

Legal Department

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December 20, 2017

Hector Garcia Christen M. Blend Senior Counsel – Regulatory Services (614) 716-3410 (P) (614) 716-1915 (P) hgarcia1@aep.com cmblend@aep.com Chairman Asim Z. Haque Ohio Power Siting Board 180 East Broad Street Columbus, Ohio 43215

Re: Case No. 17-2439-EL-BLN Request for Expedited Treatment: In the Matter of the Letter of Notification for the Lemaster-Lick 138kV Transmission Line Extension Project Update

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification (LON) for the above-referenced project by AEP Ohio Transmission Company, Inc. (AEP Ohio Transco). 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 via electronic message. The Company will also submit a check in the amount of \$2,000 to the Treasurer, State of Ohio, for Fund 5610 for the expedited fees.

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 Lemaster-Lick 138 kV Transmission Line Relocation Project Update



PUCO Case No. 17-2439-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.

December 20, 2017

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

4906-6-05

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

4906-6-5(B) General Information

B(1) Project Description

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

AEP Ohio Transco has identified the need to relocate a segment of the Lemaster-Lick 138 kV Transmission Line (the "Project") in York Township, Athens County, Ohio. The Project consists of the removal of approximately 1.47 miles of existing 138 kV transmission line that terminates within AEP Ohio Transco's Poston Station and construction of approximately 0.32 miles of new 138 kV transmission line that will terminate within AEP Ohio Transco's proposed Lemaster Station. The LON application for the proposed Lemaster Station project has been filed with the OPSB separately under PUCO Case Nos. 16-2314-EL-BLN and 17-2281-EL-BLN in December 2016 and November 2017.

A LON for the Project was previously submitted to the OPSB on April 3, 2017, under PUCO Case No. 17-0633-EL-BLN. The location of the proposed Lemaster Station has shifted slightly east of the previously proposed location outlined in the December 2016 LON for Lemaster Station and therefore the proposed Lemaster-Lick 138 kV transmission line relocation "Project Area" has also shifted slightly to the east. Figures 1.1, 1.2, and 1.3 in Appendix A show the existing Poston Station location, the general revised location of the proposed Lemaster Station, the previously proposed Lemaster-Lick 138 kV transmission line relocation, and the revised Lemaster-Lick 138 kV transmission line relocation Project Area.

The proposed transmission line removal work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000109, P010010000100, G010010052400, N020020002400, and N020020002402) and the Athens County Port Authority (Parcels G010010052401 and G0110010052408). The proposed transmission line construction work for this Project will occur on property owned by AEP Ohio Transco (Parcels N020020002402, P010010000100, P010010000104, and P010010000109). No property acquisition or easements are required for this Project. Technical features of this Project are discussed in Section B9.

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

- (1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:
- (b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.

B(2) Statement of Need

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

The Lemaster 138 kV Station (filed separately under PUCO Case Nos. 16-2314-EL-BLN and 17-2281-EL-BLN) is being developed to replace Poston Station, where the station will be retired and removed. Poston Station is currently positioned within a floodplain, and is comprised of deteriorated equipment installed in the 1940s and 1950s. The equipment in Poston Station poses a safety concern and no longer complies with AEP safety standards. The drivers for replacement of the equipment are age, dielectric strength breakdown, short circuit strength breakdown, and accessory damage. The site where Poston Station currently sits has been subject to flooding in the past, posing a safety concern, as well as increases the difficulty of maintaining and repairing existing structures.

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

B(3) Project Location

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

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

B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

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

This Project minimizes impacts to the community and the environment, while taking into account the engineering and construction needs of the Project (see Sections B9 and B10 for further discussion of socioeconomic, ecological, construction, and engineering aspects of the project). Transmission line relocation and construction activities for the proposed Project will take place on property owned by AEP Ohio Transco. Transmission line removal activities for the proposed Project will take place on property owned by AEP Ohio Transco and the Athens County Port Authority. Four emergent wetlands and six streams are located in the Project Area. However, proposed transmission line removal and relocation activities are not expected to result in the discharge of fill material in any streams or wetlands, and timber mats will be utilized at wetland and stream locations if equipment crossings are required. Limited amounts of potentially suitable Indiana bat (*Myotis sodalis*; federally endangered) and northern long-eared bat (*Myotis septentrionalis*; federally threatened) habitat is present within the Project Area, though no potential roost trees or hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area.

B(5) Public Information Program

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

The proposed Project will be take place on property owned by AEP Ohio Transco and the Athens County Port Authority. Within seven days after 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. 4906-6-08(A)(1)-(6).

Further, AEP Ohio Transco 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. The LON will also be sent to applicable public officials concurrently with submittal to the OPSB, and a paper copy of the LON will be provided to the Athens County Public Library.

B(6) Construction Schedule

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

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

B(7) Area Map

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

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

B(8) Property Agreements

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

The proposed transmission line removal work for this Project will occur on property owned by AEP Ohio Transco (Parcels P010010000109, P010010000100, G010010052400, N020020002400, and N020020002402) and the Athens County Port Authority (Parcel G010010052401 and G0110010052408). The proposed transmission line construction work for this Project will occur on property owned by AEP Ohio Transco (Parcels N020020002402, P010010000100, P010010000104, and P010010000109). No property acquisition or easements are required to construct and operate the Lemaster-Lick 138 kV transmission line.

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 proposed Project will remove five existing H-frame pole structures, five existing guyed three-pole structure, two lattice tower structures, and approximately 1.47 miles of existing 138 kV single circuit transmission line. The existing conductor type is 636 KCM ACSR 26/7 "Grosbeak" and the existing shield wire is 3/8 EHS steel. The Project will include the installation of four new steel pole structures and 0.32 miles of new single-circuit 138 kV transmission line, new 636 KCM ASCR 26/7 "Grosbeak" conductors, along with a 7#8 alumoweld shield wire. All deadends will utilize pier foundations with anchor cages. The design and operating voltage will be 138 kV. Structure design and phasing diagrams are presented in Appendix C.

Transmission line removal activities for the proposed Project will occur on property owned by AEP Ohio Transco and the Athens County Port Authority. Line relocation construction activities for the proposed Project will occur on property owned by AEP Ohio Transco. No property acquisition or easements are required to construct and operate the Lemaster-Lick 138 kV transmission line.

- (b) For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line. The discussion shall include:
 - (i) Calculated Electric and Magnetic Field Strength Levels

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

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

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

(c) The estimated capital cost of the project.

The 2018 capital cost estimate for the proposed Project, comprised of applicable tangible and capital costs, is approximately \$1,000,000.

B(10) Social and Economic Impacts

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

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

The Project is located within York Township, Athens County, Ohio. Figure 1.3 in Appendix A shows U.S. Department of Agriculture land use categories for the Project Area. According to this map, land uses in the Project Area consist of grassland, developed land, deciduous forest, barren land, and pasture/hay fields. Field observations by AEP Ohio Transco's consultant indicate the Project Area is primarily comprised of "old field" habitat, which can be characterized as non-forested grassland that is occasionally disturbed (mowed, grazed, or cleared) and contains a variety of herbaceous species, young shrubs, vines, and tree saplings. Limited areas of mixed early successional/second growth deciduous forest, industrial/developed land, and emergent wetland are also located in the Project Area (see Appendix B). Additionally, four emergent wetlands and six streams are located in the Project Area (see Appendix B).

There are currently no active residences, cemeteries, churches, schools, or other community facilities located within 1,000 feet of the Project Area (as shown on Figures 1.2 and 1.3 in Appendix A). The nearest residences are located along State Route 691 approximately 1,500 feet to the west of the Project Area. A water filtration plant is located approximately 0.25 miles to the east of the Project (approximately 1,000 feet northeast of the existing Poston Station).

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

B(10)(b) Agricultural Land Information

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

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

B(10)(c) Archaeological and Cultural Resources

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

In February and March of 2017, AEP Ohio Transco's consultant, Weller & Associates, Inc. (Weller) conducted Phase I cultural resource management investigations for the Project (see Appendix B of the previously filed LON under PUCO Case No. 17-0633-EL-BLN). The field investigations were conducted within the original Project Area. AEP Ohio Transco's consultant conducted additional cultural resources surveys within the revised Project Area on October 31, 2017. The Project plans are to slightly move the proposed Lemaster Station location and Lemaster-Lick transmission line relocation Project Area to the east. Weller had previously completed cultural resource management surveys for the Lemaster-Lick transmission line relocation as it was proposed, which is just west of the currently planned area. The work involved visual inspection of the subject area and shovel probing to verify the conditions. The field investigations did not identify any cultural materials and the area was found to be fully and severely disturbed by grading activity associated with coal mining and activities associated with the extant Poston Station. Weller did not recommend any additional work for the Project.

The literature review conducted for this Project indicated previous cultural resource management activity involving the northern and southern portions of the Project Area (Weller 2016; Otto 1976). However, there are no previously identified sites within the Project Area. Weller's 2016 survey was for a tract where the new Lemaster Station is planned. Otto's survey (1976) was for an electric line corridor. The Poston Station (ATH0063302) is located within the study area, though this site is not regarded as significant. Site 33AT1057 is located near the western edge of the previous study area. This site was recommended for additional work if it were to be impacted. However, it is not near the Lemaster-Lick 138 kV transmission line relocation Project Area. For more information, see the Phase I Cultural Resources Management Investigations report included in Appendix B of the previously filed LON under PUCO Case No. 17-0633-EL-BLN. An addendum cultural resources survey letter report has been prepared under separate cover.

The Project will not directly involve any buildings, structures, or archaeological sites. The

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

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

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

Best management practices (BMPs) will be implemented and maintained to minimize erosion and control sediment to protect surface water quality during storm events. If applicable (based on the final Project disturbance area), 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 OHC000004.

Four emergent wetlands and six streams are located in the Project Area (see Appendix B). However, transmission line removal and relocation activities are not expected to result in the discharge of fill material in these wetlands or streams, and timber mats or timber mat bridges will be utilized at the wetland locations and stream locations, respectively, if equipment crossings are required. Therefore, the Project is not expected to require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers, a Pre-Construction Notification to the U.S. Army Corps of Engineers, or a Section 401 Water Quality Certification from the Ohio Environmental Protection Agency.

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

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

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

The United States Fish and Wildlife Service ("USFWS") Midwest Region's Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species (available at https://www.fws.gov/midwest/endangered/lists/ohio-ctv.html) was reviewed to determine the threatened and endangered species currently known to occur in Athens County. This USFWS publication listed the following threatened or endangered species as occurring in Athens County: Indiana bat (Myotis sodalis; federally endangered), northern long-eared bat (Myotis septentrionalis; federally threatened), fanshell (Cyprogenia stegaria; federally endangered), sheepnose (Plethobasus cyphyus; federally endangered), pink mucket pearly mussel (Lampsilis abrupta; federally endangered), snuffbox (Epioblasma triquetra; federally endangered), and American burying beetle (Nicrophorus americanus; federally endangered). Limited amounts of potentially suitable Indiana bat and northern long-eared bat habitat is present within the Project Area, though no potential roost trees or hibernacula for these species were observed during threatened and endangered species habitat assessment field surveys completed for the Project. No potential habitat for other federally listed species was observed within the Project Area. As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The November 28, 2016 response letter from USFWS (see Appendix B) indicated that the proposed Project is within the range of the Indiana bat and northern long-eared bat in Ohio, and within the vicinity of one or more confirmed records of Indiana bats, but if tree clearing occurs between October 1 and March 31, they do not anticipate the Project having any adverse effects to these species or any other federally listed endangered, threatened, proposed, or candidate species. The USFWS letter did not include any comments specific to the other federally listed species.

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

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

Estate was received on November 17 and December 30, 2016, respectively (see Appendix B).

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

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

B(10)(f) Areas of Ecological Concern

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

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

The FEMA Flood Insurance Rate Map was consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number 39009C0095C). Based on this map, no mapped FEMA floodplains are located in the Project Area. Therefore, no floodplain permits will be required for this Project.

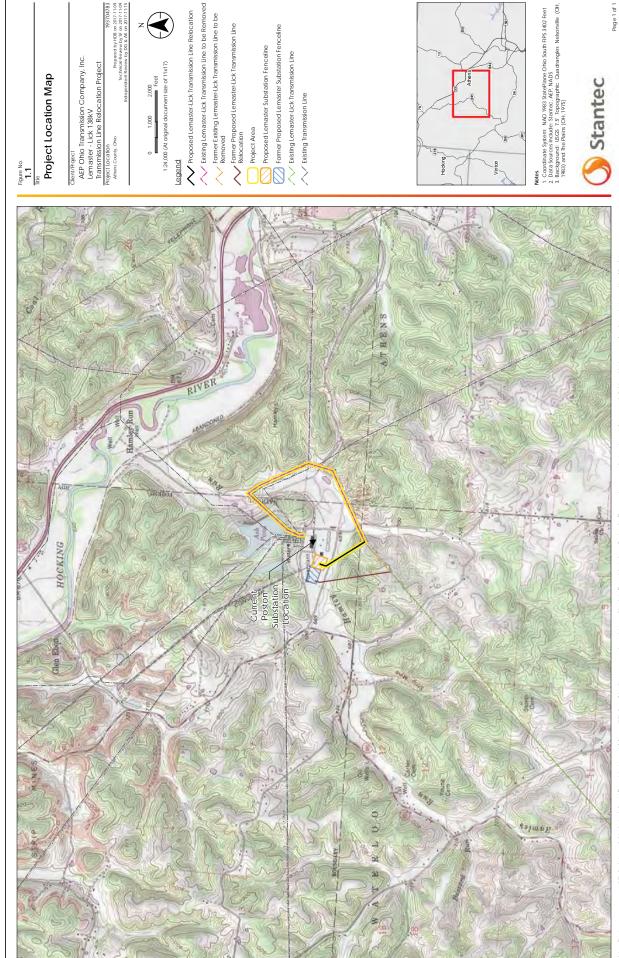
Wetland and stream delineation field surveys were completed within the Project Area by AEP Ohio Transco's consultant in November 2016 and November 2017. The results of the wetland and stream delineations are presented in the Ecological Resources Inventory Report included in Appendix B. Four emergent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

B(10)(g) Unusual Conditions

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

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

Appendix A. Project Maps



Y Proposed Lemaster-Lick Transmission Line Relocation

Former Proposed Lemaster-Lick Transmission Line Relocation

Existing Lemaster-Lick Transmission Line

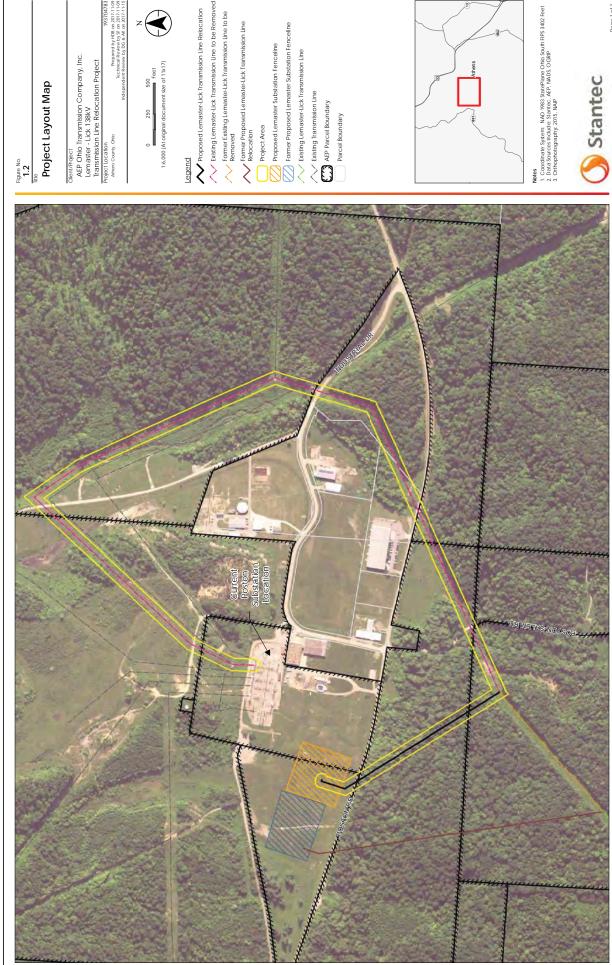
バン Existing Transmission Line



Notes

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Stantec



Y Proposed Lemaster-Lick Transmission Line Relocation



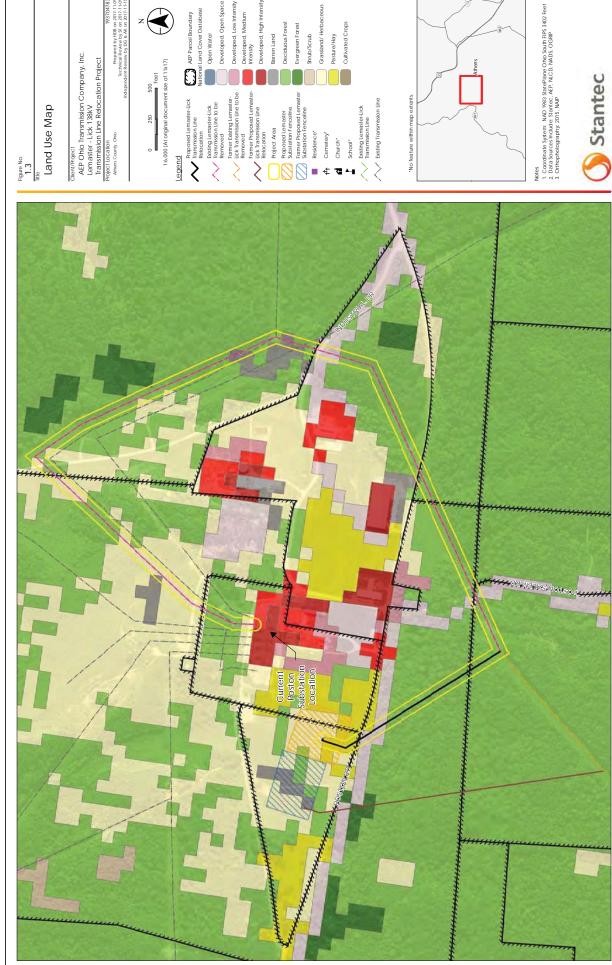
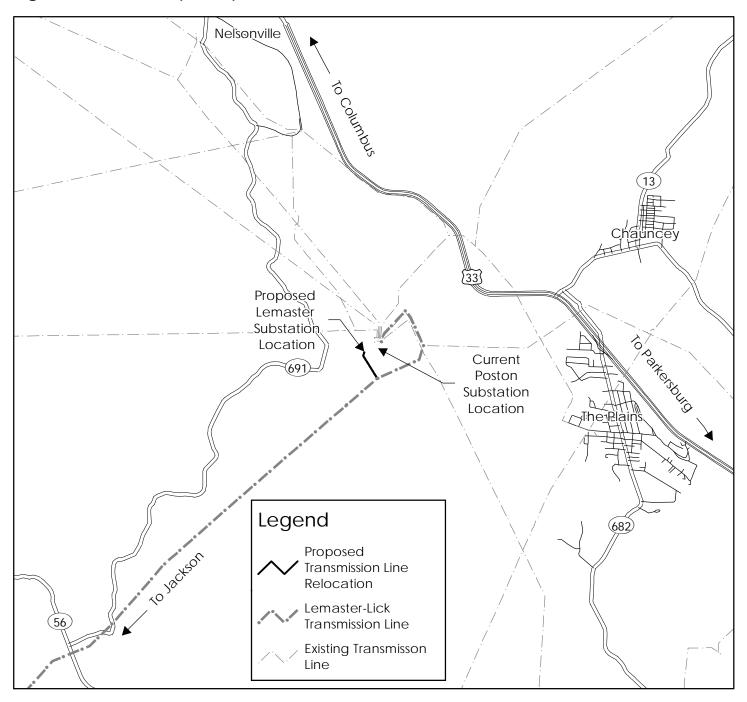




Figure 1.4 - Concept Map



Appendix B. Ecological Resources Inventory Report

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

Ecological Resources Inventory Report



Prepared for: AEP Ohio Transmission Company, Inc. 700 Morrison Road Gahanna, Ohio 43230

Prepared by:

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

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1.0 Introduction

AEP Ohio Transmission Company, Inc. (AEP) is proposing to relocate a portion of the Lemaster-Lick 138 kV electric transmission line in Athens County, Ohio (Figure 1, Appendix A). The Project includes removing approximately 1.47 miles of existing 138 kV transmission line which terminates at AEP's existing Poston Station and constructing approximately 0.32 miles of new 138 kV transmission line which will terminate at AEP's proposed Lemaster Station (Figure 1, Appendix A). The proposed Lemaster Station is a separate AEP project. The Project area (as depicted on Figures 1, 2, and 3 in Appendix A) was surveyed for wetlands, waterbodies, and potential threatened, endangered and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on November 7-8, 2016, February 10, 2017, and November 10, 2017. The approximate locations of features adjacent to the Project area were also recorded during field surveys. These features are shown on the Figure 2 maps in Appendix A as "approximate" wetlands, streams, open waters, and upland drainage features. This report covers recent revisions to the proposed Lemaster-Lick transmission line location due to a shift in the location of proposed Lemaster Station. The previous proposed transmission line and station locations are illustrated in Figures 1, 2, and 3 for documentation purposes.



2.0 Methods

2.1 WETLAND DELINEATION

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

2.2 STREAM DELINEATION

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

2.3 RARE SPECIES

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



3.0 Results

3.1 TERRESTRIAL HABITAT

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

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

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Old Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders or native highly tolerant taxa). Dominant species include tall fescue (<i>Schedonorus arundinaceus</i>), broomsedge bluestem (<i>Andropogon virginicus</i>), goldenrod (<i>Solidago</i> sp.), and aster (<i>Symphyotrichum</i> sp.).	No	18.1
Mixed Early Successional/ Second Growth Deciduous Forest	Some past disturbance but trending to naturalized. Dominated by sugar maple (Acer saccharum), beech (Fagus grandifolia), and American elm (Ulmus americana).	No	2.9
Industrial	Extreme Disturbance/existing gravel pad. Dominated by dandelion (<i>Taraxacum officionale</i>) and white clover (<i>Trifolium repens</i>).	No	0.2
		Total	21.2

3.2 WETLANDS

Stantec completed field surveys within the Project area on November 7 and 8, 2016, February 10, 2017, and November 10, 2017, for wetlands and waterbodies. Figure 2 (Appendix A) shows the wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within the Project area are included in Appendix C of this report (photo locations are shown on Figure 2, Appendix A). Completed wetland determination and ORAM



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

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

Wetland Name	Figure 2 Photo Location ¹	Isolated?	Wetland Classification ²	ORAM Score ⁴	ORAM Category ⁴	Delineated Area (acres) within Project Area
Wetland 1	1	No	PEM ³	12	1	0.02
Wetland 2	2	No	PEM ³	24	1	0.13
Wetland 3	7	Yes	PEM ³	31	2	0.01
Wetland 4	9	No	PEM ³	37.5	2	0.20
					TOTAL	0.36

¹ Figure 2 and Appendix C – Representative Photographs

3.3 STREAMS

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



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).

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

Stream Name	Figure 2 Photo Location ¹	Receiving Waters	Stream Flow Regime ²	Stream Evaluation Method	Stream Evaluation Score	OHWM Width (feet) ³	Delineated Length (feet) within Project Area
Stream 1 (Hamley Run)	11	Hocking River	Perennial	QHEI	53	12	191
Stream 2	10	Hamley Run	Ephemeral	HHEI	14	2.5	114
Stream 3	3	Hocking	Doromaiol	QHEI	81	12	1/00
(Hamley Run)	8	River	Perennial	QHEI	55.5	11	1609
Stream 4	5	Hamley Run	Intermittent	HHEI	42	3	45
Stream 5	4	Hamley Run	Intermittent	HHEI	62	3.2	102
Stream 6	6	Hamley Run	Intermittent	HHEI	51	2	129
						TOTAL	2,190

¹ Figure 2 and Appendix C - Representative Photographs



² Stream classification is based on Federal Register/Vol. 67, No. 10 (USACE 2002).

³ OHWM = Ordinary High Water Mark

3.4 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

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

Known to Occur in Athens County?2	to Known Within One Mile of S Project Area?	Potential Preference Habitat Preference Observed in Project Area?		Impact Assessment	ODNR Comments/Recommendations
		Insects			
No	0	Occurs in tall grass prairie remnants (Lotts and Naberhaus No 2017).		No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
N N		This species is associated with openings in mature oak forests that support stands of Canada cinquefoli. Most of these areas are highly disturbed, and are characterized by fair amounts of exposed soil and rock (ODNR 2017b).		No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
O N		Current information suggests this species is a habitat generalist, or one that lives in many types of habitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2017b).	·	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Yes		Habilat preference has not been assessed at this time (NatureServe 2017), though caddisfles normally occur in streams, rivers, and ponds.		Potentially suitable habitat (perennial and internittent streams) was observed within the Project area. However, no work is proposed within these streams. Therefore, no impacts are anticipated.	No comments received.
O Z		This species typically occurs in unforested wetlands such as bogs, shrub swamps, and marshes. This species also occurs along wet powerlines and wet open pinelands (New York Natural Heritage Program 2015).		Some potentially suitable habitat was observed within the Project area. However, this species is not known to occur within the Project vicinity. Therefore, no impacts are anticipated.	No comments received.
		Fishes			
O Z]	This fish prefers medium to large streams in the Ohio River drainage system and are found in riffles of moderate current with substrate of gravel or cobble sized rocks (ODNR 2017b).		No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aqualic species and fleir habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aqualic species.



Scientific Name	State Listing ¹	Known to Occur in Athens County?2	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Percina shumardi	⊢	Yes	O N	Large rivers and lower portions of tributaries; deep chutes and riffles where current is swift and substrates are coarse gravel or rock (NatureServe 2017).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	ODNR recommends no in-water work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aqualic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species or other aqualic species.
				Amphibians			
 Pseudotriton montanus diastictus	⊢	Yes	No	Muddy springs, slow floodplain streams, and swamps along slow streams; backwater ponds and marshes created by beaver activity (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Scaphiopus holbrookii	В	Yes	N N	Eastern spadefoots occur in areas of sandy, gravelly, or soft, light soils in wooded or unwooded terrain. On land, they range up to at least several hundred meters from breeding sites. When inactive, they remain burrowed in the ground. Eggs and larvae develop in temporary pools formed by heavy rains. Beeding sites include temporary pools and areas flooded by heavy rains (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and type of work proposed, the Project is not likely to impact this species.
Cryptobranchus alleganiensis alleganiensis	Э	Yes	NO	Rocky, clear creeks and rivers, usually where there are large shelter rocks. The species prefers cool waters with temperatures usually lower than 20 degrees Cosius, High amounts of instream cover are needed for shelter/reproduction, including large flat rocks or submerged logs (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
				Mussels			
Pleurobema clava	Ш	Yes	NO	The clubshell is found in small to medium rivers, but occasionally found in large rivers, especially those having large shoal areas. It is generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle and cannot tolerate mud or slackwater conditions (USFWS 1994). Badra and Goforth (2001) found the clubshell in gravel/sand substrate, in runs having laminar flow (0.06-0.25 m/sec.) within small to medium sized streams.	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Epioblasma triquetra	Е	Yes	N	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2017).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
Cyprogenia stegaria	Ш	Yes	O Z	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.



S	State Listing ¹	Known to Occur in Athens County?2	Known Within One Mile of Project Area? ³	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	O DNR Comments/Recommendations
ш		Yes	O _N	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift, but never standing pools of water (NatureServe 2017).	ON	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
ш		Yes	O N	Although it does inhabit medium-sized rivers, this mussel generally has been considered a large-river species. It may be associated with riffles and gravel/cobble substrates but usually has been reported from deep water with slight to swift currents and mud, sand, or gravel bottoms. It also appears capable of surviving in reservoirs. Specimens in larger rivers may occur in deep runs (NatureServe 2017).	O _N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
⊢		Yes	O.N.	Typically found in medium-sized to large rivers in locations with strong current and substrates of coarse sand and gravel with cobbles in water depths from several inches to six feet or more (NatureServe 2017).	O _N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennia stream of sufficient size, the Project is not likely to impact this species.
⊢		Yes	ON.	This species is typical of the large rivers where there is moderately strong current and a stable substrate composed of gravel, sand, and mud (NatureServe 2017).	O _Z	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennia stream of sufficient size, the Project is not likely to impact this species.
-		Yes	ON	This species occurs in both large and medlum-sized rivers at normal depths varying from less than three feet up to 15 to 18 feet in big rivers such as the Tennessee. Substrates of either sand or mud are suitable and although it is typically found in moderate current, it can adapt to a lake or embayment environment lacking current (NatureServe 2017).	O _N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	Due to the Project location and that there is no in-water work proposed in a perennial stream of sufficient size, the Project is not likely to impact this species.
				Mammals			
ш		, ≺e	O N	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformy. 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 roots structures include trees (flood or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include retained 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 2017b). 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).	× es	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The project is within the vicinity of records for the Indiana bat. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. If suitable habitat occurs within the project area, ODNR recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, ODNR recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species.
ы		Yes	No	Typical habitat is rocky cliffs and slopes (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.



Common Name	Scientific Name	State Listing ¹	Known to Occur in Athens County? ²	Known Within One Mile of Project Area? ³	Habilat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	ODNR Comments/Recommendations
Black Bear	Ursus americanus	В	Yes	NO	Black bears inhabit forests and nearby openings, including forested wetlands. When inactive, they occupy dens under fallen trees, ground-level or above-ground tree cavities or hollow logs, underground cave-like sites, or the ground surface in dense cover (NatureServe 2017)	Yes	Habitat was observed within the Project area, but due to the mobility of this species no impacts are anticipated.	Due to the mobility of this species, the Project is not likely to impact this species.
Northern Long- eared Bat	Myotis septentrionalis	SOC.	Yes	O Z	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 frees, as well as buildings as roosting thatiat (Brack et al. 2010; USFWS 2010). 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).	, ≺es	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No comments received.
					Reptiles			
Timber Rattlesnake	Crotalus horridus horridus	ш	Yes	O N	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. Hibemacula are typically located in a rocky area where underground crevices provide retreats for overwinteling, such as a fissure in a ledge, a crevice between ledge and ground, and fallen rock associated or unassociated with cliffs and fallen rock associated or unassociated with cliffs.	Yes	Potential habitat (open areas adjacent to hilly forested areas) was observed within the Project area, but typical habitat was not observed and due to the mobility of this species, no impacts are anticipated.	Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.
Spotted Turtle	Clemmys guttata	-	Yes	NO	Spotted turtles inhabit mostly unpolluted, shallow bodies of water with a soft bottom and aquatic vegetation, such as small marshes, marshy pastures, bogs, fens, woodland streams, swamps, small ponds, vernal pools, and lake margins: in some areas they occur in brackish tidal streams (NatureServe 2017).	Yes	Potential habitat (perennial streams) was observed within the Project area. However, no instream work is proposed. Therefore, no impacts are anticipated.	No comments received.
Eastern Box Turtle	Terrapene carolina	SOC	Yes	Yes	This species prefers forests, fields, and scrub shrub habitats. Eastem box turtles use loose soll, debris, and leaf litterfor cover. Areas with loose, loamy solls are preferred for egg laying sites (NatureServe 2017).	Yes	This species typically prefers most forest and scrub shrub habitat as opposed to open old field habitat observed in the Project area. Forested habitat is present within portions of the Project area. Due to this and the mobility of this species, no impacts are anticipated.	No comments received.



ODNR Comments/Recommendations		No comments received.
Impact Assessment		No habitat was observed within the Project area. Therefore, no impacts are anticipated.
Potential Habitat Observed in Project Area?		ON
Habitat Preference	Plants	This species prefers wet meadows and open, swampy woods dominated by native species (NatureServe 2017).
Known Within One Mile of Project Area? ³		Yes
Known to Occur in Athens County?2		Yes
State Listing ¹		Status Not Determined
Scientífic Name		Eupatorium pilosum
Common Name		Rough Boneset

FEEndangered; T=Threatened; SOC=Species of Concern Paccording to Ohio Department of Natural Resources, State Listed Wildlife Species by County (ODNR 2017a).



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

Common Name	Scientific Name	Federal Listing ¹	Known to Occur in Athens County?2	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
				Mammals			
Indiana bat	Myotis sodalis	ш	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 deach) with activation with a structures include trees (live or a deach) with activation 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 have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	Yes	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	The proposed project is in the vicinity of one or more confilmed records of Indiana bats. Therefore, USFWS recommends that trees, 3 inches dab be saved wherever possible. Since Indiana bat presence in the vicinity of the project has been confilmed, clearing of trees, 3 inches dbh during the summer roosing season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with USFWS is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommends that removal of any trees; and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bals and northern long-eared bals are insignificant or discountable.
Northem Long-eared Bat	Myotis septentrionalis	-	Yes	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2016). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	Yes	No hibernacula were observed within the Project area. However, potentially suitable roosting habitat was observed in the Project area and tree clearing will be required for this project. AEP anticipates clearing the trees between October 1 and March 31. Therefore, no adverse effects are anticipated.	No specific comments received (other than discussion of suitable habitat).
				Birds			
Bald Eagle	Haliaeetus Ieucocephalus	SOC	Yes	Breeding habitat most commonly includes areas close to (within 4 km) coastal areas, bays, rivers, lakes, reservoirs, or other bodies of water that reflect the general availability of primary food sources including fish, waterfowl, or seabirds. This species typically nests in large trees or on cliffs (NatureServe 2017).	NO	No nests or sultable nesting habitat was observed in the Project area. Therefore, no impacts are anticipated.	No comments received.
				Mussels			
Snuffbox	Epioblasma triquetra	Б	Yes	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2017).	No	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Fanshell	Cyprogenia stegaria	ш	Yes	Medium to large streams and rivers with moderate to strong current in coarse sand and gravel and depth ranging from shallow to deep (NatureServe 2017).	NO	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.



Common	Scientific Name	Federal Listing ¹	Known to Occur in Athens County?2	Habitat Preference	Potential Habitat Observed in Project Area?	Impact Assessment	USFWS Comments/ Recommendations
Pink Mucket	Lampsilis orbiculata	ш	Yes	Large rivers in habitats ranging from silt to boulders, but apparently more commonly from gravel and cobble. Collected from shallow and deep water with current velocity ranging from zero to swift, but never standing pools of water (NatureServe 2017).	O N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
Sheepnose	Plethobasus cyphyus	Ш	Yes	Although it does inhabit medium-sized rivers, this mussel generally has been considered a large-river species. It may be associated with riffles and gravel/cobble substrates but usually has been reported from deep water with slight to swift currents and mud, sand, or gavel bottoms. It also appears capable of surviving in reservoirs. Specimens in larger rivers may occur in deep runs (NatureServe 2017).	O N	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
				Insects			
American Burying Beetle	Nicrophorus americanus	Ш	Yes	Current information suggests this species is a habitat generalist, or one that lives in many types of habitat, but with a slight preference for grasslands and the open understory of oak-hickory forests (ODNR 2017b).	ON.	No habitat was observed within the Project area. Therefore, no impacts are anticipated.	No comments received.
	-			Reptiles			
Timber Rattlesnake	Crotalus horridus horridus	SOC	Yes	In the central Midwest, optimum habitat is a high, dry ridge with oak-hickory forest interspersed with open areas. Hibernacula are typically located in a rocky area where underground crevices provide retreats for overwintering, such as a fissure in a ledge, a crevice between a ledge and ground, and fallen rock associated or unassociated with cilifs (NatureServe 2017).	Yes	Potential habitat (open areas adjacent to hilly forested areas) was observed within the Project area, but typical habitat was not observed and due to the mobility of this species, no impacts are anticipated.	No comments received.
¹ E=Endangere ² According to	¹ E=Endangered; I=Threatened; SOC=Species of Concern ² According to USFWS (2017a).	SOC=Spec	ies of Concer	u.			



4.0 Conclusions and Recommendations

Stantec conducted a wetland and waterbodies delineation and a preliminary habitat assessment for threatened and endangered species or their habitats within the Project area on November 7-8, 2016, February 10, 2017, and November 10, 2017. During the field surveys, four palustrine emergent wetlands totaling approximately 0.36 acres were identified within the Project area. See Table 2 for more information regarding the wetland classifications and ORAM categories for wetlands identified within the Project area. One ephemeral stream totaling approximately 114 linear feet in length, three intermittent streams totaling approximately 276 linear feet in length and two perennial stream segments totaling approximately 1,800 linear feet in length were delineated within the Project area. See Table 3 for more information regarding the streams identified within the Project area.

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

Two state-listed species of concern and one state-listed endangered species are known to occur within a one-mile radius of the Project area according to correspondence received from the ODNR Natural Heritage Program (NHP), including eastern box turtle, rough boneset, and a caddisfly, respectively (Appendix B). None of these known locations are within or in the immediate vicinity of the Project area. Some suitable habitat for eastern box turtle is present in the Project area, though this species typically prefers moist forest and scrub shrub habitats. No eastern box turtles were observed in the Project area and due to the mobility of this species and habitat observed in the Project area (open, non-forested), the proposed Project is not expected to impact this species. No habitat for rough boneset was identified within the Project area. Potentially suitable caddisfly habitat (perennial and intermittent streams) occurs in the Project area, but no instream work is proposed to occur. Therefore, no impacts to these species are anticipated. Potentially suitable habitat for the state-listed threatened spotted turtle (perennial streams) is present within the Project area. However, no instream work is proposed by AEP, therefore not impacts to this species are anticipated. Potentially suitable habitat for the statelisted threatened marsh fern moth (PEM wetlands) is present within the Project area. However, no occurrences of this species are known from the vicinity of the Project area. Therefore, no impacts to the marsh fern moth are anticipated. Potential habitat for the state-listed endangered species, black bear, and timber rattlesnake, were also observed in the Project area. However, neither of species is known to occur within a mile of the Project area, and due to their mobility, no impacts to these species are anticipated.

The ODNR NHP also responded that they are unaware of any unique geological features or scenic rivers within a mile of the Project area, but did state that the Wayne National Forest, the Hamley Run Floodplain Forest Conservation Site, a Breeding Amphibian Site, a Floodplain Forest Plant Community, and a Mixed Mesophytic Forest Plant Community exist within a mile of the Project



area (Appendix B). However, none of these known locations occur within or immediately adjacent to the Project area and no impacts are anticipated.

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

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

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



stated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project area, but recommended that impacts to wetlands and other water resources be avoided or minimized to the maximum extent possible, and that best management practices be utilized to minimize erosion and sedimentation and prevention of non-native, invasive plant establishment.



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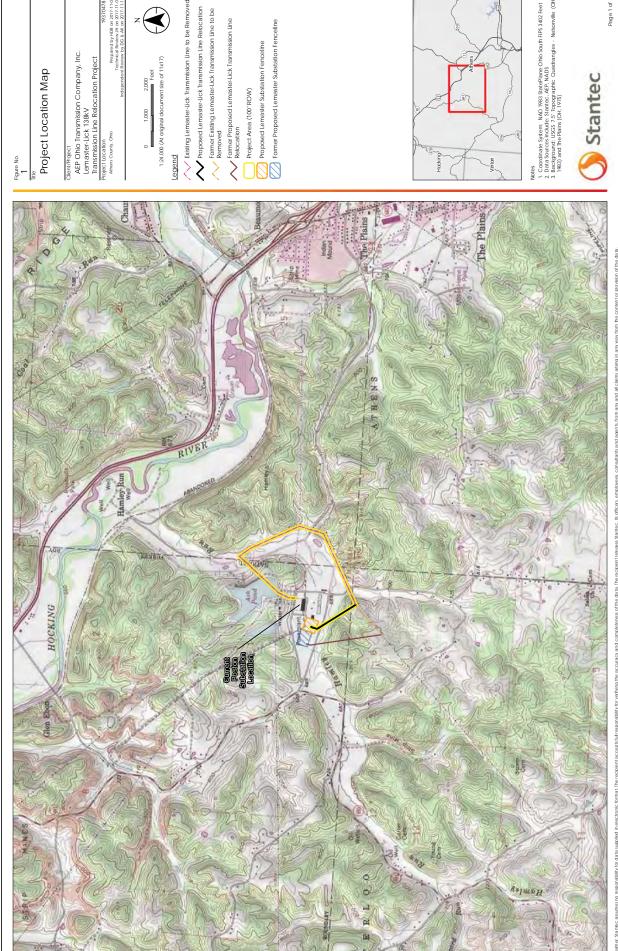
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Appendix A Figures

A.1 FIGURE 1 – PROJECT LOCATION MAP





Project Location Map

Y Proposed Lemaster-Lick Transmission Line Relocation Former Existing Lemaster-Lick Transmission Line to be Removed

Proposed Lemaster Substation Fenceline

Promer Proposed Lemaster Substation Fer



Notes

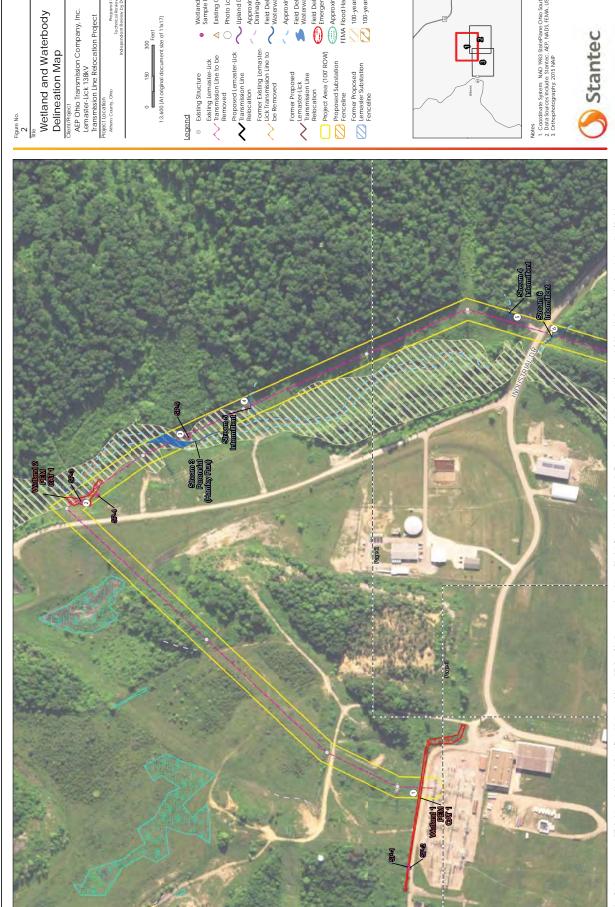
Coordinate System: NAD 1983 StatePlane Orbo South FIPS 3402 Feet
2. Deta Sources Include: Stantec, AEP NADS
3. Beckground: 1855 7 5' Topographic Quadrangles - Netson/lile (OH, 1983) and the Palins (OH, 1975)



Stantec

A.2 FIGURE 2 – WETLAND AND WATERBODY DELINEATION MAP





Wetland and Waterbody Delineation Map

Proposed Lemaster-Lick

Transmission Line
Relocation

▲ Exiting Culvert
 ○ Photo Location
 ▼ Upland Drainage Feature

Approximate Upland
Drainage Feature
Field Delineated
Waterway

Former Existing Lemaster-Lick Transmission Line to be Removed

Field Delineated Waterway

Field Delineated Waterway Area

Former Proposed

Lemaster-Lick
Transmission Line
Relocation

Field Delineated Emergent Wetland

Project Area (100' ROW)

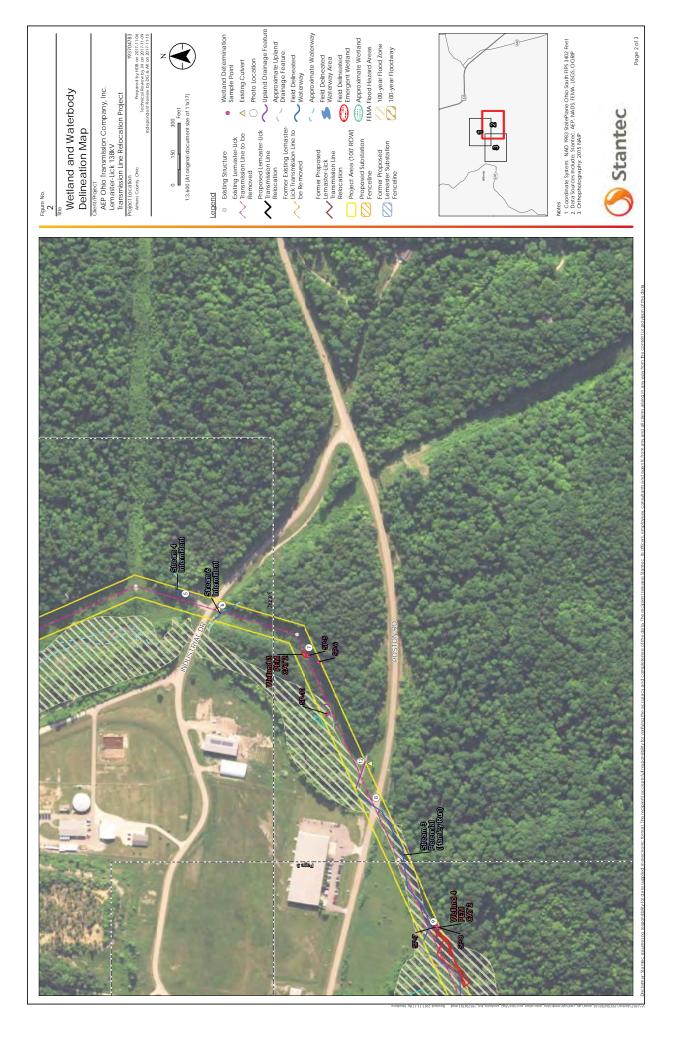
Approximate Wetland FEMA Flood Hazard Areas

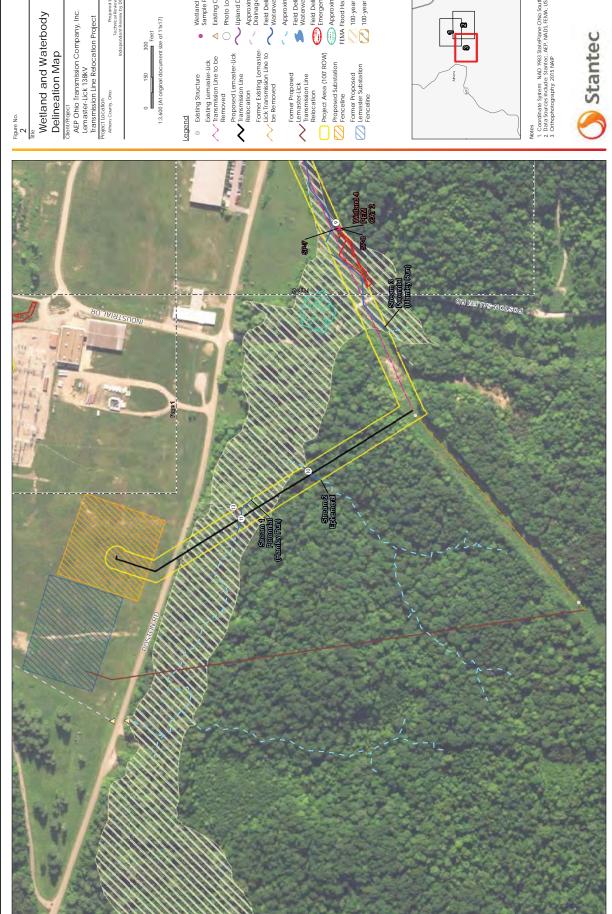
100-year Flood Zone

Notes

Coordinate System: NAD 1983 StatePlane Oho South FIPS 3402 Feet
2 Data Sources Include: Stantec. AEF, IAADS, FEIAA, USCS, OGRIP
3 Otthophotography, 2015 NAP

Stantec





Gent/Reject
AEP Ohio Transmission Company, Inc.
Lemaster-Lick 138KV
Transmission Line Relocation Project
Polject Iocation

Existing Structure

Proposed Lemaster-Lick

Transmission Line
Relocation

Upland Drainage Feat

Existing Culvert

Photo Location

Approximate Upland
Drainage Feature
Field Delineated
Waterway

Former Existing Lemaster-Lick Transmission Line to be Removed

Approximate Waterwa Field Delineated Waterway Area

Field Delineated Emergent Wetland

Project Area (100' ROW) Proposed Substation Fenceline

Approximate Wetlanc

FEMA Flood Hazard Areas

100-year Flood Zone 100-year Floodway



Notes

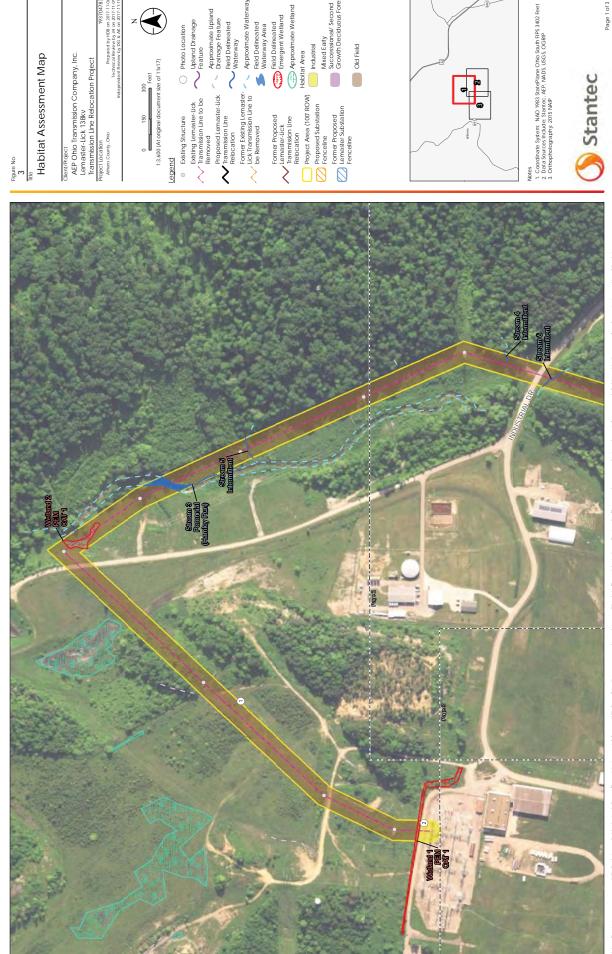
Coordinate System, NAD 1983 StatePlane Oho South FIPS 3402 Feet
2 Data Sources Include: Stanter, AEP, NADS, FEMA, USGS, OGRIP
3 Orthophotography, 2015 NAP



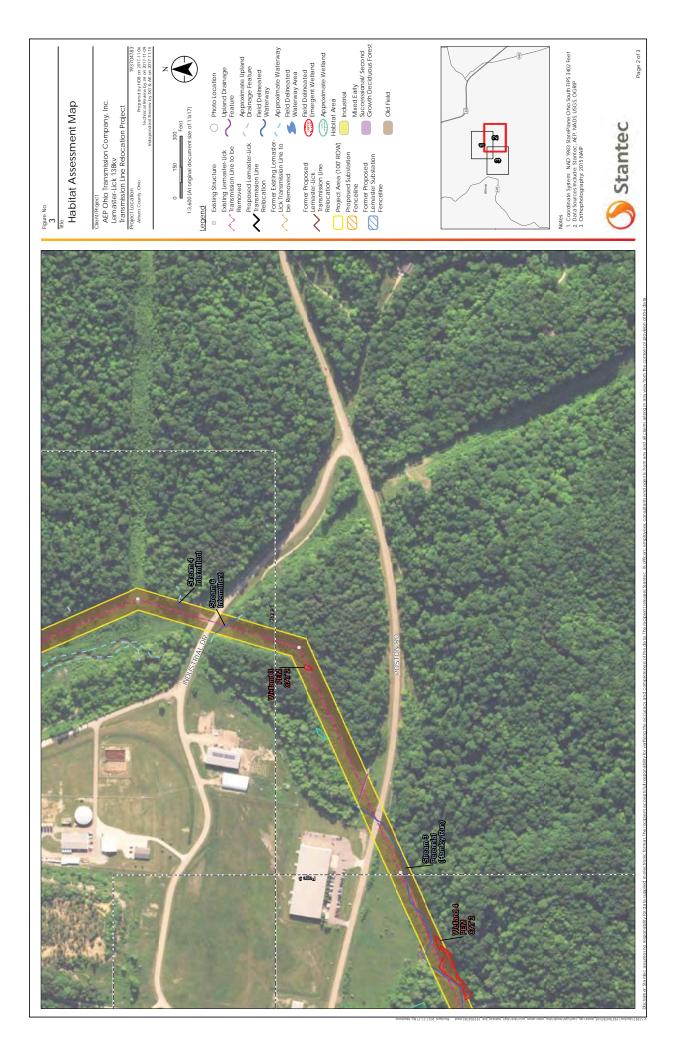
Stantec

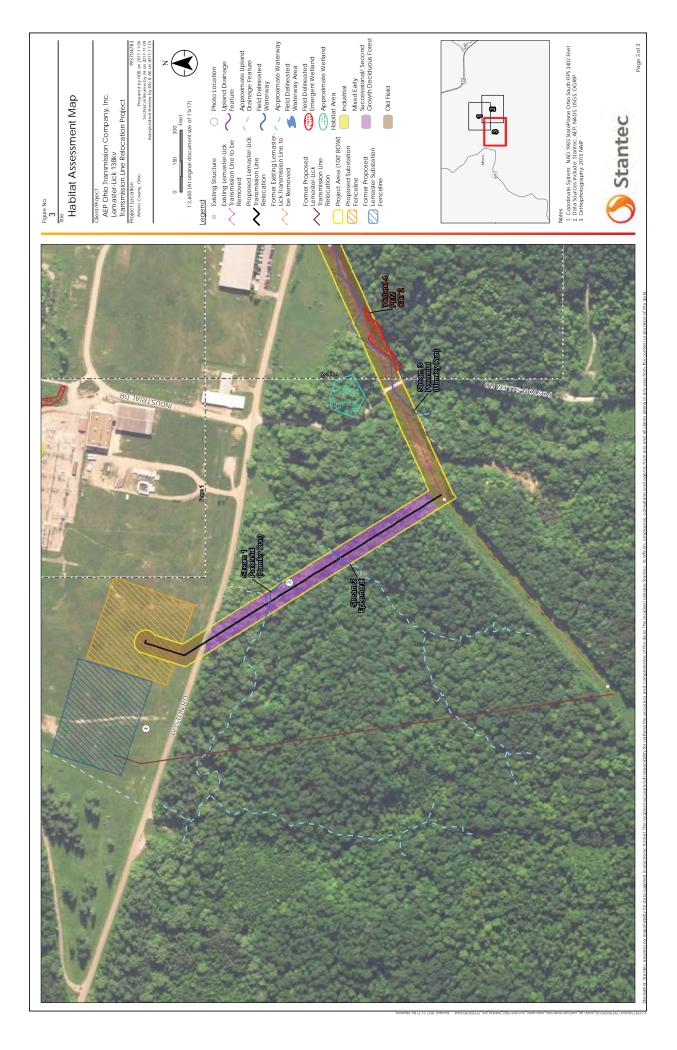
A.3 FIGURE 3 – HABITAT ASSESSMENT MAP





Mixed Early
Successional/ Second
Growth Deciduous Forest Approximate Upland
Calinage Feature
Field Delineated
Waterway Upland Drainage Feature Old Field





Appendix B Agency Correspondence



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

December 30, 2016

Dan Godec Stantec Consulting Services Inc. 11687 Lebanon Road Cincinnati, Ohio 45241

Re: 16-865; Request for Technical Assistance, AEP Lemaster Station Project

Project: The proposed project involves the construction of the Lemaster Station.

Location: The proposed project is located in York, Dover, and Waterloo Townships, Athens County, Ohio.

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

Natural Heritage Database: The Natural Heritage data request response is included on pages 3-4 of the project documentation.

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 vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. 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 no tree removal is proposed, this project is not likely to impact this species.

The project is within the range of the club shell (*Pleurobema clava*), a state endangered and federally endangered mussel, the sheepnose (*Plethobasus cyphyus*), a state endangered and federally endangered mussel, the fanshell (*Cyprogenia stegaria*), a state endangered and federally endangered mussel, the pink mucket (*Lampsilis orbiculata*), a state endangered and federally endangered mussel, the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the threehorn wartyback (*Obliquaria reflexa*), a state threatened mussel, the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel, and the black sandshell (*Ligumia recta*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the channel darter (*Percina copelandi*), a state threatened fish, and the river darter (*Percina shumardi*), a state threatened fish. The DOW recommends no inwater work in perennial streams from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus horridus horridus*), a state endangered species, and a federal species of concern. The timber rattlesnake is a woodland species. In addition to using wooded areas, the timber rattlesnake also utilizes sunlit gaps in the canopy for basking and deep rock crevices known as den sites for overwintering. Due to the location, the type of habitat at the project site, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the eastern spadefoot toad (*Scaphiopus holbrookii*), a state endangered species. This species is found in areas of sandy soils that are associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the mud salamander (*Pseudotriton montanus*), a state threatened species. Due to the location, the type of habitat present at the project site, and the type of work proposed, this project is not likely to impact 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/water-use-planning/floodplain-management#PUB

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

Ohio Division of Wildlife Raymond W. Petering, Chief 2045 Morse Rd., Bldg. G Columbus, OH 43229-6693 Phone: (614) 265-6300

November 17, 2016

Dan Godec Stantec Consulting Services, Inc. 11687 Lebanon Rd. Cincinnati, OH 45241

Dear Mr. Godec.

I have reviewed the Natural Heritage Database for the Lemaster Station project area, including a one mile radius, in York, Dover and Waterloo Townships, Athens County, Ohio. The numbers/letters on the list below correspond to the areas marked on the accompanying map. Common name, scientific name and status are given for each species.

- A. Wayne National Forest US Forest Service
- B. Hamley Run Floodplain Forest Conservation Site
- 1. Eupatorium pilosum Rough Boneset, recently added to inventory, status not determined
- 2. Breeding Amphibian Site
- 3. Brachycentrus numerosus caddisfly, endangered
- 4. Floodplain Forest Plant Community
- 5. Terrapene carolina Eastern Box Turtle, species of concern
- 6. Mixed Mesophytic Forest Plant Community

A Conservation Site is an area deemed by the Natural Heritage Program to be a high quality natural area not currently under formal protection. It may, for example, harbor one or more rare species, be an outstanding example of a plant community or have geologically significant features, etc. These sites may be in private ownership and our listing of them does not imply permission for access.

We are unaware of any geologic features, scenic rivers, state wildlife areas, nature preserves, parks or forests or national wildlife refuges or parks within a one mile radius of the project area.

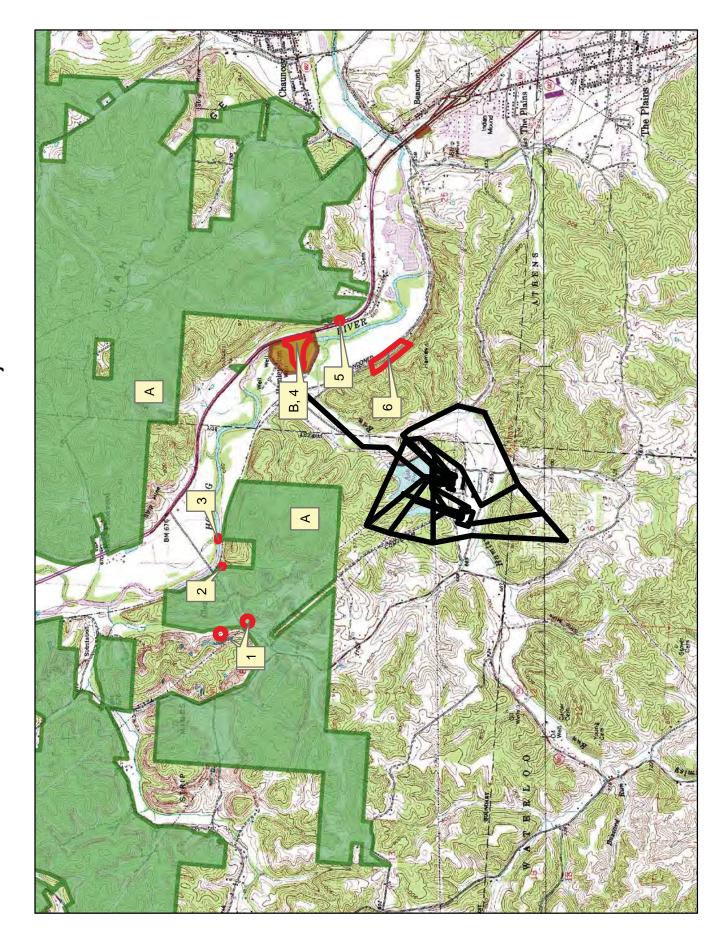
Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does 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.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke Ohio Natural Heritage Program

Debbie Worschhe



Godec, Daniel

From:

susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>

Sent:

Monday, November 28, 2016 11:29 AM

To:

Godec. Daniel

Cc: Subject: nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us Lemaster Electric Transmission Substation Project, Athens Co.



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



TAILS: 03E15000-2017-TA-0252

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.

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.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees ≥3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing

relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees ≥3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, we recommend that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.

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,

Dan Everson

Field Supervisor

cc: Nathan Reardon, ODNR-DOW

Kate Parsons, ODNR-DOW

Appendix C Representative Photographs



Wetland and Waterbody Photographs



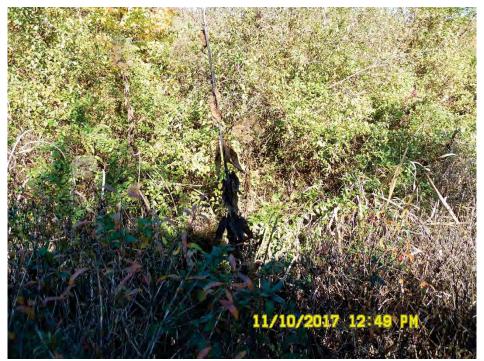


Photo Location 1. View of Wetland 1. Photograph taken facing north.



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





Photo Location 2. View of Wetland 2. Photograph taken facing east.



Photo Location 2. View of Wetland 2. Photograph taken facing west.





Photo Location 3. View of Stream 3 (Hamley Run). Photograph taken facing upstream/south.



Photo Location 3. View of Stream 3 (Hamley Run). Photograph taken facing downstream/north.





Photo Location 4. View of Stream 5. Photograph taken facing upstream/east.



Photo Location 4. View of Stream 5. Photograph taken facing downstream/west.





Photo Location 5. View of Stream 4. Photograph taken facing upstream/east.



Photo Location 5. View of Stream 4. Photograph taken facing downstream/west.





Photo Location 6. View of Stream 6. Photograph taken facing upstream/southeast.



Photo Location 6. View of Stream 6. Photograph taken facing downstream/northwest.





Photo Location 7. View of Wetland 3. Photograph taken facing north.



Photo Location 7. View of Wetland 3. Photograph taken facing south.





Photo Location 8. View of Stream 3 (Hamley Run). Photograph taken facing upstream/southwest.



Photo Location 8. View of Stream 3 (Hamley Run). Photograph taken facing downstream/northeast.





Photo Location 9. View of Wetland 4. Photograph taken facing north.



Photo Location 9. View of Wetland 4. Photograph taken facing west.





Photo Location 10. View of Stream 2. Photograph taken facing upstream/southwest.



Photo Location 10. View of Stream 2. Photograph taken facing downstream/northeast.





Photo Location 11. View of Stream 1 (Hamley Run). Photograph taken facing upstream/west.



Photo Location 11. View of Stream 1 (Hamley Run). Photograph taken facing downstream/east.





Photo Location 12. Representative view of upland drainage feature. Photograph taken facing west.



Photo Location 13. Representative view of upland drainage feature. Photograph taken facing south.

Habitat Photographs





AEP Ohio Transmission Company, Inc. Lemaster-Lick 138 kV Transmission Line Relocation Project Athens County, Ohio



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



Photo Location 2. Representative view of industrial habitat. Photograph taken facing south.



AEP Ohio Transmission Company, Inc. Lemaster-Lick 138 kV Transmission Line Relocation Project Athens County, Ohio



Photo Location 3. Representative view of mixed early successional/second growth deciduous forest habitat. Photograph taken facing southeast.



Photo Location 4. Representative view of old field habitat. Photograph taken facing northeast.



AEP Ohio Transmission Company, Inc. Lemaster-Lick 138 kV Transmission Line Relocation Project Athens County, Ohio



Photo Location 4. Representative view of old field habitat. Photograph taken facing east.

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

Appendix D Data Forms

D.1 WETLAND DETERMINATION DATA FORMS





Designat/Cites											
Project/Site:	Lemaster-l	∟ick 138 kV Transm	ission Line R	elocation	Stantec Project #: 193704783 Date: 11/07/16						
Applicant:	American I	Electric Power								County:	Athens
Investigator #1:				Investi	gator #2:					State:	Ohio
Soil Unit:	FitchvillE s	ilt loam, 0 to 3 perce	ent slopes				IWI/WWI Classification:	Wetland ID:			
Landform:					al Relief:					Sample Point:	
Slope (%):	4%		39.38321744510	L	ongitude:	-82.180	24529		NAD83	Community ID:	
		ditions on the site ty			ear? (If no	, explain in r		☑ Yes □		Section:	1
		or Hydrology □ sig					Are normal circumsta	•	?	Township:	12N
		or Hydrology nat	urally proble	matic?				□ No		Range:	15W Dir:
SUMMARY OF											
Hydrophytic Ve				Yes	□ No			Hydric Soils			
Wetland Hydrol	ogy Present	t?		Yes	□ No	1		Is This Samp	oling Point \	Within A Wetla	and? 🍙 Yes 😱 No
Remarks:											
HYDROLOGY											
Wetland Hydr	ology Indic	ators (Check here i	f indicators a	re not pr	esent):_			Secondary:		
Primary:		,				, ,				B6 - Surface Sc	il Cracks
	A1 - Surface				B9 - Wate						egetated Concave Surface
	A2 - High Wa					uatic Faun				B10 - Drainage	
	A3 - Saturati				B14 - Tru				_	B16 - Moss Trir C2 - Dry Seaso	
	B1 - Water N B2 - Sedime				C1 - Hydi		ae Odor spheres on Living Roots		_	C8 - Crayfish B	
	B3 - Drift De						educed Iron				Visible on Aerial Imagery
	B4 - Algal Ma						eduction in Tilled Soils		ä		Stressed Plants
	B5 - Iron Dep				C7 - Thin	Muck Sur	face		_	D2 - Geomorph	
	B7 - Inundati	ion Visible on Aerial Ima	agery		Other (Ex	plain in Re	emarks)		✓	D3 - Shallow Ad	
										D4 - Microtopog D5 - FAC-Neutr	
							T		✓	D5 - FAC-Neuli	ai rest
Field Observat											
Surface Water		Yes No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes □ No
Water Table Pr		☐ Yes ☑ No	Depth:		(in.)			wettana my	arologyii	CSCIII.	103 📙 110
Saturation Pres	ent?	☐ Yes ☐ No	Depth:		(in.)						
Describe Record	led Data (str	eam gauge, monitori	ng well, aerial	photos, p	revious i	nspection	s), if available:		N/A		
Remarks:	,	<u> </u>	,			'	,,				
- tomanto											
SOILS											
Map Unit Name):	FitchvillE silt loam,	0 to 3 percer	nt slopes			Series Dra	ainage Class:	Somewhat	t poorly draine	d
								g		- p	-
Laxonomy (Sur											
Taxonomy (Sub Profile Descrip		the depth needed to document the in-	licator or confirm the abs	sence of indicato	rs.) (Type: C=Co	oncentration, D=I	Depletion, RM=Reduced Matrix, CS=Covered/	Coated Sand Grains: Loc	ation: PL=Pore Lining	ı. M=Matrix)	
Profile Descrip	otion (Describe to	the depth needed to document the inc			rs.) (Type: C=Co	oncentration, D=I			ation: PL=Pore Lining	ı, M=Matrix)	Texture
Profile Descrip	Bottom			Matrix		oncentration, D=I		Mottles			Texture
Profile Descrip Top Depth	Bottom Depth	Horizon	Color (N	Matrix Ioist)	%		Color (Moist)	Mottles %	Туре	Location	(e.g. clay, sand, loam)
Profile Descrip Top Depth 0	Bottom Depth 10	Horizon 1	Color (N	Matrix Moist) 4/2	% 90	10YR	Color (Moist) 6/8	Mottles % 10	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	Bottom Depth 10	Horizon 1	Color (M 10YR	Matrix Moist) 4/2	% 90 	10YR	Color (Moist) 6/8	Mottles % 10	Type C 	Location M	(e.g. clay, sand, loam)
Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 10	Horizon 1 	Color (M 10YR 	Matrix Moist) 4/2	% 90 	10YR 	Color (Moist) 6/8	Mottles % 10	Type C 	Location M 	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 10	Horizon 1	Color (N 10YR 	Matrix Moist) 4/2	% 90 	10YR	Color (Moist) 6/8	Mottles	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 10	Horizon 1 	Color (M 10YR 	Matrix Moist) 4/2	% 90 	10YR 	Color (Moist) 6/8	Mottles % 10	Type C 	Location M 	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 10	Horizon 1	Color (N 10YR 	Matrix Moist) 4/2	% 90 	10YR	Color (Moist) 6/8	Mottles	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Bottom Depth 10	Horizon 1	Color (M 10YR 	Matrix Moist) 4/2	% 90 	10YR	Color (Moist) 6/8	Mottles % 10	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Depth 10	Horizon 1	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist) 6/8	Mottles % 10	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Depth 10	Horizon 1	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR):	Color (Moist) 6/8	Mottles	Type C	Location M	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0	btion (Describe to Depth 10	Horizon 1	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist) 6/8	Mottles % 10	Type C	Location M Indicators for	(e.g. clay, sand, loam) silt loam
Profile Descriptop	btion (Describe to Bottom Depth 10 Soil Field In edon	Horizon 1 ndicators (check he	Color (M 10YR ere if indicato \$5 - Sandy Re \$6 - Stripped	Matrix Moist) 4/2	% 90	10YR):	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface	Mottles % 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F	(e.g. clay, sand, loam) silt loam
Profile Descrip	btion (Describe to Depth 10 Soil Field In edon c	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2 -rs are no edox Matrix face	% 90 tr present	10YR	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Mottles % 10	Type C MLRA 136)	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon	(e.g. clay, sand, loam) silt loam
Profile Descriptop	btion (Describe to Depth 10 Soil Field In edon c Suffide	Horizon 1 ndicators (check he	Color (M 10YR ere if indicato \$5 - Sandy Re \$6 - Stripped \$7 - Dark Suri \$8 - Polyvalue	Matrix Moist) 4/2 rs are no edox Matrix face e Below Da	% 90 ot present	10YR	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Mottles	Type C MLRA 136)	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very	(e.g. clay, sand, loam) silt loam
Profile Descriptop	btion (Describe to Describe to Depth 10 Soil Field In edon column supers	Horizon 1 ndicators (check he	Color (N 10YR	Matrix floist) 4/2	% 90	10YR	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor	Mottles	Type C MLRA 136)	Location M Indicators for A10 - 2cm M A16 - Coast F 119 - Piedmon T112 - Very Other (Expla)	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histi A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc	btion (Describe to Depth 10 Soil Field II edon C Sulfide ayers ck (LRR N)	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor F21 - Red Parent Ma	Mottles	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F 119 - Piedmon T112 - Very Other (Expla)	(e.g. clay, sand, loam) silt loam
Profile Descriptop	btion (Describe to Depth 10	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist) 6/8 F12 - Iron-Manganes F13 - Umbric Surface F19 - Piedmont Floor F21 - Red Parent Ma	Mottles	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F 119 - Piedmon T112 - Very Other (Expla)	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histi A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc	btion (Describe to Depth 10	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist)	Mottles % 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histi A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley	btion (Describe to Depth 10	Horizon 1	Color (M 10YR ere if indicato \$5 - Sandy Re \$6 - Stripped \$7 - Dark Suri \$8 - Polyvalue \$9 - Thin Dark \$2 - Loamy G \$3 - Depleted \$6 - Redox Dark	Matrix Moist) 4/2	% 90	10YR	Color (Moist)	Mottles % 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S1 - Sandy Gley Restrictive Layer	btion (Describe to Depth 10	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist)	Mottles % 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histit A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S4 - Sandy Gley Restrictive Layer (If Observed)	btion (Describe to Depth 10	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist)	Mottles %6 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) silt loam
Profile Descrip Top Depth 0 NRCS Hydric A1- Histosol A2 - Histic Epip A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar S1 - Sandy Muc S1 - Sandy Gley Restrictive Layer	btion (Describe to Depth 10	Horizon 1 ndicators (check he	Color (N 10YR	Matrix Moist) 4/2	% 90	10YR	Color (Moist)	Mottles %6 10	Type C	Location M Indicators for A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Explain	(e.g. clay, sand, loam) silt loam

Sample Point: SP-1



Project/Site:

Lemaster-Lick 138 kV Transmission Line Relocation Project

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 1

Eastern Mountains and Piedmont Region

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) Dominance Test Worksheet Species Name % Cover Dominant Ind.Status Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) 3 4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B) 7. 8. Prevalence Index Worksheet 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. x 2 = 30 60 x 3 = FAC spp. 0 0 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = x 5 = UPL spp. 0 0 2 3. 140 Total 110 (A) 4. 5. Prevalence Index = B/A = 1.273 6. 7 8. Hydrophytic Vegetation Indicators: 9. Yes Nο Rapid Test for Hydrophytic Vegetation 10. Yes No Dominance Test is > 50% V Total Cover = 0 Prevalence Index is ≤ 3.0 * Yes No **V** Yes No Morphological Adaptations (Explain) * V . No Herb Stratum (Plot size: 5 ft radius) Yes Problem Hydrophytic Vegetation (Explain) * OBL Typha X glauca * In@ators of hydric soil and wetland hydrology must be Phalaris arundinacea 20 Ν **FACW** present, unless disturbed or problematic. 3. 5 OBI Angelica atropurpurea Ν 4. Rosa palustris FACW Definitions of Vegetation Strata: 5 FACW 5. Solidago gigantea Ν 6 Scirpus atrovirens 5 Ν OBL Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ---ft. tall. 10 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3.28 ft. tall 13. 14. 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 110 Woody Vine Stratum (Plot size: 30 ft radius) Hydrophytic Vegetation Present Yes 3. No 4. 5. ablaTotal Cover = 0 Remarks: Additional Remarks:



Are Vegetation	American E : Aaron Kwo Fitchville si 4% vdrologic conc n , Soil , S	Latitude: Latitude: ditions on the site ty or Hydrology nat	ent slops 39.38319645410 pical for this nificantly dist	Locatime of yeturbed?	26061	Datum: Yes □ ances present? □ No Hydric Soils	NAD83 No	Date: 11/07/16 County: Athens State: Ohio Wetland ID: Wetland 1 Sample Point: SP-2 Community ID: Upland Section: 1 Township: 12N Range: 15W Dir: Yes ☑ N Within A Wetland? ■ Yes ☑ N			
Remarks:											
HYDROLOGY	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water N B2 - Sedime B3 - Drift De B4 - Algal Ma B5 - Iron De B7 - Inundati	ater Table on Marks nt Deposits posits at or Crust			B9 - Wate B13 - Aqu B14 - True C1 - Hydr C3 - Oxidi C4 - Prese	uatic Faun e Aquatic ogen Sulfi ized Rhizo ence of R ent Iron Re Muck Sur	a Plants ide Odor osspheres on Living Roots educed Iron eduction in Tilled Soils face	Wetland Hyo		B10 - Drainage B16 - Moss Tit C2 - Dry Seaso C8 - Crayfish B C9 - Saturation D1 - Stunted or D2 - Geomorph D3 - Shallow Ac D4 - Microtopog D5 - FAC-Neutr	getated Concave Surface Patterns n Lines n Water Table urrows Visible on Aerial Imagery Stressed Plants ic Position juitard juitard
Saturation Pres		Yes No	Depth:		(in.)						
Describe Recor	ded Data (str	eam gauge, monitorii	ng well, aerial	photos, p	revious ir	nspection	s), if available:		N/A		
Remarks:											
SOILS											
Map Unit Nam		Fitchville silt loam,	0 to 3 percer	nt slops			Series D	rainage Class:	Somewhat	poorly draine	d
Taxonomy (Su											
Top	Ption (Describe to Bottom	the depth needed to document the inc		sence of indicator	rs.) (Type: C=Co	ncentration, D=I	Depletion, RM=Reduced Matrix, CS=Covered	Mottles	ation: PL=Pore Lining	, M=Matrix)	Texture
Depth	Depth	Horizon	Color (N		%	 	Color (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	6	1	10YR	4/4	100						silt loam
	c Soil Field Ir pedon tic sulfide Layers ack (LRR N) d Below Dark Si ark Surface ack Mineral (LRR	urface		ors are no edox Matrix face e Below Da k Surface (leyed Matrix Matrix ark Surface Dark Surface Dark Surface	ark Surface MLRA 147, 148) rix e ace	 :):	F12 - Iron-Mangane F13 - Umbric Surfac F19 - Piedmont Floo	se Masses (LRR N, 29 (MLRA 122, 136) odplain Soils (MLRA aterial (MLRA 127, 14;	MLRA 136) (148) (7) (7) (7) (7) (7) (7) (7) (7) (7) (7	Indicators for A10 - 2cm N A16 - Coast P F P Piedmon TF12 - Very Other (Expla	 Problematic Soils ¹

Sample Point: SP-2



Lemaster- Lick 138 kV Transmission Line Relocation Project

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 1

Eastern Mountains and Piedmont Region

VEGETATION (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) Dominance Test Worksheet Species Name % Cover Dominant Ind.Status Number of Dominant Species that are OBL, FACW, or FAC: 0 (A) 3 4. Total Number of Dominant Species Across All Strata: 2 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B) 7. 8. Prevalence Index Worksheet 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 FACW spp. x 2 = 5 10 FAC spp. 10 x 3 =30 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = x 5 = UPL spp. 0 0 2 3. 368 Total 97 (A) 4. 5. Prevalence Index = B/A = 3.794 6. 7 8. Hydrophytic Vegetation Indicators: 9. Yes Nο Rapid Test for Hydrophytic Vegetation 10. Yes No Dominance Test is > 50% v Total Cover = 0 Prevalence Index is ≤ 3.0 * Yes No V Yes No Morphological Adaptations (Explain) * V Herb Stratum (Plot size: 5 ft radius) Yes No Problem Hydrophytic Vegetation (Explain) * V FACU Schedonorus arundinaceus * In@ators of hydric soil and wetland hydrology must be Lonicera japonica 10 Ν FAC present, unless disturbed or problematic. 3 Solidago altissima 25 FACU 4. Plantago lanceolata **FACW** Definitions of Vegetation Strata: Melilotus officinalis 2 FACU 5. Ν 6 Daucus carota 5 Ν UPL Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. Achillea millefolium Ν FACU 7. 5 8. Trifolium repens 10 Ν FACU Apocynum cannabinum Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. 10 Ν FACU ft. tall. 10 Dipsacus fullonum 5 Ν FACU 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12. and woody plants less than 3.28 ft. tall 13. 14. 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 102 Woody Vine Stratum (Plot size: 30 ft radius) Hydrophytic Vegetation Present Yes 3. No 4. 5. \checkmark Total Cover = 0 Remarks: Additional Remarks:



Are Vegetation	American E Jody Nicho Udorthents, k Side slope 5-10 drologic condd , Soil , c , Soil , c FINDINGS getation Pres	Latitude: itions on the site typi or Hydrology □ signi or Hydrology □ natu sent?	NAD83 No sent?	Date: 02/10/17 County: Athens State: Ohio Wetland ID: Wetland 2 Sample Point: SP-3 Community ID: PEM Section: Township: Range: Dir: Yes No No No No No No No No No No							
HYDROLOGY											
	A1 - Surface A2 - High Wa A3 - Saturatic B1 - Water B2 - Sedimer B3 - Drift Dep B4 - Algal Ma B5 - Iron Dep	ater Table on Marks nt Deposits posits at or Crust		e not pre	B9 - Wate B13 - Aqu B14 - Tru C1 - Hydr C3 - Oxid C4 - Pres	latic Fauna e Aquatic ogen Sulfi ized Rhizo ence of Re ent Iron Re Muck Suri	a Plants de Odor spheres on Livir educed Iron eduction in Tilled face			B10 - Drainage B16 - Moss Trin C2 - Dry Seaso C8 - Crayfish Bi C9 - Saturation	getated Concave Surface Patterns n Lines n Water Table urrows Visible on Aerial Imagery Stressed Plants ic Position juitard jraphic Relief
Field Observat Surface Water Water Table Pro Saturation Pres	Present? esent?	✓ Yes □ No ✓ Yes □ No ✓ Yes □ No	Depth: Depth: Depth:		(in.) (in.) (in.)			Wetland Hyd		esent? 🗵	Yes No
	ed Data (stre	am gauge, monitoring	g well, aerial	photos, pr	evious ins	pections)	, if available:		N/A		
Remarks:											
SOILS		<u></u>									
Map Unit Name		, loamy			5	Series Dr	ainage Class:	N/A			
Taxonomy (Sub		ne depth needed to document the indica	Con the sheet	11 diseases	0.0	D.D	: : : : : : : : : : : : : : : : : : :	0.0 -40-4-40	i O i I I a a stanti		
Top	Bottom	e depth needed to document the indica	ator or confirm the abse	Matrix) (Type: C=Conc	entration, D=Dep	netion, RM=Reduced Matri	Mottles	ind Grains; Location:	PL=Pore Lining, M=Math	Texture
Depth	Depth	Horizon	Color (I		%	Col	or (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	16		10YR	4/1	80	10YR	5/6	20	D		silty clay
NRCS Hydric A1- Histosol A2 - Histic Epip. A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Muc A11 - Depleted A12 - Thick Dar	edon c Sulfide ayers k (LRR N) Below Dark Su		S5 - Sandy F S6 - Stripped S7 - Dark Su S8 - Polyvalu S9 - Thin Da F2 - Loamy (F3 - Depleted F6 - Redox D F7 - Depleted	Redox I Matrix Irface Ie Below Da rk Surface Gleyed Mat Id Matrix Dark Surfac	ark Surface (MLRA 147, 148 rix e face		F13 - Um F19 - Pie	n-Manganese Mahbric Surface (MLF) ddmont Floodplai d Parent Materia	RA 122, 136)	A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Problematic Soils 1 luck (MLRA 147) rrairie Redox (MLRA 147, 148) Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks)

Sample Point



Lemaster-Lick 138 kV Transmission Line Relocation Project

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 2

VEGETATION	(Species identified in all upperca	se are non-native	species.)			
Tree Stratum (Pl	ot size: 30 ft radius)					
	Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.						
2.						Number of Dominant Species that are OBL, FACW, or FAC:3(A)
3.						
4.						Total Number of Dominant Species Across All Strata:3(B)
5.						Percent of Dominant Species That Are OBL, FACW, or
6.						FAC: 00.0% (A/B)
7.						
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. $\frac{10}{x} = \frac{10}{10}$
		Total Cover =	0			FACW spp. 75
						FAC spp. 5 x 3 = 15
20						FACU spp. 5 x 4 = 20
1.	ephalanthus occidentalis		10	Υ	OBL	UPL spp. 0
2.						
3.						Total 95 (A) 195 (B)
4.						
5.						Prevalence Index = B/A = .0 3
6.						
7.						
8.						Hydrophytic Vegetation Indicators:
9.						Yes □ □ No Rapid Test for Hydrophytic Vegetation
10.						Yes ☑ □ No Dominance Test is > 50%
		Total Cover =	10			Yes ☑ □ No Prevalence Index is ≤ 3.0 *
						Yes □ □ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	ot size: 5 ft radius)					Yes D No Problem Hydrophytic Vegetation (Explain) *
1.	uncus effusus		20	Υ	FACW	1
2.	Scirpus cyperinus		15	N.	FACW	* Indicators of hydric soil and wetland hydrology must be
3.	Spiraea tomentosa		20	Y	FACW	present, unless disturbed or problematic.
4.	Agrimonia par iflora		10	N	FACW	Definitions of Vegetation Strata:
5.	Dipsacus fullonum		5	N	FACU	- Donning of Vogotation of atal
6	Poa palustris		10	N	FACW	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.	Penstemon digitalis		5	N	FAC	height (DBH), regardless of height.
8.						
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.						ft. tall.
11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size,
13.						and woody plants less than 3.28 ft. tall.
14.						
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
13.	_ 	Total Cover =	 0 <i>E</i>			WOODLY VILLES - All Woody villos greater trial 5.20 ft. in height.
		rotal Cover =	85			
14/	(District - 00.5 ")					
	tum (Plot size: 30 ft radius)					
1.						
2.						Under what is Vergetation Descript S. Verg. S. Ma
3.						Hydrophytic Vegetation Present ☑ Yes ☐ No
4.						
5.	-	Total Carrain				
Damarka		Total Cover =	0			
Remarks:						
Additional Re	marks:					



Project/Site: Applicant: Investigator #1: Soil Unit: Landform: Slope (%):	American I Jody Nicho Udorthents, I Side slope 5-10	oamy Latitude:	39.387119	Invest	cal Relief: ongitude:	Kate Bo VI/WWI Linear -82.173	Classification: 773°	County: Athens State: Ohio Wetland ID: Wetland 2 Sample Point: SP-4 Community ID: UPL						
Are Vegetation [©]	J, Soil □, o	itions on the site typi or Hydrology □ signi or Hydrology □ natu	ficantly dist	urbed?	ear? (If no, e		e normal circu	✓ Yes✓ mstances pre✓ No	No esent?	Section: Township: Range:		Dir	<u></u>	
SUMMARY OF	FINDINGS	or rigarology L Hata	rally proble	nauc:			<u> </u>	<u> </u>		Kange.		ווט		
Hydrophytic Veg	getation Pres	sent?		□ Yes	s 🗵 No			Hydric Soils	Present?			□ Ye	es 🗹	No
Wetland Hydrol	ogy Present	?		□ Yes				Is This Samp	oling Point V	Vithin A Wetl	and?	■ Ye	es 🛮	No
Remarks:														
HYDROLOGY														
	alogy India	store (Charle bare if	adioatoro a	ro not nro	acost)				0					
vvetland Hydro		itors (Check here if i	indicators a	re not pre	esent):	✓			Secondary:	B6 - Surface S	oil Crack	s		
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves			B8 - Sparsely V			e Surface	
	A2 - High Wa				B13 - Aqu					B10 - Drainage		3		
	A3 - Saturati B1 - Water N				B14 - Tru C1 - Hydr					B16 - Moss Tri C2 - Dry Seaso		Table		
	B2 - Sedime						ospheres on Livir	ng Roots		C8 - Crayfish E		I abic		
	B3 - Drift De						educed Iron			C9 - Saturation				
	B4 - Algal Ma B5 - Iron Der				C6 - Rece C7 - Thin		eduction in Tilled	Soils		D1 - Stunted or D2 - Geomorph			3	
		ออรแร on Visible on Aerial Imag	nerv		Other (Ex					D3 - Shallow A		OH		
	27 1110110011	on violoto on vional mia,	90.7		010. (2.	piani iii ii	oao,			D4 - Microtopo	graphic F	Relief		
										D5 - FAC-Neut	ral Test			
Field Observat	ions:													
Surface Water F	Present?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pre	esent?	Yes	☑ No	1	
Water Table Pre		□ Yes ☑ No	Depth:		(in.)			vvctiana my	urology i re	Joenn:	163	- IV	,	
Saturation Pres	ent?	☐ Yes ☑ No	Depth:		(in.)									
Describe Record	ed Data (stre	am gauge, monitoring	well, aerial	photos, p	revious ins	pections), if available:		N/A					
Remarks:														
SOILS														
Map Unit Name		, loamy			٤	Series Di	rainage Class:	N/A						
Taxonomy (Sub		he depth needed to document the indica							10.1.1.1					
Top	Bottom	ne depth needed to document the indica	ator or confirm the abs	Matrix	s.) (Type: C=Conc	entration, D=De	pletion, RM=Reduced Matr	Mottles	and Grains; Location:	PL=Pore Lining, M=Mat	nx)	Т	exture	
Depth	Depth	Horizon	Color (%	Co	lor (Moist)	%	Type	Location	(6		y, sand, k	nam)
0	8		10YR	3/3	60					Location	(0	.g. oia	silt	zaiii)
8	14		10YR	3/2	75	10YR	7/6	25	С	M			clay	
NRCS Hydric S	Soil Field In	dicators (check here	e if indicato	rs are not	present): 🗹				Indicators fo	r Proble	matic S	Soils 1	
☐ A1- Histosol			S5 - Sandy I					n-Manganese M						
☐ A2 - Histic Epipe			S6 - Stripped					nbric Surface (ML						
□ A3 - Black Histic□ A4 - Hydrogen S			S7 - Dark St S8 - Polyvalt		ark Surface	MI RA 147		dmont Floodpla	III SOIIS (MLRALI					
☐ A5 - Stratified La			S9 - Thin Da					d Parent Materia		Other (Expl			arraco	
□ A10 - 2 cm Muc	k (LRR N)		F2 - Loamy	Gleyed Ma		-						-/		
A11 - Depleted I			F3 - Deplete											
□ A12 - Thick Darl□ S1 - Sandy Muc		I, MLRA 147, 148)	F6 - Redox I F7 - Deplete											
☐ S4 - Sandy Gley		I, MERA 147, 140)	F8 - Redox I					1 Indicate	ors of hydrophytic ve	getation and wetland hy	drology must	be present,	unless disturbed	d or problematic.
Restrictive Layer											Yes			
(If Observed)	Type:	IN/A		Depth:	N/A			Hydric Soil	riesent?		res	- IV(J	
Remarks:														

Sample Point



Lemaster-Lick 138 kV Transmission Line Relocation Project

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 2

Tree Stratum (P	(Species identified in all uppe lot size: 30 ft radius)	rcase are non-native s	species.)			
Tree ctratam (r	Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.		-				
2.						Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)
3.						
4.						Total Number of Dominant Species Across All Strata: (B)
5.						Percent of Dominant Species That Are OBL, FACW, or
6.						FAC: <u>0.0%</u> (A/B)
7.						Dray ralamaa Inday Warkahaat
8. 9.						Prevalence Index Worksheet
10.						Total % Cover of: Multiply by: OBL spp. 0
10.		Total Cover =	0			OBL spp. 0
		10101 00101 =	Ü			FAC spp. 0
20						FACU spp. 40
1.						UPL spp. 20 X 5 = 100
2.						
3.						Total 60 (A) 260 (B)
4.						
5.						Prevalence Index = B/A = 4.333
6.						
7.						
8. 9.						Hydrophytic Vegetation Indicators:
10.						Yes ☑ No Rapid Test for Hydrophytic Vegetation Yes ☑ No Dominance Test is > 50%
10.		Total Cover =	0			Yes ☑ No Prevalence Index is ≤ 3.0 *
		10101 00101 =	O			Yes □ ☑ No Morphological Adaptations (Explain) *
Herh Stratum (Pl	ot size: 5 ft radius)					Yes □ ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	Daucus carota		20	Υ	UPL	1
2.	Solidago altissima		20	Υ	FACU	* Indicators of hydric soil and wetland hydrology must be
3.	Dipsacus fullonum		20	Υ	FACU	present, unless disturbed or problematic.
4.						Definitions of Vegetation Strata:
5.						
6						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.						height (DBH), regardless of height.
8.						Co. U /Cl I. Weady plants less than 2 in DDI and greater than 2.00
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10. 11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size,
13.						and woody plants less than 3.28 ft. tall.
14.						
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
		Total Cover =	60			
Woody Vine Stra	tum (Plot size: 30 ft radius)					
1.						
2.						
3.						Hydrophytic Vegetation Present ☐ Yes ☑ No
4.						
5.		Total Cayer				
Remarks:		Total Cover =	0			
Remarks.						
Additional Re	marke					
Auditional Re	marks.					
1						



Are Vegetation Are Vegetation SUMMARY OF I	American E Jody Nicho Dekalb-West Side slope 7 rologic cond , Soil □, c , Soil □, c	Latitude: Latitude: itions on the site typi or Hydrology n Hydrology n Hydrology n natu	o 70 percent s 39.380211 cal for this t	Investiciones Loc	cal Relief: .ongitude:	Kate Bo VI/WWI (Concave -82.1710 splain in rem	Classification: e 651° e normal circu	Datum: ✓ Yes □ mstances pre	NAD83 No sent?	Date: County: State: Wetland ID: Sample Point: Community ID: Section: Township: Range:	SP-5 PEM Dir:
Hydrophytic Veg					B □ No			Hydric Soils		V: de : A \A/- (I	☑ Yes □ No
Wetland Hydrolo Remarks:	ogy Present	,		☑ Yes	s □ No			Is This Samp	oling Point v	vitnin A Weti	and? ✓ Yes ✓ No
HYDROLOGY											
Wetland Hydro	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water M B2 - Sedimer B3 - Drift Der B4 - Algal Ma B5 - Iron Der	ater Table on larks at Deposits posits at or Crust		e not pre	B9 - Wate B13 - Aqu B14 - True C1 - Hydr C3 - Oxidi C4 - Prese	atic Fauna e Aquatic logen Sulficed Rhizo ence of Rea ent Iron Rea Muck Surf	a Plants de Odor spheres on Livir educed Iron duction in Tilled ace		000000000	B10 - Drainage B16 - Moss Trir C2 - Dry Seaso C8 - Crayfish B C9 - Saturation	egetated Concave Surface Patterns In lines In Water Table Urrows Visible on Aerial Imagery Stressed Plants Iic Position Quitard graphic Relief
Field Observati	ons:										
Surface Water F Water Table Pre Saturation Prese	Present? esent? ent?	✓ Yes □ No □ Yes ✓ No ✓ Yes □ No	Depth: Depth: Depth:	 0-12	(in.) (in.) (in.)			Wetland Hyd		esent?	Yes No
	ed Data (stre	am gauge, monitoring	y well, aerial	photos, p	revious ins	pections)	, if available:		N/A		
Remarks:											
SOILS											
Map Unit Name: Taxonomy (Sub		stmoreland complex	k, 40 to 70 p	ercent slo	opes S	eries Dr	ainage Class:	N/A			
		e depth needed to document the indica	ator or confirm the abse	nce of indicators	.) (Type: C=Conce	entration, D=Dep	letion, RM=Reduced Matri	x, CS=Covered/Coated Sa	and Grains; Location:	PL=Pore Lining, M=Matr	ix)
Тор	Bottom			Matrix				Mottles			Texture
Depth	Depth	Horizon	Color (I		%		or (Moist)	%	Туре	Location	(e.g. clay, sand, loam)
0 	12	 	10YR 	6/1	70	10YR 5YR	7/8 6/8	10 10	C	M M	clay
						7.5YR	2.5/1	10	C	M	clay clay
				-							
		dicators (check her	1): 🗆					r Problematic Soils ¹
□ A1- Histosol □ A2 - Histic Epipe □ A3 - Black Histic □ A4 - Hydrogen S □ A5 - Stratified Le □ A10 - 2 cm Mucl □ A11 - Depleted E □ A12 - Thick Darl □ S1 - Sandy Mucl □ S4 - Sandy Gley Restrictive Layer	1 A1- Histosol								asses (LRR N.D. RA 122, 136) in Soils (MLRA) al (MLRA 127, 14.D) ars of hydrophylic ve	A10 - 2cm M A16 - Coast F F19 - Piedmor TF12 - Very Other (Expla	Auck (MRA 147) Prairie Redox (MLRA 147, 148) It Floodplain Soils (MLRA 136, 147) Shallow Dark Surface ain in Remarks) drology must be present, unless disturbed or problematic. Yes No
(If Observed)	Type:			Depth:	N/A						
Remarks:											



WETLAND DETERMINATION DATA FORM

Project/Site:	Lemaster-Lick 138 kV Transmission Line Relocation	n Project			Wetland ID: Wetland 3 Sample Point SP-5
VEGETATION	(Species identified in all uppercase are non-native	species.)			
Tree Stratum (Plo	t size: 30 ft radius) Species Name	0/ 0	Danisant	In al Otation	Dominance Test Worksheet
1.		% Cover	Dominani 	Ind.Status	Dominance rest worksneet
2.					Number of Dominant Species that are OBL, FACW, or FAC: 1 (A)
3.					Trainibility of Bornman operior that are obe, 17704, 51 1770.
4.					Total Number of Dominant Species Across All Strata: 1 (B)
5.					Percent of Dominant Species That Are OBL, FACW, or
6.					FAC: 00.0% (A/B)
7.					· · · · · · · · · · · · · · · · · · ·
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 0 $\times 1 = 0$
	Total Cover =	0			FACW spp. 80 X 2 = 160
					FAC spp. $0 X 3 = 0$
20					FACU spp. 20 $x = 4$ 4 4 4 4 4 4 4 4 4
1.					UPL spp. 0
2.					
3.					Total 100 (A) 240 (B)
4.					Burney In In B/A
5.					Prevalence Index = B/A =400
6. 7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Yes □ No Dominance Test is > 50%
10.	Total Cover =	0			Yes ☑ No Prevalence Index is ≤ 3.0 *
	10101 00001 =	· ·			Yes □ □ No Morphological Adaptations (Explain) *
Herb Stratum (Plo	size: 5 ft radius)				Yes □ No Problem Hydrophytic Vegetation (Explain) *
1.	Spiraea tomentosa	70	Υ	FACW	
2.	Andropogon irginicus	10	N	FACU	* Indicators of hydric soil and wetland hydrology must be
3.	uncus effusus	5	N	FACW	present, unless disturbed or problematic.
4.	upatorium perfoliatum	5	N	FACW	Definitions of Vegetation Strata:
5.	Liriodendron tulipifera	5	N	FACU	
6	Pinus strobus	5	N	FACU	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.					height (DBH), regardless of height.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.					10 Calif
11.					All hash arrays for a superior and a last a second as a fine
12.					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft. tall.
13.					
14. 15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
15.	Total Cover =	100			Woody Villes - 7th Woody Villes greater than 5.25 ft. in Holghi.
	i otal covel =	100			
Woody Vine Strati	m (Plot size: 30 ft radius)				
-					
2.					
3.					Hydrophytic Vegetation Present ☑ Yes □ No
4.					
5.					
	Total Cover =	0			
Remarks:					
Additional Ren	narks:				
1					
1					



Project/Site:	Lemaster - L	ick 138 kV Transmissior	n Line Relocat	ion		Stant	tec Project #:	193704783		Date:	02/10/17
Applicant:		Electric Power								County:	Athens
Investigator #1:	Jody Nicho	lson		Invest	igator #2:					State:	Ohio
Soil Unit:		tmoreland complex, 40 t	o 70 percent s				Classification:	NA		Wetland ID:	
Landform:	Side slope				cal Relief:					Sample Point:	
Slope (%):	7		39.380115		ongitude:				NAD83	Community ID:	UPL
		litions on the site typi			ar? (If no, e	·		☑ Yes □	No namt2	Section:	
		or Hydrology 🗆 signi				Ar	e normal circu		sent?	Township:	Div
SUMMARY OF		or Hydrology □ natu	rally probler	nauc?			☑ Yes	□ No		Range:	Dir:
Hydrophytic Veg		cont?		□ Yes	s ☑ No			Hydric Soils	Drocont?		□ Yes ☑ No
Wetland Hydrol				□ Yes				Is This Samp		Within A Wetl	
Remarks:	ogy i resent	•		<u> </u>	140			is this camp	oning i onit v	VIGIIII A VVCG	and: = 163 = 100
Remarks.											
HYDROLOGY											
	alogy India	store (Chaok hara if i	ndicators o	ro not nro	oont \				0		
Primary		ators (Check here if i	ndicators a	re not pre	sent):	V			Secondary:	B6 - Surface So	oil Cracke
r iiiiaiy	<u>.</u> A1 - Surface	Water			B9 - Wate	r-Stained	Leaves				egetated Concave Surface
	A2 - High W				B13 - Aqu					B10 - Drainage	Patterns
	A3 - Saturati				B14 - True					B16 - Moss Trir	
	B1 - Water N				C1 - Hydr			D		C2 - Dry Seaso	
	B2 - Sedime B3 - Drift De						ospheres on Livir educed Iron	ig Roots		C8 - Crayfish B C9 - Saturation	Visible on Aerial Imagery
	B4 - Algal Ma						eduction in Tilled	Soils			Stressed Plants
	B5 - Iron De				C7 - Thin					D2 - Geomorph	
	B7 - Inundati	on Visible on Aerial Imag	gery		Other (Ex	plain in R	emarks)			D3 - Shallow Ad	
										D4 - Microtopoo D5 - FAC-Neuti	
Field Observat	ione.									20 1710 11041	
		E Van E Na	Danath		(in)						
Surface Water I		☐ Yes ☑ No ☐ Yes ☑ No	Depth:		(in.)			Wetland Hyd	drology Pre	esent?	Yes ☑ No
Water Table Pre		☐ Yes ☑ No ☐ Yes ☑ No	Depth: Depth:		(in.) (in.)						
					, ,						
	ed Data (stre	eam gauge, monitoring	y well, aerial	photos, pi	revious ins	pections), if available:		N/A		
Remarks:											
6011.6											
SOILS	Dokolb W	otmoroland complex	40 to 70 n	oroont old	2000	ariaa D	rainaga Class	NI/A			
Taxonomy (Sub		estmoreland complex	., 40 to 70 p	ercent sic	ppes 3	belles Di	rainage Class:	IN/A			
		he depth needed to document the indica	ator or confirm the obe	ones of indicators	\ (Tuno: CConor	entration D. Do	nlotice DM Dadwood Mater	iv CS_Couprod/Contod S	and Crains: Leastion	DI - Doro Lining M-Mote	i.i.
Top	Bottom	ne depart needed to document the indica	ator or committee abs	Matrix	.) (Type. C=Conce	entration, D=De	pietion, Kivi=Reduced iviali	Mottles	and Grains, Eucation.	FE=Fore Lining, M=Mati	Texture
Depth	Depth	Horizon	Color (%	Co	lor (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	4		10YR	4/4				70 		Location	loam
4	16		10YR	6/8	 						loam
					 						
					 						
				-							
	1										
	Son Field in	dicators (check here			present): 🗹	E E10 les	n Manganasa M			r Problematic Soils ¹ Nuck (MLRA 147)
☐ A1- Histosol☐ A2 - Histic Epipe	edon		S5 - Sandy F S6 - Stripped					n-Manganese M nbric Surface (ML)			Prairie Redox (MLRA 147, 148)
□ A3 - Black Histic	;		S7 - Dark Su					edmont Floodplai			at Floodplain Soils (MLRA 136, 147)
☐ A4 - Hydrogen S			S8 - Polyvalu	ie Below D	ark Surface	(MLRA 147,					Shallow Dark Surface
□ A5 - Stratified La	,		S9 - Thin Da)	☐ F21 - Re	d Parent Materia	al (MLRA 127, 144)	Other (Expla	ain in Remarks)
□ A10 - 2 cm Muc □ A11 - Depleted		ırface	F2 - Loamy (F3 - Deplete		TIX						
□ A12 - Thick Dar			F6 - Redox [e						
☐ S1 - Sandy Muc	k Mineral (LRR)	I, MLRA 147, 148)	F7 - Deplete	d Dark Sur	face						
□ S4 - Sandy Gley	red Matrix		F8 - Redox I	Depression	S			¹ Indicate	ors of hydrophytic ve	getation and wetland hy	drology must be present, unless disturbed or problematic.
Restrictive Layer (If Observed)	Type:	N/A		Depth:	N/A			Hydric Soil	Present?		Yes ☑ No
Remarks:											

Sample Point



Lemaster - Lick 138 kV Transmission Line Relocation

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 3

VEGETATION		se are non-native sp	pecies.)			
Tree Stratum ((Plot size: 30 ft radius)		0/ 0	Danisant	In al Otation	Dominance Test Worksheet
1	Species Name	_		Dominant Y	Ind.Status FACU	Dominance rest worksneet
1.	Liriodendron tulipifera		5 5	Y		Number of Descions Consider that are ORL FACING AS FAC:
	uercus rubra				FACU	Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.	Prunus serotina		5	Υ	FACU	- (D)
4.						Total Number of Dominant Species Across All Strata: (B)
5.						Percent of Dominant Species That Are OBL, FACW, or
6.						FAC: <u>0.0%</u> (A/B)
7.						
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. $0 x 1 = 0$
		Total Cover =	15			FACW spp. $0 X 2 = 0$
						FAC spp. $0 X 3 = 0$
20						FACU spp. 110 X 4 = 440
1.	hus glabra		60	Υ	UPL	UPL spp. 60 X 5 = 300
2.	ubus allegheniensis		10	N	FACU	
3.						Total 170 (A) 740 (B)
4.						
5.						Prevalence Index = B/A = 4.3 3
6.						
7.						
8.						Hydrophytic Vegetation Indicators:
9.						Yes No Rapid Test for Hydrophytic Vegetation
10.						
10.		Total Cause	70			Yes ☑ No Dominance Test is > 50%
		Total Cover =	70			Yes □ ☑ No Prevalence Index is ≤ 3.0 *
						Yes □ ☑ No Morphological Adaptations (Explain) *
	Plot size: 5 ft radius)					Yes □ ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	Polystichum acrostichoides		70	Υ	FACU	* Indicators of hydric soil and wetland hydrology must be
2.	ubus allegheniensis		10	N	FACU	present, unless disturbed or problematic.
3.	Andropogon irginicus		5	N	FACU	
4.						Definitions of Vegetation Strata:
5.						
6						Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.						height (DBH), regardless of height.
8.						
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.						ft. tall.
11.						-
12.						Herb - All herbaceous (non-woody) plants, regardless of size,
13.						and woody plants less than 3.28 ft. tall.
14.						-
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
15.		T-1-1 O				WOOdy Villes - All woody villes grouter than 0.20 to in height.
		Total Cover =	85			
	(5)					
	ratum (Plot size: 30 ft radius)					
1.						
2.						
3.						Hydrophytic Vegetation Present ☐ Yes ☐ No
4.						
5.						
		Total Cover =	0			
Remarks:						
Additional R	Remarks:					
1						
1						



Project/Site: Applicant: Investigator #1:	American E	ick 138 kV Transmissio Electric Power	n Line Reloca		igator #2:		ec Project #:	193704783		Date: County: State:	02/10 Ather	าร		
Soil Unit:	Chagrin silt lo	pam, 0 to 3 percent slop	es, frequently	flooded	NV	VI/WWI	Classification:	NA		Wetland ID:	Wetl	and 4		
Landform:	Floodplain	Latituda	20 27050		cal Relief:			Dotum	MADOS	Sample Point:				
Slope (%): Are climatic/hvd	0 rologic cond	itions on the site typ	: 39.378502	time of ve	ongitude:	-82.176 xolain in ren	narks)		NAD83 No	Community ID: Section:	PEIVI			
Are Vegetation	Soil D.	or Hydrology □ sign	ificantly dist	urbed?	ar . (ii iio, c.		e normal circu			Township:				
Are Vegetation□ SUMMARY OF I	ı, Soil □, o FINDINGS	or Hydrology □ natu	rally probler	matic?				□ No		Range:			Dir:	
Hydrophytic Veg				☑ Yes				Hydric Soils I		A/:45:- A \A/-45			Yes No	
Wetland Hydrolo Remarks:	ogy Present	<u> </u>		☑ Yes	□ No			Is This Samp	oling Point v	Vithin A Wetia	and?	✓	Yes No	
Remarks.														
HYDROLOGY														
Wetland Hydro		tors (Check here if	indicators a	re not pre	sent):				Secondary:	B6 - Surface So	il Crac	ks		
	A1 - Surface				B9 - Wate					B8 - Sparsely Ve			ave Surface	
V	A2 - High Wa A3 - Saturation				B13 - Aqu B14 - True					B10 - Drainage B16 - Moss Trin				
	B1 - Water N	larks			C1 - Hydr	ogen Sulfi	de Odor			C2 - Dry Seaso	n Wate	r Tab	le	
	B2 - Sedimer B3 - Drift Der						spheres on Livir educed Iron	ng Roots		C8 - Crayfish Bi C9 - Saturation			rial Imagany	
	B4 - Algal Ma						eduction in Tilled	Soils		D1 - Stunted or				
	B5 - Iron Dep	osits			C7 - Thin	Muck Sur	face			D2 - Geomorph		tion		
	B7 - Inundati	on Visible on Aerial Ima	gery		Other (Ex	plain in Re	emarks)			D3 - Shallow Ac D4 - Microtopog		Polio	;	
										D5 - FAC-Neutr				
Field Observati	ions:													
Surface Water F	Present?	☐ Yes ☑ No	Depth:		(in.)			Wetland Hyd	drology Pr	esent?	Yes	п	No	
Water Table Pre		☑ Yes □ No	Depth:		(in.)			wettaria riye	arology i iv	CSCIII:	103	_	140	
Saturation Prese		☑ Yes □ No	Depth:		(in.)									
	ed Data (stre	am gauge, monitoring	g well, aerial	photos, pr	revious ins	pections)), if available:		N/A					
Remarks:														
SOILS														
Map Unit Name: Taxonomy (Sub		loam, 0 to 3 percer	it slopes, fre	equently flo	ooded S	Series Dr	ainage Class:	N/A						
		ne depth needed to document the indic	ator or confirm the abs	ence of indicators.) (Type: C=Conce	entration, D=Der	pletion RM=Reduced Matr	ix CS=Covered/Coated Sa	and Grains: Location:	PI =Pore Lining M=Matri	k)			\dashv
Тор	Bottom			Matrix	, , , , , , , , , , , , , , , , , , , ,			Mottles	,	3/	ĺ		Texture	\neg
Depth	Depth	Horizon	Color (Moist)	%	Col	or (Moist)	%	Type	Location	(e.g. d	clay, sand, loam)	
0	4		10YR	3/1	100								Ity clay loam	
4	16		10YR	4/1	90	5YR	4/4	10	С	PL		si	Ity clay loam	
														\dashv
														\dashv
														\dashv
														\neg
NRCS Hydric S	Soil Field In	dicators (check her	e if indicator	rs are not	present): 🗆				Indicators for	Prob	emat	c Soils 1	
□ A1- Histosol	1		S5 - Sandy F				☐ F12 - Iroi	n-Manganese Ma	asses (LRR N,	A10 - 2cm M				
□ A2 - Histic Epipe			S6 - Stripped S7 - Dark Su					nbric Surface (MLF dmont Floodplai					ILRA 147, 148) Ils (MLRA 136, 147)	
□ A3 - DIACK DISUC			S8 - Polyvalu		ark Surface	(MLRA 147,								
□ A3 - Black Histic□ A4 - Hydrogen S			S9 - Thin Da)	☐ F21 - Re	d Parent Materia	I (MLRA 127, 144)	Other (Expla	in in R	emark	s)	
□ A4 - Hydrogen S□ A5 - Stratified La	Sulfide ayers				rix									
□ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Muck	Sulfide ayers k (LRR N)		F2 - Loamy											
□ A4 - Hydrogen S□ A5 - Stratified La	Sulfide ayers k (LRR N) Below Dark Su			d Matirx										
□ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Mucl □ A11 - Depleted B □ A12 - Thick Dark □ S1 - Sandy Mucl	Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N	rface	F2 - Loamy (F3 - Deplete F6 - Redox I F7 - Deplete	ed Matirx Dark Surfac ed Dark Surf	ce face									
□ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Mucl □ A11 - Depleted E □ A12 - Thick Dark □ S1 - Sandy Mucl □ S4 - Sandy Gley	Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N ed Matrix	rface	F2 - Loamy (F3 - Deplete F6 - Redox [ed Matirx Dark Surface ed Dark Surf Depressions	ce face s								sent, unless disturbed or prob	ematic.
□ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Mucl □ A11 - Depleted B □ A12 - Thick Dark □ S1 - Sandy Mucl	Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N	rface	F2 - Loamy (F3 - Deplete F6 - Redox I F7 - Deplete	ed Matirx Dark Surfac ed Dark Surf	ce face			¹ Indicato			Yes		·	ematic.
□ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Mucl □ A11 - Depleted E □ A12 - Thick Dark □ S1 - Sandy Mucl □ S4 - Sandy Gley Restrictive Layer	Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N ed Matrix	rface	F2 - Loamy (F3 - Deplete F6 - Redox I F7 - Deplete	ed Matirx Dark Surface ed Dark Surf Depressions	ce face s								·	ematic.
□ A4 - Hydrogen S □ A5 - Stratified Le □ A10 - 2 cm Mucl □ A11 - Depleted E □ A12 - Thick Darl □ S1 - Sandy Mucl □ S4 - Sandy Gley Restrictive Layer (If Observed)	Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N ed Matrix	rface	F2 - Loamy (F3 - Deplete F6 - Redox I F7 - Deplete	ed Matirx Dark Surface ed Dark Surf Depressions	ce face s								·	ematic.

Sample Point



Lemaster - Lick 138 kV Transmission Line Relocation

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 4

VEGETATION	I (Species identified in all uppercas	e are non-native	species.)			
Tree Stratum (F	Plot size: 30 ft radius)		· · · ·			
	Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.						
2.						Number of Dominant Species that are OBL, FACW, or FAC: 2 (A)
3.						·
4.						Total Number of Dominant Species Across All Strata: 2 (B)
5.						Percent of Dominant Species That Are OBL, FACW, or
6.						FAC: 00.0% (A/B)
7.						····· <u>·····</u> (**=)
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. 0 x 1 = 0
10.		Total Cover =				FACW spp. 80 X 2 = 160
		rotal cover =	O			FAC spp. $0 \times 3 = 0$
Sanling/Shrub S	tratum (Plot size: 15 ft radius)					FACU spp. 10
1.						$\begin{array}{c ccccccccccccccccccccccccccccccccccc$
2.						Δ
3.						Total 100 (A) 250 (B)
4.						Total 100 (A) 250 (B)
5.						Dravalance Inday P/A
6.						Prevalence Index = B/A =
7.						
7. 8.						Hudronhutia Vanatatian Indicators
						Hydrophytic Vegetation Indicators:
9.						Yes □ □ No Rapid Test for Hydrophytic Vegetation
10.		T				Yes ☑ □ No Dominance Test is > 50%
		Total Cover =	0			Yes ☑ □ No Prevalence Index is ≤ 3.0 *
						Yes □ □ No Morphological Adaptations (Explain) *
	Plot size: 5 ft radius)					Yes □ □ No Problem Hydrophytic Vegetation (Explain) *
1.	ydrocotyle bonariensis		20	Υ	FACW	* Indicators of hydric soil and wetland hydrology must be
2.	Poa palustris		60	Υ	FACW	present, unless disturbed or problematic.
3.	atibida pinnata		5	N	UPL	
4.	ubus allegheniensis		5	N	FACU	Definitions of Vegetation Strata:
5.	rtica dioica		5	N	FACU	
6	Monarda fistulosa		5	N	UPL	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.						height (DBH), regardless of height.
8.						
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28
10.						ft. tall.
11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size,
13.						and woody plants less than 3.28 ft. tall.
14.						
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
10.		Total Cover =				, , , , , , , , , , , , , , , , , , , ,
		10tal 00vel =	100			
Moody Vino Str	atum (Plot size: 30 ft radius)					
1.	atum (Plot size. 30 it radius)					
2.						
						Hydrophytic Vogotation Present R Vog R No
3. 4.						Hydrophytic Vegetation Present ☑ Yes □ No
5.		Total Cover =				
Domorko		rotal Cover =	0			
Remarks:						
Additional Re	emarks:					



Are Vegetation□	American B Jody Nicho Chagrin silt le Side slope 2 rologic cond 1 , Soil 0, 0 1 , Soil 0, 0 FINDINGS getation Pres	Latitude: Latitude: itions on the site typi or Hydrology natur sent?	es, frequently 39.378354 cal for this t	Invest flooded Locate 4° L time of year urbed?	cal Relief: Longitude: ear? (If no, e	Kate Bo VI/WWI Concav -82.176 xplain in rer Ar	Classification re 551° marks) e normal circu	: NA Datum:	NAD83 No sent? Present?	Date: County: State: Wetland ID: Sample Point: Community ID: Section: Township: Range:	SP-8 UPL Dir: Yes No
Nemarks.											
HYDROLOGY											
Wetland Hydro	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water N B2 - Sedime B3 - Drift De B4 - Algal Ma B5 - Iron Dep	ater Table on farks nt Deposits posits at or Crust		re not pre	B9 - Wate B13 - Aqu B14 - Tru C1 - Hydr C3 - Oxid C4 - Pres	e Aquatic ogen Sulf ized Rhizo ence of R ent Iron Ro Muck Sur	a Plants ide Odor ospheres on Livi educed Iron eduction in Tilled		00000000	B10 - Drainage B16 - Moss Trir C2 - Dry Seaso C8 - Crayfish B C9 - Saturation	egetated Concave Surface Patterns n Lines n Water Table urrows Visible on Aerial Imagery Stressed Plants iic Position quitard graphic Relief
Field Observat Surface Water F Water Table Pre Saturation Pres	Present? esent? ent?	☐ Yes ☑ No ☐ Yes ☑ No ☐ Yes ☑ No ☐ Yes ☑ No	Depth: Depth: Depth:		(in.) (in.) (in.)	nactions) if available:	Wetland Hyd	drology Pre	esent? □	Yes ☑ No
Remarks:	ed Data (Stre	eam gauge, monitoring	well, aerial	priotos, p	revious ins	pections), ii avallable:		IN/A		
Kemarks.											
SOILS											
Map Unit Name Taxonomy (Sub		t loam, 0 to 3 percen	t slopes, fre	equently f	ooded S	Series D	rainage Class	: N/A			
		he depth needed to document the indica	tor or confirm the abs	ence of indicators	s.) (Type: C=Conc	entration. D=De	pletion, RM=Reduced Mat	rix. CS=Covered/Coated Si	and Grains: Location:	PL=Pore Lining, M=Matri	ix)
Тор	Bottom	,		Matrix			•	Mottles	·		Texture
Depth	Depth	Horizon	Color (Moist)	%	Co	lor (Moist)	%	Type	Location	(e.g. clay, sand, loam)
0	10		10YR	5/2	100						silty clay loam
□ A1- Histosol □ A2 - Histic Epipe □ A3 - Black Histic □ A4 - Hydrogen S □ A5 - Stratified La □ A10 - 2 cm Muc □ A11 - Depleted I □ A12 - Thick Darl □ S1 - Sandy Muc □ S4 - Sandy Gley	edon Sulfide ayers k (LRR N) Below Dark Su k Surface k Mineral (LRR N		e if indicator S5 - Sandy F S6 - Strippec S7 - Dark St S8 - Polyvalt S9 - Thin Da F2 - Loamy G F3 - Deplete F6 - Redox I F7 - Deplete F8 - Redox I	Redox d Matrix urface ue Below D urk Surface Gleyed Ma d Matirx Dark Surfac d Dark Surfac	Park Surface (MLRA 147, 148 trix ce face		□ F13 - Ur □ F19 - Pie	on-Manganese M nbric Surface (ML) edmont Floodplai ed Parent Materia	RA 122, 136)	A10 - 2cm M A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils ¹ fluck (MLRA 147) Prairie Redox (MLRA 147, 148) tt Floodplain Soils (MLRA 136, 147) Shallow Dark Surface ain in Remarks)
Restrictive Layer (If Observed)	Type:	Rock		Depth:	10"			Hydric Soil	Present?		Yes ☑ No
Remarks:											

Sample Point



Lemaster - Lick 138 kV Transmission Line Relocation

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID: Wetland 4

VEGETATION	N (Species identified in all uppercase are nor Plot size: 30 ft radius)	n-native species	.)		
Tree Stratum (I	Species Name	º/ Co	ver Dominant	Ind.Status	Dominance Test Worksheet
1.	Acer rubrum	25		FAC	Dominance rest worksheet
2.	agus grandifolia	15		FACU	Number of Deminant Species that are ORL FACW or FAC.
	3 3				Number of Dominant Species that are OBL, FACW, or FAC:3(A)
3.					T. W. J. (D. J. 10. J. A. 10. J. 10.
4.					Total Number of Dominant Species Across All Strata: 10 (B)
5.					Percent of Dominant Species That Are OBL, FACW, or
6.					FAC: <u>30.0%</u> (A/B)
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 0
	Total C	Cover = 40			FACW spp. 5
					FAC spp. 30
Sapling/Shrub S	Stratum (Plot size: 15 ft radius)				FACU spp. 40 X 4 = 160
1.	Aesculus fla a	5	Y	FACU	UPL spp. 5 X 5 = 25
2.	ornus florida	5	Y	FACU	
3.	osa multiflora	5	Y	FACU	Total 80 (A) 285 (B)
4.	uglans nigra	5	Υ	FACU	··
5.					Prevalence Index = B/A = 3. 3
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes No Rapid Test for Hydrophytic Vegetation
10.					Yes ☑ No Dominance Test is > 50%
10.		Cover = 20			Yes ☑ No Prevalence Index is ≤ 3.0 *
	Total	200001 = 20			
11. 1. 01	District to Editor Prob				/
1.	Plot size: 5 ft radius) Symphyotrichum lanceolatum	5	Y	FACW	Yes □ ☑ No Problem Hydrophytic Vegetation (Explain) *
2.		5	<u>т</u> Ү		* Indicators of hydric soil and wetland hydrology must be
	erbesina alternifolia			FAC	present, unless disturbed or problematic.
3.	osa multiflora	5	Y	UPL	
4.	Ageratina altissima	5	Y	FACU	Definitions of Vegetation Strata:
5.					_
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.					height (DBH), regardless of height.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.					II. lali.
11.					
12.					Herb - All herbaceous (non-woody) plants, regardless of size,
13.					and woody plants less than 3.28 ft. tall.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total C	Cover = 20	1		
	Total				
Woody Vine Str	atum (Plot size: 30 ft radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present □ Yes ☑ No
4.					Trydrophytic vegetation rescrit to 163 to 160
5.					
J.		Cover = 0			
Remarks:	Total C	70vei – 0			
ixemaiks.					
Additional R	emarks:				



Are Vegetation	American E Jody Nicho Chagrin silt le Floodplain 0 rologic cond 1, Soil 0, 0 1, Soil 0, 0 FINDINGS getation Pres	Latitude: Latitude: itions on the site typi or Hydrology natu nHydrology natu sent?	es, frequently 39.385888 ical for this t	Invest flooded Loc 3° L ime of ye urbed?	cal Relief: ongitude: ar? (If no, ex	Kate Bo VI/WWI (Concave -82.172	Classification: e 750° erks) e normal circui	Datum: ✓ Yes □ mstances pre □ No Hydric Soils I	Present?	Date: County: State: Wetland ID: Sample Point: Community ID: Section: Township: Range:	SP-9 UPL Dir: Ves No
Remarks:	ogy i resent			100	2 110			15 THIS Camp	iing r oint v	vidili / v v c d	and: <u>= 163 = 110</u>
HADDOL OCA											
HYDROLOGY Wetland Hydro Primary:	A1 - Surface A2 - High Wa A3 - Saturati B1 - Water M B2 - Sedimer B3 - Drift Der B4 - Algal Ma B5 - Iron Der	ater Table on farks nt Deposits posits at or Crust		re not pre	B9 - Wate B13 - Aqu B14 - True C1 - Hydr C3 - Oxidi C4 - Prese	e Aquatic logen Sulficed Rhizo ence of Rent Iron Rent Muck Surf	a Plants de Odor spheres on Livin educed Iron duction in Tilled ace	•	00000000	B10 - Drainage B16 - Moss Trin C2 - Dry Seaso C8 - Crayfish Bi C9 - Saturation	egetated Concave Surface Patterns n Lines n Water Table urrows Visible on Aerial Imagery Stressed Plants ic Position quitard graphic Relief
Field Observati Surface Water F Water Table Pre Saturation Prese	Present? esent? ent?	☐ Yes ☑ No ☐ Yes ☑ No ☐ Yes ☑ No	Depth: Depth: Depth:		(in.) (in.) (in.)	noctions		Wetland Hyd	drology Pre	esent?	Yes ☑ No
Remarks:	ed Data (Stre	eam gauge, monitoring	g weii, aeriai	priotos, pi	evious ins	pections)	, ii avaliable:		IN/A		
SOILS Map Unit Name:	Chagrin sil	t loam, 0 to 3 percen	t slopes, fre	guently fl	ooded S	Series Dr	ainage Class:	N/A			
Taxonomy (Sub	group):		•								
Top	TION (Describe to the Bottom)	ne depth needed to document the indica	ator or confirm the abs	ence of indicators Matrix	.) (Type: C=Conce	entration, D=Dep	letion, RM=Reduced Matri:	x, CS=Covered/Coated Sa	and Grains; Location:	PL=Pore Lining, M=Matri	Texture
Depth	Depth	Horizon	Color (%	Col	or (Moist)	%	Type	Location	(e.g. clay, sand, loam)
											loam
							-				loam
NRCS Hydric S A1- Histosol A2- Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Much A11 - Depleted E A12 - Thick Dark S1 - Sandy Much S4 - Sandy Gley Restrictive Layer (If Observed) Remarks:	edon Sulfide Ayers ((LRR N) Below Dark Su (Surface (Mineral (LRR N	I, MLRA 147, 148)	e if indicator S5 - Sandy F S6 - Strippec S7 - Dark St S8 - Polyvalt S9 - Thin Da F2 - Loamy G F3 - Deplete F6 - Redox G F7 - Deplete F8 - Redox G	Redox I Matrix Irface Ie Below D rk Surface Gleyed Mat d Matirx Dark Surfac d Dark Sur	ark Surface (MLRA 147, 148 rix ce face		☐ F13 - Um ☐ F19 - Pie	h-Manganese Mi bric Surface (MLF dmont Floodplai d Parent Materia	RA 122, 136)	A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	r Problematic Soils 1 fluck (MLRA 147) trairie Redox (MLRA 147, 148) tr Floodplain Soils (MLRA 136, 147) Shallow Dark Surface in in Remarks) trology must be present, unless disturbed or problematic. Yes ☑ No

Sample Point



Lemaster-Lick 138 kV Transmission Line Relocation Project

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID:

VEGETATION		ase are non-native	species.)			
Tree Stratum (F	Plot size: 30 ft radius)					T =
	Species Name		% Cover	Dominant	Ind.Status	Dominance Test Worksheet
1.						
2.						Number of Dominant Species that are OBL, FACW, or FAC:(A)
3.						
4.						Total Number of Dominant Species Across All Strata: (B)
5.						Percent of Dominant Species That Are OBL, FACW, or
6.						FAC: 7% (A/B)
7.						
8.						Prevalence Index Worksheet
9.						Total % Cover of: Multiply by:
10.						OBL spp. 0
		Total Cover =	0			FACW spp. 65
						FAC spp. 20 X 3 = 60
Sapling/Shrub S	tratum (Plot size: 15 ft radius)					FACU spp. 10 x 4 = 40
1.	Platanus occidentalis		10	Υ	FACW	UPL spp. 20 X 5 = 100
2.	hus glabra		15	Υ	UPL	···-
3.	Sambucus nigra		5	N	FAC	Total 115 (A) 330 (B)
4.						
5.						Prevalence Index = B/A = . 70
6.						
7.						
8.						Hydrophytic Vegetation Indicators:
9.						Yes No Rapid Test for Hydrophytic Vegetation
10.						Yes □ No Dominance Test is > 50%
10.		Total Cover =				Yes ☑ No Prevalence Index is ≤ 3.0 *
		Total Gover =	30			
11. 1. Ot (B	Location Education					Yes No Morphological Adaptations (Explain) *
	lot size: 5 ft radius)		5	NI.	FACU	Yes □ □ No Problem Hydrophytic Vegetation (Explain) *
1.	ubus allegheniensis			N		* Indicators of hydric soil and wetland hydrology must be
2.	Phalaris arundinacea		5	N	FACW	present, unless disturbed or problematic.
3.	Monarda fistulosa		5	N	UPL	Definitions of Venetation Charts
4.	lymus riparius		50	Y	FACW	Definitions of Vegetation Strata:
5.	erbesina alternifolia		5	N	FAC	_
6	Lonicera japonica		10	N	FAC	Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.	Allium canadense		5	N	FACU	height (DBH), regardless of height.
8.						
9.						Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.						II. tall.
11.						
12.						Herb - All herbaceous (non-woody) plants, regardless of size,
13.						and woody plants less than 3.28 ft. tall.
14.						
15.						Woody Vines - All woody vines greater than 3.28 ft. in height.
		Total Cover =	85			
1						
Woody Vine Stra	atum (Plot size: 30 ft radius)					
1.						
2.						
3.						Hydrophytic Vegetation Present ☑ Yes □ No
4.						Tryal oprifito vogotation i resent a res
5.						
- 0.		Total Cover =				
Remarks:		10101 00701 =				
Tromants.						
V -1 -1;F; 1 -2						
Additional Re	emarks:					
1						
1						



Project/Site:											
	Lemaster-Lic	k 138 kV Transmission	Line Relocation	on Project		Stant	ec Project #:	193704783		Date:	02/10/17
Applicant:	American E	Electric Power								County:	Athens
Investigator #1:				Invest	igator #2:	Kate Bo	mar			State:	Ohio
Soil Unit:		estmoreland complex	/ 10 to 70 n				Classification:	· NIA		Wetland ID:	
		sumoreiana complex	t, 40 to 70 p					INA			
Landform:	Toeslope				cal Relief:					Sample Point:	
Slope (%):	0	Latitude:	39.380195	o L	ongitude:	-82.172	120°		NAD83	Community ID:	UPL
Are climatic/hyd	rologic cond	itions on the site typi	ical for this t	ime of ye	ar? (If no, e	xplain in rem	narks)		No	Section:	
Are Vegetation□	J . Soil □. o	or Hydrology signi	ificantly dist	urbed?		Are	e normal circu	ımstances pre	esent?	Township:	
		or Hydrology natu						□ No		Range:	Dir:
SUMMARY OF I		,	, , , , , , , , , , , , , , , , , , , ,							· · · · · · · · · · · · · · · · · · ·	
		namt0		- Vaa	- Na			Lludria Caila	Duccout		- Ves - Ne
Hydrophytic Veg				□ Yes				Hydric Soils			☐ Yes ☑ No
Wetland Hydrolo	ogy Present?	?		☑ Yes	□ No			Is This Samp	oling Point V	Vithin A Wetla	and? ■ Yes ■ No
Remarks:											
HYDROLOGY											
HYDROLOGY											
Wetland Hydro	ology Indica	itors (Check here if	indicators ar	re not pre	sent):				Secondary:		
Primary:		,		•	,					B6 - Surface So	oil Cracks
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves				egetated Concave Surface
▽	A2 - High Wa				B13 - Aqu					B10 - Drainage	
✓	A3 - Saturation				B14 - Tru					B16 - Moss Trir	
	B1 - Water M				C1 - Hydr					C2 - Dry Seaso	
	B2 - Sedimer						spheres on Livir	na Roots		C8 - Crayfish B	
	B3 - Drift Der						educed Iron				Visible on Aerial Imagery
	B4 - Algal Ma						eduction in Tilled	Soils			Stressed Plants
	B5 - Iron Dep				C7 - Thin			30115		D1 - Startled of D2 - Geomorph	
		on Visible on Aerial Ima	a o n /								
	B7 - Inundatio	on visible on Aeriai ima	gery	П	Other (Ex	piain in Re	emarks)			D3 - Shallow Ad	
										D4 - Microtopo	
										D5 - FAC-Neuti	rai i est
Field Observati	ions:										
Surface Water F	Present?	☐ Yes ☑ No	Depth:		(in.)						
					. ,			Wetland Hyd	drology Pre	esent?	Yes □ No
Water Table Pre			Depth:		(in.)			-			
Saturation Prese	ent?	Yes No	Depth:	surface	(in.)						
Describe Records	ed Data (stre	eam gauge, monitoring	well aerial	nhotos nr	evious ins	nections)	if available:		N/A		
	ca Data (Stre	am gaage, monitoring	y wen, aenai	priotos, pr	CVIOUS IIIC	pcciions)	, ii availabic.				
Remarks:											
SOILS											
SOILS	· Dekalh-We	setmoreland complex	/ 40 to 70 p	ercent slo	nnes G	Sarias Dr	ainage Class	· N/Δ			
Map Unit Name:		estmoreland complex	k, 40 to 70 p	ercent slo	opes S	Series Dr	ainage Class:	: N/A			
Map Unit Name: Taxonomy (Sub	group):	•									
Map Unit Name: Taxonomy (Sub- Profile Descrip	group):	estmoreland complex							and Grains; Location:	PL=Pore Lining, M=Matr	
Map Unit Name: Taxonomy (Sub	group):	•							rand Grains; Location:	PL=Pore Lining, M=Matr	Texture
Map Unit Name: Taxonomy (Sub- Profile Descrip Top	group): tion (Describe to the Bottom	he depth needed to document the indica	ator or confirm the abso	ence of indicators. Matrix	.) (Type: C=Conc	entration, D=Dep	letion, RM=Reduced Matr	rix, CS=Covered/Coated Si			Texture
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth	group): tion (Describe to the Bottom Depth	he depth needed to document the indicated Horizon	ator or confirm the abse	ence of indicators. Matrix Moist)	.) (Type: C=Conc	entration, D=Dep	or (Moist)	mix, CS=Covered/Coated Si Mottles %	Туре	PL=Pore Lining, M=Matr Location	Texture (e.g. clay, sand, loam)
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0	group): tion (Describe to the Bottom Depth	he depth needed to document the indication	Color (I	ence of indicators. Matrix Moist) 3/1	% 100	entration, D=Dep	or (Moist)	ix, CS=Covered/Coated Si Mottles %	Type 	Location 	Texture (e.g. clay, sand, loam) loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth	group): tion (Describe to the Bottom Depth	he depth needed to document the indicated Horizon	ator or confirm the abse	ence of indicators. Matrix Moist)	.) (Type: C=Conc	entration, D=Dep	or (Moist)	mix, CS=Covered/Coated Si Mottles %	Туре		Texture (e.g. clay, sand, loam)
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0	group): tion (Describe to the Bottom Depth	he depth needed to document the indication	Color (I	ence of indicators. Matrix Moist) 3/1	% 100	entration, D=Dep	or (Moist)	ix, CS=Covered/Coated Si Mottles %	Type 	Location 	Texture (e.g. clay, sand, loam) loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10	group): tion (Describe to II Bottom Depth 10 16	HORIZON	color (I	Matrix Moist) 3/1 4/1	% 100 70	Column 10YR	or (Moist) 5/6	Mottles Mottles 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10	group): tion (Describe to II Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	Col-	or (Moist) 5/6	ix, CS=Covered/Costed St Mottles % 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10	group): tion (Describe to II Bottom Depth 10 16	HORIZON	color (I	Matrix Moist) 3/1 4/1	% 100 70	Column 10YR	or (Moist) 5/6	Mottles Mottles 30	Type C	Location M 	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10	group): tion (Describe to II Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	Col-	or (Moist) 5/6	ix, CS=Covered/Costed St Mottles % 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10	group): tion (Describe to the Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	COl-	or (Moist) 5/6	Mottles Mostles 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10	group): tion (Describe to the Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	Col-	or (Moist) 5/6	Mottles Mottles % 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10	group): tion (Describe to the Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	Col 10YR	or (Moist) 5/6	mottles Mottles % 30	Type C	Location M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10	group): tion (Describe to the Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1	% 100 70	Col-	or (Moist) 5/6	Mottles Mottles 30	Type C	Location M Indicators fo	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10	group): tion (Describe to the Bottom Depth 10 16	Horizon	Color (I	Matrix Moist) 3/1 4/1 s are not	% 100 70	Col 10YR	or (Moist) 5/6	Mottles Mottles 30	Type C	Location M Indicators fo	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S	group): tion (Describe to the Bottom Depth 10 16 Soil Field In	Horizon dicators (check here	Color (I 10YR 10YR 10YR 10YR 10YR 10YR 10YR 10YR	Matrix Moist) 3/1 4/1 s are not Redox	% 100 70	Col 10YR	or (Moist) 5/6	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm M	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10 NRCS Hydric S	group): tion (Describe to the Depth	Horizon dicators (check her	Color (I 10YR 10YR 10YR e if indicator \$5 - Sandy F	Moist) 3/1 4/1	% 100 70	Col 10YR	or (Moist) 5/6	Mottles Mottles 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol D A2 - Histic Epipe A3 - Black Histic	group): tion (Describe to the Depth	Horizon dicators (check her	Color (I 10YR 10YR e if indicator \$5 - Sandy F \$6 - Strippec	Matrix Moist) 3/1 4/1 s are not Redox bf Matrix	% 100 70	Col 10YR): ☑	or (Moist) 5/6	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Uuck (MLRA 147, 148) tt Floodplain Soils (MLRA 136, 147)
Map Unit Name: Taxonomy (Subination Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S	group): tion (Describe to the Bottom Depth 10 16 Soil Field In Bottom Depth 10 16 Soil Field In Bottom Depth 10 16 Soil Field In Bottom Bottom Bottom Bottom Bottom Bottom Bottom Bottom Bottom	Horizon dicators (check her	Color (In the absence of the color of the absence of the color of the	Matrix Moist) 3/1 4/1 s are not Redox il Matrix rface ie Below Di	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Muck (M.RA 147) / Prairie Redox (M.LRA 147, 148) tt Floodplain Soils (M.LRA 136, 147) Shallow Dark Surface
Map Unit Name: Taxonomy (Sub- Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La	group): tion (Describe to the Depth	Horizon dicators (check her	Color (In the absence of the color of the co	Matrix Moist) 3/1 4/1 s are not Redox 8 Matrix Moist) 3/1 4/1 s are not Redox 9 Matrix Indiana Matr	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Uuck (MLRA 147, 148) tt Floodplain Soils (MLRA 136, 147)
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Mucl	group): tion (Describe to the Bottom Depth 10 16 Soil Field In Bottom Individual Sulfide Bayers K (LRR N)	Horizon dicators (check her	Color (I 10YR 10YR e if indicator \$5 - Sandy F \$6 - Strippec \$7 - Dark Su \$8 - Polyvali. \$9 - Thin Da \$F2 - Loarny (2)	Matrix Moist) 3/1 4/1 s are not Redox I Matrix If Surface lee Below Do rk Surface Gleyed Mat	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Muck (M.RA 147) / Prairie Redox (M.LRA 147, 148) tt Floodplain Soils (M.LRA 136, 147) Shallow Dark Surface
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11- Depleted E	group): tion (Describe to the Depth 10 16	Horizon dicators (check here	Color (In the absence of the color of the co	Matrix Moist) 3/1 4/1 s are not Redox for Kourface Below Dirk Surface Gleyed Mat d Matrix	% 100 70 100 100 100 100 100 100 100 100	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Muck (M.RA 147) / Prairie Redox (M.LRA 147, 148) tt Floodplain Soils (M.LRA 136, 147) Shallow Dark Surface
Map Unit Name: Taxonomy (Subination Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified La A10 - 2 cm Mucl A11 - Depleted E A12 - Thick Dark	group): tion (Describe to the Depth 10 16	Horizon dicators (check her	Color (Interpretation of the laborator or confirm the aborator of the laborator of the labo	Matrix Moist) 3/1 4/1 s are not Redox I Matrix Redox I Matrix Irface I Below Dork Surface Gleyed Mat d Matirx Dark Surface Dark Surface	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Muck (M.RA 147) / Prairie Redox (M.LRA 147, 148) tt Floodplain Soils (M.LRA 136, 147) Shallow Dark Surface
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified L A10 - 2 cm Mucl A11 - Depleted E A12 - Thick Dark	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 s are not Redox I Matrix Moist) s are not Redox I Matrix I	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast R F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2 - Histic Epipe A3 - Black Histic A4 - Hydrogen S A5 - Stratified LE A10 - 2 cm Mucl A11 - Depleted E A12 - Thick Dark S1 - Sandy Mucl S4 - Sandy Mucl	group): tion (Describe to the Depth	Horizon dicators (check her	Color (Interpretation of the laborator or confirm the aborator of the laborator of the labo	Matrix Moist) 3/1 4/1 s are not Redox I Matrix Moist) s are not Redox I Matrix I	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast R F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam r Problematic Soils 1 // Muck (M.RA 147) / Prairie Redox (M.LRA 147, 148) tt Floodplain Soils (M.LRA 136, 147) Shallow Dark Surface
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Darl S1 - Sandy Mucl S1 - Sandy Mucl S1 - Sandy Gley Restrictive Layer	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 S are not Redox I Matrix Redox I Matrix Irface Ie Below Dirk Surface Gleyed Mat d Matirx Dark Surface Depression:	% 100 70	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Dark S1 - Sandy Mucl S4 - Sandy Gley Restrictive Layer (If Observed)	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 s are not Redox I Matrix Moist) s are not Redox I Matrix I	% 100 70 present	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Darl S1 - Sandy Mucl S1 - Sandy Mucl S1 - Sandy Gley Restrictive Layer	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 S are not Redox I Matrix Redox I Matrix Irface Ie Below Dirk Surface Gleyed Mat d Matirx Dark Surface Depression:	% 100 70	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Dark S1 - Sandy Mucl S4 - Sandy Gley Restrictive Layer (If Observed)	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 S are not Redox I Matrix Redox I Matrix Irface Ie Below Dirk Surface Gleyed Mat d Matirx Dark Surface Depression:	% 100 70	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Dark S1 - Sandy Mucl S4 - Sandy Gley Restrictive Layer (If Observed)	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 S are not Redox I Matrix Redox I Matrix Irface Ie Below Dirk Surface Gleyed Mat d Matirx Dark Surface Depression:	% 100 70	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam
Map Unit Name: Taxonomy (Sub: Profile Descrip Top Depth 0 10 NRCS Hydric S A1- Histosol A2- Histic Epipe A3- Black Histic A4- Hydrogen S A5- Stratified Le A10- 2 cm Mucl A11 - Depleted E A12 - Thick Dark S1 - Sandy Mucl S4 - Sandy Gley Restrictive Layer (If Observed)	group): tion (Describe to the Depth	Horizon dicators (check her	color (10 10 YR 10	Matrix Moist) 3/1 4/1 S are not Redox I Matrix Redox I Matrix Irface Ie Below Dirk Surface Gleyed Mat d Matirx Dark Surface Depression:	% 100 70	Col 10YR): ☑	Signature Sign	Mottles Mottles % 30	Type C	Location M Indicators fo A10 - 2cm N A16 - Coast F F19 - Piedmon TF12 - Very Other (Expla	Texture (e.g. clay, sand, loam) loam loam

SP-10

Sample Point



Lemaster-Lick 138 kV Transmission Line Relocation Project

Project/Site:

WETLAND DETERMINATION DATA FORM

Wetland ID:

VEGETATION		species.)			
Tree Stratum (P	Plot size: 30 ft radius)				
1 .	Species Name		Dominant	Ind.Status	Dominance Test Worksheet
1.	arya o ata	20	Υ	FACU	
2.					Number of Dominant Species that are OBL, FACW, or FAC:4(A)
3.					
4.					Total Number of Dominant Species Across All Strata:8 (B)
5.					Percent of Dominant Species That Are OBL, FACW, or
6.					FAC: <u>0.0%</u> (A/B)
7.					
8.					Prevalence Index Worksheet
9.					Total % Cover of: Multiply by:
10.					OBL spp. 0 x 1 = 0
	Total Cover =	20			FACW spp. 5 x 2 = 10
					FAC spp. 15 X $3 = 45$
	tratum (Plot size: 15 ft radius)				FACU spp. 35 X 4 = 140
1.	Liriodendron tulipifera	5	Υ	FACU	UPL spp. $0 X 5 = 0$
2.	ubus allegheniensis	5	Υ	FACU	
3.					Total <u>55</u> (A) <u>195</u> (B)
4.					
5.					Prevalence Index = B/A = 3. 4
6.					
7.					
8.					Hydrophytic Vegetation Indicators:
9.					Yes ■ No Rapid Test for Hydrophytic Vegetation
10.					Yes No Dominance Test is > 50%
	Total Cover =	10			Yes □ ☑ No Prevalence Index is ≤ 3.0 *
					Yes □ ☑ No Morphological Adaptations (Explain) *
Herb Stratum (P	lot size: 5 ft radius)				Yes □ ☑ No Problem Hydrophytic Vegetation (Explain) *
1.	erbesina alternifolia	5	Υ	FAC	* Indicators of hydric soil and wetland hydrology must be
2.	noclea sensibilis	5	Υ	FACW	present, unless disturbed or problematic.
3.	Dichanthelium clandestinum	5	Υ	FAC	
4.	lymus canadensis	5	Υ	FACU	Definitions of Vegetation Strata:
5.	ernonia gigantea	5	Υ	FAC	
6					Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast
7.					height (DBH), regardless of height.
8.					
9.					Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft. tall.
10.					II. tall.
11.					
12.					Herb - All herbaceous (non-woody) plants, regardless of size,
13.					and woody plants less than 3.28 ft. tall.
14.					
15.					Woody Vines - All woody vines greater than 3.28 ft. in height.
	Total Cover =	25			
Woody Vine Stra	atum (Plot size: 30 ft radius)				
1.					
2.					
3.					Hydrophytic Vegetation Present ☐ Yes ☑ No
4.					
5.					
	Total Cover =	0			
Remarks:					
L					
Additional Re	emarks:				
1					

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

D.2 ORAM DATA FORMS



	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization								
Version 5.0	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

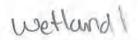
Background Information

Wetland 1

Name: A	
Agran Kwolek	
Date:	
11/14/16	
Affiliation: Stantec	
Addrage:	
11687 Lebanon Rd, Cheinnati, OH 45241	
513 842 8200 e-mall address:	
Agrono Kwolek @ stantec, com	
Name of Wetland: Wetland	
Vegetation Communities):	
PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
and the state of t	
wetland	
inetland L	
Da Endustrial De	
Poster Par	
Poster Par	
Poston Roy Poston Station	
Posten Roy Posten Station	
Poston Rad Poston States Lat/Long or UTM Coordinate 39.383058 -82.178786	
Poston Rad Poston Station Lat/Long or UTM Coordinate 39. 383058 - 82.178786 USGS Quad Name Nelson uille	
Poston Rad Poston Station Lat/Long or UTM Coordinate 39. 383058 - 82.178786 USGS Quad Name Nelson uille	
Poston Ro Poston Station Lat/Long or UTM Coordinate 39.383058 -82.17878C USGS Quad Name Nelson ville County A Thens Township	
Poston Rod Poston Station Lat/Long or UTM Coordinate 39. 383058 - 82.178786 USGS Quad Name Nelson wille County AThens The Plans Section and Subsection	
Poston Rod Poston Staten Lat/Long or UTM Coordinate 39. 383058 - 82.178786 USGS Quad Name Nelson wille County Athens Township The Plans Section and Subsection Sec I TIZN RISW	
Lat/Long or UTM Coordinate 39.383058 -82.17878C USGS Quad Name Nelson ville County A Thens Township The Plains Section and Subsection Sec 1 TIZN RISW Hydrologic Unit Code	
Poston Rodustrial Dr Poston Rodustrial Dr Poston Station Po	
Lat/Long or UTM Coordinate 39.383058 -82.17878C USGS Quad Name Nelson uille County A Thens Township The Plains Section and Subsection Sec 1 TIZN 215W Hydrologic Unit Code 050302040801 Site Visit 11/7/16	
Posten Ra Posten Station Lat/Long or UTM Coordinate 39.383058 - 82.178786 USGS Quad Name Nelson ville County A Thens Township The Plains Section and Subsection Sec 1 TIZN RISW Hydrologic Unit Code O50302040801 Site Visit 11/7/16 National Welland Inventory Map Nume	
Posten Ra Francisco Posten Station Lat/Long or UTM Coordinate 39.383058 - 82.17878C USGS Quad Name Nelson unite County A Thens Township The Planns Section and Subsection Sec 1 TIZN RIFW Hydrologic Unit Code 050302040801 Site Visit 11/7/16 National Welland Inventory Map Ohio Welland Inventory Map	
Lavlong or UTM Coordinate 39.383058 -82.17878C USGS Quad Name Nelsonville County A Thens Township The Plains Section and Subsection Hydrologic Unit Code 050302040801 Site Visit 1/7/16 National Welland Inventory Map Nove	
Posten Ra Francisco Posten Station Lat/Long or UTM Coordinate 39.383058 - 82.17878C USGS Quad Name Nelson unite County A Thens Township The Planns Section and Subsection Sec 1 TIZN RIFW Hydrologic Unit Code 050302040801 Site Visit 11/7/16 National Welland Inventory Map Ohio Welland Inventory Map	

lame of Wetland:	Hand!		
etland Size (acres, hectar	es): 0,06 ac		
ketch: Include north arrow	wetland	on zones, etc.	
	poston station		
mments, Narrative Discu	ssion, Justification of Category Changes:		
	Ţ		
inal score: 12		Category:	

Scoring Boundary Worksheet



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

F	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.	V	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	1	
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.	V	

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

Narrative Rating

Wetland

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 Ge 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?	Wetland is a Category 3 wetland. Go to Question 3	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	Go to Question 4
į.	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	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	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 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	Go to Question 8a
Ва	"Old Growth Forest." Is the wetland a forested welland 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	Go to Question 8b

Wetland	1
O'Chamer	, 1

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES (NO.
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		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	YES	(NO)
9b	elevation, or along a tributary to Lake Erie that is accessible to fish? Does the wetland's hydrology result from measures designed to	Go to Question 9b YES	Go to Question 10
56	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?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	
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	YES	NO
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
		Go to Question 10	
90	Does the wetland have a predominance of non-native or disturbance	YES	NO
	tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) is the wetland located in	YES	NO)
	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	Wetland is a Category 3 wetland. Go to Questlon 11	Go to Question 11
	Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.		
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	YES	NO
	were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	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,	evaluated for possible Category 3 status	Quantitative Rating
	Montgomery, Van Wort etc.).	Complete Quantitative Rating	10

Wetland

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

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

Site: 4	Jet	land	1		Rater(s): /	JK		Date: 11/7/16
0	0	Metri	c 1.	Wetland A	rea (size).			
max 6 pts.	subtotal		>50 at 25 to < 10 to < 3 to < 0.3 to 0.1 to	class and assign sco cres (>20.2ha) (6 pts <50 acres (10.1 to <2 <25 acres (4 to <10.1 10 acres (1.2 to <4ha <3 acres (0.12 to <1 <0.3 acres (0.04 to < cres (0.04ha) (0 pts)) 20.2ha) (5 pts) (ha) (4 pts) a) (3 pts) .2ha) (2pts) 50.12ha) (1 pt)			
3	7					urroundi	ng land us	9.
max 14 pts.	subtoini	2b. Inten	MEDII NARR VERY sily of : VERY LOW. MODE	NARROW. Buffers average NARROW. Buffers surrounding land use LOW. 2nd growth of Old field (>10 years	Im (164fl) or more at 25m to <50m (82 to te 10m to <25m (32 average <10m (<32) Select one or do or older forest, prairie), shrub land, young sidential, fenced pas	cound welland pe cound welland of to <82ft) around ft) around welland ble check and available check and available check and available second growth for second growth for second growth for second growth for and a conse	rimeter (7) welland perimeter (4 d welland perimeter (6 d perimeter (0) verage. life area, etc. (7) prest. (5) providen tillage, new f	(1)
4	7			Hydrology		pping, mining, or	nion donori. (1)	
max 30 pts.	aubiolai	К	High p Other Precip Seaso Peren	Water. Score all that of groundwater (5) groundwater (3) groundwater (3) groundwater (1) and/intermittent surfanial surface water (la ater depth. Select.o	ace water (3)	3d.	Part of wetland Part of riparial Duration inundation/	
		3e. Modi	0.4 to <0.4m fication None Recov Recov	27.6in) (3) 0.7m (15.7 to 27.6in) 1 (<15.7in) (1) 15 to natural hydrolog or none apparent (12 rered (7) rering (3) at or no recovery (1)	chic regime. Score or Check all disturb ditch tile dike weir	ances observed	Regularly inur Seasonally inu Seasonally sa k and average. point source (in filling/grading road bed/RR to dredging	ndated/saturated (3) undated (2) iturated in upper 30cm (12in) (1)
	H	Metri	c 4.	Habitat Al	teration ar		pment.	
INMX 20 plu	subtotal	4a. Subs	Recov Recov Recov Recov Recen at deve Excell Very g Good Moder Fair (3 Poor t Poor (at alter None	isturbance. Score or or none apparent (4) rened (3) rened (3) reneng (2) it or no recovery (1) elopment. Select on ent (7) good (6) (5) ately good (4) 8) o fair (2) (1) retion. Score one or or none apparent (9)	double check and assign so	nd average. ore. verage,		
sul	btotal this ;		Recov	vered (6) vering (3) nt or no recovery (1)	mowing grazing clearcutting selective c woody deb toxic pollut	utting ris removal	shrub/sapling herbaceous/a sedimentation dredging farming nutrient enrich	quatic bed removal

12

End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

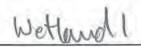
and of highest quality

ORAM Summary Worksheet

		circle	Wetland 1
		answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	G	18EUE
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	4	1 2
	Metric 4. Habitat	1	remarks -
	Metric 5. Special Wetland Communities	3	
	Metric 6. Plant communities, interspersion, microtopography		plicing.
	TOTAL SCORE	12	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet Wetland



Cholces	Circle one	1	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 overcategorized 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 blological 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 welland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the welland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	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?	VES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	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 blotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, loca 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.

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

Wetland Z

Name: Jody Nicholson
Date: 2/10/2017
Affiliation: Stantec
Address: 8770 Guion Rd. Suite B, Indianapolis, IN 46268
Phone Number: 317 - 876 - 837 5
e-mail address:
Name of Wetland? Wetland Z
Vegetation Communit(ies):
HGM Class(es):
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
Industrial Dr Poston Rd
Lat/Long or UTM Coordinate 39,387800° N , - 82,174257° W
USGS Quad Name
County
Township TION
Section and Subsection 831 TION RIHW
Hydrologic Unit Code 05030104
Site Visit 2 10 2017
National Wetland Inventory Map PEMIA
Ohio Wetland Inventory Map
Soil Survey Udorthents, loamy
Delineation report/map See Ecological Resources Inventory Report

ch: Include no	rth arrow, relationship w	with other surface water	re vegetation zones	etc	,
on. mojuut 1101	m arrow, relationally w	nai ouiei sullace wate	s, regulation zones,	/	
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1 3			5	- 1	
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		1	\$		
	V	1	5	1	
		W	Hamley Run	1	
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J		V		1	
1	11	V		1	
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Scoring Boundary Worksheet

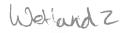
Shrulton

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



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	
0	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	NO)
	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	Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 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
		Go to Question 3	
	Documented High Quality Wetland. Is the wetland on record in	YES	(NO)
	Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
>		Go to Question 4	0
1	Significant Breeding or Concentration Area. Does the wetland	YES	NO/
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	0
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	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	NO/
	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
	(000 100 100 100 100 100 100 100 100 100	Go to Question 7	0
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	60 to Question 8a
	intractive appealed listed in Table 1 is 12070:	Go to Question 8a	6
3a	"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	YES Wetland is a Category 3 wetland.	Go to Question 8b
	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?	Go to Question 8b	

i	. 90	Ho	lan	7.
		NO		

8b	Mature forested wetlands. Is the wetland a forested wetland with	YES	(NO)
	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?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	0
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	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	NO Go to Question 90
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	Go to Question 10	NO
	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.	Go to Question 9d	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	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	Complete Quantitative Rating



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.

250 acres (202 2ha) (6 pts) 251 to 520 acres (10 to 10 202 ha) (6 pts) 10 to 250 acres (10 to 10 202 ha) (6 pts) 10 to 250 acres (10 to 10 202 ha) (6 pts) 10 to 250 acres (10 to 10 202 ha) (6 pts) 10 to 250 acres (10 to 10 202 ha) (6 pts) 10 to 250 acres (10 to 10 202 ha) (7 pts) 10 to 250 acres (10 to 10 202 ha) (7 pts) 10 to 250 acres (10 to 10 202 ha) (7 pts) 10 to 250 acres (10 to 10 202 ha) (7 pts) 10 to 250 acres (10 to 10 202 ha) (7 pts) 10 to 250 acres (10 to 10 202 ha) (10 pts) 10 to 250 acres (10 to 10 202 ha) (10 pts) 10 to 250 acres (10 to 10 202 ha) (10 pts) 10 to 250 acres (10 to 10 202 ha) (10 pts) 10 to 250 acres (10 to 10 202 ha) (10 pts) 10 to 250 acres (10 to 200 acres (10 to	Site: (vet	Rater(s): 3N/KB	ate: 10 FE 8 2177
Select one size class and assign score. -50 acres (-20.2na) (6 pts) -50 ocres (-20.2na) (7 pts) -50 occes (-20.2na) (7			Martin 4 Matland Avan (aira)	
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Metric 2. Upland buffers and surrounding land use. Subbottle Calculate average buffer width. Select only one and assign score. Do not double check	max 6 pls.	subtotal	>50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)	
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (1) MARROW. Buffers average 25m to <50m (32t to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY LOW. 2nd growth or older forest, prairie, savarnan, wildfile area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HiGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HiGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. Metric 3. Hydrology.	1	,		
WIDE. Buffers average 50m (164ft) or more around wetland perimeter (1) MARROW. Buffers average 25m to <50m (32t to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY NARROW. Buffers average 10m to <25m (32t to <32tft) around wetland perimeter (1) VERY LOW. 2nd growth or older forest, prairie, savarnan, wildfile area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HiGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3) HiGH. Urban, industrial, open pasture, row cropping, mining, construction. (1) Metric 3. Hydrology. Metric 3. Hydrology.	nav 14 nts	Subtotal	20 Calculate average buffer width. Select only one and assign score. Do not double check	
Metric 3. Hydrology. 3a. Sources of Water. Score all that apply. High pH groundwater (5) ○ Other groundwater (3) ○ Perceiplation (1) Seasonal/Intermitent surface water (3) ○ Perrennial surface water (ake or stream) (5) 3c. Maximum water depth. Select only one and assign score. ○ 7. (7.7 fin) (3) ○ 0.4 to 0.7m (15.7 to 27.6 in) (2) ○ 0.4 m (<15.7 in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) □ Recovering (3) □ Recovering (2) □ Recovering (2) □ Recovering (2) □ Recovering (3) □ Recove	14 14		WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow fi	eld. (3)
High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or do to Semi- to permanently inundated/saturated (2) > 0.7 (27.6 in) (3) 0.4 to 0.7m (15.7 to 27.6 in) (2) \$\frac{1}{2}\$ \times \frac{1}{2}\$ \		17		
Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) Seasonal/Intermittent surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dolo (1) Semi- to permanently inundated (3) Semi- to permanently inundated (3) Seasonally inundated (2) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (2) Seasonally inundated (3) Seasonally inundated (2) Seasonally inundated (2) Seasonally inundated (2) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (2) Seasonally inundated (2) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (3) Seasonally inundated (2) Seasonally inundated (2) Seasonally inundated (3) Seasonally inundated (2) Se	max 30 pts.	subtotal	High pH groundwater (5) X Other groundwater (3) High pH groundwater (5) Between stream/lake	l) and other human use (1)
3c. Maximum water depth. Select only one and assign score. >>0.7 (27.6in) (2) >>0.4 to 0.7 m (15.7 to 27.6in) (2) >>0.4 m (<15.7 in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Recovered (7) Recovering (3) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (5) Recovering (6) Recoverin		V	Seasonal/Intermittent surface water (3)	and corridor (1)
D. 4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundated (2) Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) Seasonally inundated (2) Seasonally inundate			3c. Maximum water depth. Select only one and assign score. Semi- to permanently	inundated/saturated (4)
None or none apparent (12) Recovering (3) Recovering (2) Recovering (3) Recovering (4) Recovering (5) Recovering (5) Recovering (6) Recovering (6) Recovering (7) Recovering (7) Recovering (8) Recoverin			0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundated	1 (2)
Recovered (7) Recovering (3) X Recent or no recovery (1) Metric 4. Habitat Alteration and Development. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) X Recent or no recovery (1) Recovering (3) X Recovering (4) X Recovering (5) X Recovering (6) X Recovering (7) X Recovering (8) X Recovering (9) X R				in upper 30cm (12in) (1)
Aa. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1)			Recovered (7) Recovering (3) X Recent or no recovery (1) Recovering (3) ditch point sourcé (nonstor filling/grading road bed/RR track dredging	mwater)
Aa. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) X Recent or no recovery (1)	-	12	Metric 4. Habitat Alteration and Development.	
Recovered (3) Recovering (2) X Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) X Recent or no recovery (1) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (4) Recovering (4) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (max 20 pts	subtotal		
X Recent or no recovery (1)			Recovered (3)	
Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)			X Recent or no recovery (1)	
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X Fair (3) Poor to fair (2) Poor (1) 4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) X Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) None or none apparent (9) Recovering (3) Sedective cutting Sede			Good (5)	
Poor (1) 4c. Habital alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)			X Fair (3)	
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Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (6) Recovering (7) Recovering (7) Recovering (8) Recovering (9) Recovering (1) R			None or none apparent (9) Check all disturbances observed	
Recent or no recovery (1) clearcutting selective cutting woody debris removal sedimentation dredging farming				
woody debris removal farming	0 1		Recent or no recovery (1) clearcutting sedimentation	114
		22		

last revised 1 February 2001 jjm

		UNOVE	12	Rater(s)	. 11	1 KB	Date: 20170210
	22						
subto	otal first pa	1					
0	22	Me	tric 5. Spec	ial Wetlands	S.		
	subtotal]					
ax to pia	auutotai	Check	k all that apply and sco Bog (10)	re as indicated.			
		-	Fen (10)				
			Old growth forest ((10)			
			Mature forested we				
		-		ributary wetland-unre			
		er E		ributary wetland-restr	_	rology (5)	
			Relict Wet Prairies	rairies (Oak Opening:	5) (10)		
					ned or en	dangered species (10)	
				ry songbird/water fow			
		. [Category 1 Wetlan	d. See Question 1 Q	ualitative	Rating (-10)	
1	211	Me	tric 6. Plant	communitie	es. in	terspersion, mic	rotopography
7	24	•			JO,	toroporoion, nno	rotopograpity.
nax 20 pts.	subtotal	6a. V	Vetland Vegetation Con	nmunities.	egetatio	n Community Cover Scale	
		Score	all present using 0 to 3		0		na (0.2471 acres) contiguous area
			Aquatic bed		1		ses small part of wetland's
			Emergent			and the second s	lerate quality, or comprises a
	1	-		-	2	significant part but is of I	
	1	-	Mudflats		2		ses significant part of wetland's lerate quality or comprises a small
			Open water			part and is of high quality	
			0 Other		3		inificant part, or more, of wetland's
			orizontal (plan view) Inf	terspersion.		vegetation and is of high	quality
		Selec	t only one. High (5)		la	Deposite of Venetation O.	-114.
		-	Moderately high(4)		low	Description of Vegetation Quality and/or p	redominance of nonnative or
	· ·		Moderate (3)		1044	disturbance tolerant nativ	
	1		Moderately low (2)	-	mod		omponent of the vegetation,
			1 Low (1)			_	or disturbance tolerant native spp
		C- C	None (0)	note: Defe			species diversity moderate to
			overage of invasive pla ble 1 ORAM long form t			threatened or endangere	nerally w/o presence of rare
			duct points for coverage		high		species, with nonnative spp
		Γ	Extensive >75% co				ant native spp absent or virtually
			Moderate 25-75%				ersity and often, but not always,
		0 -	Sparse 5-25% cov			the presence of rare, three	eatened, or endangered spp
		-	Nearly absent <5% Absent (1)	` '	Buddlet e	nd Open Water Class Quality	
		6d M	licrotopography.	n n	0	Absent <0.1ha (0.247 acr	
			all present using 0 to 3	3 scale.	1	Low 0.1 to <1ha (0.247 to	
		Г	6 Vegetated hummu		2	Moderate 1 to <4ha (2.47	and the second s
		~ E	Coarse woody deb	· · ·	3	High 4ha (9.88 acres) or m	nore
		0	Standing dead >25				
		L	Amphibian breeding	ig pools		ography Cover Scale	
					0	Absent Present very small amount	ts or if more common
						of marginal quality	to or it more common
					2	Present in moderate amou	unts, but not of highest
				C 4	-	quality or in small amour	nts of highest quality
					3	Present in moderate or gre	eater amounts

End of Quantitative Rating. Complete Categorization Worksheets.

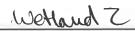
ORAM Summary Worksheet

Wolland 2

			Occidence.
		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NØ	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size		
tating	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	24	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

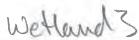
Wetland Categorization Worksheet



Choices	Circle one	0	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	Ng	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 overcategorized 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	()	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	Vetland is categorized as a	NO	Is quantitative rating score <i>greater</i> 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?	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	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, loca 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.

	Fin	al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.



	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization		
Version 5.0	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	setland 3
Name: Tody Nicholson	
Date: 2 10 2017	
Affiliation: Stantec	
Address:	1112
8770 Guion Rd. Suite B, Indianapolis IN 44	7200
317 - 876 - 8375 e-mail address:	
Name of Wetland: 1 12 1 2	
Vegetation Communit(ies):	
HGM Class(es):	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Poston Rd Netto Notice Synchise Grisher Troping	and Delastral
Lat/Long or UTM Coordinate 39. 380 206° N, -82.17 16 68° W	
USGS Quad Name Nelsonville	
County AThen's	
Township T [[N	
Section and Subsection SLe TIIN RISW	
Hydrologic Unit Code 05030204 Site Visit	
2 10 2017	
NA	
Soil Survey	
DeValb-Westmoreland Complex 40-70% slopes	
See Ecological Resources Inventory Rem	Not !

	T	
0.0 2 500		
Vetland Size (acres, hectares): 0.0 Z ac Sketch: Include north arrow, relationship with other surface	Structure 2nd growth forest	
Old Field Transmission	N	
Comments, Narrative Discussion, Justification of Category	Changes:	
Final score: 3	Category:	2

Scoring Boundary Worksheet

wetland 3

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.	4	1
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 3

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	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	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	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	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	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	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	Go to Question 8b

Wetland 3

			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
		Go to Question 9a	0
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	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	NO Go to Question 90
0.	A L L C' start als the well-adjourned by declaring the flavourne	Go to Question 10	NO
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	NO Go to Question 9e
0.	Describe well-and have a read-mineral of new police or districtions	Go to Question 10 YES	NO
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status	Go to Question 10
) — — — — — — — — — — — — — — — — — — —	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	YES Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	type of wetland and its quality.		(112)
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	Complete Quantitative Rating

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

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

ite: ಟ	etland 3	Rater(s): SNK	B	Date: 2 10 201
	Motrio 1 Wotley	ad Arac (ciza)		1-1
7 0	Metric 1. Wetlar	id Area (Size).		
ax 6 pts subt	School one Size Sides did door			
	>50 acres (>20.2ha 25 to <50 acres (10) (6 pts) 1 to <20.2ha) (5 pts)		
	10 to <25 acres (4 to	o <10.1ha) (4 pts)		
	3 to <10 acres (1.2 to <3 acres (0.1)			
	0.1 to <0.3 acres (0.	04 to <0.12ha) (1 pt)		
	<0.1 acres (0.04ha)	/		
11 11	Metric 2. Upland	d buffers and surro	unding land use.	
ix 14 pts. subt	lotal 2a Calculate average huffer	vidth. Select only one and assign s	core. Do not double check	
	WIDE. Buffers aver	age 50m (164ft) or more around we	tland perimeter (7)	
		verage 25m to <50m (82 to <164ft)		
	INALLION. DUILEIS	average 10m to <25m (32ft to <82f suffers average <10m (<32ft) aroun	d wetland perimeter (1)	
	Intensity of surrounding la	nd use. Select one or double chec	k and average	
		owth or older forest, prairie, savanr years), shrub land, young second		
	MODERATELY HIG	H. Residential, fenced pasture, par	rk, conservation tillage, new fallo	w field. (3)
		trial, open pasture, row cropping, m	nining, construction. (1)	
9 2	Metric 3. Hydro	ogy.		
x 30 pts. subto		all that anniv	3b. Connectivity. Score all t	not opply
5469909	High pH groundwate		100 year floodplai	n (1)
	Other groundwater (Precipitation (1)	3)		ake and other human use
	Seasonal/Intermitter	nt surface water (3)	Part of riparian or	land (e.g. forest), complex upland corridor (1)
	Perennial surface wa	ater (lake or stream) (5)	 Duration inundation/satu 	ration. Score one or dbl c
	>0.7 (27.6in) (3)	elect only one and assign score.		ntly inundated/saturated (4
	0.4 to 0.7m (15.7 to	27.6in) (2)	Seasonally inunda	ted (2)
	3e Modifications to natural by	drologic regime. Score one or dou	Seasonally satura	ted in upper 30cm (12in) (
	None or none appar	The state of the s		
	Recovered (7)	ditch	point source (nons	tormwater)
	Recovering (3) Recent or no recove	tile dike	filling/grading road bed/RR track	
	TATITOSON OF HOTEOGRA	weir *	dredging	
		stormwater input	other	
C. 0 1	Metric 4. Habita	t Alteration and De	velopment.	
a l				
20 pts. subto	4a. Substrate disturbance. So	ore one or double check and avera	ge.	
	None or none appare	ent (4)		
	Recovering (2)			
	Recent or no recove 4b. Habitat development. Sel	ry (1) ect only one and assign score		
	Excellent (7)	sot only one and assign score.		
	Very good (6) Good (5)			
	Moderately good (4)			
	Fair (3)			
	Poor to fair (2)			
	Poor (1)	ne or double check and average.		
	Poor (1) 4c. Habitat alteration. Score c		served	
	Poor (1) 4c. Habitat alteration. Score of None or none appara	ent (9) Check all disturbances ob mowing	shrub/sapling remo	
	Poor (1) 4c. Habitat alteration. Score of None or none appared Recovered (6) Recovering (3)	ent (9) Check all disturbances ob mowing grazing	shrub/sapling remo	
	Poor (1) 4c. Habitat alteration. Score of None or none appara	ent (9) Check all disturbances ob mowing grazing clearcutting selective cutting	shrub/sapling remonders before the shape of	
19	Poor (1) 4c. Habitat alteration. Score of None or none appared Recovered (6) Recovering (3)	ent (9) Check all disturbances ob mowing grazing clearcutting	shrub/sapling remonders before the shape of	c bed removal

	etland)	3	Rater(s):	SN	KB	Date: 10 FEB 207
letordue 8	Metr	ric 5. Special W				
	- Mat	Old growth forest (10) Mature forested wetland (! Lake Erie coastal/tributary Lake Erie coastal/tributary Lake Plain Sand Prairies (Relict Wet Prairies (10) Known occurrence state/fo Significant migratory song Category 1 Wetland. See	wetland-unrestric wetland-restricte Oak Openings) (* ederal threatened bird/water fowl ha Question 1 Quali	d hydrold 10) or enda abitat or u itative Ra	ogy (5) ngered species (1 usage (10) ating (-10)	n, microtopography.
1 3						
max 20 pts. sub		tland Vegetation Communitie	es. <u>veg</u>		Community Cove	rises <0.1ha (0.2471 acres) contiguous area
	Score a	Emergent	-	1	Present and eith vegetation and	ner comprises small part of wetland's d is of moderate quality, or comprises a t but is of low quality
	0 /	Forest Mudflats		2	vegetation and part and is of I	¥ - 1 - 2
		izontal (plan view) Interspers	sion.	3	10 September 2011 Property April 1	nprises significant part, or more, of wetland's d is of high quality
	Select	only one.	More	rativa D	ecription of Voc	etation Quality
		High (5) Moderately high(4) Moderate (3)	Nari	low	disturbance to	y and/or predominance of nonnative or lerant native species
		Moderately low (2) Low (1) None (0) verage of invasive plants. R		mod	although nonr can also be pi moderately high	dominant component of the vegetation, native and/or disturbance tolerant native spp resent, and species diversity moderate to gh, but generally w/o presence of rare endangered spp
	or dedu	ct points for coverage Extensive >75% cover (-5 Moderate 25-75% cover (-1) Sparse 5-25% cover (-1)	-3)	high	and/or disturb absent, and h	of native species, with nonnative spp ance tolerant native spp absent or virtually igh spp diversity and often, but not always, of rare, threatened, or endangered spp
		Nearly absent <5% cover		dflat and	Open Water Cla	es Quality
	C = 341-	Absent (1)	IAICIC	0	Absent <0.1ha	
		crotopography. all present using 0 to 3 scale.	- N	1		(0.247 to 2.47 acres)
	50016	Vegetated hummucks/tus		2		<4ha (2.47 to 9.88 acres)
	7			3	High 4ha (9.88	
	0 0	- Ol	Din) dbh		raphy Cover Sca	
	1.0		-	0	Absent	
				1	Present very sn of marginal qu	
				2		erate amounts, but not of highest mall amounts of highest quality
			_	3	Present in mod and of highes	erate or greater amounts t quality

1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle	Wetland 3
		answer or insert	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
- T1	Metric 2. Buffers and surrounding land use		
	Metric 3. Hydrology	9	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	Z	
	TOTAL SCORE	31	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet



Choices	Circle one	0	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 overcategorized 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	100	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?	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	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, loca 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.

	Fina	al Category	
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Metho 10 Page Form for Wetland Cat	
Version 5.0	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 Wetherel
Name:
Jody Nicholson Date:
2 10 2017 Affiliation:
Stantec
Address: 8770 Guion Rd. Suite B, Indianapolis, IN 46268
Phone Number: 317 - 874 - 8375
e-mail address: jody. nicholson astantec.com
Name of Wetland: Wetland 4
Vegetation Communit(ies):
HGM Class(es): depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
adustrial B.
(2)
Poston Rd William
N
7
Lat/Long or UTM Coordinate 39. 378314°N - 82.176999°W
USGS Quad Name
Nelsonville
Township
TIN
Section and Subsection 56 TIIN RISW
Hydrologic Unit Code OS 030204
Site Visit 2/10/2017
National Wetland Inventory Map NA
Ohio Wetland Inventory Map N A
Chagrin Silt Lown, 6-30% slopes frequently flooded
Delineation report/map See Ecological Resources Inventory Report

Name of Wetland: Wetund 4		
Wetland Size (acres, hectares):		
Sketch: Include north arrow, relationship with other surface waters, vege	etation zones, etc.	
Hamlers Pur		2 A SP
Comments, Narrative Discussion, Justification of Category Changes:	- V V	, v
Final score: 37.5	Category:	2

Scoring Boundary Worksheet

Wetland 4

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.	1	
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

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	0
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has	YES	No
	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	Wetland should be evaluated for possible Category 3 status	Go to Question 2
	had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	Go to Question 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
		Go to Question 3	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES	(NO)
		Wetland is a Category 3 wetland	Go to Question 4
		Go to Question 4	0
	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
		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	Go to Question 6
3	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	(NO)
	significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland	Go to Question 7
		Go to Question 7	6
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	Go to Question 8a
Ва	"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	YES Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8t

			Wetland
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
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?	Go to Question 9a YES Go to Question 9b	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	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	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	Complete Quantitative Rating

Complete Quantitative Rating

Wetland 4

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 nalustre			

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

1 400

: We	Hand 4	Rat	er(s): SN/K	ß	Date: (o	FEB 2014
	Matria 4	Motland Area	(cizo)			
0	wetric 1.	Wetland Area	(size).			
ots. subtot	>50 acre 25 to <5 10 to <2 3 to <10 0.3 to <3 0.1 to <0	ss and assign score. s (>20.2ha) (6 pts) 0 acres (10.1 to <20.2ha) 5 acres (4 to <10.1ha) (4 acres (1.2 to <4ha) (3 pts) acres (0.12 to <1.2ha) (4 3 acres (0.04 to <0.12ha) es (0.04ha) (0 pts)	pts)			
1 14	Metric 2.	Upland buffer	s and surro	unding lan	d use.	
pts. subtot	WIDE. 6 MEDIUM NARRO VERY N 2b. Intensity of su VERY L LOW. C MODER	age buffer width. Select Buffers average 50m (164 I. Buffers average 25m to N. Buffers average 10m ARROW. Buffers averag rrounding land use. Sele DW. 2nd growth or older lid field (>10 years), shrut ATELY HIGH. Residentia Urban, industrial, open pa	off) or more around well of <50m (82 to <164ft) at to <25m (32ft to <82ft e <10m (<32ft) around ct one or double check forest, prairie, savanna of land, young second gal, fenced pasture, park	land perimeter (7) around wetland per) around wetland per) wetland perimeter (and average, ah, wildlife area, etc rowth forest. (5) (c, conservation tilla	imeter (4) erimeter (1) (0) c. (7) ge, new fallow field. (3)	
5 25.		Hydrology.				
pts. subtet	High pH Other gr Precipits Seasons Perennia 3c. Maximum wate >0.7 (27 0.4 to 0.	il/Intermittent surface wat il surface water (lake or s er depth. Select only one	tream) (5) and assign score.	Z Honor Seminary Seas Seas	y. Score all that apply year floodplain (1) een stream/lake and other of wetland/upland (e.g. for of riparian or upland corridundation/saturation. Score to permanently inundated larly inundated (2) onally saturated in upper (age.	est), complex or (1) one or dbl ch d/saturated (4) (3)
	Recover € Recover		ck all disturbances ob ditch tile dike weir stormwater input	point		
245	Metric 4.	Habitat Altera	tion and De	velopment		
pts. subtot	4a. Substrate distance of None or Recover Recover Recover Recept of Second (5 Moderat Fair (3) Poor (1)	ing (2) or no recovery (1) pment. Select only one a t (7) od (6) ely good (4) fair (2)	and assign score	ge.		
as:	None or Recover Recover	none apparent (9) Che ed (6) ing (3)	mowing grazing clearcutting selective cutting woody debris remov	shrul herba sedir dred al farmi	mentation ging ng	al
subtotal th	s page	Recoveri Recent o	Recovered (6) Recovering (3) Recent or no recovery (1)	Recovering (3) Recent or no recovery (1) Recent or no recovery (1) grazing clearcutting selective cutting woody debris remove toxic pollutants	Recovering (3) Recent or no recovery (1) Recent or no recovery (1) grazing clearcutting selective cutting woody debris removal toxic pollutants herba sedir farmi	Recovering (3) Recent or no recovery (1) Recent or no recovery (1) grazing clearcutting selective cutting woody debris removal toxic pollutants herbaceous/aquatic bed remov sedimentation dredging farming nutrient enrichment

Site: 📈	ett	and	4	Rater	(s):	JN6	(B	Date: 10 FEB 20
subto	355 tal first pa	1	ric 5. Spec	cial Wetlan	ds.			
max 10 pts. s	subtotal	Check	all that apply and sc Bog (10)	ore as indicated				
	٠	0	Fen (10) Old growth forest Mature forested v Lake Erie coasta Lake Erie coasta Lake Plain Sand Relict Wet Prairie Known occurrence	wetland (5) I/tributary wetland-u I/tributary wetland-ro Prairies (Oak Open	estricted ings) (10 atened o	f hydrolog 0) or endang	y (5) ered species (10)	
		. E		and. See Question				
	,75						rspersion, mici	rotopography.
max 20 pts s	subtotal		tland Vegetation Co		Vege		mmunity Cover Scale	a (0.0474 paran) continuous area
			Aquatic bed Emergent Shrub	o scale_			Present and either comprise	erate quality, or comprises a
	,		Forest Mudflats Open water			2	Present and either comprise	es significant part of wetland's erate quality or comprises a small
			Otherizontal (plan view) I only one.	nterspersion.		3	Present and comprises sign vegetation and is of high of	nificant part, or more, of wetland's quality
			High (5)		Narra	tive Des	cription of Vegetation Qua	ality
		L	Moderately high(Moderate (3)					edominance of nonnative or
		6c. Co	Moderately low (2 Low (1) None (0) /erage of invasive p	lants. Refer	п	nod	although nonnative and/o can also be present, and	emponent of the vegetation, or disturbance tolerant native spp species diversity moderate to erally w/o presence of rare
			ct points for coverage Extensive >75% Moderate 25-75% Sparse 5-25% co	ge cover (-5) 6 cover (-3) over (-1)	h	nigh	A predominance of native s and/or disturbance tolerar absent, and high spp dive	pecies, with nonnative spp int native spp absent or virtually ersity and often, but not always, atened, or endangered spp
		-	Nearly absent <5	% cover (0)	8845		Water Class Coults	
		6d. Mic	Absent (1)		WILIOT		pen Water Class Quality Absent <0.1ha (0.247 acre	(9)
			Il present using 0 to	3 scale.			ow 0.1 to <1ha (0.247 to 2	
		1	Vegetated humm	ucks/tussucks			Moderate 1 to <4ha (2.47 t	
		0	Coarse woody de	` '		3	High 4ha (9.88 acres) or mo	ore
			Amphibian breed	, ,	Micro	topogra	bhy Cover Scale	
			II. III. DIGGO	9 Poolo	- Interes		Absent	
						1	Present very small amounts of marginal quality	
						2	Present in moderate amour quality or in small amount	
						3	Present in moderate or grea	ater amounts

37.5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Wetland 4 circle answer or Result insert score COM Narrative Rating Question 1 Critical Habitat YES If yes, Category 3. Question 2. Threatened or Endangered YES NO) If yes, Category 3. Question 3. High Quality Natural Wetland NO YES If yes, Category 3. Question 4. Significant bird habitat YES (O) If yes, Category 3. Question 5. Category 1 Wetlands YES (NO If yes, Category 1. Question 6. Bogs YES NG If yes, Category 3. YES (NØ Question 7. Fens If yes, Category 3. Question 8a. Old Growth Forest YES (NO If yes, Category 3. (NO Question 8b. Mature Forested Wetland YEŞ If yes, evaluate for Category 3; may also be 1 or 2. Question 9b. Lake Erie Wetlands -(OO) YES If yes, evaluate for Restricted Category 3; may also be 1 or 2 Question 9d. Lake Erie Wetlands -YES (NO) If yes, Category 3 Unrestricted with native plants (NO) Question 9e. Lake Erie Wetlands -YES If yes, evaluate for Unrestricted with invasive plants Category 3; may also be 1 or 2. Question 10. Oak Openings (NO) If yes, Category 3 YES (NO) Question 11. Relict Wet Prairies YES If yes, evaluate for Category 3; may also be 1 or 2. Quantitative Metric 1. Size 0 Rating Metric 2. Buffers and surrounding land use 14 Metric 3. Hydrology 11.5 Metric 4. Habitat 10 Metric 5. Special Wetland Communities 0 Metric 6. Plant communities, interspersion, 2 microtopography TOTAL SCORE Category based on score breakpoints 31,5 Modified Z

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 overcategorized 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	N9	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?	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	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, loca 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.

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

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

D.3 HHEI AND QHEI DATA FORMS



OhioEPA

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score.	53
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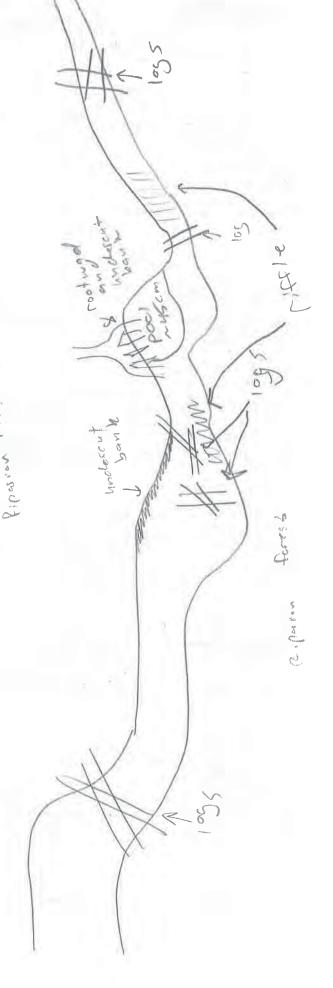
	und Ooc Acce	Someth Field Officet	
Stream & Location: [emaster-Lick 138 K	V Transmission Line	RM: Date: \\ 8106
Relocation Proi	ect Stream 1 sco	rers Full Name & Affiliation:	A. Kwolek Stantee
River Code.	STORET#:	(NAD 83-decimal 9 3 9 . 3806)	182.1842 Office verified location
BEST TYPES P. BLDR /SLABS [10] BOULDER [9] COBBLE [8] SAND [6] BEDROCK [5]	ONL PTwo substrate TYPE BOXES; te % or note every type present OOL RIFFLE	Check ON ORIGIN ORIGIN LIMESTONE [1] TILLS [1] WETLANDS [0] HARDPAN [0] SANDSTONE [0] OSTRATES: ignore RIP/RAP [0]	SILT Substrate [-1] S
quality; 3-Highest quality in	moderate or greater amounts (e.g., ver well developed rootwad in deep / fast w [1] POOLS > 70cm SETATION [1] Z ROOTWADS [1	of highest quality or in small amounts of y large boulders in deep or fast water, li ater, or deep, well-defined, functional por [2]OXBOWS, BACKWATER: AQUATIC MACROPHYTE	f highest arge Check ONE (Or 2 & average) bols. EXTENSIVE >75% [11] S [1] MODERATE 25-75% [7] ES [1] SPARSE 5-<25% [3]
SINUOSITY DEVE	CLOGY Check ONE in each category ELOPMENT CHANNELIZA CELLENT [7] NONE [6] DOD [5] RECOVERED [4] IR [3] RECOVERING [3] OOR [1] RECENT OR NO F	TION STABILITY HIGH [3] MODERATE [2] LOW [1]	Channel Maximum 20
River right looking downstream EROSION O		in each category for EACH BANK (Or 2 FLOOD PLAIN QUALITY FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD [1] FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0]	
MAXIMUM DEPTH Check ONE (ONLY!) □ > 1m [6] □ 0.7~1m [4]	DOOL WIDTH = RIFFLE WIDTH [1] POOL WIDTH > RIFFLE WIDTH [0]	CURRENT VELOCITY Check ALL that apply TORRENTIAL [-1] SLOW [1] VERY FAST [1] INTERSITIAL FAST [1] INTERMITTE MODERATE [1] EDDIES [1] Indicate for reach - pools and riffle.	NT [-2]
of riffle-obligate s ₁ RIFFLE DEPTH ☐ BEST AREAS > 10cm [2]	RUN DEPTH RIFFL MAXIMUM > 50cm [2] STABLI MAXIMUM < 50cm [1] MOD. S	IE (Or 2 & average). E / RUN SUBSTRATE RIFFL E (e.g., Cobble, Boulder) [2]	DOPULATION NO RIFFLE [metric=0] E / RUN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] Run Maximum Maximum
6] GRADIENT (มูบ เช DRAINAGE AREA	☐ MODERATE [6-10]		GLIDE: 10 Gradient 6

F) MEASUREMENTS bankfull max. depth floodprone x2 width bankfull x depth x bankfull width Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench, ratio Legacy Tree: max. depth W/D ratio x depth x width HARDENED / URBAN / DIRT&GRIME LOGGING / IRRIGATION / COOLING BMPs-CONSTRUCTION-SEDIMENT FALSE BANK / MANURE / LAGOON WWTP / CSO / NPDES / INDUSTRY NATURAL / WETLAND / STAGNANT ACID / MINE / QUARRY / FLOW WASH H₂0 / TILE / H₂0 TABLE ATMOSPHERE / DATA PAUCITY BANK / EROSION / SURFACE PARK / GOLF / LAWN / HOME CONTAMINATED / LANDFILL El ISSUES Circle some & COMMENT PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA SPRAY / SNAG / REMOVED MOVING-BEDLOAD-STABLE IMPOUNDED / DESICCATED YOUNG-SUCCESSION-OLD RELOCATED / CUTOFFS D) MAINTENANCE ARMOURED / SLUMPS **LEVEED / ONE SIDED** ISLANDS / SCOURED ☐ INVASIVE MACROPHYTES CSOS/SSOS/OUTFALLS **BIAESTHETICS EXCESS TURBIDITY** ☐ SLUDGE DEPOSITS ☐ NUISANCE ALGAE POOL: ->100ft2 >3ft AREA DEPTH NUISANCE ODOR ☐ DISCOLORATION TRASH / LITTER FOAM / SCUM OIL SHEEN CJ RECREATION E CH HIGH CON CLOW CORY -sample pass-- 2nd □ SECCHI DEPTH□ 1st -sample pass- 2nd □ > 70 cm/ CTB CLARITY STAGE □ 20-<40 cm AJ SAMPLED REACH D 40-70 cm Check ALL that apply < 20 cm ☐ <10%-CLOSED ☐ > 85%- OPEN ☐ 55%-<85% CANOPY DISTANCE 30%~<55% X10%-<30% 0.15 Km METHOD 0.12 Km 0.2 Km 0.5 Km OTHER OTHER LLINE D BOAT WADE meters 00000

014 = 18.0,

Stream Drawing.

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ChieFPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3):

ı		.1
и)	4

LENGTH OF STREAM REACH (#) ZUD	LAT.39.37734 LONG. \$2.1834 RIVER CODE RIVER MILE	2.12mi
DATE 11/6/10 SCORER AJK	COMMENTS COMMENTS CONTROL OF THE CON	Intians
	- Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru	
STREAM CHANNEL NONE / NATI	ural channel. Trecovered Trecovering Trecent or no reco	VERY
(Max of 40). Add total number of signífica	y type of substrate present. Check ONLY two predominant substrate TYPE boxes int substrate types found (Max of 8). Final metric score is sum of boxes A & B. RECENT TYPE PERCENT	HHEI Metric Points Substrate Max = 40 9 A + B
2. Maximum Pool Depth (Measure the maevaluation. Avoid plunge pools from road > 30 centimeters [20 pts] > 22.5 - 30 cm [30 pts] > 10 - 22.5 cm [25 pts]	eximum pool depth within the 61 meter (200 ft) evaluation reach at the time of culverts or storm water pipes) (Check ONLY one box): > 5 cm - 10 cm [15 pts] < 5 cm [5 pts] NO WATER OR MOIST CHANNEL [0 pts]	Pool Depth Max = 30
COMMENTS	MAXIMUM POOL DEPTH (centimeters):	
3. BANK FULL WIDTH (Measured as the a	The state of the s	
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	average of 3-4 measurements) (Check ONLY one box):	Bankfull Width Max=30
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] s 1.0 m (≤ 3' 3") [5 pts] AVERAGE BANKFULL WIDTH (meters)	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODPI RIPARIAN WIDTH (Per Bank) Wide > 10m	This information must also be completed LAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) Mature Forest, Wetland Mature Forest, Shrub or Old Urban or Industrial	Width
> 4.0 maters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed LAIN QUALITY	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS	This information must also be completed LAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Immature Forest, Shrub or Old Field Open Pasture, Row Crop Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture Mining or Construction Woist Channel, isolated pools, no flow (Intermittent) or channel, no water (Ephemeral)	Width
> 4.0 meters (> 13') [30 pts] > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] COMMENTS RIPARIAN ZONE AND FLOODP RIPARIAN WIDTH (Per Bank) Wide > 10m Moderate 5-10m Narrow < 5m None COMMENTS FLOW REGIME (At Time of Evaluation	This information must also be completed LAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream FLOODPLAIN QUALITY L R (Most Predominant per Bank) L R Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old Immature Forest, Shrub or Old Field Open Pasture, Row Crop Residential, Park, New Field Open Pasture, Row Crop Fenced Pasture Mining or Construction Woist Channel, isolated pools, no flow (Intermittent) or channel, no water (Ephemeral)	Width

	DOWNSTREAM DESIGNATED USE(S) WWH Name:	
	CWH Name: Distance from Evaluated Stream	
	Distance from Evaluated Stream	
	USGS Quadrangle Name: Nelson ville NRCS Soil Map Page: NRCS Soil Map Stream Order	
4	A 1 1	
	township) dity.	
	MISCELLANEOUS	
	Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Quantity:	
	Photograph Information:	
	Elevated Turbidity? (Y/N): Canopy (% open): 5	
	Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:	
	Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)	
	Is the sampling reach representative of the stream (Y/N) If not, please explain:	
-	Additional comments/description of pollution impacts:	
	Secretarional colores	
	BIOTIC EVALUATION	
	BIOTIC EVALUATION Performed (VAI):	
	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)	
	Performed? (Y/N): Youcher? (Y/N) (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N)	
	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)	
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	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Coop. Olgrichete. Coddis Classifications and provided appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Coop. Olgrichete. Coddis Classification (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Coop. Olgrichete. Coddis Classification (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Coop. Olgrichete. Coddis Classification (Y/N) Voucher? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Coop. Olgrichete. Coddis Classification (Y/N) Voucher? (Y/N) Coddis Classification (Y/N) Voucher? (Y/N) Coddis Classification (Y/N) Coddis Classification (Y/N) Coddis Classification (Y/N)	+
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	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Olgrichete, Oldrichete,	+
	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Olgrichete, Oldrichete,	
	Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N) Comments Regarding Biology. Green Olgrichete, Oldrichete,	+
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	Performed? (Y/N): Y (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N)	
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Athens Co. 04

OhioEPA

(Hanley Run) - Downstraum Assessment

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:



06/16/06

1 1	MUSTU LICIE 13	kV Transmission Lie	16 RM: Date: 1	1 10 1 06 201
Relocation Proje	ect stream3	Scorers Full Name & Affilia		Office verified
River Code:	STORET #:_		386308 N 182. 1124850W	location
1] SUBSTRATE Check C estimate	ONLYTwo substrate TYPE BO e % or note every type presen	t C	heck ONE (Or 2 & average)	
BEST TYPES BLDR /SLABS [10] BOULDER [9] COBBLE [8] GRAVEL [7] SAND [6]	OOL RIFFLE OTHER TO HARDPA	YPES POOL RIFFLE CRIGIN AN [4] LIMESTONE US [3] TILLS [1] 2] WETLANDS HARDPAN [1] HARDPAN [1] HARDPAN [2] HARDPAN [3] HARDPAN [4] HARDPAN [5] HARDPAN [6] HARDPAN [6]	E[1]	[] [E [-1] Substrate [0] [E [-2]
quality: 3-Highest quality in	quality; 2-Moderate amounts moderate or greater amounts well developed rootwad in dee [1] ———————————————————————————————————		twater, large click one (Or click one (Or click) Check one (Or click) EXTENSIVE : WATERS [1]	r 2 & average) >75% [11] 25-75% [7] 25% [3]
	DLOGY Check ONE in each	category (Or 2 & average)		
_		NELIZATION STABILIT	ſΥ	9
MODERATE [3] GO	-	RED [4] MODERA RING [3] LOW [1]	.,	Channel C
□ NONE [1] □ PO Comments	OOR [1] RECENT	OR NO RECOVERY [1]		
	<	u)		Maximum 16
3	5	9		20
	ND RIPARIAN ZONE CH	neck ONE in each category for EACH BA	NK (Or 2 per bank & average)	
River right looking downstream REROSION RERO	ND RIPARIAN ZONE CH RIPARIAN WIDTH DWIDE > 50m [4] MODERATE 10-50m [2]	FLOOD PLAIN Q	INK (Or 2 per bank & average) UALITY R CONSERVATION IN URBAN OR IND FIELD [1] IN MINING / CONS Indicate predominant lai	N TILLAGE [1] USTRIAL [0] TRUCTION [0]
River right looking downstream REROSION RERO	ND RIPARIAN ZONE CHECK RIPARIAN WIDTH WIDE > 50m [4] MODERATE 10-50m [2] MARROW 5-10m [2] VERY NARROW < 5m	FLOOD PLAIN Q	INK (Or 2 per bank & average) UALITY CONSERVATION UI URBAN OR IND FIELD [1] MINING / CONS Indicate predominant laid past 100m riparian.	N TILLAGE [1] USTRIAL [0] TRUCTION [0] and use(s)
River right looking downstream REROSION	ND RIPARIAN ZONE CHECK RIPARIAN WIDTH WIDE > 50m [4] MIDE > 50m [4] MODERATE 10-50m [2] MARROW 5-10m [2] VERY NARROW < 5m NONE [0]	FLOOD PLAIN Q FOREST, SWAMP [3] FOREST, SWAMP [3] FRESIDENTIAL, PARK, NEW FIND OPEN PASTURE, ROWCRO FOREST CONTROL FORES	INK (Or 2 per bank & average) UALITY R CONSERVATION URBAN OR IND FIELD [1] MINING / CONST Indicate predominant lat past 100m riparian N CITY Ply OW [1] ERSTITIAL [-1] ERMITTENT [-2] DIES [1] and riffles	N TILLAGE [1] USTRIAL [0] TRUCTION [0] Ind use(s) Riparian Aaximum 10 Potential Contact Contact Contact
River right looking downstream REROSION	RIPARIAN ZONE CE RIPARIAN WIDTE CHANNEL WIDTE CHANNEL WIDTE CHECK ONE (Or 2 & average) POOL WIDTH = RIFFLE WIDTE POOL WIDTH > RIFFLE WIDTE POOL WIDTH > RIFFLE WIDTE RIPPOL WIDTH > RIFFLE WIDTH > RIF	FLOOD PLAIN Q FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW [1] FENCED PASTURE [1] OPEN PASTURE, ROWCRO Check ALL that app DTH [2] TORRENTIAL [-1] SLO DTH [1] VERY FAST [1] INTE MODERATE [1] INTE MODERATE [1] EDD MINIMAL OF THE PROOFS Smust be large enough to sup	CITY ply PCESTITIAL [-1] PCONSERVATION WINDER CONSERVATION WIND URBAN OR IND MINING / CONS Indicate predominant lan past 100m riparian. Recreation Primary of Secondary (circle one and cor past 1] and riffles.	N TILLAGE [1] USTRIAL [0] TRUCTION [0] Ind use(s) Riparian Aximum 10 Potential Contact Contact Contact Maximum 12
River right looking downstream REROSION	ND RIPARIAN ZONE CREATER AND STATE OF THE PROPERTY OF THE PROP	FLOOD PLAIN Q FOREST, SWAMP [3] FOREST, SWAMP [3] FRESIDENTIAL, PARK, NEW FENCED PASTURE [1] FENCED PASTURE, ROWCRE FENCED PASTURE, ROWCRE CHECK ALL that app Check ALL that app TY TH CURRENT VELO TABLE (a.g., Cobble, Boulder) [2] MOD. STABLE (a.g., Fine Gravel, Sand)	RECREATION PILON [1] RECONSERVATION RECONSERVATION RECONSERVATION RECONSERVATION RIFIELD [1] RIGIDATE PRODUCTION RIFIELD [1] RECONSERVATION RIFIELD [1] RIGIDATE PRODUCTION RECONSERVATION RIFIELD [1] RIFIELD [1] RECONSERVATION RIFIELD [1] RIFIELD [1] RECONSERVATION RIFIELD [1] RECONSERVATION	N TILLAGE [1] USTRIAL [0] TRUCTION [0] Ind use(s) Riparian Aximum 10 Potential Contact Contact Maximum 12 RIFFLE [metric=0] EDNESS
River right looking downstream REROSION	ND RIPARIAN ZONE CREATER AND STATE OF THE PROPERTY OF THE PROP	FLOOD PLAIN Q FOREST, SWAMP [3] FOREST, SWAMP [3] FRESIDENTIAL, PARK, NEW FENCED PASTURE [1] PENCED PASTURE, ROWCRG FENCED PASTURE, ROWCRG Check ALL that apport of the company of	RESTITIAL [-1] ERMITTENT [-2] DIES [1] and riffles. PINK (Or 2 per bank & average) CONSERVATION CONSERVATION URBAN OR IND URBAN OR IND INDICATE predominant late past 100m riparian. RECITY Power Recreation Primary Secondary Secondary Circle one and core Conservation Conservation	N TILLAGE [1] USTRIAL [0] TRUCTION [0] Ind use(s) Riparian Aximum 10 Potential Contact Contact Maximum 12 RIFFLE [metric=0] EDNESS

, Access directions, etc.	FJ MEA SUREMENTS RY X width IME X depth max. depth ing bankfull x depth bankfull x depth w/D ratio bankfull max. depth floodprone x² width floodprone x² width floodprone x² width ANT entrench. ratio	2nd growth forest
typical of steam?, <i>Recreation</i> / Observed - Inferred, O <i>therl</i> ' Sampling observations, Concerns, Access directions, etc.	EJ ISSUES WWYTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPS-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE FALSE BANK / MANURE / LAGON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT PARK / GOLF / LAWN / HOME	
n/ Observed - Inferred, Other.	Circle some & COMMENT	Row Row
	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED IMPOUNDED / DESICCATED	Ewbus, etc.
Comment RE: Reach consistency/ Is reach	BJAESTHETICS □ NUISANCE ALGAE □ INVASIVE MACROPHYTES □ EXCESS TURBIDITY □ DISCOLORATION □ FOAM / SCUM □ OIL SHEEN □ ITASH / LITTER □ NUISANCE OBOR □ SLUDGE DEPOSITS □ CSOS/SSOS/OUTFALLS ATION AREA DEPTH POOL: □ > 100ft² □ > 3ft	2 // 1
SE asse-2nd	CLARITY 151,sample pass 2nd n	awing:

Athens Co. , OH

Upstream

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 55.5

Stream & Location:	Lemaster-Lick 138 Kl	1 Transmission Line RM.	Date: 2 10 6 2017
Relocation Proj	ect Stream 3 Scor	rers Full Name & Affiliation: Jud	ly Nicholson Stantec
River Code.	STORET#:	Lat./Long. 39 .319355N+	82.174437°W Office verified location
1] SUBSTRATE Check	CONLYTwo substrate TYPE BOXES;	Check ONE (Or 2 & average)
DEAT TYPES	ate % or note every type present OTHER TYPES PO	ORIGIN	QUALITY
☐☐ BLDR /SLABS [10]		LIMESTONE [1]	HEAVY [-2]
BOULDER [9]		AJ TILLS [1] ☐ WETLANDS [0]	SILT MODERATE [-1] Substrate NORMAL [0]
☐ COBBLE [8]	05 35 □ SILT [2]	THARDPAN INT	□ FREE [1] /U
SAND [6]	hs hs □ ARTIFICIAL [0] _	strates: ignore	DEON DESTRESSIVE [-2] MODERATE [-1] MAXIMUM 20 NONE [1]
NUMBER OF BEST	(Score natural substitute (Score natural substitute) (Score natural subs	opint-sources) LACUSTURINE [0]	NORMAL [0] Maximum
Comments	☑ 3 or less [0]	SHALE [-1]	□ NONE [1]
Comments	13	COAL FINES [-2]	8
2] INSTREAM COVE	R Indicate presence 0 to 3: 0-Absent; 1-V	Very small amounts or if more common of m	narginal AMOUNT
quality 3 Highest quality	quality: 2-Moderate amounts, but not o	large boulders in deep or fast water, large	Check ONE (Or 2 & average)
diameter log that is stable Z_UNDERCUT BANK	, well developed rootwad in deep / tast wa	ster, or deep, well-defined, functional pools	EXTENSIVE >/5% [11]
2 OVERHANGING VE			1] SPARSE 5-<25% [3]
SHALLOWS (IN SL	OW WATER) [1] BOULDERS [1]	LOGS OR WOODY DEBRIS	
Comments			Cover Maximum 14 2
Comments			20
3] CHANNEL MORPH	HOLOGY Check ONE in each category		
0111000111	ELOPMENT CHANNELIZA		
	EXCELLENT [7] NONE [6] SOOD [5] RECOVERED [4]	☐ HIGH [3] [3] MODERATE [2]	
	FAIR [3] ARCOVERING [3]		Channel
			CHAINGI
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4] BANK EROSION ARIVER right looking downstre	AND RIPARIAN ZONE Check ONE RIPARIAN WIDTH Subject Som [4]	in each category for EACH BANK (Or 2 pe	Maximum 20 7 r bank & average) CONSERVATION TILLAGE [1]
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EI MEASUREMENTS bankfull max. depth floodprone x2 width bankfull x depth x bankfull width Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc. entrench. ratio Legacy Tree: max. depth W/D ratio x depth x width HARDENED / URBAN / DIRT&GRIME LOGGING / IRRIGATION / COOLING FALSE BANK / MANURE / LAGOON WWTP / CSO / NPDES / INDUSTRY BMPs-CONSTRUCTION-SEDIMENT NATURAL / WETLAND / STAGNANT ATMOSPHERE / DATA PAUCITY ACID / MINE / QUARRY / FLOW **BANK / EROSION / SURFACE** WASH H₂0 / TILE / H₂0 TABLE PARK / GOLF / LAWN / HOME **CONTAMINATED / LANDFILL** ELISSILES Depth 11" Depth 8" Circle some & COMMENT OHOM II pun PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA FLOOD CONTROL / DRAINAGE MODIFIED / DIPPED OUT / NA MOVING-BEDLOAD-STABLE YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED IMPOUNDED / DESICCATED RELOCATED / CUTOFFS DJ MAINTENANCE ARMOURED / SLUMPS **LEVEED / ONE SIDED ISLANDS / SCOURED** lined Hamley Run concrete ☐ INVASIVE MACROPHYTES ☐ CSOs/SSOs/OUTFALLS **BJAESTHETICS EXCESS TURBIDITY** ☐ SLUDGE DEPOSITS □ NUISANCE ALGAE POOL: 0>100ft2 0>3ft AREA DEPTH DISCOLORATION ☐ NUISANCE ODOR Early Successional OIL SHEEN
TRASH / LITTER ☐ EXCESS TURBII ☐ DISCOLORATIO ☐ FOAM / SCUM CJ RECREATION □ > 70 cm/ CTB □ SECCHI DEPTH□ ES D LOW DRY 1st -sample pass- 2nd CLARITY --sample pass--STAGE 1st --sample pas < 20 cm < 20-<40 cm Stream Drawing: AJ SAMPLED REACH □ 40-70 cm Check ALL that apply Seed of PUNIT □ <10%- CLOSED X > 85%- OPEN CANOPY DISTANCE O 0.12 Km 55%~85% 30%-<55% 10%-<30% 0,15 Km 0.5 Km METHOD C L'LINE BOAT WADE meters 3 Bridge Poston over

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAMELOCATION LEMANTER -LICK 138 NV Transmission Line Relocation Project Athens Co, OH SITE NUMBER STEAMY RIVER BASIN HOCKING DRAINAGE AREA (mi2) 40 1 mi LAT. 39, 381709" LONG - 82.17/607 RIVER CODE LENGTH OF STREAM REACH (ft) 100 DATE WEBSINT SCORER SN/KB NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL □ NONE / NATURAL CHANNEL Ø RECOVERED □ RECOVERING □ RECENT OR NO RECOVERY **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40), Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE TYPE PERCENT PERCENT **Points** BLDR SLABS [16 pts] SILT [3 pt] ŌŌ BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] Substrate FINE DETRITUS [3 pts] BEDROCK [16 pt] Max = 402.5 CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] 2.5 GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] 22 MD SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] Total of Percentages of (B) Bidr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of **Pool Depth** evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 30 centimeters [20 pts] > 5 cm - 10 cm [15 pts] 15 ī < 5 cm [5 pts] > 22.5 - 30 cm [30 pts] П > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Width > 4.0 meters (> 13') [30 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] .8 COMMENTS OHWN 3' H 3" **AVERAGE BANKFULL WIDTH (meters)** This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ♣NOTE: River Left (L) and Right (R) as looking downstream ♣ FLOODPLAIN QUALITY RIPARIAN WIDTH (Per Bank) (Most Predominant per Bank) 囡囡 团团 Wide >10m Mature Forest, Wetland Conservation Tillage Immature Forest, Shrub or Old 冈区 Moderate 5-10m Urban or Industrial Open Pasture, Row Narrow <5m Residential, Park, New Field Crop ПП None Fenced Pasture Mining or Construction COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Subsurface flow with isolated pools (Interstitial) П Dry channel, no water (Ephemeral) STREAM

(Check ONLY one box):

Moderate to Severe

3.0

Severe (10 ft/100 ft)

2.0

SINUOSITY (Number of bends per 61 m (200 ft) of channel)

1.0

1.5

Moderate (2 ft/100 ft)

Flat (0.5 ft/100 ft)

None 0.5

STREAM GRADIENT ESTIMATE

☐ Flat to Moderate

QHEI PERFORMED? - TYes TW No QHEI Score	(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	(
WWH Name: Hamley Run	Distance from Evaluated Stream
J CWH Name:	Distance from Evaluated Stream
DEWH Name:	Distance from Evaluated Stream
	IRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION
SGS Quadrangle Name: Nelsonville	
county: Athens Townsh	ip/City: Athens
MISCELLANEOUS	
ase Flow Conditions? (Y/N): Date of last precipitation:	9 2017 Quentily " snow
hotograph Information:	42
levated Turbidity? (Y/N): Canopy (% open):	"La
Vere samples collected for water chemistry? (Y/N):(Note lab s	sample no. or id. and attach results) Lab Number:
	pH (S.U.)Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) Y	lease explain:
·	
dditional comments/description of pollution impacts:	
BIOTIC EVALUATION	
	adjustice and NOTE: all constants are also be less and with the
ID number Include appropriate field data s	collections optional. NOTE: all voucher samples must be labeled with the sheets from the Primary Headwater Habitat Assessment Manual)
ish Observed? (Y/N) Voucher? (Y/N) Salamanders Ob- rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic	served? (Y/N) N Voucher? (Y/N) N Voucher? (Y/N)
comments Regarding Biology: None observed	The state of the s
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This <u>must</u> be completed):
Include Important landmarks and other features of Interest for	site evaluation and a narrative description of the stream's location
	Jan. 2
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Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3): SITE NAMELOCATION LEMASTER - LICK 138 KV Transmission Line Relocation Project Athens, Co OH SITE NUMBER STEAM S RIVER BASIN HACKING DRAINAGE AREA (mi²) ___O.\mi LENGTH OF STREAM REACH (#) 200 LAT 39, 385194 LONG 82.172549 RIVER CODE RIVER MILE_ SNIKG SCORER NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions □ NONE / NATURAL CHANNEL Ø RECOVERED □ RECOVERING □ RECENT OR NO RECOVERY STREAM CHANNEL **MODIFICATIONS:** SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes HHEI (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. Metric TYPE **PERCENT** TYPE PERCENT Points SILT (3 pt) $\Box\Box$ BLDR SLABS [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] BOULDER (>256 mm) [16 pts] Substrate FINE DETRITUS [3 pts] BEDROCK [16 pt] Max = 40CLAY or HARDPAN [0 pt] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] ARTIFICIAL [3 pts] (B) Total of Percentages of A + BBldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: Pool Depth Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): Max = 30> 5 cm - 10 cm [15 pts] > 30 centimeters [20 pts] 25 > 22.5 - 30 cm [30 pts] < 5 cm [5 pts] Ø NO WATER OR MOIST CHANNEL [0 pts] > 10 - 22.5 cm [25 pts] COMMENTS MAXIMUM POOL DEPTH (centimeters): Bankfull (Check ONLY one box): BANK FULL WIDTH (Measured as the average of 3-4 measurements) > 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3'3" - 4'8") [15 pts] Width Max=30 > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts] ≤ 1.0 m (≤ 3' 3") [5 pts] > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] 1.4 0 Hwm 31211 LIT AVERAGE BANKFULL WIDTH (meters) COMMENTS This information must also be completed ☆NOTE: River Left (L) and Right (R) as looking downstream☆ RIPARIAN ZONE AND FLOODPLAIN QUALITY FLOODPLAIN QUALITY RIPARIAN WIDTH (Per Bank) (Most Predominant per Bank) 囟囟 Mature Forest, Wetland Conservation Tillage Wide >10m Immature Forest, Shrub or Old り図 Urban or Industrial Moderate 5-10m Open Pasture, Row Residential, Park, New Field Narrow <5m Crop Fenced Pasture Mining or Construction None COMMENTS FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Moist Channel, isolated pools, no flow (Intermittent) Stream Flowing Dry channel, no water (Ephemeral) Subsurface flow with isolated pools (Interstitial) (Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) 2.0 3.0 None 1.0 0.5 1.5

■ Moderate (2 ft/100 ft)

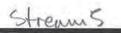
Moderate to Severe

Severe (10 ft/100 ft)

Flat (0.5 ft/100 ft)

STREAM GRADIENT ESTIMATE

☐ Flat to Moderate



QHEI PERFORMED? - Tyes To No QHEI Score(If Yes	s, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name: Hamley Run	Distance from Evaluated Stream Distance from Evaluated Stream
J CWH Name:	Distance from Evaluated Stream
J EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATER:	
SGS Quadrangle Name: Nelsonville NRCS Soil I	
ounty: Township / City:	Athens
MISCELLANEOUS	194
ase Flow Conditions? (Y/N): Y Date of last precipitation: 2/9/2017	Quantity: Show
hotograph Information:	
elevated Turbidity? (Y/N): N Canopy (% open): 95	
Vere samples collected for water chemistry? (Y/N): (Note lab sample no. c	or id. and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.	U.)Conductivity (µmhos/cm)
s the sampling reach representative of the stream (Y/N) If not, please explain	n:
additional comments/description of pollution Impacts:	
additional communicates displicit of political impacts.	
Performed? (Y/N): (If Yes, Record all observations. Voucher collections of ID number. Include appropriate field data sheets from the collections of the collect	ptional. NOTE: all voucher samples must be labeled with the
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver	N) V Voucher? (Y/N)
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqualic Macroinver	N) V Voucher? (Y/N)
rogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aqualic Macroinver	N) V Voucher? (Y/N)
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orgs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STRE	N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) AM REACH (This must be completed):
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DRAWING AND NARRATIVE DESCRIPTION OF STRE Include Important landmarks and other features of Interest for site evaluat	N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) AM REACH (This must be completed):
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DRAWING AND NARRATIVE DESCRIPTION OF STRE Include Important landmarks and other features of Interest for site evaluat	N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) AM REACH (This must be completed):
Trogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinver Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STRE	N) Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) AM REACH (This must be completed):
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DRAWING AND NARRATIVE DESCRIPTION OF STRE Include Important landmarks and other features of Interest for site evaluat	N) Voucher? (Y/N) Voucher? (Y/N) / Vouch

Primary Headwater Habitat Evaluation Form HHEI Score (sum of metrics 1, 2, 3):

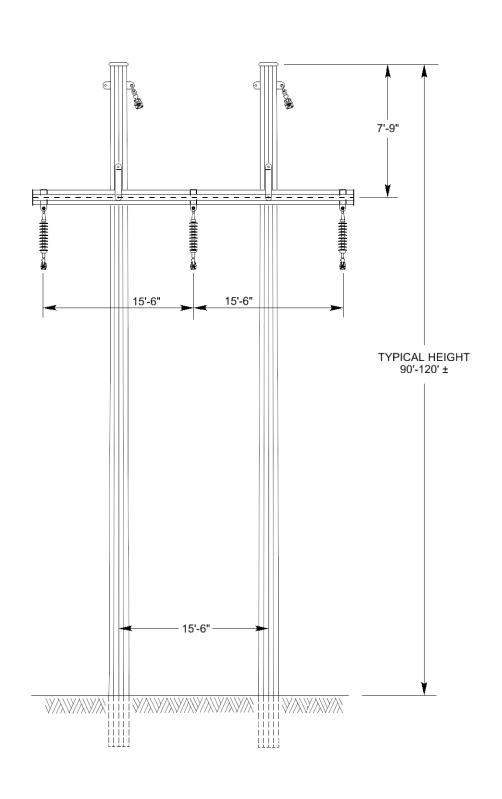
SITE NAMELOCATION CHARLES TO SITE NUMBER STEAM RIVER BASIN HOCKING DRAINAGE AREA (mi²) 40.1 M LENGTH OF STREAM REACH (ft) 100 LAT. 37.301347 LONG. M. 17 11 20 RIVER CODE RIVER MILE DATE (0FB 2017 SCORER 30/KB COMMENTS NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions STREAM CHANNEL NONE NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERY MODIFICATIONS:	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check ONLY two predominant substrate TYPE boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B. TYPE BLDR SLABS [16 pts] BOULDER (>256 mm) [16 pts] COBBLE (65-256 mm) [12 pts] GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts] Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: HHI Metr Percent SILT [3 pt] LEAF PACK/WOODY DEBRIS [3 pts] LEAF PACK/WOODY DEBRIS [3 pts] CLAY or HARDPAN. [0 pt] MUCK [0 pts] ARTIFICIAL [3 pts] TOTAL NUMBER OF SUBSTRATE TYPES:	ric nts
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 ft) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters [20 pts]	= 30
This information must also be completed RIPARIAN ZONE AND FLOODPLAIN QUALITY ANOTE: River Left (L) and Right (R) as looking downstream RIPARIAN WIDTH FLOODPLAIN QUALITY R (Per Bank) New (Per Bank) R (Most Predominant per Bank) Mature Forest, Wetland Moderate 5-10m Residential, Park, New Field Open Pasture, Row Crop None COMMENTS FLOW REGIME (At Time of Evaluation) Stream Flowing Subsurface flow with isolated pools (Interstitial) COMMENTS SINUOSITY (Number of bends per 61 m (200 ft) of channel) None 1.0 Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) Check ONLY one box): Check ONLY one box): Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) Check ONLY one box): Check ONLY one box): SINUOSITY (Number of bends per 61 m (200 ft) of channel) Check ONLY one box): October Only one box): Check ONLY one box): October Only one box october On	

Stream

Tes 4 NO QHE SCORE (II Yes. At	tach Completed QHEI Form)
/ DOWNSTREAM DESIGNATED USE(S)	and the state of t
WWH Name: Hawley Run	Distance from Evaluated Stream 40 Lps
CWH Name:	Distance from Evaluated Stream
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHE	D AREA. CLEARLY MARK THE SITE LOCATION
JSGS Quadrangle Name: NRCS Soil Map	Page: NRCS Soil Man Stream Order
County: Township / City:	hens
MISCELLANEOUS	
Base Flow Conditions? (Y/N): \(\frac{1}{2} \) Date of last precipitation: \(\frac{297017}{297017} \)	0,11,11,500
Photograph Information:	Quantity:
levated Turbidity? (Y/N): Canopy (% open): 95%	
vere samples collected for water chemistry? (Y/N): (Note lab sample no. or id.	and attach results) Lab Number:
ield Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) _	Conductivity (µmhos/cm)
the sampling reach representative of the stream (Y/N)Y If not, please explain/_	
,	
BIOTIC EVALUATION	
erformed? (Y/N): (If Yes, Record all observations. Voucher collections options ID number. Include appropriate field data sheets from the Plant Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Aquatic Macroinvertebra	rimary Headwater Habitat Assessment Manual)
erformed? (Y/N): (If Yes, Record all observations. Voucher collections optional ID number. Include appropriate field data sheets from the Pi	N Voucher? (Y/N) Voucher? (Y/N) Voucher? (Y/N) REACH (This must be completed):

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

Appendix C. Structure Design and Phasing Diagrams



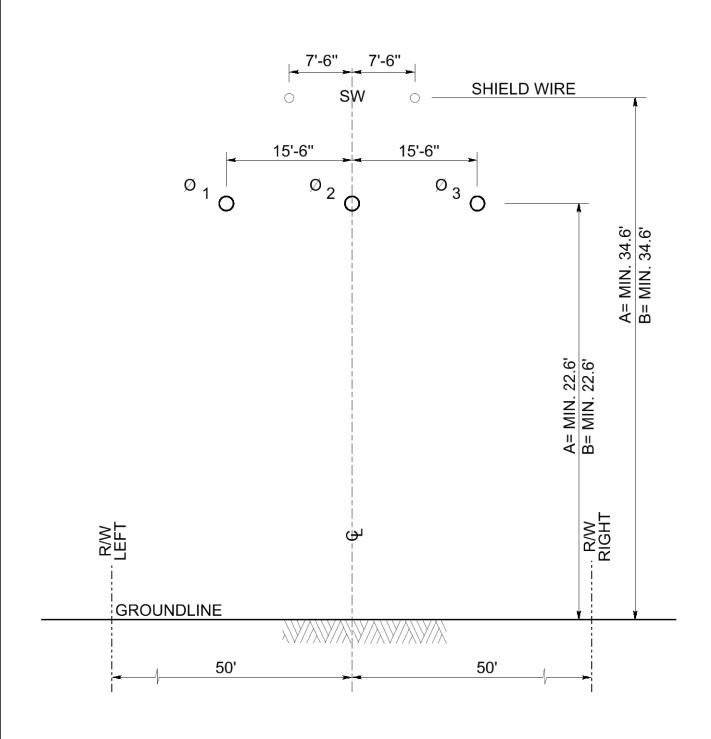
AEP AMERICAN® ELECTRIC POWER

LEEMASTER - LICK 138kV LINE

TYPICAL TANGENT STRUCTURE TUBULAR STEEL H-FRAME SUSPENSION

NOT TO SCALE

FIGURE 1



DIMENSION "A" SINGLE CIRCUIT - HOR. CONFIGURATION (STEEL POLE) (UNDER EMERGENCY & NORMAL MAX. LINE LOADING)

DIMENSION "B" SINGLE CIRCUIT - HOR. CONFIGURATION (STEEL POLE) (UNDER WINTER NORMAL CONDUCTOR RATING)

AEP AMERICAN° ELECTRIC POWER

LEEMASTER - LICK 138kV LINE

TYPICAL PHASE ARRANGEMENT STEEL POLE

NOT TO SCALE

FIGURE 2

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

12/20/2017 10:45:23 AM

in

Case No(s). 17-2439-EL-BLN

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