Legal Department

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November 27, 2018

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

Re: PUCO Case No. 18-1678-EL-BLN
In the Matter of the Letter of Notification for the
Crooksville-North Newark 138 kV Transmission Line Extension Project

Dear Chairman Haque,

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

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

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

Respectfully submitted,

/s/ Christen Blend
Christen 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 Crooksville-North Newark 138 kV Transmission Line Extension Project

PUCO Case No. 18-1678-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.

November 27, 2018

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.
Crooksville-North Newark 138 kV Transmission Line Extension Project

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides the following information in accordance with the requirements of 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 has identified the need to extend the existing Crooksville-North Newark 138 kilovolt (kV) transmission line (the "Project") near the Village of Roseville in Clayton Township, Perry County, Ohio. The Project includes a 0.3-mile extension of a new 138 kV transmission line from the existing Crooksville-North Newark 138 kV transmission line to a new distribution facility. Two structures on the existing Crooksville-North Newark 138 kV transmission line will also be replaced as maintenance pursuant to R.C. 4906.04 and O.A.C. 4906-1-01(HH). Although their replacement does not require the Ohio Power Siting Board's ("OPSB") approval, the structures have been included in this application for reference purposes. The location of the Project is shown on Figure 1.1 in Appendix A. Technical features of this Project are discussed in Section B9.

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 O.A.C. 4906-1-01, *Application Requirement Matrix For Electric Power Transmission Lines*. This item states:

> *(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. 18-1678-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 Project is a PJM Interconnection LLP ("PJM") Supplemental RTEP project, which was submitted in the November 2018 PJM Subregional RTEP Committee – Western Meeting. AEP Ohio Transco will provide the PJM reference number to OPSB once it has been assigned. In addition, the Project will be referenced in AEP Ohio Transco's 2019 long-term forecast report ("LTFR"). It was not included in AEP Ohio Transco's 2018 LTFR because the need which underlies this Project had not been presented to PJM as of the date of the 2018 LTFR filing. The Project provides a 138 kV transmission source to provide connection to a new distribution substation. The new distribution station is being built to replace nearby aging distribution stations, which are in need of rehabilitation and are distant from the current distribution load center. The proposed Project would provide a 138 kV transmission source for a new 138kV/12kV distribution station, which will centrally locate the distribution station near the current load center and provide a desirable backup for the 12kV circuit in the area.

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.

The Project is located west of Highway 345 near the Village of Roseville in Clayton Township, Perry County, Ohio. Figure 1.1 in Appendix A shows the location of the proposed Project in relation to existing AEP Ohio Transco facilities, including the existing Crooksville-North Newark 138 kV transmission line.

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.

All of the proposed transmission line work will occur within existing AEP Ohio Transco right-of-way ("ROW") or Ohio Power Company property. Due to the short length and minimal constraints in the Study Area, no other alternatives were considered for the Project. Any other alternative would add additional length to the Project without any additional benefit

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 informs affected property owners and tenants about its projects through several different mediums. Within seven days of filing this LON, AEP Ohio Transco will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements under O.A.C. Section 4906-6-08(A)(1)-(6). Further, AEP Ohio Transco mailed a letter, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner AEP Ohio Transco approached for an easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. 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 affected by this proposed Project. Lastly, AEP Ohio Transco retains ROW land agents who discuss project timelines, construction, and restoration activities with affected owners and tenants.

B(6) Construction Schedule

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

Construction is planned to start in May 2019. The in-service date (completion date) of the Project is expected to be December 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.

An aerial map of the Project is included as Figure 1.2 in Appendix A. To visit the Project from Columbus, take I-70 E/I-71 N, merge onto I-70 E/I-71 N, keep right to continue on I-70 E, follow signs for I-70 E/Wheeling, and take exit 132 for OH-13 toward Newark/Thornville. Turn right onto OH-13 S/Jacksontown Road. At the traffic circle, continue straight onto OH-13 S/S Columbus Street. Turn left onto OH-669 E and then make a slight left onto OH-345. The Project is located on the left in approximately 0.7 miles.

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.

A list of properties and obtained easements, options, and/or land use agreements for the Project is provided in the table below.

Property Parcel Number	Easement Agreement/ Option Obtained (Yes/No)
030001650000	Yes
030001560000	Yes

B(9) Technical Features

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

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

The Project will involve cutting into the existing Crooksville-North Newark 138 kV transmission line and constructing of 0.3-miles of new single-circuit 138 kV transmission line.

Crooksville – North Newark 138 kV Line (Existing Line):

Conductors: Partridge 266.8 kcmil 26/7 ACSR (Existing Conductor)
Shield Wire: 5/16" EHS 7 (Existing SW)
Insulators: Polymer
ROW Width: 100 Feet
Structure Types: (2) single circuit, direct embedded, H-Frame suspension structures are needed. (Replacing existing wood structures with steel)
(2) single circuit, direct embedded, deadend, guyed, single pole steel structures are needed. (Installing new steel structures)

Isabella Extension North 138 kV Line (New Line being installed):

Conductors: Drake 795 kcmil 26/7 ACSR
Shield Wire: 7#10 Alumoweld
Insulators: Polymer
ROW Width: 100 Feet
Structure Types: (2) single circuit, direct embedded, horizontal post, single pole steel structures are needed
(1) single circuit, direct embedded, deadend, guyed, single pole steel structure is needed.

Isabella Extension South 138 kV Line (New Line being installed):

Conductors: Drake 795 kcmil 26/7 ACSR
Shield Wire: 7#10 Alumoweld
Insulators: Polymer
ROW Width: 100 Feet
Structure Types: (2) single circuit, direct embedded, horizontal post, single pole steel structures are needed
(1) single circuit, direct embedded, deadend, guyed, single pole steel structure is needed.

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.

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

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

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

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.

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, comprised of applicable tangible and capital costs, is approximately $1,200,000, using a Class 3 estimate.

B(10) Social and Economic Impacts

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

B(10)(a) Land Use 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 west of the Village of Roseville in Perry County, Ohio. Field observations by AEP Ohio Transco's consultant indicate the Project area is primarily comprised of old field habitat and agricultural fields. Limited areas of residential lawn, mixed early successional deciduous forest, roadways, and a palustrine emergent wetland were identified within the Project area. It is anticipated that minimal tree clearing will be required for the Project.

No residences are located within 100 feet of the Project. There is currently one residence located within 500 feet of the Project area along Highway 345 and one additional residence located within 1,000 feet of the Project area. There are no parks, schools, churches, cemeteries, wildlife management areas, or nature preserve lands within 1,000 feet of the Project area.

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 Project is not located within a registered agricultural district, based on coordination with the Perry County Auditor's Office in November of 2018. Based on field surveys, there are approximately 1.4 acres of agricultural land in the Project area, comprised primarily of rotating corn/soybean fields (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 archaeological 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.

Cultural resources surveys were completed by AEP Ohio Transco's consultant in June and October 2018, and the reports are being reviewed by the Ohio History Connection ("OHC"). The results of the survey activity will be coordinated directly with the OPSB.

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.

Best management practices (BMPs) will be implemented and maintained to minimize erosion and control sediment to protect surface water quality during storm events. A project-specific Storm Water Pollution Prevention Plan (SWPPP) will be prepared and a Notice of Intent (NOI) will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000005.

There is one emergent wetland located in the Project Area (see Appendix B). Project construction activities are not expected to result in the discharge of fill material in the wetland. Therefore, the Project is not expected to require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers or a Section 401 Water Quality Certification from the OEPA.

The Project is not crossed by Federal Emergency Management Agency ("FEMA") 100-year floodplains. Therefore, no floodplain permitting is required for the Project. There are no other known local, state or federal permitting requirements that must be met prior to commencement of the Project.

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

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

The United States Fish and Wildlife Service ("USFWS") Ohio Ecological Services Field Office list of federally endangered, threatened, and candidate species in Ohio by County (available at

https://www.fws.gov/midwest/ohio/EndangeredSpecies/pdf/SpeciesListByCountyApril2018.pdf) was reviewed to determine the threatened and endangered species currently known to occur, or that potentially occur, in Perry County. This USFWS publication listed the following threatened and endangered species and federal species of concern as occurring in Perry County: Indiana bat (*Myotis sodalis*; federally endangered), northern long-eared bat (*Myotis septentrionalis;* federally threatened), eastern massasauga (*Sistrurus catenatus catenatus*; federally threatened), American burying beetle (*Nicrophorus americanus*; federally endangered), and bald eagle (*Haliaeetus leucocephalus*; federal species of concern). No potential winter hibernacula or potentially suitable summer roosting habitat for the Indiana bat or northern long-eared bat was observed during threatened and endangered species habitat assessment field surveys completed within the Project area. Potentially suitable habitat for the eastern massasauga was observed within a portion of the Project area, consisting of palustrine emergent wetland. However, according to the Ohio Department of Natural Resources, this species is not known to occur within Perry County, the Project area, or a one-mile radius of it (http://wildlife.ohiodnr.gov/species-and-habitats/state-listed-species/state-listed-species-by-county; Appendix B). Therefore, no impacts to this species are anticipated. Other than potentially suitable foraging habitat for the Indiana bat and northern long-eared bat, no potentially suitable habitat for other federally listed species or federal species of concern was observed within the Project area.

As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The March 23, 2018 response letter from the USFWS (see Appendix B) indicated that the proposed Project is within the range of the Indiana bat and northern long-eared bat in Ohio, but if tree clearing occurs between October 1 and March 31, they do not anticipate the Project having any adverse effects to these species or any other federally listed endangered, threatened, proposed, or candidate species. As stated, no winter hibernacula or potentially suitable roost trees were observed in the Project area during field surveys. AEP will avoid forested areas to the extent possible and will determine if any summer tree clearing is necessary in areas potentially containing suitable roost habitat and proceed accordingly. The USFWS letter did not include any comments specific to the other federally listed species.

Several state-listed threatened species, endangered species, and species of concern are listed by the Ohio Department of Natural Resources (http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/state-listed%20species/perry.pdf) as occurring, or potentially occurring in Perry County. These state-listed species are addressed in detail in the Ecological Resources Inventory Report included in Appendix B. No Project-related impacts to any state-listed threatened or endangered species are anticipated.

Coordination letters were submitted via email to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW") Ohio Natural Heritage Program ("ONHP") and the ODNR - Office of Real Estate in March 2018, seeking an environmental review of the proposed Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR's DOW/OHNP and the ODNR – Office of Real Estate was received on April 19, 2018 (see Appendix B).

According to the ODNR - Office of Real Estate, the Project is within the range of the Indiana bat. If suitable Indiana bat habitat occurs within the Project area and trees must be cut, the ODNR recommends cutting between October 1 and March 31. If cutting must occur during summer month, the ODNR recommends a mist net survey be conducted between June 1 and August 15 prior to any cutting. As stated, no winter hibernacula or potentially suitable roost trees for the Indiana bat were observed in the Project area. Potentially suitable foraging habitat was observed in the Project area. Although no potentially suitable roost trees were observed, AEP will avoid summer roosting and foraging habitat to the extent possible and will determine if any summer tree clearing is necessary and proceed accordingly.

The ODNR - Office of Real Estate also indicated that the Project is within the range of the state-listed endangered black bear (*Ursus americanus*). However, due to the mobility of the black bear, this project is not likely to impact this species.

B(10)(f) Areas of Ecological Concern

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

The ODNR DOW/OHNP response indicated that there are no areas of ecological concern reported as occurring at or within one mile of the Project area. Correspondence received from the USFWS indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project vicinity (see Appendix B).

The FEMA Flood Insurance Rate Map was consulted to identify any floodplains/flood hazard areas that have been mapped in the Project area (specifically, map number 39127C0145D). Based on this map, no mapped FEMA floodplains are located in the Project area.

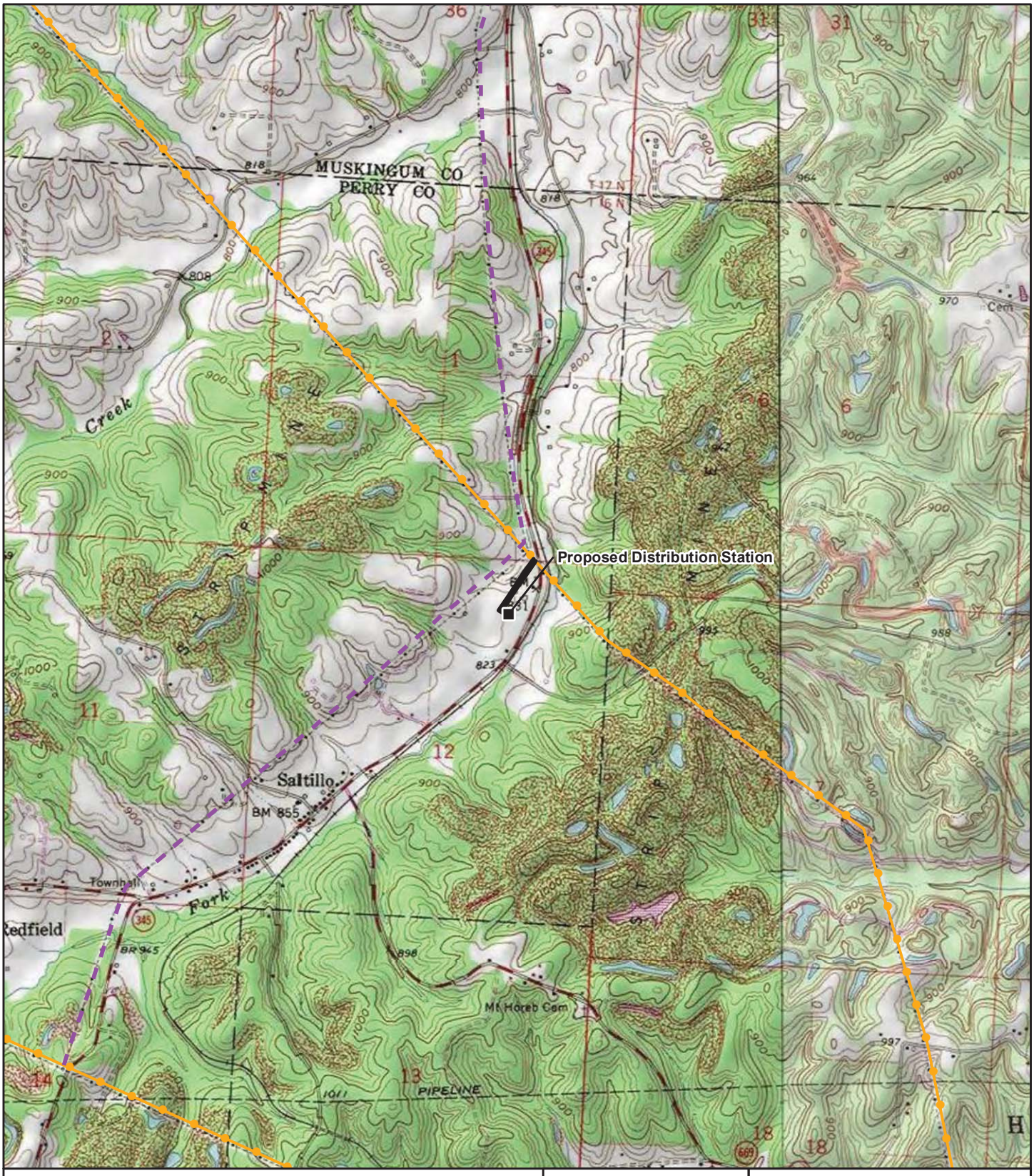
Wetland and stream delineation field surveys were completed within the Project area by AEP Ohio Transco's consultant in March 2018. The results of the wetland and stream delineations are presented in the Ecological Resources Inventory Report included in Appendix B. One palustrine emergent wetland was identified within the Project area (see Appendix B). The proposed transmission line construction activities are not expected to impact the wetland.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps and Figures



Legend

- Proposed Distribution Station
- Existing 138 kV Transmission Line
- Existing 69 kV Transmission Line
- Proposed 138 kV Transmission Line Extension

Data Sources Include: Stantec, AEP, NADS,
USGS 7.5' Topographic Quadrangle - Reynoldsburg, OH (1983)
NAD 1983 StatePlane Ohio South FIPS 3402 Feet

November 13, 2018

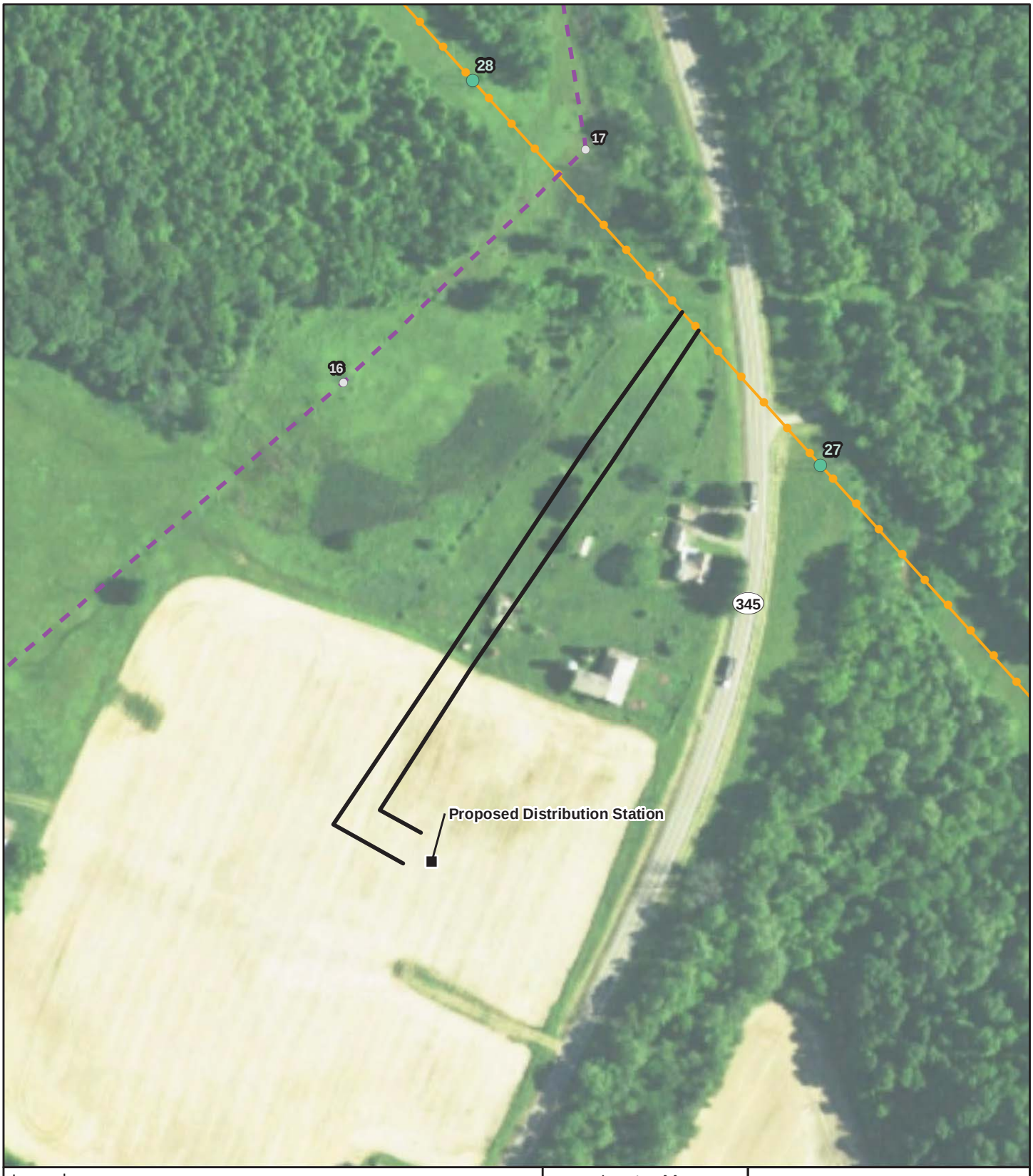
Locator Map

Figure 1.1
Project Location Map

AEP OHIO

Crooksville-North Newark
138 kV Transmission Line
Extension Project

0 1,000 2,000
Feet



Legend

- Proposed Distribution Station
- Existing Structure
- Existing Structure to be Replaced as Maintenance
- Existing 138 kV Transmission Line
- Existing 69 kV Transmission Line
- Proposed 138 kV Transmission Line Extension

Data Sources Include: Stantec, AEP, OGRIP, NADS, 2017 NAIP
NAD 1983 StatePlane Ohio South FIPS 3402 Feet

November 13, 2018

Locator Map

Figure 1.2
Project Layout Map

Crooksville-North Newark 138 kV Transmission Line Extension Project

0 100 200
Feet

Appendix B Ecological Resources Inventory Report

Crooksville – North Newark 138 kV Transmission Line Extension Project, Perry County, Ohio

Ecological Resources Inventory Report

Prepared for:

AEP Ohio Transmission Company, Inc.
700 Morrison Road
Gahanna, OH 43230

Prepared by:

Stantec Consulting Services, Inc.
11687 Lebanon Road
Cincinnati, OH 45241

August 15, 2018

Sign-off Sheet

This document entitled Ecological Resources Inventory Report, Crooksville-North Newark 138 kV Transmission Line Extension Project, Perry County, Ohio was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of AEP Ohio Transmission Company, Inc. (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

Prepared by 

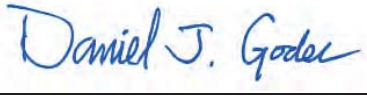
(signature)

Nate Noland

Reviewed by 

(signature)

Betsy Ewoldt

Approved by 

(signature)

Dan Godec

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1.0 INTRODUCTION

AEP Ohio Transmission Company, Inc. (AEP) is planning to extend the existing Crooksville-North Newark 138 kilovolt (kV) transmission line to a proposed new distribution substation in Perry County, Ohio (Figure 1, Appendix A). The Project is located along Highway 345 in Roseville, Ohio. The Project area was surveyed for wetlands, waterbodies, open water features, upland drainage features, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) scientists on March 14, 2018. An additional site visit was completed on August 15, 2018, in order to verify that conditions within the Project area had not changed appreciably since the March 14, 2018 site visit. The approximate locations of features located up to 50 feet outside of the Project area limits and within the AEP-owned property where the Project area is located were also recorded during the field surveys, where landowner access was permitted. However, no data forms were completed for features that did not extend into the Project area. These features are shown on the Figure 2 map in Appendix A as "approximate" wetlands, streams (waterways), open waters, and upland drainage features.

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic mapping, National Wetlands Inventory (NWI) maps, the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey for Perry County, 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 Global Positioning System (GPS) unit and mapped with Geographic Information System (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 March 14, 2018, for potentially suitable habitats for threatened and endangered species. An additional site visit was completed on August 15, 2018, in order to verify that conditions within the Project area had not changed appreciably since the March 14, 2018 site visit. Figure 3 (Appendix A) shows the land cover, vegetation communities, and locations of any identified rare, threatened, or endangered species habitat observed within the Project area during the habitat assessment surveys. Representative photographs of the vegetation communities/habitats identified within the Project area are included in Appendix C of this report (photograph locations are shown on Figure 3 in Appendix A).

Table 1. Vegetation Communities and Land Cover Found within the Crooksville-North Newark 138 kV Transmission Line Extension Project Area, Perry 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
Agricultural Field	Extreme Disturbance/Ruderal Community (dominated by planted non-native row crop species, opportunistic invaders, and/or native highly tolerant taxa). Dominant plant species included soybean (*Glycine max*) and corn (*Zea mays*).	No	1.40
Old Field	Moderate to Extreme Disturbance/ Ruderal Community (dominated by opportunistic invaders and native highly tolerant taxa). Dominant plant species included Canada goldenrod (*Solidago* spp.), giant ironweed (*Vernonia gigantea*), Queen Anne's lace (*Daucus carota*), Allegheny blackberry (*Rubus allegheniensis*), multiflora rose (*Rosa multiflora*), wingstem (*Verbesina alternifolia*), orchardgrass (*Dactylis glomerata*), and tall fescue (*Schedonorus arundinaceus*).	No	2.67
Residential Lawn	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non-native species, and/or native highly tolerant taxa). Dominant plant species included tall fescue, orchardgrass, Timothy (*Phleum pratense*), ground ivy (*Glechoma*	No	0.34

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
	hederacea), goldenrod, Canada thistle (*Cirsium arvense*), and white ash (*Fraxinus americana*).		
New Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non-native species, and/or native highly tolerant taxa). Dominant plant species included tall fescue, Timothy, Queen Anne's lace, giant ironweed, wingstem, smooth brome (*Bromus inermis*), birdsfoot trefoil (*Lotus corniculatus*), Indianhemp (*Apocynum cannabinum*), chicory (*Cichorium intybus*), Canada thistle, and common milkweed (*Asclepias syriaca*).	No	0.76
Mixed Early Successional/Second Growth Deciduous Forest	Intermediate Disturbance/Native Community (dominated by native woody and herbaceous species and opportunistic invaders). Dominant plant species included white ash, tuliptree (*Liriodendron tulipifera*), pignut hickory (*Carya glabra*), flowering dogwood (*Cornus florida*), sassafras (*Sassafras albidum*), multiflora rose, American elm (*Ulmus americana*), Amur honeysuckle (*Lonicera maackii*), Allegheny blackberry, goldenrod, eastern bottlebrush grass (*Elymus hystrix*), and deertongue grass (*Dichanthelium clandestinum*).	No	0.09
Existing Roadway	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these areas).	No	0.11
Palustrine Emergent Wetland	Moderate Disturbance/Natural Community (dominated by native herbaceous species). Dominant plant species included broadleaf cattail (*Typha latifolia*), spotted joe pye weed (*Eutrochium maculatum*), and jewelweed (*Impatiens capensis*), with willow (*Salix* spp.). present to a lesser extent.	No	0.28
		Total	**5.64**

3.2 WETLANDS

Stantec completed field surveys for wetlands within the Project area on March 14, 2018. An additional site visit was completed on August 15, 2018, in order to verify that wetland conditions within the Project area had not changed appreciably since the March 14, 2018 site visit. Figure 2 (Appendix A) shows the wetland identified within the Project area, within the AEP-owned property where the Project is located, and/or up to approximately 50 feet outside of the Project area. Representative wetland photographs are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination and ORAM data forms are included in Appendix D. Information regarding the wetland identified with the Project area is provided in Table 2.

Table 2. Summary of Wetland Resources Found within the Crooksville-North Newark 138 kV Transmission Line Project Area, Perry County, Ohio

Wetland Name	Photo Location Number[1]	Isolated?	Wetland Classification[2]	ORAM Score[4]	ORAM Category[4]	Delineated Area (acres) within Project Area
Wetland 1	1	No	PEM[3]	38.5	2	0.28
					Total	**0.28**

[1] Appendix C – Representative Photographs
[2] Wetland classification is based on Cowardin et al. (1979).
[3] PEM = Palustrine Emergent Wetland
[4] ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetlands v. 5.0 (Mack 2001).

3.3 STREAMS

No streams were observed within the Project area during field surveys completed on March 14, 2018.

3.4 OPEN WATERS

No open water features were observed within the Project area during field surveys completed on March 14, 2018.

3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 3. Summary of Potential Ohio State-Listed Species within the Crooksville-North Newark 138 kV Transmission Line Extension Project Area, Perry County, Ohio

Common Name	Scientific Name	State Listing[1]	Known to Occur Within Perry County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Insects								
American Burying Beetle	*Nicrophorus americanus*	E	Yes	No	Current information suggests this species is a habitat generalist, or one that lives in many types of habitats, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2018b).	No	No suitable habitat is present within the Project area and this species is not known to occur within one mile of the Project area according to the ODNR (2018a). Therefore, no impacts to this species are anticipated.	No comments received.
Mammals								
Indiana Bat	*Myotis sodalis*	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 2007a; USFWS 2018a). 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 potential hibernacula or potentially suitable roost trees were observed within the Project area. Potentially suitable summer foraging habitat was observed within the Project area. AEP anticipates that any necessary tree clearing will take place between October 1 and March 31. Therefore, no impacts to this species are anticipated. If any summer tree clearing is determined necessary, AEP will proceed in accordance with agency requirements.	The Project is within range of the Indiana bat. If suitable habitat occurs within the project area, the ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the ODNR recommends cutting occur between October 1 and March 31. If suitable trees must be cut during summer months, the 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.
Black Bear	*Ursus americanus*	E	Yes	No	Black bears can be found from coast to coast throughout North America in a wide variety of the more heavily wooded habitats, ranging from swamps and wetlands to dry upland hardwood and coniferous forests. Although	Yes	Potentially suitable foraging habitat is present within the Project area. However,	Due to the mobility of this species, this project is not likely to impact this species.

Common Name	Scientific Name	State Listing[1]	Known to Occur Within Perry County?[2]	Known Within One Mile of Project Area?[3]	Habitat Preference	Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
					they will utilize open areas, bears prefer wooded cover with a dense understory (ODNR 2018b).		due to the mobility of this species, no impacts are anticipated.	

[1]E=Endangered; T=Threatened
[2]According to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2018a).
[3]According to Ohio Natural Heritage Program (Appendix B).

Table 4. Summary of Potential Federally-Listed Species within the Crooksville-North Newark 138 kV Transmission Line Extension Project Area, Perry County, Ohio

Common Name	Scientific Name	Federal Listing[1]	Known to Occur Within Perry County?[2]	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Insects							
American Burying Beetle	*Nicrophorus americanus*	E	Yes	Current information suggests this species is a habitat generalist, or one that lives in many types of habitats, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2018b).	No	No suitable habitat is present within the Project area. Therefore, no impacts to this species are anticipated.	No comments received.
Reptiles							
Eastern Massasauga	*Sistrurus catenatus catenatus*	T	Yes	The eastern massasauga rattlesnake is found in wetlands, wet prairies, sedge meadows, and early successional fields. Preferred wetland habitats are marshes and fens. They avoid open water and seem to prefer the cover of broad-leafed plants, emergent plants, and sedges (ODNR 2018b; NatureServe 2018).	Yes	Some potentially suitable habitat was observed in the form of palustrine emergent wetland habitat within the Project area. However, this species is not known to occur within one mile of the Project area, according to the ODNR (2018a). Therefore, impacts to this species are possible but not anticipated.	No comments received.
Mammals							
Indiana Bat	*Myotis sodalis*	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 2018a). 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 potential hibernacula or potentially suitable roost trees were observed within the Project area. Potentially suitable summer foraging habitat was observed within the Project area. AEP anticipates that any necessary tree clearing will take place between October 1 and March 31. Therefore, no impacts to this species are anticipated. If any summer tree clearing is determined necessary, AEP will proceed in accordance with agency requirements.	If no caves or abandoned mines may be disturbed and tree removal is unavoidable, seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) is recommended to avoid adverse effects to Indiana bats.
Northern Long-eared Bat	*Myotis septentrionalis*	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 potential hibernacula or potentially suitable roost trees were observed within the Project area. Potentially suitable summer foraging habitat was observed within the Project area. AEP anticipates that any necessary tree clearing will take place between October 1 and March 31. Therefore, no impacts to this species are anticipated. If any summer tree clearing is determined necessary, AEP will proceed in accordance with agency requirements.	If no caves or abandoned mines may be disturbed and tree removal is unavoidable, seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) is recommended to avoid adverse effects to northern long-eared bats. Incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule.
Bald Eagle	*Haliaeetus leucocephalus*	SOC	Yes	Breeding habitat most commonly includes areas close to (within 4 km) coastal areas, bays, rivers, lakes, reservoirs, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, or seabirds. Nests are usually in tall trees, on cliffs, or on pinnacles near water (NatureServe 2018).	No	No suitable breeding habitat or nests are present within the Project area. Therefore, no impacts to this species are anticipated.	No comments received.

[1]E=Endangered; T=Threatened; SOC=Species of Concern
[2]According to USFWS (2018b).

4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species within the Project area on March 14, 2018. During the field surveys, one palustrine emergent wetland (PEM) totaling approximately 0.28 acres, was identified within the Project area. No streams or other waterbodies were identified within the Project area. See Table 2 for more information regarding the wetland identified within the Project area. The information provided by Stantec regarding wetland boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the field work. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment. An additional site visit was completed on August 15, 2018, in order to verify that conditions within the Project area had not changed appreciably since the March 14, 2018 site visit.

An ODNR Ohio Natural Heritage Program data request and environmental review request letter was sent to the ODNR Office of Real Estate on March 15, 2018. The ODNR Office of Real Estate response dated April 19, 2018, stated that the Project area is within the range of the Indiana bat. If suitable habitat occurs within the Project area, the ODNR recommends trees be conserved. If suitable habitat occurs within the Project area and trees must be cut, the ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species. No winter hibernacula or potential summer roost trees were observed within the Project area during the field surveys. However, potentially suitable summer foraging habitat was observed in the Project area. AEP intends to avoid areas with potential summer roost trees or foraging habitat to the extent possible. AEP will determine if any summer tree clearing is necessary in areas potentially containing potential Indiana bat roost trees and will proceed accordingly.

According to the ODNR response letter, the Project is within the range of the state-listed endangered black bear. However, due to the mobility of the black bear, this project is not likely to impact this species.

The response from the ODNR indicated that the Ohio Natural Heritage Database has no records of state-listed endangered or threatened plants or animals, state potentially threatened plants, special interest or species of concern animals, or any federally-listed species, occur within the Project area or a one-mile radius of it. Furthermore, the ODNR is unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area or a mile radius of the it.

A technical assistance request letter was also submitted to the USFWS on March 15, 2018. The USFWS response letter dated March 23, 2018, states that there are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area (Appendix B).

The USFWS recommends 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.

According to the USFWS response (Appendix B), all projects in the State of Ohio lie within range of the federally endangered Indiana bat and the federally threatened northern long-eared bat. In Ohio presence of these species are assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. No potentially suitable roost trees or hibernacula for these species were observed within the Project area. The Project area does contain potentially suitable foraging habitat for the Indiana bat and northern long-eared bat. The USFWS response letter stated that should the project site contain trees ≥3 inches dbh, the USFWS recommends trees be saved whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, the USFWS recommends that removal of trees ≥3 inches dbh only occur between October 1 and March 31 in order to avoid adverse effects to these species. If implementation of seasonal tree clearing is not possible, the USFWS recommends summer presence/absence surveys be conducted between June 1 and August 15.

Some potentially suitable habitat for the federally-listed threatened eastern massasauga was observed within the Project area, in the form of palustrine emergent wetland habitat. However, this species is not known to occur within one mile of the Project area, according to the ODNR (2018a). Therefore, impacts to this species are possible but not anticipated. Additionally, the USFWS (Appendix A) stated that they do not anticipate adverse effects to any other federally endangered, threatened, proposed or candidate species due to the project type, size, and location (Appendix B).

5.0 REFERENCES

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USFWS. 2018b. Federally Listed Species by Ohio Counties. Available at https://www.fws.gov/midwest/ohio/EndangeredSpecies/pdf/SpeciesListByCountyApril2018.pdf. Accessed August 2018.

Appendix A FIGURES

A.1 FIGURE 1 – PROJECT LOCATION MAP

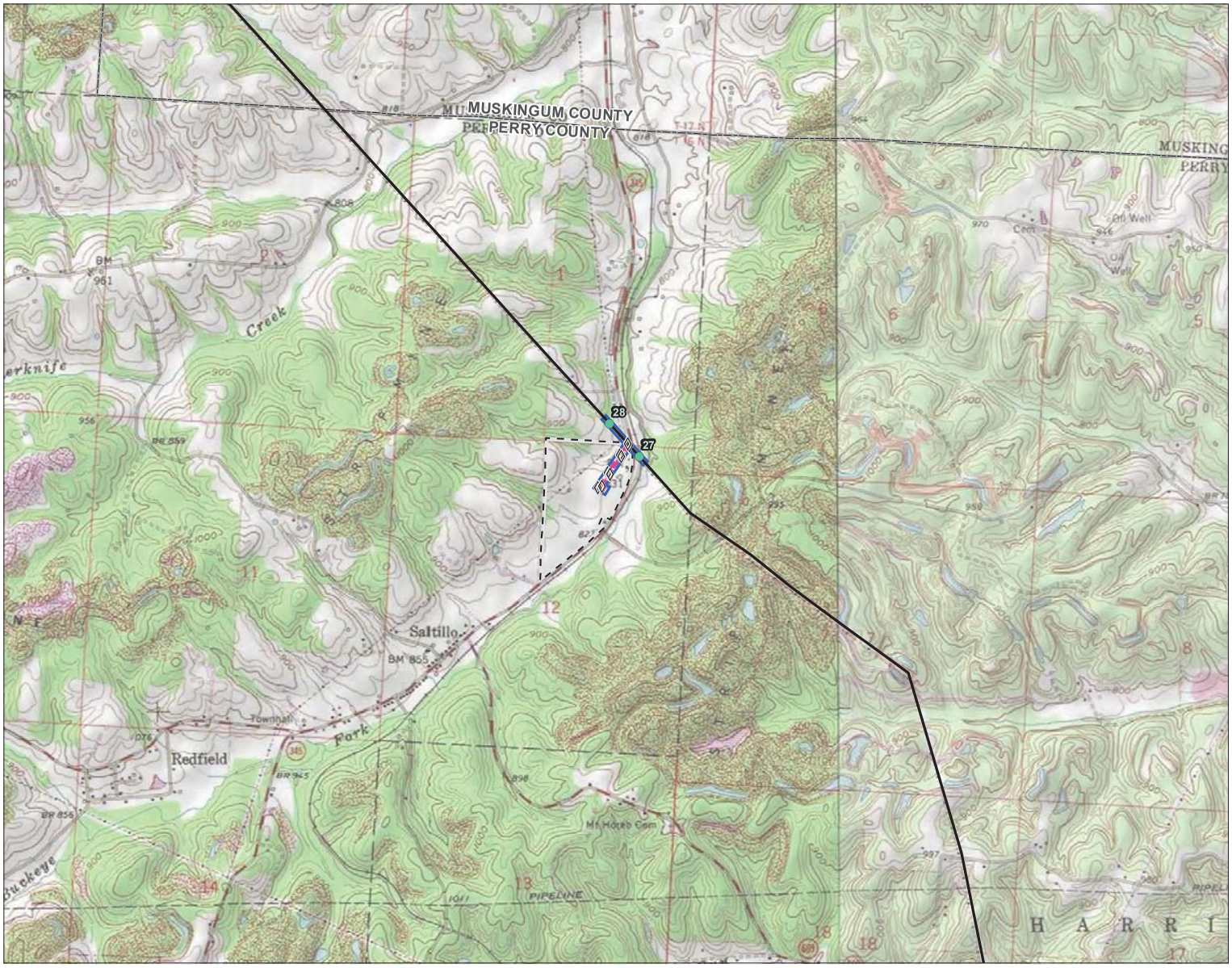


Figure No.
1

Title
Project Location Map

Client/Project
AEP Ohio Transmission Company, Inc.
Crooksville-North Newark 138 kV Transmission Line Extension Project

Project Location
Perry County, OH

193705972

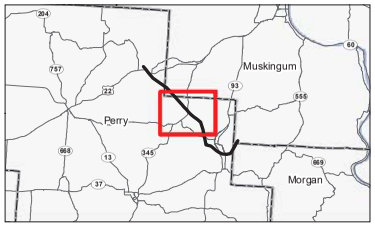
Prepared by JLH on 2018-05-16
Technical Review by BAE on 2018-08-13
Independent Review by DJG on 2018-08-13

0 1,000 2,000 Feet
1:20,692 (At original document size of 11x17)

N

Legend

- Existing Structure to be Replaced
- Proposed Structure
- Existing Crooksville-North Newark 138 kV Transmission Line
- Proposed 138 kV Transmission Line Extension
- Project Area
- Property Boundary



Notes

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

Stantec

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.
Crooksville-North Newark 138 kV Transmission Line Extension Project

Project Location: Perry County, OH — 193705972

Prepared by JLH on 2018-05-16
Technical Review by BAE on 2018-08-13
Independent Review by DJG on 2018-08-13

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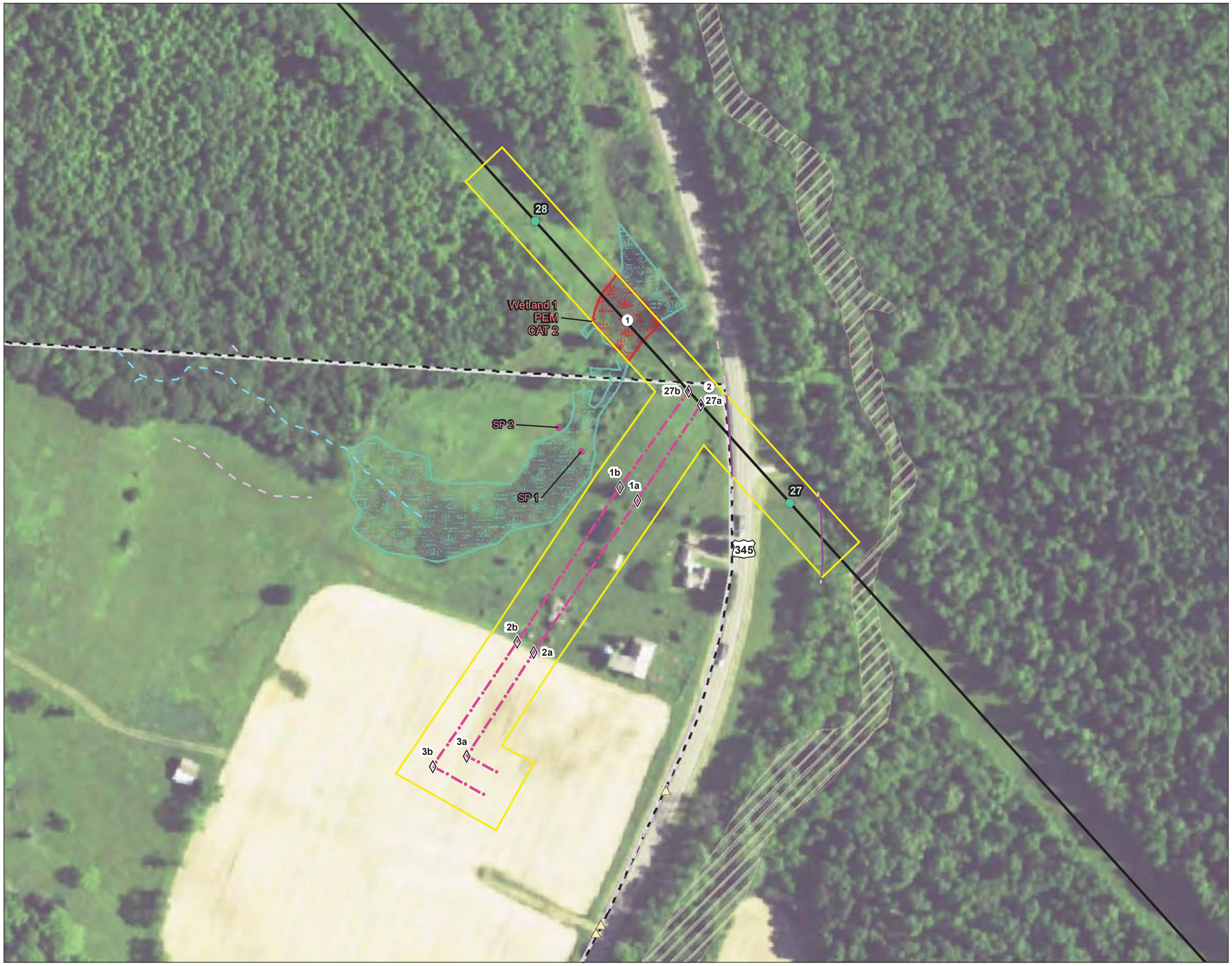
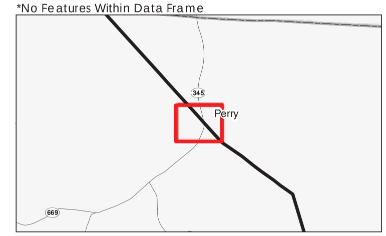


Legend

- Existing Structure to be Replaced
- Proposed Structure
- Existing Crooksville-North Newark 138 kV Transmission Line
- Proposed 138 kV Transmission Line Extension
- Project Area
- Property Boundary
- Exisitng Culvert
- Wetland Determination Sample Point
- Photo Location
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Approximate Waterway
- Field Delineated Emergent Wetland
- Approximate Wetland
- FEMA Flood Hazard Area
  - 100-year Flood Zone
  - 100-year Floodway*

*No Features Within Data Frame



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, USGS, FEMA, NADS, OGRIP
3. Orthophotography: 2017 NAIP

Stantec

A.3 FIGURE 3 – HABITAT ASSESSMENT MAP

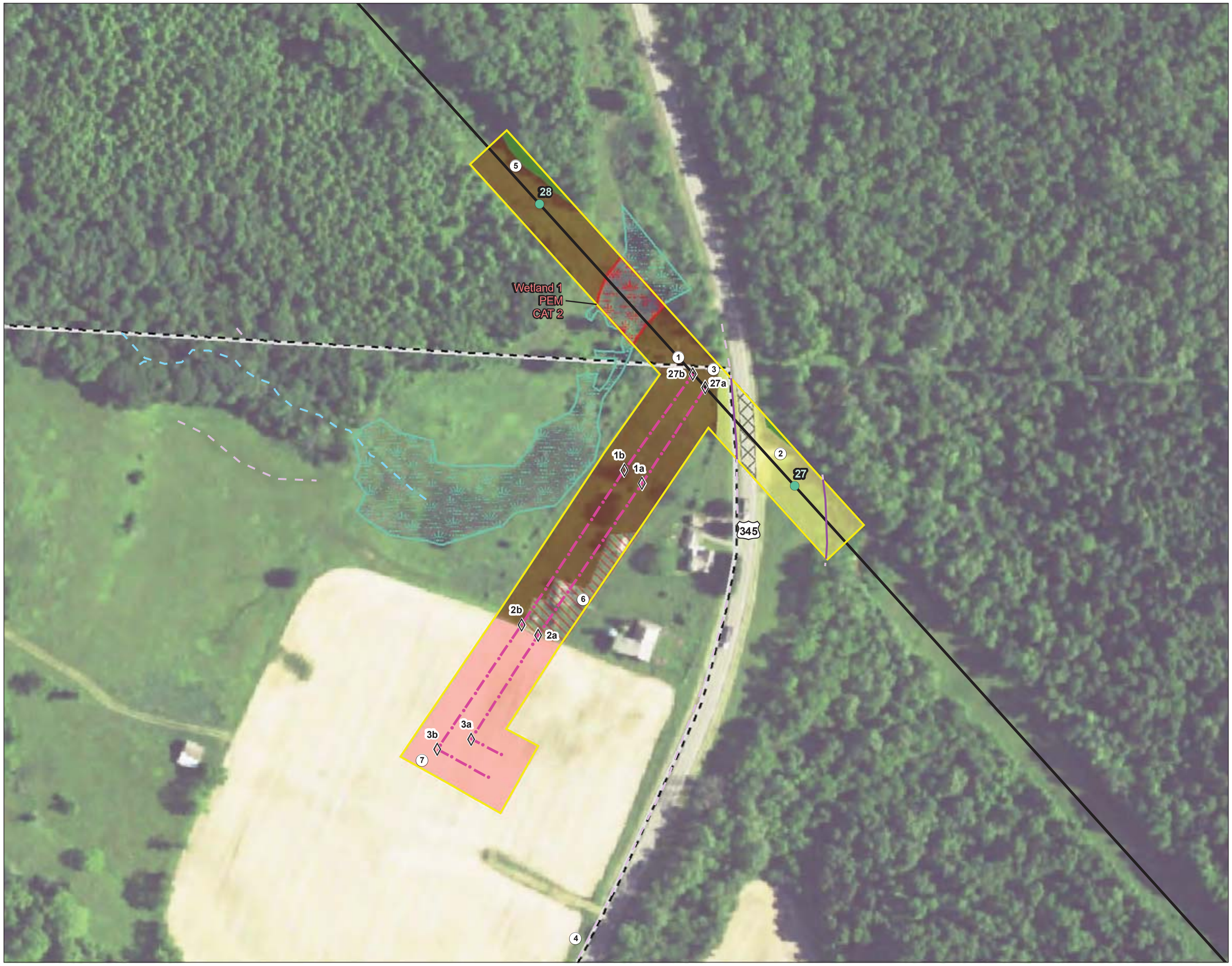


Figure No.
3

Title
Habitat Assessment Map

Client/Project
AEP Ohio Transmission Company, Inc.
Crooksville-North Newark 138 kV Transmission Line Extension Project

Project Location
Perry County, OH

193705972
Prepared by JLH on 2018-05-16
Technical Review by BAE on 2018-08-13
Independent Review by DJG on 2018-08-13

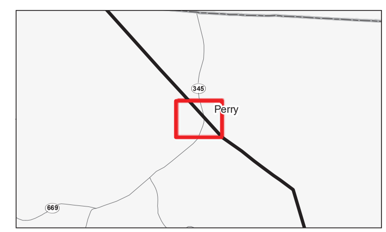
0 100 200 Feet
1:2,400 (At original document size of 11x17)

N

Legend

- Existing Structure to be Replaced
- Proposed Structure
- Existing Crooksville-North Newark 138 kV Transmission Line
- Proposed 138 kV Transmission Line Extension
- Project Area
- Property Boundary
- Photo Location
- Upland Drainage Feature
- Approximate Upland Drainage Feature
- Approximate Waterway
- Field Delineated Emergent Wetland
- Approximate Wetland

Habitat Area
- Agricultural Field
- Mixed Early Successional/Second Growth Deciduous Forest
- New Field
- Old Field
- Residential Lawn
- Existing Roadway



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio South FIPS 3402 Feet
2. Data Sources Include: Stantec, AEP, USGS, NADS, OGRIP
3. Orthophotography: 2017 NAIP

Stantec

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Appendix B AGENCY CORRESPONDENCE

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

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

April 19, 2018

Dan Godec
Stantec
1500 Lake Shore Drive Suite 100
Columbus OH 43204-3800

Re: 18-443; Isabella Station and Crooksville-North Newark 138 kV Line Extension Project, Request for ODNR Environmental Review

Project: The proposed project involves the construction of a new distribution substation (Isabella Station) and building a new switch pole on the adjacent existing Crooksville-North Newark 138 kV transmission line to energize the new station.

Location: The proposed project is in Harrison Township, Perry 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 no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. 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.

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.

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 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

Godec, Daniel

From: Korfel, Lindsey <lindsey_korfel@fws.gov>
Sent: Friday, March 23, 2018 10:53 AM
To: Godec, Daniel
Subject: Isabella Station and Crooksville-North Newark 138kV Line Extension, Perry Co., OH

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 # 03E15000-2018-TA-0993

Dear Mr. Godec,

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.

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,

Lindsey M. Korfel

Wildlife Biologist
U.S. Fish and Wildlife Service
Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
614.416.8993 x. 29

Appendix C REPRESENTATIVE PHOTOGRAPHS

C.1 WETLAND AND WATERBODY PHOTOGRAPHS

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

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

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

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

Photo Location 2. Representative view of upland drainage feature. Photograph taken facing south.

Representative Photographs
August 15, 2018

C.2 HABITAT PHOTOGRAPHS

Photo Location 1. Representative view of old field ha itat and mixed early successional second growth deciduous forest ha itat. Photograph taken facing northwest.

Photo Location 2. Representative view of new field ha itat and mixed early successional second growth deciduous forest ha itat. Photograph taken facing southeast.

Photo Location 3. Representative view of existing roadway. Photograph taken facing south.

Photo Location . Representative view of agricultural field ha itat. Photograph taken facing north.

Photo Location . Representative view of mixed early successional second growth deciduous forest habitat. Photograph taken facing southeast.

Photo Location . Representative view of residential lawn habitat that has not been mowed recently. Photograph taken facing northeast.

Photo Location . Representative view of agricultural field habitat. Photograph taken facing northeast.

Appendix D DATA FORMS

D.1 WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM
Eastern Mountains and Piedmont Region

Project/Site:	Crooksville-North Newark 138 kV Line Extension	Stantec Project #:	193705972
Applicant:	AEP Ohio Transmission Company, Inc.		
Investigator #1:	A. Kwolek	Investigator #2:	K. Bomar
Soil Unit:	Newark silt loam 0-3% slopes, frequently flooded	NWI/WWI Classification:	PEM1A
Landform:	Depression	Local Relief:	Concave
Slope (%):	2%	Latitude: 39.80387	Longitude: -82.13850 Datum: NAD83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	03/15/18
County:	Perry
State:	Ohio
Wetland ID:	Wetland 1
Sample Point:	SP 1
Community ID:	PEM
Section:	12
Township:	16N
Range:	15 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☑ Yes ☐ No
Wetland Hydrology Present? ☑ Yes ☐ No
Hydric Soils Present? ☑ Yes ☐ No
Is This Sampling Point Within A Wetland? ☑ Yes ☐ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☑ A1 - Surface Water
- ☑ A2 - High Water Table
- ☑ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

Field Observations:
Surface Water Present? ☑ Yes ☐ No Depth: <1 (in.)
Water Table Present? ☑ Yes ☐ No Depth: surface (in.)
Saturation Present? ☑ Yes ☐ No Depth: surface (in.)

Wetland Hydrology Present? ☑ Yes ☐ No

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

Remarks:

SOILS

Map Unit Name: Newark silt loam 0-3% slopes, frequently flooded Series Drainage Class:
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 Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	8	--	10YR 4/1	90	5YR 4/6	10	C	M	silty clay loam
8	16	--	10YR 4/1	87	5YR 4/6	16	C	M	silty clay loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐:
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck (LRR N)
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148)
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface
- ☐ S8 - Polyvalue Below Dark Surface (MLRA 147, 148)
- ☐ S9 - Thin Dark Surface (MLRA 147, 148)
- ☐ F2 - Loamy Gleyed Matrix
- ☑ F3 - Depleted Matirx
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions
- ☐ F12 - Iron-Manganese Masses (LRR N, MLRA 136)
- ☐ F13 - Umbric Surface (MLRA 122, 136)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 148)
- ☐ F21 - Red Parent Material (MLRA 127, 147)

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck (MLRA 147)
- ☐ A16 - Coast Prairie Redox (MLRA 147, 148)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 136, 147)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☑ Yes ☐ No

Remarks: Manganese deposits in top layer

WETLAND DETERMINATION DATA FORM
Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Line Extension Wetland ID: Wetland 1 Sample Point SP 1

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

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Salix nigra*	5	Y	OBL
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

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

1.	*Rosa palustris*	2	N	OBL
2.	*Sambucus nigra*	3	N	FAC
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	5		

Herb Stratum (Plot size: 5 ft radius)

1.	*Typha latifolia*	50	Y	OBL
2.	*Juncus effusus*	10	N	FACW
3.	*Onoclea sensibilis*	30	Y	FACW
4.	*Epilobium coloratum*	2	N	FACW
5.	*Agrimonia parviflora*	5	N	FACW
6	*Viola sororia*	2	N	FAC
7.	*Eutrochium maculatum*	2	N	FACW
8.	*Persicaria sagittata*	20	N	OBL
9.	*Solidago gigantea*	2	N	FACW
10.	*Verbesina alternifolia*	5	N	FAC
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	128		

Woody Vine Stratum (Plot size: 30 ft radius)

1.	--	--	--	--
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
	Total Cover =	0		

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (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.	77	x 1 =	77
FACW spp.	51	x 2 =	102
FAC spp.	10	x 3 =	30
FACU spp.	0	x 4 =	0
UPL spp.	0	x 5 =	0
Total	138 (A)		209 (B)

Prevalence Index = B/A = ***1.514***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☐ No Rapid Test for Hydrophytic Vegetation
- ☑ Yes ☐ No Dominance Test is > 50%
- ☑ Yes ☐ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☐ No Morphological Adaptations (Explain) *
- ☐ Yes ☐ 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

Remarks:

Additional Remarks:

WETLAND DETERMINATION DATA FORM
Eastern Mountains and Piedmont Region

Project/Site:	Crooksville-North Newark 138 kV Line Extension	Stantec Project #:	193705972
Applicant:	AEP Ohio Transmission Company, Inc.		
Investigator #1:	A. Kwolek	Investigator #2:	K. Bomar
Soil Unit:	Alford silt loam, 8-15% slopes	NWI/WWI Classification:	NONE
Landform:	Rise	Local Relief:	Linear
Slope (%):	5%	Latitude: 39.80400	Longitude: -82.13866 Datum: NAD83

Are climatic/hydrologic conditions on the site typical for this time of year? (If no, explain in remarks) ☑ Yes ☐ No

Are Vegetation ☐, Soil ☐, or Hydrology ☑ significantly disturbed?
Are Vegetation ☐, Soil ☐, or Hydrology ☐ naturally problematic?

Are normal circumstances present? ☑ Yes ☐ No

Date:	03/15/18
County:	Perry
State:	Ohio
Wetland ID:	Wetland 1
Sample Point:	SP
Community ID:	UPL
Section:	12
Township:	16N
Range:	15 Dir: W

SUMMARY OF FINDINGS

Hydrophytic Vegetation Present? ☐ Yes ☑ No
Wetland Hydrology Present? ☐ Yes ☑ No
Hydric Soils Present? ☐ Yes ☑ No
Is This Sampling Point Within A Wetland? ☐ Yes ☑ No

Remarks:

HYDROLOGY

Wetland Hydrology Indicators (Check here if indicators are not present ☐

Primary:
- ☐ A1 - Surface Water
- ☐ A2 - High Water Table
- ☐ A3 - Saturation
- ☐ B1 - Water Marks
- ☐ B2 - Sediment Deposits
- ☐ B3 - Drift Deposits
- ☐ B4 - Algal Mat or Crust
- ☐ B5 - Iron Deposits
- ☐ B7 - Inundation Visible on Aerial Imagery
- ☐ B9 - Water-Stained Leaves
- ☐ B13 - Aquatic Fauna
- ☐ B14 - True Aquatic Plants
- ☐ C1 - Hydrogen Sulfide Odor
- ☐ C3 - Oxidized Rhizospheres on Living Roots
- ☐ C4 - Presence of Reduced Iron
- ☐ C6 - Recent Iron Reduction in Tilled Soils
- ☐ C7 - Thin Muck Surface
- ☐ Other (Explain in Remarks)

Secondary:
- ☐ B6 - Surface Soil Cracks
- ☐ B8 - Sparsely Vegetated Concave Surface
- ☐ B10 - Drainage Patterns
- ☐ B16 - Moss Trim Lines
- ☐ C2 - Dry Season Water Table
- ☐ C8 - Crayfish Burrows
- ☐ C9 - Saturation Visible on Aerial Imagery
- ☐ D1 - Stunted or Stressed Plants
- ☑ D2 - Geomorphic Position
- ☐ D3 - Shallow Aquitard
- ☐ D4 - Microtopographic Relief
- ☑ D5 - FAC-Neutral Test

Field Observations:

Surface Water Present?	☐ Yes	☑ No	Depth: --	(in.)
Water Table Present?	☐ Yes	☑ No	Depth: --	(in.)
Saturation Present?	☐ Yes	☑ No	Depth: --	(in.)

Wetland Hydrology Present? ☐ Yes ☑ No

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

Remarks:

SOILS

Map Unit Name: Alford silt loam, 8-15% slopes Series Drainage Class:

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 Color (Moist)	Matrix %	Mottles Color (Moist)	Mottles %	Mottles Type	Mottles Location	Texture (e.g. clay, sand, loam)
0	4	--	10YR 4/4	100	--	--	--	--	silt loam
4	16	--	10YR 5/6	100	--	--	--	--	sandy loam
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--
--	--	--	--	--	--	--	--	--	--

NRCS Hydric Soil Field Indicators (check here if indicators are not present ☐:
- ☐ A1- Histosol
- ☐ A2 - Histic Epipedon
- ☐ A3 - Black Histic
- ☐ A4 - Hydrogen Sulfide
- ☐ A5 - Stratified Layers
- ☐ A10 - 2 cm Muck (LRR N)
- ☐ A11 - Depleted Below Dark Surface
- ☐ A12 - Thick Dark Surface
- ☐ S1 - Sandy Muck Mineral (LRR N, MLRA 147, 148)
- ☐ S4 - Sandy Gleyed Matrix
- ☐ S5 - Sandy Redox
- ☐ S6 - Stripped Matrix
- ☐ S7 - Dark Surface
- ☐ S8 - Polyvalue Below Dark Surface (MLRA 147, 148)
- ☐ S9 - Thin Dark Surface (MLRA 147, 148)
- ☐ F2 - Loamy Gleyed Matrix
- ☐ F3 - Depleted Matirx
- ☐ F6 - Redox Dark Surface
- ☐ F7 - Depleted Dark Surface
- ☐ F8 - Redox Depressions
- ☐ F12 - Iron-Manganese Masses (LRR N, MLRA 136)
- ☐ F13 - Umbric Surface (MLRA 122, 136)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 148)
- ☐ F21 - Red Parent Material (MLRA 127, 147)

Indicators for Problematic Soils [1]
- ☐ A10 - 2cm Muck (MLRA 147)
- ☐ A16 - Coast Prairie Redox (MLRA 147, 148)
- ☐ F19 - Piedmont Floodplain Soils (MLRA 136, 147)
- ☐ TF12 - Very Shallow Dark Surface
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (If Observed) Type: N/A Depth: N/A

Hydric Soil Present? ☐ Yes ☑ No

Remarks:

WETLAND DETERMINATION DATA FORM
Eastern Mountains and Piedmont Region

Project/Site: Crooksville-North Newark 138 kV Line Extension Wetland ID: Wetland 1 Sample Point SP

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

Tree Stratum (Plot size: 30 ft radius)

	Species Name	% Cover	Dominant	Ind.Status
1.	*Malus sp.*	2	N	NA
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	2		

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

1.	*Rosa multiflora*	2	N	FACU
2.	--	--	--	--
3.	--	--	--	--
4.	--	--	--	--
5.	--	--	--	--
6.	--	--	--	--
7.	--	--	--	--
8.	--	--	--	--
9.	--	--	--	--
10.	--	--	--	--
	Total Cover =	2		

Herb Stratum (Plot size: 5 ft radius)

1.	*Solidago canadensis*	30	Y	FACU
2.	*Andropogon virginicus*	20	Y	FACU
3.	*Schedonorus arundinaceus*	15	N	FACU
4.	*Taraxacum officinale*	5	N	FACU
5.	*Dipsacus fullonum*	5	N	FACU
6	*Cardamine hirsuta*	5	N	FACU
7.	*Tridens flavus*	5	N	FACU
8.	*Poa pratensis*	10	N	FACU
9.	*Agrimonia parviflora*	1	N	FACW
10.	--	--	--	--
11.	--	--	--	--
12.	--	--	--	--
13.	--	--	--	--
14.	--	--	--	--
15.	--	--	--	--
	Total Cover =	96		

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.	1	x 2 =	2
FAC spp.	0	x 3 =	0
FACU spp.	97	x 4 =	388
UPL spp.	0	x 5 =	0
Total	98 (A)		390 (B)

Prevalence Index = B/A = ***3.980***

Hydrophytic Vegetation Indicators:

- ☐ Yes ☑ No Rapid Test for Hydrophytic Vegetation
- ☐ Yes ☑ No Dominance Test is > 50%
- ☐ Yes ☑ No Prevalence Index is ≤ 3.0 *
- ☐ Yes ☑ No Morphological Adaptations (Explain) *
- ☐ Yes ☑ 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:

D.2 ORAM DATA FORMS

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

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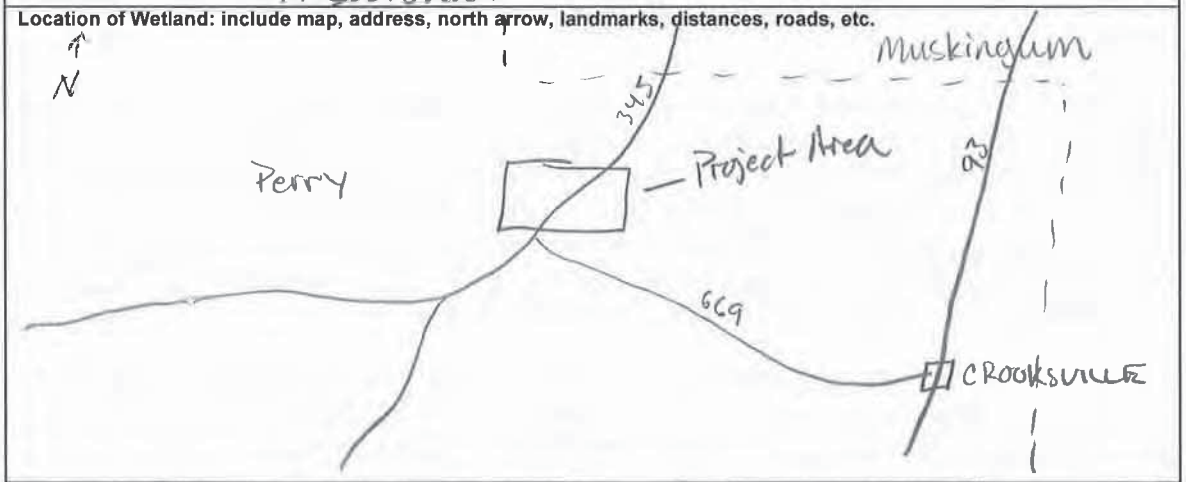
Name of Wetland:	Wetland 1
Vegetation Communit(ies):	PEM
HGM Class(es):	Depressional

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.

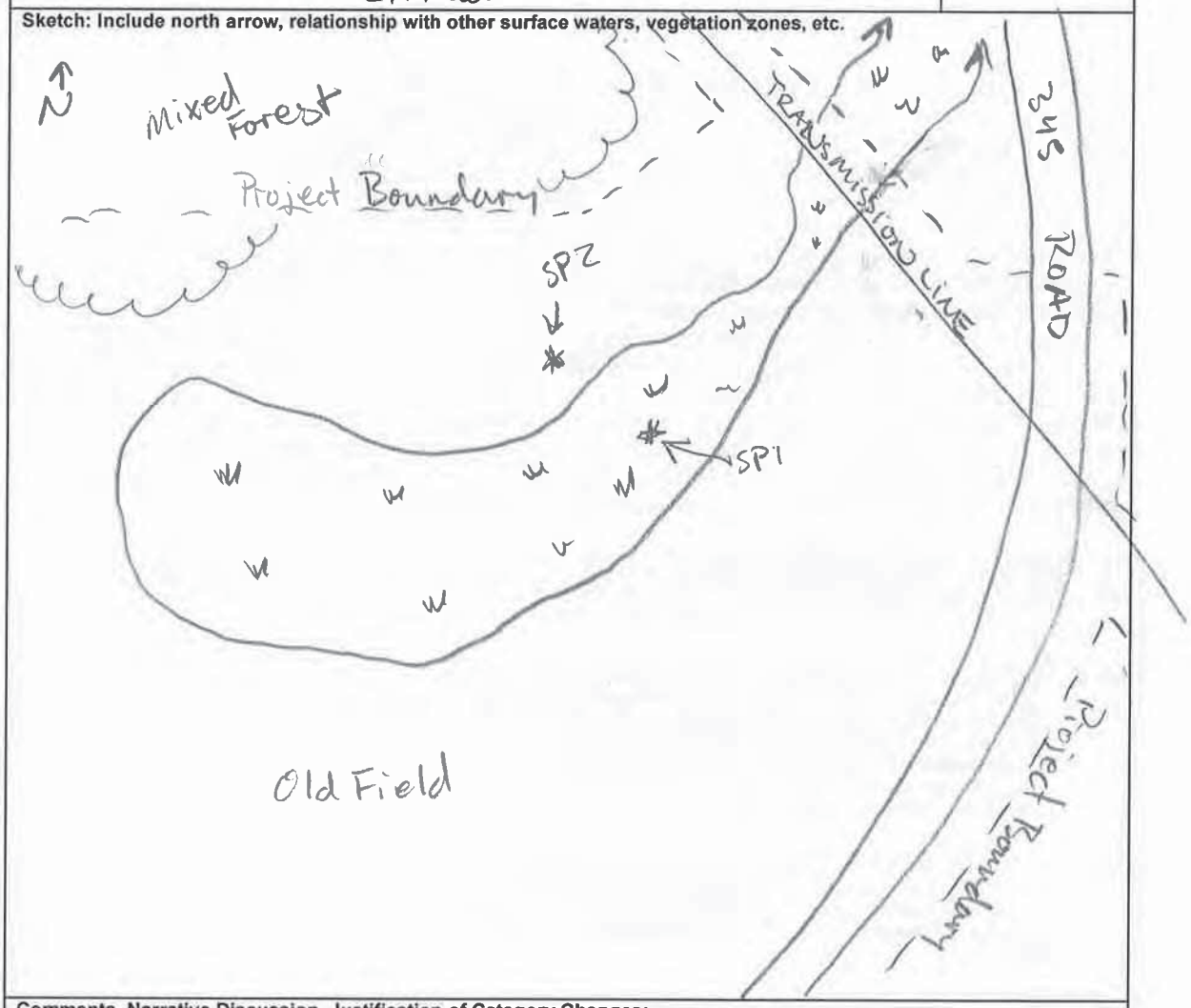


Lat/Long or UTM Coordinate	39.803921, -82.139089
USGS Quad Name	Fultonham 7.5 x 7.5 minute
County	Perry Co.
Township	T16N
Section and Subsection	S12
Hydrologic Unit Code	HUC 12: 050400040404
Site Visit	3/15/2018
National Wetland Inventory Map	PEMIA
Ohio Wetland Inventory Map	N/A
Soil Survey	Ne; Newark silt loam, 0-3% slopes, frequently flooded
Delineation report/map	See Ecological Resources Inventory Report

Name of Wetland: Wetland 1

Wetland Size (acres, hectares): 2.17 ac.

Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.



Comments, Narrative Discussion, Justification of Category Changes:

See Ecological Resources Inventory Report

Final score : 38.5 **Category:** 2 (Modified)

Scoring Boundary Worksheet

Wetland 1

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.	☑	☐
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.	☑	☐
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.	☑	☐
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.	☑	☐
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	☐	☑
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.	☑	☐

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

Narrative Rating

Wetland 1

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 ☐ Wetland should be evaluated for possible Category 3 status. Go to Question 2	NO ☑ 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 ☐ Wetland is a Category 3 wetland. Go to Question 3	NO ☑ Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES ☐ Wetland is a Category 3 wetland. Go to Question 4	NO ☑ 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 ☐ Wetland is a Category 3 wetland. Go to Question 5	NO ☐ 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 *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES ☐ Wetland is a Category 1 wetland. Go to Question 6	NO ☑ 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 *Sphagnum* 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 ☐ Wetland is a Category 3 wetland. Go to Question 7	NO ☑ 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 ☐ Wetland is a Category 3 wetland. Go to Question 8a	NO ☑ 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 ☐ Wetland is a Category 3 wetland. Go to Question 8b	NO ☑ Go to Question 8b

Wetland 1

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 ☐ Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO ☑ 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 ☐ Go to Question 9b	NO ☑ 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 ☐ Wetland should be evaluated for possible Category 3 status Go to Question 10	NO ☐ 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 ☐ Go to Question 9d	NO ☐ 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 ☐ Wetland is a Category 3 wetland Go to Question 10	NO ☐ 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 ☐ Wetland should be evaluated for possible Category 3 status Go to Question 10	NO ☐ 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 ☐ Wetland is a Category 3 wetland. Go to Question 11	NO ☑ 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, Mercer, Miami, Montgomery, Van Wert etc.).	YES ☐ Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO ☑ Complete Quantitative Rating

Wetland 1

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	*Zygadenus elegans var. glaucus*	*Calla palustris*	*Carex cryptolepis*	*Calamagrostis canadensis*
Myriophyllum spicatum	*Cacalia plantaginea*	*Carex atlantica var. capillacea*	*Carex lasiocarpa*	*Calamogrostis stricta*
Najas minor	*Carex flava*	*Carex echinata*	*Carex stricta*	*Carex atherodes*
Phalaris arundinacea	*Carex sterilis*	*Carex oligosperma*	*Cladium mariscoides*	*Carex buxbaumii*
Phragmites australis	*Carex stricta*	*Carex trisperma*	*Calamagrostis stricta*	*Carex pellita*
Potamogeton crispus	*Deschampsia caespitosa*	*Chamaedaphne calyculata*	*Calamagrostis canadensis*	*Carex sartwellii*
Ranunculus ficaria	*Eleocharis rostellata*	*Decodon verticillatus*	*Quercus palustris*	*Gentiana andrewsii*
Rhamnus frangula	*Eriophorum viridicarinatum*	*Eriophorum virginicum*		*Helianthus grosseserratus*
Typha angustifolia	*Gentianopsis spp.*	*Larix laricina*		*Liatris spicata*
Typha xglauca	*Lobelia kalmii*	*Nemopanthus mucronatus*		*Lysimachia quadriflora*
	Parnassia glauca	*Schechzeria palustris*		*Lythrum alatum*
	Potentilla fruticosa	*Sphagnum spp.*		*Pycnanthemum virginianum*
	Rhamnus alnifolia	*Vaccinium macrocarpon*		*Silphium terebinthinaceum*
	Rhynchospora capillacea	*Vaccinium corymbosum*		*Sorghastrum nutans*
	Salix candida	*Vaccinium oxycoccos*		*Spartina pectinata*
	Salix myricoides	*Woodwardia virginica*		*Solidago riddellii*
	Salix serissima	*Xyris difformis*		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Wetland 1	Rater(s): AJK	Date: 3/15/18

Metric 1. Wetland Area (size).

2 (max 6 pts.) | 2 (subtotal)

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)
- [x] 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)

Metric 2. Upland buffers and surrounding land use.

9 (max 14 pts.) | 11 (subtotal)

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)
- [x] 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)
- [x] 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)

Metric 3. Hydrology.

15 (max 30 pts.) | 26 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] Seasonal/Intermittent surface water (3) — 4
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

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

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)
- [x] <0.4m (<15.7in) (1) — 1

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

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [x] Seasonally inundated (2) — 2
- [ ] Seasonally saturated in upper 30cm (12in) (1)

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

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [ ] Recovering (3) — 7
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [ ] other_____

Metric 4. Habitat Alteration and Development.

9.5 (max 20 pts.) | 35.5 (subtotal)

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

- [ ] None or none apparent (4)
- [x] Recovered (3)
- [ ] Recovering (2) — 3
- [ ] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4) — 2
- [ ] Fair (3)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

- [ ] None or none apparent (9)
- [x] Recovered (6)
- [x] Recovering (3) — 1.5
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [x] mowing
- [ ] grazing
- [x] clearcutting
- [ ] selective cutting
- [x] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

35.5 subtotal this page

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

Site: Wetland 1	Rater(s): A. Kwolek	Date: 3/15/18

35.5
subtotal first page

0 | 35.5
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)

3 | 38.5
max 20 pts. | subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [2] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.
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.

- [1] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [1] 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

38.5

Mod 2

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 1

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	No	If yes, Category 3.
	Question 2. Threatened or Endangered Species	No	If yes, Category 3.
	Question 3. High Quality Natural Wetland	No	If yes, Category 3.
	Question 4. Significant bird habitat	No	If yes, Category 3.
	Question 5. Category 1 Wetlands	No	If yes, Category 1.
	Question 6. Bogs	No	If yes, Category 3.
	Question 7. Fens	No	If yes, Category 3.
	Question 8a. Old Growth Forest	No	If yes, Category 3.
	Question 8b. Mature Forested Wetland	No	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	No	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	No	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	No	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	No	If yes, Category 3
	Question 11. Relict Wet Prairies	No	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	9	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	38.5	Category based on score breakpoints CAT 2 (Modified)

Complete Wetland Categorization Worksheet.

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 ☐ Wetland is categorized as a Category 3 wetland	NO ☑	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* 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 ☐ Wetland should be evaluated for possible Category 3 status	NO ☑	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 may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES ☐ Wetland is categorized as a Category 1 wetland	NO ☑	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* 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 ☑ Wetland is assigned to the appropriate category based on the scoring range	NO ☐	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 ☐ Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO ☑	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 *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* 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 ☐ Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO ☑ 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
	☐	☑	☐

End of Ohio Rapid Assessment Method for Wetlands.

Summary: Letter of Notification electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.