feature | Existing Railroad |
| ~ Field Delineated Waterway | |
| ~ Approximate Waterway | |
| ~ Field Delineated Forested Wetland | |
| ~ Approximate Wetland | |



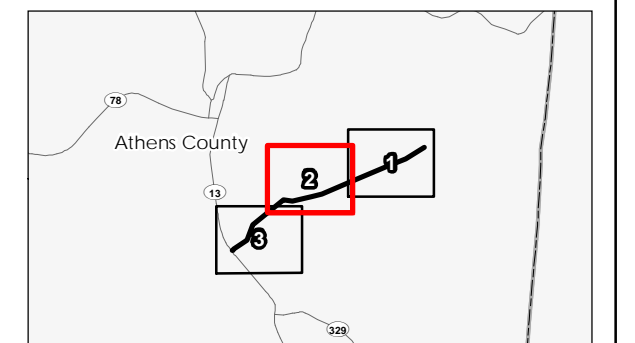
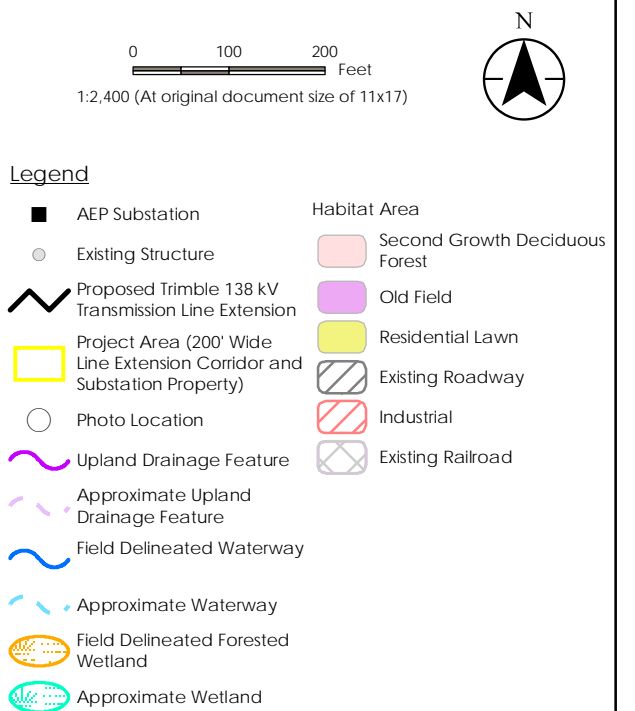
Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, FEMA, NADS, USGS, OGRIP
3. Orthophotography: 2015 NAIP





Figure No.	3
Title	
Habitat Assessment Map	
Client/Project	
AEP Ohio Transmission Company, Inc. Trimble 138 kV Transmission Line Extension Project	
Project Location	193705300
Athens County, Ohio	Prepared by JH on 2017-10-10 Technical Review by HDB on 2017-10-11 Independent Review by MJT on 2017-10-12



Notes

1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, FEMA, NADS, USGS, OGRIP
3. Orthophotography: 2015 NAIP





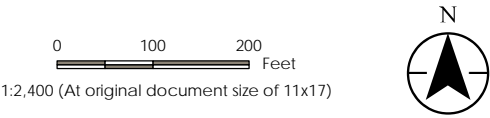
Figure No.
3

Title
Habitat Assessment Map

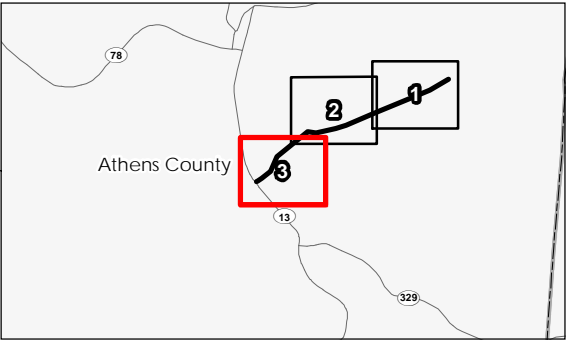
Client/Project
AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line
Extension Project

Project Location
Athens County, Ohio

193705300
Prepared by JLH on 2017-10-10
Technical Review by HDB on 2017-10-11
Independent Review by MJT on 2017-10-12



- Legend
- | | |
|--|--------------------------------|
| ■ AEP Substation | Habitat Area |
| ● Existing Structure | Second Growth Deciduous Forest |
| ⚡ Proposed Trimble 138 kV Transmission Line Extension | Old Field |
| □ Project Area (200' Wide Line Extension Corridor and Substation Property) | Residential Lawn |
| ○ Photo Location | Existing Roadway |
| ~ Upland Drainage Feature | Industrial |
| - - - Approximate Upland Drainage Feature | Existing Railroad |
| ~ Field Delineated Waterway | |
| - - - Approximate Waterway | |
| Field Delineated Forested Wetland | |
| Approximate Wetland | |



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



Appendix B Agency Correspondence



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Office of Real Estate
Paul R. Baldrige, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

June 30, 2017

Matt Teitt
Stantec
1500 Lake Shore Drive Suite 100
Columbus OH 43204-3800

Re: 17-349; Request for Environmental Review, Trimble 69 kV Transmission Line Extension Project

Project: The project consists of the construction of an approximately 1.2-mile extension to the Trimble 69 kV transmission line as well as removing an approximate 9.4-mile portion of the existing Trimble 69 kV line between the Trimble Station and the Poston Station.

Location: The proposed project is in Trimble Township, Athens County, Ohio.

The Ohio Department of Natural Resources (ODNR) has completed a review of the above referenced project. These comments were generated by an inter-disciplinary review within the Department. These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the National Environmental Policy Act, the Coastal Zone Management Act, Ohio Revised Code and other applicable laws and regulations. These comments are also based on ODNR's experience as the state natural resource management agency and do not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Woodland fern-leaved false foxglove (*Aureolaria pedicularia* var. *pedicularia*), E
Flattened sedge (*Carex complanata*), T
Rattlesnake-master (*Eryngium yuccifolium*), P
Buttonbush shrub swamp plant community
Floodplain forest plant community
Maple ash oak swamp plant community
Mixed emergent marsh plant community
Mixed mesophytic forest plant community
Caddisfly (*Brachycentrus numerosus*), E
Eastern box turtle (*Terrapene carolina*), SC
Hamley Run Floodplain Forest Conservation Site
Ohio Mining Swamp Conservation Site
True Cemetery Marsh Conservation Site
Wayne National Forest – US Forest Service
Trimble Township Community Forest – Appalachia Ohio Alliance

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

Statuses are defined as: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; A = species recently added to state inventory, status not yet determined; X = presumed extirpated in Ohio; FE = federal endangered, FT = federal threatened, FSC = federal species of concern, FC = federal candidate species.

Fish and Wildlife: The Division of Wildlife (DOW) has the following comments.

The DOW recommends that impacts to streams, wetlands and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation.

The project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact this species.

The project is within the range the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from April 15 through 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 or other aquatic species.

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of

habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat present at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, this project is not likely to impact this species.

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the U.S. Fish & Wildlife Service.

Water Resources: The Division of Water Resources has the following comment.

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

From: susan_zimmermann@fws.gov on behalf of [Ohio, FW3](#)
To: [Teitt, Matthew](#)
Cc: nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us
Subject: Trimble 69 kV Transmission Line Extension Project, Athens Co. OH
Date: Friday, June 16, 2017 1:14:18 PM
Attachments: [Capture of Dan.PNG](#)
[2017 USFWS ABB Permittees - Ohio.pdf](#)



UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994



TAILS: 03E15000-2017-TA-1378

Dear Mr. Teitt,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Should the proposed site contain trees ≥ 3 inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend that removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleb/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are

assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that summer surveys may only be conducted between June 1 and August 15.

The project area(s) lies within the range of the **American burying beetle** (*Nicrophorus americanus*) a federally listed endangered species. This insect is a generalist as far as habitat preference is concerned, meaning that it can be found in grasslands, open woodlands and brushlands. **We recommend that the proposed project site be evaluated to determine if the species or its habitat exists in the project area(s). We have enclosed a list of qualified, permitted surveyors.**

The project also lies within the range of the **timber rattlesnake** (*Crotalus horridus horridus*), a federal species of concern and Ohio endangered species. Your proactive efforts to conserve this species now may help avoid the need to list the species under the Endangered Species Act in the future. Due to their rarity and reclusive nature, we encourage early project coordination to avoid potential impacts to timber rattlesnakes and their habitat.

In Ohio, the timber rattlesnake is restricted to the un-glaciated Allegheny Plateau and utilizes the specific habitat types, depending upon season. Winters are spent in dens usually associated with high, dry ridges. These dens may face any direction, but southeast to southwest are most common. Such dens usually consist of narrow crevices in the bedrock. Rocks may or may not be present on the surface. From these dens, timber rattlesnakes radiate throughout the surrounding hills and move distances as great as 4.5 miles. In the fall, timber rattlesnakes return to the same den. Intensive efforts to transplant timber rattlesnakes have not been successful. Thus protection of the winter dens is critical to the survival of this species. Some project management ideas include the following:

- 1) At a minimum, project evaluations should contain delineations of timber rattlesnake habitat within project boundaries. Descriptions should indicate the quality and quantity of timber rattlesnake habitat (den sites, basking sites, and foraging area, etc.) that may be affected by the project.
- 2) In cases where timber rattlesnakes are known to occur or where potential habitat is rated moderate to high, timber rattlesnake surveys may be necessary. If surveys are to be conducted, it may be helpful to inquire about timber rattlesnake sightings with local resource agency personnel or reliable local residents. In addition, local herpetologists may have knowledge of historical populations as well as precise knowledge of the habits, and especially the specific, local types of habitats that may contain timber rattlesnakes. Surveys should be performed during the periods of spring emergence from dens (usually a narrow window in April or May) and throughout the active season until October. The species is often easiest to locate during the summer months when pregnant females seek open areas in early morning, especially after cool evenings.
- 3) In portions of projects where timber rattlesnakes will be affected, clearing and construction activities should occur at distances greater than 100 feet from known dens. Most importantly, tops of ridges and areas of exposed rock should be avoided.
- 4) In areas where timber rattlesnake dens are known or likely to exist, maintenance activities (mowing, cutting, burning, etc.) should be conducted from November 1 to March 1, when timber rattlesnakes are hibernating.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA,

between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, proposed, or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or ohio@fws.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Dan Everson", with a stylized, cursive script.

Dan Everson

Field Supervisor

cc: Nathan Reardon, ODNR-DOW

Kate Parson, ODNR-DOW

Appendix C Representative Photographs

C.1 FIGURE 2 WETLAND AND WATERBODY PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 1. View of Wetland 1. Photograph taken facing north.



Photo Location 1. View of Wetland 1. Photograph taken facing east.

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 1. View of Wetland 1. Photograph taken facing south.



Photo Location 1. View of Wetland 1. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 2. Upstream view of Stream 1. Photograph taken facing north.



Photo Location 2. Downstream view of Stream 1. Photograph taken facing southeast.

C.2 FIGURE 3 HABITAT PHOTOGRAPHS

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 1. View of old field habitat. Photograph taken facing southwest.



Photo Location 2. View of residential habitat. Photograph taken facing west.

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 3. View of old field habitat. Photograph taken facing east.



Photo Location 4. View of residential lawn and existing railroad. Photograph taken facing southwest.

AEP Ohio Transmission Company, Inc.
Trimble 138 kV Transmission Line Extension Project
Athens County, Ohio



Photo Location 5. View of industrial habitat (Trimble Station). Photograph taken facing north.



Photo Location 6. View of deciduous forest habitat. Photograph taken facing northwest.

Appendix D Data Forms

D.1 WETLAND DETERMINATION DATA FORMS

Project/Site: Trimble 69 kV Transmission Line Extension Project		Stantec Project #: 193705300		Date: 06/14/17
Applicant: AEP Transmission Company				County: Athens
Investigator #1: M. Kearns		Investigator #2: J. Nietz		State: Ohio
Soil Unit: Chargin Silt Loam, 0-3% slopes frequently flooded	NWI/WWI Classification:			Wetland ID: Wetland 1
Landform: Depression	Local Relief: Concave			Sample Point: SP01
Slope (%): 0	Latitude: -82.0671	Longitude: 39.496947	Datum: --	Community ID: PFO
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 3
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 11N
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				Range: 14 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Hydric Soils Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Remarks:	

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present <input type="checkbox"/>):	
Primary: <input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input checked="" type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery	Secondary: <input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B16 - Moss Trim Lines <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C8 - Crayfish Burrows <input type="checkbox"/> C9 - Saturation Visible on Aerial Imagery <input type="checkbox"/> D1 - Stunted or Stressed Plants <input type="checkbox"/> D2 - Geomorphic Position <input type="checkbox"/> D3 - Shallow Aquitard <input type="checkbox"/> D4 - Microtopographic Relief <input checked="" type="checkbox"/> D5 - FAC-Neutral Test

Field Observations: Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No Depth: (in.) Saturation Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No Depth: 0 (in.)	Wetland Hydrology Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
--	---

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	N/A
Remarks:	

SOILS

Map Unit Name: Chargin Silt Loam, 0-3% slopes frequently flooded	Series Drainage Class: Well drained
Taxonomy (Subgroup):	

Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Type	Location	Texture (e.g. clay, sand, loam)
			Color (Moist)		%	Color (Moist)		%			
0	6	1	10YR	4/2	92	2.5YR	5/8	8	C	PL	clay loam
6	20	2	10YR	4/2	80	10YR	6/8	20	C	M	clay loam
--	--	--	--	--	--	--	--	--	--	--	--
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NRCS Hydric Soil Field Indicators (check here if indicators are not present <input type="checkbox"/>):		Indicators for Problematic Soils ¹
<input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck (LRR N) <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> S4 - Sandy Gleyed Matrix	<input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input checked="" type="checkbox"/> F2 - Loamy Gleyed Matrix <input checked="" type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions	<input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 148) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks)

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (If Observed) Type: Depth:	Hydric Soil Present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
---	---

Remarks:

Project/Site: **Trimble 69 kV Transmission Line Extension Project**

Wetland ID: **Wetland 1** Sample Point **SP01**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind. Status
1.	<i>Salix interior</i>	50	Y	FACW
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **50**

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	<i>Salix interior</i>	20	Y	FACW
2.	<i>Acer negundo</i>	5	N	FAC
3.	<i>Platanus occidentalis</i>	10	Y	FACW
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **35**

Herb Stratum (Plot size: 5 ft radius)

1.	<i>Lysimachia nummularia</i>	75	Y	FACW
2.	<i>Juncus effusus</i>	15	N	FACW
3.	<i>Asclepias incarnata</i>	2	N	OBL
4.	<i>Carex bebbii</i>	3	N	OBL
5.	<i>Salix interior</i>	10	N	FACW
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **105**

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = **0**

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **4** (A)

Total Number of Dominant Species Across All Strata: **4** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **100.0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	_____	x 1 =	_____
FACW spp.	_____	x 2 =	_____
FAC spp.	_____	x 3 =	_____
FACU spp.	_____	x 4 =	_____
UPL spp.	_____	x 5 =	_____

Total _____ (A) _____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

- | | | |
|---|-----------------------------|--|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Dominance Test is > 50% |
| <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☒ Yes ☐ No

Additional Remarks:

Project/Site: Trimble 69 kV Transmission Line Extension Project		Stantec Project #: 193705300		Date: 06/14/17							
Applicant: AEP Transmission Company				County: Athens							
Investigator #1: M. Kearns		Investigator #2: J. Nietz		State: Ohio							
Soil Unit: Chagrin silt loam, 0-3% slopes frequently flooded		NWI/WWI Classification:		Wetland ID: Wetland 1							
Landform: --		Local Relief: Convex		Sample Point: SP02							
Slope (%): 1		Latitude: -82.067 Longitude: 39.496802 Datum: --		Community ID: Upland							
Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No				Section: 3							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> significantly disturbed?		Are normal circumstances present? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		Township: 11N							
Are Vegetation <input type="checkbox"/> , Soil <input type="checkbox"/> , or Hydrology <input type="checkbox"/> naturally problematic?				Range: 14 Dir: W							
SUMMARY OF FINDINGS											
Hydrophytic Vegetation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Hydric Soils Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Is This Sampling Point Within A Wetland? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No									
Remarks:											
HYDROLOGY											
Wetland Hydrology Indicators (Check here if indicators are not present <input checked="" type="checkbox"/>):											
Primary:		Secondary:									
<input type="checkbox"/> A1 - Surface Water <input type="checkbox"/> A2 - High Water Table <input type="checkbox"/> A3 - Saturation <input type="checkbox"/> B1 - Water Marks <input type="checkbox"/> B2 - Sediment Deposits <input type="checkbox"/> B3 - Drift Deposits <input type="checkbox"/> B4 - Algal Mat or Crust <input type="checkbox"/> B5 - Iron Deposits <input type="checkbox"/> B7 - Inundation Visible on Aerial Imagery		<input type="checkbox"/> B6 - Surface Soil Cracks <input type="checkbox"/> B8 - Sparsely Vegetated Concave Surface <input type="checkbox"/> B10 - Drainage Patterns <input type="checkbox"/> B14 - Moss Trim Lines <input type="checkbox"/> C1 - Hydrogen Sulfide Odor <input type="checkbox"/> C2 - Dry Season Water Table <input type="checkbox"/> C3 - Oxidized Rhizospheres on Living Roots <input type="checkbox"/> C4 - Presence of Reduced Iron <input type="checkbox"/> C6 - Recent Iron Reduction in Tilled Soils <input type="checkbox"/> C7 - Thin Muck Surface <input type="checkbox"/> Other (Explain in Remarks)									
Field Observations:											
Surface Water Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Wetland Hydrology Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No									
Water Table Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Saturation Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: N/A											
Remarks:											
SOILS											
Map Unit Name: Chagrin silt loam, 0-3% slopes frequently flooded Series Drainage Class: Well drained											
Taxonomy (Subgroup):											
Profile Description (Describe to the depth needed to document the indicator or confirm the absence of indicators.) (Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered/Coated Sand Grains; Location: PL=Pore Lining, M=Matrix)											
Top Depth	Bottom Depth	Horizon	Matrix			Mottles			Type	Location	Texture (e.g. clay, sand, loam)
			Color (Moist)	%		Color (Moist)	%				
0	6	1	10YR	4/4	100	--	--	--	--	--	clay loam
6	12	2	10YR	4/3	95	7.5YR	5/3	5	C	M	clay loam
12	20	3	10YR	4/3	80	7.5YR	5/8	20	C	M	clay
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NRCS Hydric Soil Field Indicators (check here if indicators are not present <input checked="" type="checkbox"/>): <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> A1 - Histosol <input type="checkbox"/> A2 - Histic Epipedon <input type="checkbox"/> A3 - Black Histic <input type="checkbox"/> A4 - Hydrogen Sulfide <input type="checkbox"/> A5 - Stratified Layers <input type="checkbox"/> A10 - 2 cm Muck (LRR N) <input type="checkbox"/> A11 - Depleted Below Dark Surface <input type="checkbox"/> A12 - Thick Dark Surface <input type="checkbox"/> S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148) <input type="checkbox"/> S4 - Sandy Gleyed Matrix </div> <div> <input type="checkbox"/> S5 - Sandy Redox <input type="checkbox"/> S6 - Stripped Matrix <input type="checkbox"/> S7 - Dark Surface <input type="checkbox"/> S8 - Polyvalue Below Dark Surface (MLRA 147, 148) <input type="checkbox"/> S9 - Thin Dark Surface (MLRA 147, 148) <input type="checkbox"/> F2 - Loamy Gleyed Matrix <input type="checkbox"/> F3 - Depleted Matrix <input type="checkbox"/> F6 - Redox Dark Surface <input type="checkbox"/> F7 - Depleted Dark Surface <input type="checkbox"/> F8 - Redox Depressions </div> <div> <input type="checkbox"/> F12 - Iron-Manganese Masses (LRR N, MLRA 136) <input type="checkbox"/> F13 - Umbric Surface (MLRA 122, 136) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 148) <input type="checkbox"/> F21 - Red Parent Material (MLRA 127, 147) </div> <div> <input type="checkbox"/> A10 - 2cm Muck (MLRA 147) <input type="checkbox"/> A16 - Coast Prairie Redox (MLRA 147, 148) <input type="checkbox"/> F19 - Piedmont Floodplain Soils (MLRA 136, 147) <input type="checkbox"/> TF12 - Very Shallow Dark Surface <input type="checkbox"/> Other (Explain in Remarks) </div> </div>											
Restrictive Layer (If Observed) Type: Depth: Hydric Soil Present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No											
Remarks:											

¹ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Project/Site: **Trimble 69 kV Transmission Line Extension Project**

Wetland ID: **Wetland 1** Sample Point **SP02**

VEGETATION (Species identified in all uppercase are non-native species.)

Tree Stratum (Plot size: 30 ft radius)

	<u>Species Name</u>	<u>% Cover</u>	<u>Dominant</u>	<u>Ind. Status</u>
1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Sapling/Shrub Stratum (Plot size: 15 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--

Total Cover = **0**

Herb Stratum (Plot size: 5 ft radius)

1.	<i>Trifolium pratense</i>	30	Y	FACU
2.	<i>Medicago lupulina</i>	15	N	FACU
3.	<i>Juncus tenuis</i>	10	N	FAC
4.	<i>Schedonorus pratensis</i>	45	Y	FACU
5.	<i>Trifolium hybridum</i>	10	N	FACU
6.	<i>Plantago major</i>	5	N	FACU
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--

Total Cover = **115**

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--

Total Cover = **0**

Remarks:

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: **0** (A)

Total Number of Dominant Species Across All Strata: **2** (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: **0.0%** (A/B)

Prevalence Index Worksheet

Total % Cover of:

Multiply by:

OBL spp.	0	x 1 =	0
FACW spp.	0	x 2 =	0
FAC spp.	10	x 3 =	30
FACU spp.	105	x 4 =	420
UPL spp.	0	x 5 =	0

Total **115** (A) **450** (B)

Prevalence Index = B/A = **3.913**

Hydrophytic Vegetation Indicators:

- | | | |
|------------------------------|--|--|
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Rapid Test for Hydrophytic Vegetation |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Dominance Test is > 50% |
| <input type="checkbox"/> Yes | <input checked="" type="checkbox"/> No | Prevalence Index is ≤ 3.0 * |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Morphological Adaptations (Explain) * |
| <input type="checkbox"/> Yes | <input type="checkbox"/> No | Problem Hydrophytic Vegetation (Explain) * |

* Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.

Woody Vines - All woody vines greater than 3.28 ft. in height.

Hydrophytic Vegetation Present ☐ Yes ☒ No

Additional Remarks:

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

D.2 ORAM DATA FORMS

Wetland 1

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions


The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

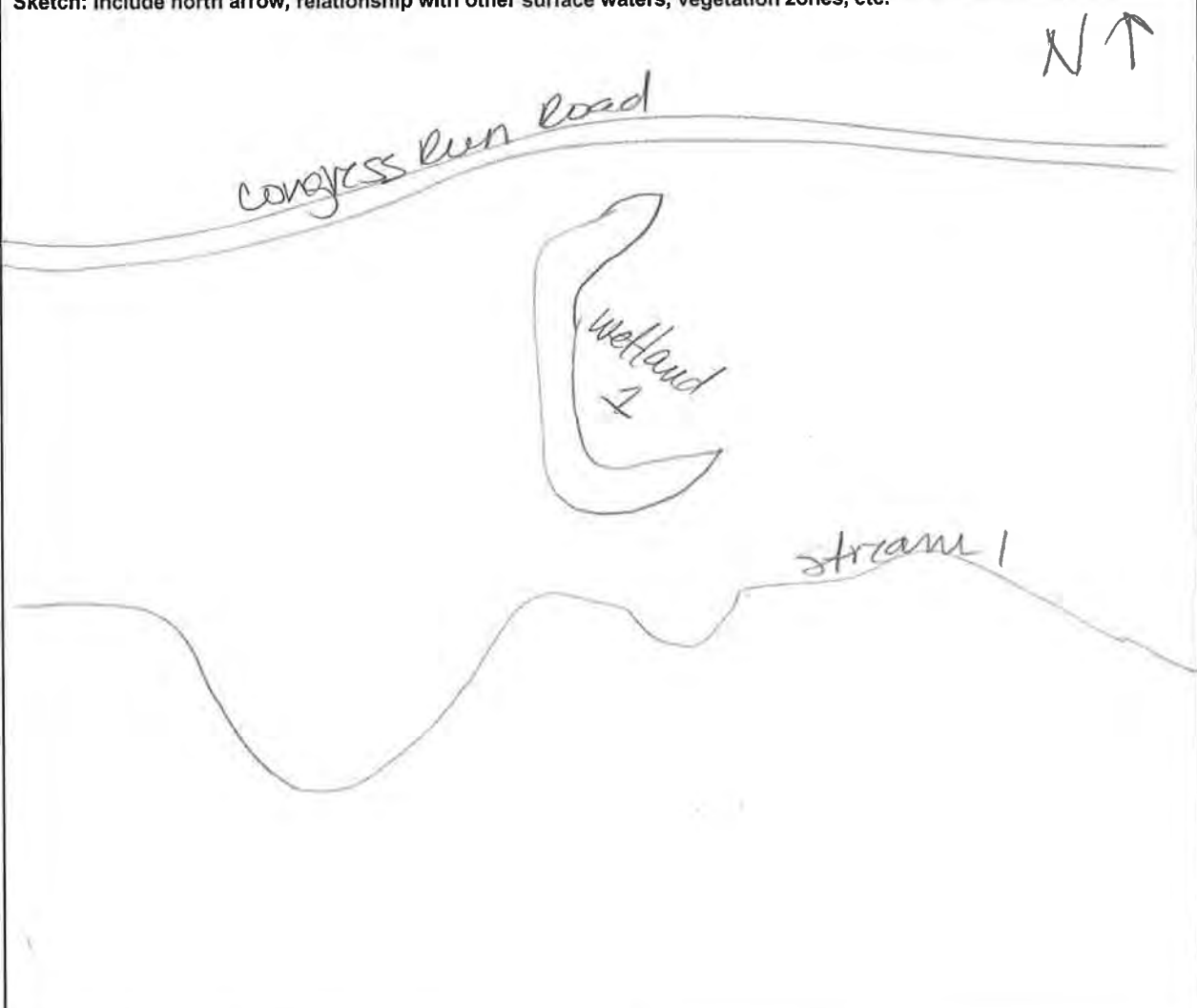
The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: <http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx>

Background Information

Name:	Michelle Kearns		
Date:	6/14/17		
Affiliation:	Stantec Consulting Services		
Address:	1500 Lake Shore Dr, Suite 100, Columbus, OH		
Phone Number:	614-486-4383		
e-mail address:	michelle.kearns@stantec.com		
Name of Wetland:	Wetland 1		
Vegetation Community(ies):	PFO		
HGM Class(es):	Depression		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.			
			
Lat/Long or UTM Coordinate		39.4968, -82.0670	
USGS Quad Name		Jacksonville	
County		Athens	
Township		T11N	
Section and Subsection		S03	
Hydrologic Unit Code		050302040204 Greens Run - Sunday Creek	
Site Visit		6/14/17	
National Wetland Inventory Map		Yes	
Ohio Wetland Inventory Map		No	
Soil Survey		Athens Co. Soil Survey	
Delineation report/map		Figure 2, Eco Report	

Name of Wetland: <u>Wetland 1</u>	
Wetland Size (acres, hectares): <u>0.49</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : <u>54</u>	Category: <u>2</u>

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	<input checked="" type="checkbox"/>	<input type="checkbox"/>

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 2	NO <input checked="" type="checkbox"/> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 3	NO <input checked="" type="checkbox"/> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 4	NO <input checked="" type="checkbox"/> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 5	NO <input checked="" type="checkbox"/> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES <input type="checkbox"/> Wetland is a Category 1 wetland Go to Question 6	NO <input checked="" type="checkbox"/> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 7	NO <input checked="" type="checkbox"/> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 8a	NO <input checked="" type="checkbox"/> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 8b	NO <input checked="" type="checkbox"/> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO <input checked="" type="checkbox"/> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES <input type="checkbox"/> Go to Question 9b	NO <input checked="" type="checkbox"/> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 10	NO <input type="checkbox"/> Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES <input type="checkbox"/> Go to Question 9d	NO <input type="checkbox"/> Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES <input type="checkbox"/> Wetland is a Category 3 wetland Go to Question 10	NO <input type="checkbox"/> Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Go to Question 10	NO <input type="checkbox"/> Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES <input type="checkbox"/> Wetland is a Category 3 wetland. Go to Question 11	NO <input checked="" type="checkbox"/> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Morcor, Miami, Montgomery, Van Wert etc.).	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO <input checked="" type="checkbox"/> Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

End of Narrative Rating. Begin Quantitative Rating on next page.

Site: <u>Wetland 1</u>	Rater(s): <u>M Krams</u>	Date: <u>6/14/17</u>
-------------------------------	---------------------------------	-----------------------------

2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

- ☐ >50 acres (>20.2ha) (6 pts)
- ☐ 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- ☐ 10 to <25 acres (4 to <10.1ha) (4 pts)
- ☐ 3 to <10 acres (1.2 to <4ha) (3 pts)
- ☒ 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- ☐ 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- ☐ <0.1 acres (0.04ha) (0 pts)

13	15
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- ☒ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☐ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

2b. Intensity of surrounding land use. Select one or double check and average.

- ☒ VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- ☒ LOW. Old field (>10 years), shrub land, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

18	33
max 30 pts.	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply.

- ☐ High pH groundwater (5)
- ☐ Other groundwater (3)
- ☒ Precipitation (1)
- ☐ Seasonal/Intermittent surface water (3)
- ☐ Perennial surface water (lake or stream) (5)

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

3e. Modifications to natural hydrologic regime. Score one or double check and average.

- ☒ None or none apparent (12)
- ☐ Recovered (7)
- ☐ Recovering (3)
- ☐ Recent or no recovery (1)

3b. Connectivity. Score all that apply.

- ☒ 100 year floodplain (1)
- ☒ Between stream/lake and other human use (1)
- ☒ Part of wetland/upland (e.g. forest), complex (1)
- ☒ Part of riparian or upland corridor (1)

3d. Duration inundation/saturation. Score one or dbl check.

- ☐ Semi- to permanently inundated/saturated (4)
- ☐ Regularly inundated/saturated (3)
- ☐ Seasonally inundated (2)
- ☒ Seasonally saturated in upper 30cm (12in) (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other |

16	49
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

4a. Substrate disturbance. Score one or double check and average.

- ☒ None or none apparent (4)
- ☐ Recovered (3)
- ☐ Recovering (2)
- ☐ Recent or no recovery (1)

4b. Habitat development. Select only one and assign score.

- ☐ Excellent (7)
- ☐ Very good (6)
- ☐ Good (5)
- ☐ Moderately good (4)
- ☒ Fair (3)
- ☐ Poor to fair (2)
- ☐ Poor (1)

4c. Habitat alteration. Score one or double check and average.

- ☒ None or none apparent (9)
- ☐ Recovered (6)
- ☐ Recovering (3)
- ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

49

subtotal this page

Site: <u>Wetland 1</u>	Rater(s): <u>N Keams</u>	Date: <u>6/14/17</u>
-------------------------------	---------------------------------	-----------------------------

49

subtotal first page

0	49
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- ☐ Old growth forest (10)
- ☐ Mature forested wetland (5)
- ☐ Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- ☐ Lake Erie coastal/tributary wetland-restricted hydrology (5)
- ☐ Lake Plain Sand Prairies (Oak Openings) (10)
- ☐ Relict Wet Prairies (10)
- ☐ Known occurrence state/federal threatened or endangered species (10)
- ☐ Significant migratory songbird/water fowl habitat or usage (10)
- ☐ Category 1 Wetland. See Question 1 Qualitative Rating (-10)

5	54
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ Emergent
- ☐ Shrub
- ☒ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other _____

6b. horizontal (plan view) Interspersions.

Select only one.

- ☐ High (5)
- ☐ Moderately high(4)
- ☒ Moderate (3)
- ☐ Moderately low (2)
- ☐ Low (1)
- ☐ None (0)

6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add or deduct points for coverage

- ☐ Extensive >75% cover (-5)
- ☐ Moderate 25-75% cover (-3)
- ☐ Sparse 5-25% cover (-1)
- ☒ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/tussocks
- ☒ Coarse woody debris >15cm (6in)
- ☒ Standing dead >25cm (10in) dbh
- ☒ Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

54

End of Quantitative Rating. Complete Categorization Worksheets.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES <input type="checkbox"/> Wetland is categorized as a Category 3 wetland	NO <input checked="" type="checkbox"/>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES <input type="checkbox"/> Wetland should be evaluated for possible Category 3 status	NO <input checked="" type="checkbox"/>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments <u>may also be used to determine the wetland's category.</u>
Did you answer "Yes" to Narrative Rating No. 5	YES <input type="checkbox"/> Wetland is categorized as a Category 1 wetland	NO <input checked="" type="checkbox"/>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES <input checked="" type="checkbox"/> Wetland is assigned to the appropriate category based on the scoring range	NO <input type="checkbox"/>	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES <input type="checkbox"/> Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO <input checked="" type="checkbox"/>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES <input type="checkbox"/> Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO <input checked="" type="checkbox"/> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	Category 1	Category 2	Category 3
	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

End of Ohio Rapid Assessment Method for Wetlands.

TRIMBLE 138 KV TRANSMISSION LINE EXTENSION PROJECT, ATHENS COUNTY, OHIO

D.3 QHEI DATA FORMS

Stream & Location: Stream 1 - Congress Run

RM: --- Date: 06/14/17

ASP - Trumble

Scorers Full Name & Affiliation: Michael Keating/Stanford

River Code: --- STORET #: ---

Lat./ Long.: 39.4943 182.0736

Office verified location ☐

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present

Check ONE (Or 2 & average)

BEST TYPES		OTHER TYPES		ORIGIN		QUALITY	
<input type="checkbox"/> BLDR / SLABS [10]	<input type="checkbox"/> POOL RIFFLE	<input type="checkbox"/> HARDPAN [4]	<input type="checkbox"/> POOL RIFFLE	<input type="checkbox"/> LIMESTONE [1]	<input type="checkbox"/> SILT	<input type="checkbox"/> HEAVY [-2]	Substrate 14 Maximum 20
<input type="checkbox"/> BOULDER [9]	<input type="checkbox"/> DETRITUS [3]	<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> TILLS [1]	<input type="checkbox"/> WETLANDS [0]	<input type="checkbox"/> FREE [1]	<input type="checkbox"/> MODERATE [-1]	
<input type="checkbox"/> COBBLE [8]	<input type="checkbox"/> MUCK [2]	<input type="checkbox"/> SILT [2]	<input type="checkbox"/> HARDPAN [0]	<input type="checkbox"/> SANDSTONE [0]	<input type="checkbox"/> EXTENSIVE [-2]	<input type="checkbox"/> MODERATE [-1]	
<input checked="" type="checkbox"/> GRAVEL [7]	<input type="checkbox"/> ARTIFICIAL [0]	<input type="checkbox"/> RIP/RAP [0]	<input type="checkbox"/> LACUSTURINE [0]	<input type="checkbox"/> NORMAL [0]	<input type="checkbox"/> NONE [1]		
<input checked="" type="checkbox"/> SAND [6]		<input type="checkbox"/> SHALE [-1]	<input type="checkbox"/> COAL FINES [-2]				
<input type="checkbox"/> BEDROCK [5]							

NUMBER OF BEST TYPES: ☐ 4 or more [2] ☒ 3 or less [0]

Comments

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

Check ONE (Or 2 & average)

AMOUNT	
<input type="checkbox"/> UNDERCUT BANKS [1]	<input type="checkbox"/> POOLS > 70cm [2]
<input type="checkbox"/> OVERHANGING VEGETATION [1]	<input type="checkbox"/> ROOTWADS [1]
<input type="checkbox"/> SHALLOWS (IN SLOW WATER) [1]	<input type="checkbox"/> BOULDERS [1]
<input type="checkbox"/> ROOTMATS [1]	<input type="checkbox"/> OXBOWS, BACKWATERS [1]
	<input type="checkbox"/> AQUATIC MACROPHYTES [1]
	<input type="checkbox"/> LOGS OR WOODY DEBRIS [1]

Channel
Maximum 20
14

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]
<input type="checkbox"/> MODERATE [3]	<input checked="" type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]
<input type="checkbox"/> LOW [2]	<input type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]	

Channel
Maximum 20
17

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream		RIPARIAN WIDTH		FLOOD PLAIN QUALITY	
<input checked="" type="checkbox"/> EROSION	<input checked="" type="checkbox"/> WIDE > 50m [4]	<input checked="" type="checkbox"/> FOREST, SWAMP [3]	<input type="checkbox"/> CONSERVATION TILLAGE [1]		
<input type="checkbox"/> NONE / LITTLE [3]	<input type="checkbox"/> MODERATE 10-50m [3]	<input checked="" type="checkbox"/> SHRUB OR OLD FIELD [2]	<input type="checkbox"/> URBAN OR INDUSTRIAL [0]		
<input type="checkbox"/> MODERATE [2]	<input type="checkbox"/> NARROW 5-10m [2]	<input type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1]	<input type="checkbox"/> MINING / CONSTRUCTION [0]		
<input type="checkbox"/> HEAVY / SEVERE [1]	<input type="checkbox"/> VERY NARROW < 5m [1]	<input type="checkbox"/> FENCED PASTURE [1]			
	<input type="checkbox"/> NONE [0]	<input type="checkbox"/> OPEN PASTURE, ROWCROP [0]			

Indicate predominant land use(s) past 100m riparian. 275
Riparian
Maximum 10
9.75

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH		CHANNEL WIDTH		CURRENT VELOCITY		Recreation Potential Primary Contact Secondary Contact (circle one and comment on back)
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply				
<input type="checkbox"/> > 1m [6]	<input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	<input checked="" type="checkbox"/> SLOW [1]			
<input checked="" type="checkbox"/> 0.7-1m [4]	<input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input type="checkbox"/> VERY FAST [1]	<input type="checkbox"/> INTERSTITIAL [-1]			
<input type="checkbox"/> 0.4-0.7m [2]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [0]	<input type="checkbox"/> FAST [1]	<input type="checkbox"/> INTERMITTENT [-2]			
<input type="checkbox"/> 0.2-0.4m [1]		<input type="checkbox"/> MODERATE [1]	<input type="checkbox"/> EDDIES [1]			
<input type="checkbox"/> < 0.2m [0]		Indicate for reach - pools and riffles.				

Pool / Current
Maximum 12
7

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

☐ NO RIFFLE [metric=0]

RIFPLE DEPTH		RUN DEPTH		RIFPLE / RUN SUBSTRATE		RIFPLE / RUN EMBEDDEDNESS	
<input type="checkbox"/> BEST AREAS > 10cm [2]	<input type="checkbox"/> MAXIMUM > 50cm [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]				
<input checked="" type="checkbox"/> BEST AREAS 5-10cm [1]	<input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]				
<input type="checkbox"/> BEST AREAS < 5cm [metric=0]		<input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]				
			<input type="checkbox"/> EXTENSIVE [-1]				

Riffle / Run
Maximum 8
3

6] GRADIENT (72.4 ft/mi) ☐ VERY LOW - LOW [2-4]
DRAINAGE AREA (2.03 mi²) ☐ MODERATE [6-10]
☒ HIGH - VERY HIGH [10-6]

%POOL: 80 %GLIDE: ---
%RUN: --- %RIFPLE: 20
Gradient
Maximum 10
4

Check ALL that apply

METHOD

STAGE

- 1st-sample pass-2nd
- | | | |
|--------------------------|--------|--------------------------|
| <input type="checkbox"/> | HIGH | <input type="checkbox"/> |
| <input type="checkbox"/> | UP | <input type="checkbox"/> |
| <input type="checkbox"/> | NORMAL | <input type="checkbox"/> |
| <input type="checkbox"/> | LOW | <input type="checkbox"/> |
| <input type="checkbox"/> | DRY | <input type="checkbox"/> |

107

- CLARITY**
- 1st --sample pass-- 2nd
- | | | | | |
|--------------------------|--------------------------|--------------|--------------------------|--------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | < 20 cm | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | 20-<40 cm | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | 40-70 cm | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | > 70 cm/ CTB | <input type="checkbox"/> | <input type="checkbox"/> |
| <input type="checkbox"/> | <input type="checkbox"/> | SECCHI DEPTH | <input type="checkbox"/> | <input type="checkbox"/> |

B1 AESTHETICS

- ☐ NUISANCE ALGAE
☐ INVASIVE MACROPHYTES
☐ EXCESS TURBIDITY
☐ DISCOLORATION
☐ FOAM / SCUM
☐ OIL SHEEN
☐ TRASH / LITTER
☐ NUISANCE ODOR
☐ SLUDGE DEPOSITS
☐ CSOs/SSOs/OUTFALLS

D7 MAINTENANCE

- PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURD / SLUMPS
ISLANDS / SCoured
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

- WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT & GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H₂O / TILE / H₂O TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

ISSUES

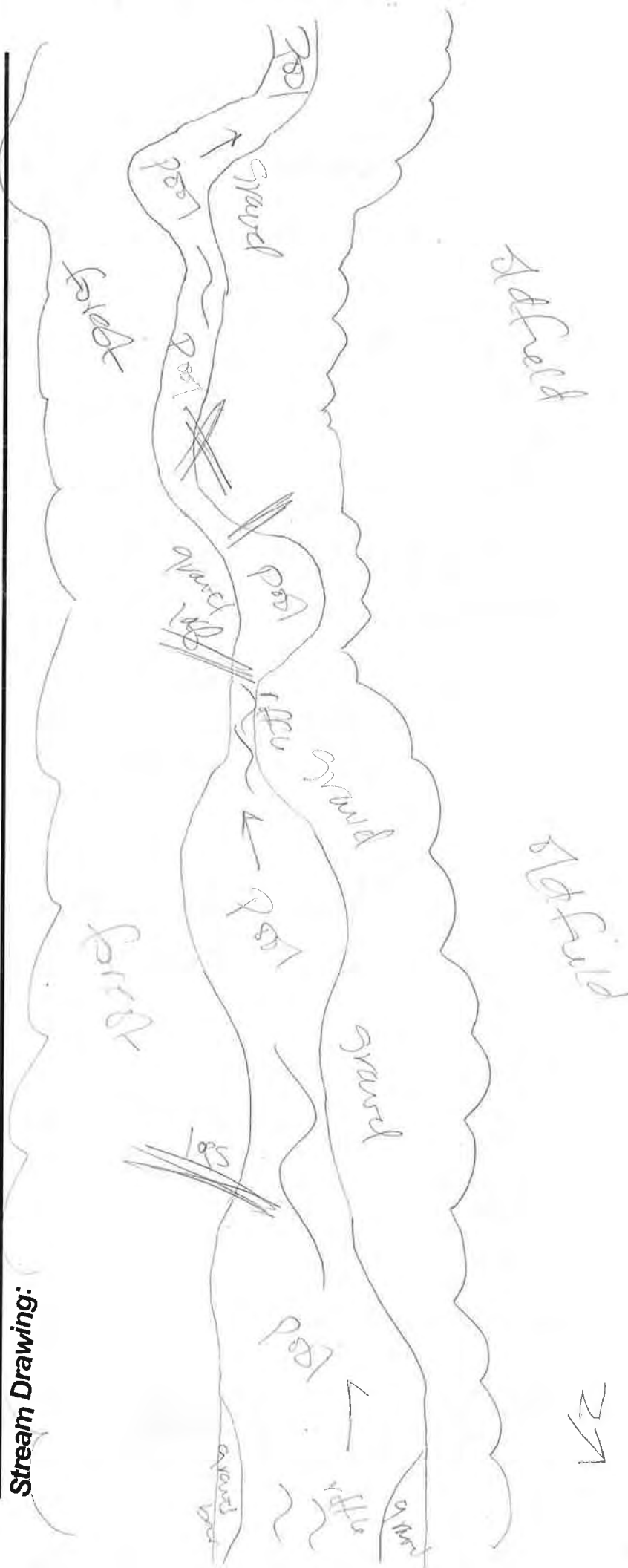
- \bar{x} width
 \bar{x} depth
max. depth
 \bar{x} bankfull width
bankfull \bar{x} depth
W/D ratio
bankfull max. depth
floodprone x^2 width
entrench. ratio

E7 MEASUREMENTS

C1 RECREATION

- ☐ 10% - < 30% ☐ < 10% - CLOSED **CJ RECREATION** AREA DEPTH POOL: ☐ > 100ft² ☐ > 3ft

Stream Drawing:



This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

10/18/2017 3:25:07 PM

in

Case No(s). 17-2109-EL-BLN

Summary: Notification - Letter of Notification application for the Trimble 138 kV Transmission Line Extension Project electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.