# Letter of Notification for the Arboles 138 kV Station Project



An **AEP** Company

BOUNDLESS ENERGY™

PUCO Case No. 21-1084-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 9, 2021

#### LETTER OF NOTIFICATION

#### AEP Ohio Transmission Company, Inc.

#### **Arboles 138 kV Station Project**

#### 4906-6-05 Accelerated Application Requirements

AEP Ohio Transmission Company, Inc. (the "Company") provides the following information to the Ohio Power Siting Board ("OPSB") in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

#### 4906-6-05(B) General Information

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

The applicant shall provide 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 or Construction Notice application.

The Company is proposing the Arboles 138 kilovolt (kV) Station Project (the "Project"), in Scioto Township, Pike County, Ohio. The Project consists of constructing a new approximately 2.6-acre 138 kV electric transmission station on a site near the Company's existing Don Marquis 345/765 kV Station. The Project is located on property owned by a governmental agency customer (the "Customer") and will support the Customer's request for electric service due to the planned decommissioning of their 345 kV station. The new station will receive service from three existing 138-kV circuits from Don Marquis, Waverly and South Lucasville. The purpose of the new station is to feed four circuits supplying the customer's 138-12 kV delivery points. Transmission line components associated with Arboles Station will be filed separately with the OPSB. The location of the Project is shown on Figures 1 and 2 in Appendix A.

The Project meets the requirements for a Letter of Notification ("LON") as defined by Item (2)(a) of 4906-1-01 Appendix A Application Requirement Matrix For Electric Power Transmission Lines:

(3) Constructing a new electric power transmission substation

The Project has been assigned PUCO Case No. 21-1084-EL-BLN.

#### **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.

As part of a governmental agency customer service request, the Company will be required to build a new 138 kV station named Arboles Station to serve two new customer facilities located near Piketon, Ohio. The Customer requested the Company to build a new 138kV station that will feed two stations at the customer's site. Three 138kV transmission circuits will feed the new Arboles Station with four 138 kV circuits exiting Arboles Station to feed the 2 customer stations. Per the requirements from the Customer, three

independent circuits are needed to serve this location due to the sensitive nature of the load. Any additional details can be provided confidentially.

The addition of Arboles Station also benefits existing customers by creating a through-path. The Station will interconnect with the existing Don Marquis-South Lucasville 138 kV line. This line serves load to Wakefield Station (3.5 MW peak load, 1,989 customers). Adding breakers at Arboles Station will reduce the exposure of potential outages caused by the Don Marquis-South Lucasville 138 kV line.

Failure to move forward with the proposed project will result in the Company's inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the area.

The need and solution for this supplemental project was presented and reviewed with stakeholders in the October 26<sup>th</sup>, 2018 and March 10<sup>th</sup>, 2020 PJM SRRTEP meeting (s2213). The Project was inadvertently excluded from the Proposed Substations (Table FE-T10) portion of the 2021 LTFR, however, the Project was referenced in the Planned Transmission Lines portion of the LTFR on pages 14-17 (Table FE-T9) and will be referenced in the Company's 2022 LTFR.

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

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

The location of the Project in relation to existing transmission lines and substations is shown on Figure 1, in Appendix A. Figure 2, in Appendix A, identifies the Project components on a 2019 aerial photograph.

#### **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.

The Project is located entirely on Customer property. Other alternatives would require impacting neighboring properties, as opposed to remaining entirely on the Customer's property, or would require extensive civil earthwork due to the steep terrain in the vicinity of the Company's Don Marquis Station. In addition, the proposed station location minimizes the length of existing 138 kV lines powering Arboles Station, as well, as limiting mileage of future 138 kV line extensions required to serve the Customer. The Project is located on undeveloped vacant land with paved road access, will not impact any wetlands or streams, and requires minimal tree clearing. The location of the Project minimizes impacts to the community and the environment, while taking into account the Customer's engineering and construction needs. The Project represents the most suitable location and most appropriate solution for meeting both the Company's and Customer's needs.

#### **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 Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company has mailed (or will mail) a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company 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. An electronic copy of the LON will be served to the public library in each political subdivision for this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

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

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

Construction of the Project is planned to commence in March 2022 with a proposed in-service date in December 2022.

#### 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 in Appendix A identifies the location of the Project area on a U.S. Geological Survey 1:24,000 quadrangle map. Figure 2 in Appendix A consists of an aerial map of the Project area.

To visit the Project from downtown Columbus, Ohio, take I-70 W/I-71 S toward Cincinnati. Take exit 101 for I-270 E. Take exit 52 to merge onto US-23 S toward Circleville. Take the US-23 S exit toward Waverly/US-50 W/Portsmouth. Continue onto US-23 S for 22.2 miles. Take the exit toward American Centrifuge Facility, making a left at the exit ramp and continue for 1 mile. The station will be located on the left (latitude 39.014543, longitude -83.012350).

### **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 Project will be constructed on a single parcel (Parcel Number 200000186000) which is owned by the Customer. No other property easements, options, or land use agreements are necessary to construct the Project or operate the station.

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
200000186000	Supplemental Easement	No

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

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

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

The Project is proposed to have a four-string breaker and a half configuration and include the following equipment:

- 11 138 kV Circuit Breakers
- 1 Drop-In Control Module

#### B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

Not applicable. No occupied residences or institutions are located within 100 feet of the Project.

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

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

Not applicable. No occupied residences or institutions are located within 100 feet of the Project.

#### B(9)(c) Project Costs

#### The estimated capital cost of the project.

The capital cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately \$13.2 million using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the AEP Ohio Transmission Company Inc.'s FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

#### **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 near Piketon in Scioto Township, Pike County, Ohio on the Customer's property. Land use and natural communities observed within the proposed Project boundary include a grass field maintained by periodic mowing and upland forests. The surrounding land use includes maintained herbaceous ROW, upland forests, and industrial land. No places of worship, schools, institutions, hospitals, cemeteries, landmarks, or recreational areas were identified within 1,000 feet of the proposed station.

#### 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.

No properties registered as agricultural district land are located in the Project area based on an e-mail from the Pike County Auditor's Office on October 13, 2021. The Project area consists of 2.6 acres and all of the land has been vacant with periodic mowing with the exception of a few trees in the northwest corner of the Project area.

#### 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.

The Company's consultant completed Cultural Resource Assessment on the Project area, and coordinated the Assessment with the State Historic Preservation Office ("SHPO") on October 21, 2021. SHPO concluded on November 19, 2021 that the project will have no effect on historic properties (Appendix C).

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

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHCooooo4 during construction of the Project. The Company will implement and maintain best management practices (BMPs), as outlined in the project-specific Storm Water Pollution Prevention Plan (SWPPP) to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant completed a wetland delineation and stream identification field review of the existing and planned ROW for the Project (Appendix E). No wetlands, streams or ponds were delineated within the environmental survey corridor for the Project. One non-jurisdictional ditch was identified along the eastern and southern property boundary. Impacts to aquatic resources are not anticipated; therefore, a Clean Water Act Section 401/404 permit will not be required for construction of the Project.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the Arboles Substation is not located in a 100-year floodplain. As such, the Company will not be required to obtain floodplain permits from Pike County for the construction of any structures within these areas.

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.

Coordination with Ohio Department of Natural Resource Department of Wildlife (ODNR-DOW) was initiated on March 10, 2021 to obtain Environmental Review and Ohio Natural Heritage Database records within a 1-mile buffer area around the project. Their e-mail response was received on May 6, 2021. In addition, a consultation request was submitted to the U.S. Fish and Wildlife Service (USFWS) on March 10, 2021 with a response received on March 22, 2021. A copy of the Agency Correspondence letters are provided in Appendix C.

Based on consultation from the USFWS, it was confirmed that the project area lies within the range of two federally listed species including Indiana bat ( $Myotis\ sodalis$ ) and northern long-eared bat ( $Myotis\ septentrionalis$ ). The USFWS recommended avoiding tree removal, wherever possible. However, if clearing of trees  $\geq 3$  inches diameter breast height (dbh) cannot be avoided, the USFWS recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. If implementation of seasonal tree cutting is not feasible, the USFWS recommends a summer presence/absence survey be conducted in coordination with the Ohio Field Office.

Based on the consultation response from ODNR-DOW, the Project area is within range of four state-listed bat species including Indiana bat, northern long-eared bat, little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*). If trees must be cut, ODNR-DOW recommends implementing seasonal tree cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a dbh greater than or equal to 20 inches. If trees must be cut during summer months, ODNR-DOW recommends a mist net survey or acoustic survey to be conducted from June 1 to August 15, prior to any cutting. Additionally ODNR-DOW recommends a desktop habitat assessment for potential hibernaculum(a). The assessment was completed in December 2021 and coordination with ODNR is occurring, once the coordination is complete a copy will be provided to OPSB.

ODNR-DOW also stated that the Project must not have an impact on freshwater native mussels within the Project area and per the Ohio Mussel Survey Protocol (ODNR-DOW, 2020), all Group 2, 3, and 4 streams require mussel surveys. No in-stream work is currently proposed during construction activities and will not directly impact streams crossed by the Project area. Therefore, mussel surveys are not required. The ODNR-DOW recommends no in-water work in any perennial stream from April 15 through June 30 to reduce impacts to indigenous species and their habitat. Because no in-water work is proposed (no streams in the Project area), the Project is not likely to impact threatened or endangered aquatic species.

The Project is within the range of timber rattlesnake (*Crotalus horridus*), eastern spadefoot toad (*Scaphiopus holbrookii*), and midland mud salamander (*Pseudotriton montanus diastictus*). ODNR states that due to the location, type of habitat within the project area, and type of work proposed, the Project is not likely to impact these species.

Based on the nature of the proposed project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated. Winter tree clearing will be implemented to reduce impacts to bat species and their habitat. The Company will coordinate with USFWS and ODNR regarding additional construction requirements, if winter clearing becomes unfeasible.

#### 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.

Coordination letters were submitted to the USFWS and ODNR requesting a review of the Project and identification of areas of ecological concern. The USFWS response email was received on March 22, 2021 (Appendix C), and indicated no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR response received on May 6, 2021 (Appendix C), indicated no known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area.

The Company's consultant prepared an Ecological Survey Report for the Project area and the surrounding vicinity of the customers' property, see Appendix D. Wetland delineation and stream identification field surveys were completed within the Project area in January 2021. No wetlands, streams or ponds were identified within the proposed Project boundary. One non-jurisdictional ditch was delineated along the eastern and southern side of the Project area. Land use and natural communities observed within the proposed Project area include a maintained grass field and upland forests.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Number 39131C0225C, effective date 11/4/2010, the Project is not located within the 100-year floodplain. Therefore, no floodplain impacts are anticipated.

#### 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 the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps

Appendix B PJM Interconnection Submittal





Need Number: AEP-2018-OH003

**Process Stage:** Submission of Supplemental Project for inclusion

in the Local Plan 05/11/2020

**Previously Presented:** 

Needs Meeting 10/26/2018 Solutions Meeting 3/10/2020

**Project Driver:**Customer Service

### **Specific Assumption Reference:**

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 8)

### **Problem Statement:**

The Ohio Valley Electric Corporation (OVEC) and the US Department of Energy (DOE) are in the process of terminating their connection at Don Marquis. The DOE has informed AEP of its intention to retire its X-530 Substation, adjacent to AEP's Don Marquis Substation and has requested a new delivery point from AEP at the same location. The new load is anticipated to peak near 38MW.





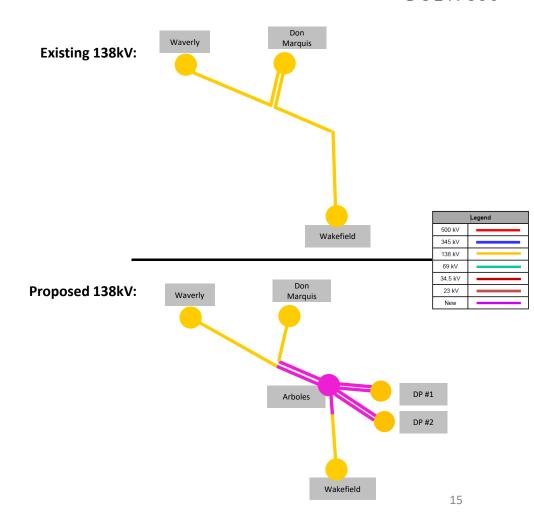
## AEP Transmission Zone M-3 Process DOE X-350

Need Number: AEP-2018-OH003

**Process Stage:** Submission of Supplemental Project for inclusion in the Local Plan 05/11/2020

#### **Selected Solution:**

- Install a new transmission switching station (Arboles) to connect 138 kV lines to Don Marquis, Waverly, and Wakefield as well as four radial lines to serve the two new loads. The station will have 11 CBs (3000A, 40kA) in a breaker-and-a-half configuration. DOE requires 3 feeds and has requested 138 kV service. (s2213.1) Estimated Cost: \$13.4M (AEP)
- 6-wire the existing Don Marquis extension for 0.4-miles and rebuild 0.7 miles of the existing Marquis-Wakefield line as double circuit for two feeds from Waverly and Don Marquis. (s2213.2) Estimated Cost: \$1.7M (AEP)
- Construct ~0.3 miles of new line to terminate the South Lucasville circuit into Arboles. (s2213.3) Estimated Cost: \$1.3M (AEP)
- Construct two independent lines to serve the X-555 substation (DP #1). The lines will be ~0.4 miles long each. (s2213.4) Estimated Cost: \$1.7M (AEP)
- Construct two independent lines to serve the X-5001 substation (DP #2). The lines will be ~0.8 miles long each. (s2213.5) Estimated Cost: \$3.5M (AEP)





## AEP Transmission Zone M-3 Process DOE X-350

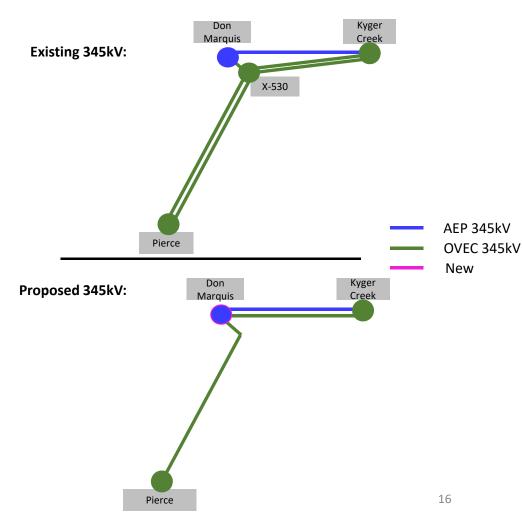
- At Don Marquis 345 kV, install 3-345kV 4000A 63kA circuit breakers to terminate the OVEC lines from Pierce and Kyger Creek. (s2213.6) Estimated Cost: \$8.8M (AEP)
- At Kyger Creek station, remove X-530 No.1 Exit and associated equipment. Update remote end relaying towards Don Marquis. (s2213.7) Estimated Cost: \$1.1M (OVEC)
- At Pierce station, remove X-530 No.1 Exit and associated equipment. Update the remote end relaying towards Don Marquis. (s2213.8) Estimated Cost: \$0.8M (OVEC)
- Six-wire 71.5 miles of the Pierce-Don Marquis line. Construct 0.13 miles of line to tie into Don Marquis station. (s2213.9) Estimated Cost: \$0.8M (OVEC)
- Six-wire 50.4 miles of the Kyger Creek-Don Marquis line. Construct 0.5 miles of line to tie into Don Marquis station. (s2213.10) Estimated Cost: \$0.9M (OVEC)
- Install intertie metering at Don Marquis 345 kV station OVEC side (s2213.11) Estimated Cost: \$0.8M (OVEC)

Total Cost AEP: \$30.4M Total Cost OVEC: \$4.4M

**Projected In-Service:** 11/01/2021 **Supplemental Project ID:** s2213

**Project Status:** Scoping

Model: N/A



Appendix C Agency Correspondence



In reply, refer to 2021-PIK-52926

November 19, 2021

Mr. Ryan J. Weller Weller & Associates, Inc. 1395 West Fifth Avenue Columbus, Ohio 43212

RE: Arboles 138kV Station, Scioto Township, Pike County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on October 21, 2021 regarding the proposed Arboles 138kV Station, Scioto Township, Pike County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the Cultural Resource Assessment titled *Arboles 138kV Station Pike County, Ohio (BPID P18147007)* by Seth T. Cooper (Weller & Associates, Inc. 2021).

The proposed project is located adjacent to the Portsmouth Gaseous Diffusion Plant. Three (3) archaeological surveys have already taken place within the proposed project area for the Arboles 138kV Station. No archaeological sites were previously identified and our office agrees no additional archaeological survey is needed.

A literature review was completed as part of the investigations. One (1) Determination of Eligibility (DOE) properties associated with the Portsmouth Gaseous Diffusion Plant were identified within the Area of Potential Effects (APE). Based on the information provided, the work will include the construction of a new 138kV station that is proposed on the west side of the Power Plant compound. The new construction will be compatible with surrounding construction and use; therefore, our office concurs that the work as proposed should have no effect on historic properties.

Based on the information provided, we agree that the project as proposed will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me at (614) 298-2022, or by e-mail at <a href="mailto:khorrocks@ohiohistory.org">khorrocks@ohiohistory.org</a> or Joy Williams at <a href="mailto:jwilliams@ohiohistory.org">jwilliams@ohiohistory.org</a>. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

RPR Serial No: 1090585

### Otto, Ben/CIN

From: Ohio, FW3 <ohio@fws.gov>

Sent: Monday, March 22, 2021 10:43 AM
To: Otto, Ben/CIN; Grant S Stuller

Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate

**Subject:** [EXTERNAL] AEP - Arboles Station Transmission Lines Project in Scioto Township, Pike

County, Ohio



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# 03E15000-2021-TA-1017

Dear Mr. Otto,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found 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 breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet 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, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule

(see <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then 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 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. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

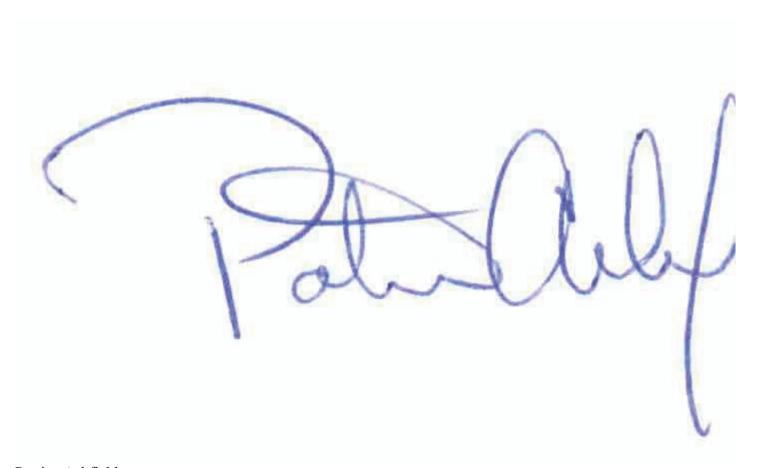
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army 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. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or 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, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@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,



Patrice Ashfield Field Office Supervisor

ce: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621

Fax: (614) 267-4764

May 6, 2021

Ben Otto 2 Crowne Point Court Suite 100 Cincinnati, Ohio 45241

Re: 21-0342; AEP Arboles Station and Associated Transmission Lines Project

**Project:** The proposed project includes the construction of five 138 kilovolt (kV) transmission lines, the removal of approximately 0.8-mile of existing 100-foot 138 kV transmission line right-of-way (ROW,) rebuilding approximately 0.4- mile of existing 100-foot 138 kV line ROW, and the construction of the Arboles substation.

**Location:** The proposed project is located in Scioto Township, Pike County Ohio.

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

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

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

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

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

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". https://ohiodnr.gov/static/documents/wildlife/wildlifemanagement/Bat+Survey+Guidelines.pdf

If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, <u>sarah.stankavich@dnr.state.oh</u>.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana Bat Survey Guidelines." If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, sarah.stankavich@dnr.state.oh.us for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species. The project is within the range of the following listed mussel species:

#### Federally Endangered

clubshell (*Pleurobema clava*) Northern riffleshell (*Epioblasma torulosa rangiana*) rayed bean (*Villosa fabalis*)

#### State Endangered

Ohio pigtoe (*Pleurobema cordatum*) washboard (*Megalonaias nervosa*) yellow sandshell (*Lampsilis teres*)

#### State Threatened

black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

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 following listed fish species:

#### State Endangered

bigeye shiner (*Notropis boops*) goldeye (*Hiodon alosoides*), popeye shiner (*Notropis ariommus*), shoal chub (*Macrhybopsis hyostoma*), shortnose gar (*Lepisosteus platostomus*), shovelnose sturgeon (*Scaphirhynchus platorynchus*),

#### State Threatened

blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), paddlefish (*Polyodon spathula*) river darter (*Percina shumardi*), Tippecanoe darter (*Etheostoma tippecanoe*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus 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 within 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 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 within 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 midland mud salamander (*Pseudotriton montanus diastictus*), a state threatened species. Due to the location, the type of habitat within the project area, and the type of work proposed, 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.

 $\frac{http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community \\ \underline{\%20Contact\%20List \ 8\_16.pdf}$ 

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <u>Sarah.Tebbe@dnr.state.oh.us</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

Appendix D Ecological Survey Report

# **Ecological Survey Report**

# **Arboles Station and Associated Transmission Lines Project**

Pike County, Ohio

Prepared for



December 2021



2 Crowne Point Court, Suite 100 Cincinnati, OH 45241

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- F Representative Photographs
- G Documentation for State- and Federally Listed Species

# 1 Introduction

This report summarizes the results of the wetland and waterbody delineation surveys conducted in Pike County by Jacobs Engineering Group, Inc. (Jacobs) for American Electric Power Ohio Transco (AEP), Department of Energy Arboles Station and Transmission Lines Project (Project). AEP is proposing to construct the new Arboles Station along with several transmission line components:

- The construction of five 138 kilovolt (kV) transmission lines totaling 2.4 miles with portions of new 100-foot right-of-way (ROW),
- the removal of approximately 0.8-mile of existing 138 kV transmission line
- rebuilding approximately 0.4-mile of existing 138 kV transmission line
- reconductoring approximately 0.1-mile of existing 138 kV transmission line
- reconductoring six-wire existing double circuit line on two structures

The overall Project alignment is depicted on the Overview Map (Figure 1). Jacobs conducted environmental surveys in January 2021. The environmental survey corridor (ESC) width was 100 feet which included AEP's existing right-of-way (ROW) and the area proposed for the Arboles Station.

This wetland and waterbody delineation report contains the following components:

- Appendix A, Figure 1 provides an overview map of the ESC overlain on a U.S. Geological Survey (USGS) topographic map.
- Appendix A, Figures 2.1 to 2.9 show U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) mapped soil units, National Wetlands Inventory (NWI) information, National Hydrology Dataset (NHD) information, and Federal Emergency Management Agency (FEMA) floodplain information. Table 3-1 lists the soils types identified within the ESC.
- Appendix A, Figures 3.1 to 3.9 provide the location of all features mapped during the delineation by Jacobs biologists within the ESC. This includes all wetlands, data points, waterbodies, and ponds. Tables 4-1, 4-2, 4-3, 4-5, and 4-6 provide feature summary information for all wetlands, streams, and ponds delineated within the ESC.
- Appendix A, Figure 4.1 to 4.9 provide a Habitat Map for the environmental survey corridor
- U.S. Army Corps of Engineers (USACE) wetland determination field data forms are in Appendix B.
- Ohio Rapid Assessment Method for Wetlands (ORAM) two-page forms are in Appendix C.
- Primary Headwater Habitat Evaluation Index (HHEI) stream data forms for each stream identified with a drainage area less than 1 square mile are in **Appendix D**.
- Jacobs Open Water/Pond data forms for each open water feature identified within the ESC are in Appendix E.
- Representative photographs of wetlands, streams, and ponds within the ESC are in Appendix F.
- Documentation for state- and federally listed species is in Appendix G.

# 2 Background Information

The Project is located on Department of Energy (DOE) Portsmouth property located in Pike County, Ohio. The ESC includes a network of new and existing transmission line ROWs generally extending south from Don Marquis Substation (39.0237, -83.0100), north from existing X5001 Station (39.0036, -83.0104), west from Sargents Substation (39.0149, -83.0051), and east from Wakefield Mound Road (39.0178, -83.0239). The ESC is approximately 3.7 miles long, 100 feet wide, and totals approximately 74 acres (Figure 1).

Review of the USGS Piketon, Ohio 7.5-minute topographic map indicates that unnamed tributaries to Little Beaver Creek, Big Beaver Creek, and the Scioto River drain the ESC. The Project area is generally flat at around 700 feet above sea level, with a hill slope in the northern portion that reaches 800 feet above sea level and a stream valley near the center that drops to 615 feet above sea level (Figure 1).

Land use and natural habitat observed within the ESC (Figure 4, Habitat Map) includes existing roadway and railroad, substations, old field/maintained ROW, commercial lawn, upland forest, upland scrub shrub, open water, and palustrine emergent (PEM) wetland.

# 2.1 Annual Precipitation

Precipitation history in the Agricultural Applied Climate Information System (AgACIS) was reviewed prior to completing the environmental survey to determine if climatic conditions were normal at the time of the survey. Waverly, Ohio contains the nearest weather station with both historical and recent precipitation records. Precipitation recorded in the Project area indicated normal conditions in the months leading up to and during the January 2021 survey (Table 2-1). This was taken into consideration when conducting the wetland delineation.

**TABLE 2-1: Recent Precipitation Data** 

Department of Energy Arboles Station and Transmission Lines Project								
Precipitation Data <sup>1</sup> November 2020 December 2020 January 2021 Total								
Normal Monthly Precipitation	1.85 - 3.53	2.01 - 3.62	1.43 - 3.15	5.29 - 10.30				
Actual Monthly Precipitation 2.00 2.35 2.51 6.86								
Monthly Climatic Condition	Normal	Normal	Normal	Normal				

Source: NOAA, 2020 <sup>1</sup>Displayed in inches

# 2.2 Drainage Basins

The ESC crosses the Lower Scioto 8-digit Hydrologic Unit Code (HUC) River Basin (05060002) and two 12-digit HUCs, as outlined in Table 2-2 (USGS, 2020).

TABLE 2-2: HUCs Crossed by the Project

Department of Energy Arboles Station and Transmission Lines Project						
HUC 12-Digit Code HUC 12-Digit Name						
Little Beaver Creek-Big Beaver Creek	050600021303					
Big Run-Scioto River	050600021602					
Source: USGS, 2020						

# 2.3 Nationwide Permits- Ohio 401 Water Quality Certification

The USACE issued its final rule on January 13, 2021, modifying and reissuing 12 existing nationwide permits (NWPs) and issuing four entirely new NWPs, which went into effect on March 15, 2021 (Schirra, 2021). The USACE determined that the Ohio Environmental Protection Agency waived its certification for the 2021 NWPs, and therefore there is no corresponding 401 WQC permitting obligation for the 16 NWPs, including NWP 57 – Overhead Utilities. The status of Ohio's 401 WQC requirements for specific NWPs may be subject to change and should be reviewed for permitting purposes as needed.

# 3 Wetland and Waterbody Delineation

## 3.1 Desktop Review

Prior to conducting the field investigations, Jacobs reviewed the following resources to identify the potential for wetlands within the ESC:

- Aerial photo-based maps (ArcGIS Online "World Imagery" Basemap [AGOL, 2019a])
- USGS topographic maps (ArcGIS Online "USA Topo" Basemap [AGOL, 2019b])
- NRCS Web Soil Survey (NRCS, 2019)
- NWI maps (USFWS, 2021a)
- National Hydrography Dataset (NHD) (USGS, 2019)

According to the NRCS soil survey of Pike County (NRCS, 2019), nine soil map units are crossed by the ESC, all of which are listed as non-hydric (Figures 2.1 to 2.9; Table 3-1). Generally, hydric soils are those soils that indicate through their color and structure that they have experienced dominantly reducing (i.e. oxygen poor) conditions. Oxygen-poor conditions result from inundation and/or saturation by water. Partially hydric soils have both hydric and non-hydric soil components identified in the mapped soil unit.

TABLE 3-1: Mapped Soil Units
Department of Energy Arboles

Department of Energy Arboles Station and Transmission Lines Project							
Symbol	Soil Description	Hydric Classification	Acreage within ESC				
СоВ	Coolville silt loam, 1 to 8 percent slopes	Non-hydric	0.43				
СрС	Coolville-Blairton association, rolling	Non-hydric	0.71				
FoB	Fox loam, 2 to 6 percent slopes	Non-hydric	0.03				
Omu1B1	Omulga silt loam, 2 to 6 percent slopes	Non-hydric	12.74				
PrC	Princeton fine sandy loam, 8 to 15 percent slopes	Non-hydric	4.71				
PrD	Princeton fine sandy loam, 15 to 30 percent slopes	Non-hydric	2.04				
RdD	Rarden silt loam, 15 to 25 percent slopes	Non-hydric	1.43				
SpF	Shelocta-Latham association, steep	Non-hydric	4.62				
UoA	Urbanland-Omulga complex, 0 to 6 percent slopes	Non-hydric	40.24				

NWI data were obtained from the USFWS for review of potential wetlands that may occur within the ESC. The NWI data (USFWS, 2021a) identify the type of wetland or open water present at a location using the USFWS classification system (Cowardin et al., 1979). The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. The information on NWI maps is obtained largely from aerial interpretation, may be outdated, and is only sporadically field-checked. Additional detail regarding the mapped NWI wetlands within the ESC is provided in Table 4-4.

The ESC does not cross any FEMA-mapped 100-year floodplains or floodways (FEMA, 2020).

# 3.2 Field Survey Methodology

On January 20-22, 2021, Jacobs biologists surveyed the ESC by walking the corridor and evaluating for wetlands and other waterbodies. The boundaries of each wetland and waterbody within the ESC were

delineated and recorded using handheld global positioning system (GPS) units. For streams identified within the Project area, the ordinary high-water mark (OHWM) was used as the jurisdictional boundary.

Wetland, stream, and pond data were recorded on USACE Regional Supplement wetland determination data forms, Headwater Habitat Evaluation Index (HHEI) forms, and Jacobs standard open water/pond data forms, respectively. All other land use, habitat, and other supplemental data was collected in a field notebook during the environmental survey.

### 3.2.1 Wetland Delineation

Wetland boundaries were field-delineated according to Section 404 of the Clean Water Act (CWA) and the routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers' Wetlands Delineation Manual* and subsequent guidance documents (USACE, 1987) and according to the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual Eastern Mountains and Piedmont Region (Version 2.0)* (USACE, 2012). Representative wetland and upland data points were recorded during the wetland delineation to determine the presence/absence of wetlands and/or document upland conditions within the Project area. Upland data points were determined not to be within wetlands because they did not have positive indicators of one or more of the three wetland criteria: hydrophytic vegetation, wetland hydrology, and hydric soils.

Wetland quality was evaluated using the OEPA Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack, 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA, 2000). Jacobs commonly assesses each Cowardin component of a wetland complex with a separate USACE wetland determination form. However, the ORAM evaluates the larger wetland complex as a unit and as a result each wetland component within a complex will receive the same ORAM score.

#### 3.2.2 Stream Assessment

Jurisdictional streams were identified as those waters that possessed a continuously defined bed and bank, OHWM indicators, and lacked a dominance of upland vegetation in the channel. Per USACE guidance, the OHWM is defined as the "line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE and USEPA, 2020). Channels that parallel a roadway or railroad were identified as upland drainage features and were not considered to be jurisdictional unless they had an identifiable OHWM, were identified on the USGS topographic map, or represented a presumed relocation of a natural channel.

During the field survey, functional stream assessments were conducted using the methods described in the OEPA's Methods for Assessing Habitat in Flowing Waters: Using OEPA's *Qualitative Habitat Evaluation Index* (OEPA, 2006) and in the OEPA's Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams (OEPA, 2018). The Qualitative Habitat Evaluation Index (QHEI), is used to characterize larger streams (drainage areas greater than 1 square mile), while the Primary Headwater Habitat Evaluation Index (HHEI) is appropriate for first-order and second-order headwater streams (drainage areas less than 1 square mile).

# **4 Field Survey Results**

Jacobs' biologists identified a total of eight wetlands, 16 streams, and one pond within the ESC. The features identified within the ESC are displayed on the Delineated Features Map (Figures 3.1 to 3.9). Jacobs defaults to the USACE and OEPA for the final determination of hydrologic connectivity and jurisdiction.

### 4.1 Wetlands

Eight wetlands, totaling 0.35 acres, ranging in size from less than 0.01 to 0.12 acre, were delineated within the ESC. The reported wetland acreage only corresponds to areas delineated within the ESC as some wetlands extended beyond the survey boundary. All eight wetlands were identified as PEM wetlands. Summary information for each delineated wetland within the ESC is provided in Table 4-1. Completed USACE wetland and upland forms are provided in Appendix B. Representative photographs were taken of each wetland during the field survey and are provided in Appendix E.

Table 4-1: Delineated Wetland Table

Department of Ene	Department of Energy Arboles Station and Transmission Lines Project								
	Loca	ition			ORAM Score,	Preliminary			
Wetland ID	Latitude	Longitude	Habitat Type <sup>1</sup>	Area (ac) <sup>2</sup>	Category	Jurisdicational Status			
Wetland AS-001	39.02384	-83.01100	PEM	<0.01	16, Category 1	Jurisdictional			
Wetland AS-002	39.01650	-83.01733	PEM	0.02	21, Category 1	Jurisdictional			
Wetland AS-003	39.01657	-83.01404	3.01404 PEM 0.04		29, Category 1	Jurisdictional			
Wetland AS-004	39.01615	-83.00785	PEM	0.02	21, Category 1	Jurisdictional			
Wetland AS-005	39.01482	-83.00542	PEM	0.12	15, Category 1	Non-Jurisdictional (Isolated)			
Wetland AS-006	39.01316	-83.01064	PEM	0.03	32, Category 2	Jurisdictional			
Wetland AS-007	39.01080	-83.01233	PEM	0.05	22, Category 1	Jurisdictional			
Wetland AS-008	39.00831	-83.01227 PEM		0.07	27, Category 1	Jurisdictional			
Total: 8		Total	Wetland Acreage	0.35					

<sup>&</sup>lt;sup>1</sup>Cowardin et al. 1979.

#### 4.1.1 Wetland ORAM Results

A total of seven Category 1 wetlands and one Category 2 wetland was identified within the ESC. No Category 3 wetlands were identified within the ESC. Table 4-1.1 provides summary information regarding wetlands identified within the ESC; the ORAM forms are included in Appendix B.

The seven Category 1 PEM wetlands were classified as Category 1 based on ORAM scores ranging from 15 to 29. Generally, these wetlands scored low due to a variety of factors such as small size, narrow buffers with moderately high intensity of surrounding land use, weak hydrology with modifications to hydrology regime and no connectivity, substrate disturbance and habitat alteration, poor to fair habitat development, weak vegetation diversity, and low to no interspersion.

The single Category 2 PEM wetland had an ORAM score of 32. Compared to the Category 1 wetlands it was slightly larger and similar surrounding land use, stronger hydrology, and greater habitat development.

No Category 3 wetlands were identified within the ESC.

<sup>&</sup>lt;sup>2</sup>This acreage only corresponds to the area delineated within the environmental survey corridor.

**TABLE 4-1.1: Wetland Summary Table** 

Department of Energy Arboles Station and Transmission Lines Project

	C	RAM Categor	Normala a re a f	A		
Wetland Type	Category 1	Category 2 Category		Number of Wetlands	Acreage within ESC <sup>1</sup>	
PEM	7	1	0	8	0.35	
PSS	0	0	0	0	0	
PFO	0	0	0	0	0	
Totals	7	1	0	8	0.35	

<sup>&</sup>lt;sup>1</sup>This acreage only corresponds to the area delineated within the environmental survey area.

#### 4.1.2 NWI Field Verification

The NWI data indicate that there are mapped riverine systems present within the ESC (Figures 2.1 to 2.9; USFWS, 2021a). During Jacobs' field survey the two mapped NWI areas were identied as streams(Table 4-1.2).

**TABLE 4-1.2: Mapped National Wetland Inventory Features** 

Department of Energy Arboles Station and Transmission Lines Project

Wetland Classification Code <sup>1</sup>	NWI Description	Figure 3	Related Field Inventoried Resource	Comments
R4SBC	Riverine intermittent, streambed, seasonally flooded	3.3	Stream AS-005	NWI continues north and south of ESC. Stream channel forms within ESC; north of stream is undefined upland but sourced from a pond north of ESC
R4SBC	Riverine intermittent, streambed, seasonally flooded	3.7	Stream AS-014	NWI continues west of ESC. Stream begins at culvert within ESC

<sup>&</sup>lt;sup>1</sup>Cowardin et al., 1979.

## 4.2 Streams

A total of 16 streams, totaling 3,155 linear feet were identified within the ESC. Of the 16 streams, seven were identified as ephemeral streams, eight were intermittent streams, and one was a perennial stream. All streams were assessed using the HHEI methodology (drainage area less than 1 mi<sup>2</sup>). Table 4-2 provides detailed information on the delineated streams.

TABLE 4-2: Delineated Stream Table

Department of Energy Arboles Station and Transmission Lines Project

	Loc	ation			Average	Average		
Stream ID	Latitude	Longitude	Flow Regime <sup>1</sup>	Linear Feet <sup>2</sup>	OHWM Width (Feet)	TOB Width (Feet)	HHEI Score	Class/Designation
Stream AS- 001	39.02317	-83.01186	Ephemeral	339	3	4	17	Modified Ephemeral
Stream AS- 002	39.02161	-83.01309	Ephemeral	128	3	4	27	Ephemeral
Stream AS- 003	39.02101	-83.01354	Intermittent	290	2	6	39	Modified Small Drainage Warmwater
Stream AS- 004	39.02045	-83.01402	Intermittent	256	2	3	17	Modified Ephemeral
Stream AS- 005	39.01772	-83.02041	Intermittent	76	1	2	46	Modified Small Drainage Warmwater
Stream AS- 006	39.01749	-83.01778	Ephemeral	184	1	2	16	Ephemeral
Stream AS- 007	39.01600	-83.01359	Ephemeral	48	1	2	17	Modified Ephemeral

TABLE 4-2: Delineated Stream Table

Department of Energy Arboles Station and Transmission Lines Project

	Loc	ation		-	Average	Average		
Stream ID	Latitude	Longitude	Flow Regime <sup>1</sup>	Linear Feet <sup>2</sup>	OHWM Width (Feet)	TOB Width (Feet)	HHEI Score	Class/Designation
Stream AS- 008	39.01610	-83.01006	Ephemeral	137	1	5	20	Ephemeral
Stream AS- 009	39.01608	-83.00927	Intermittent	320	3	4	39	Modified Small Drainage Warmwater
Stream AS- 010	39.01603	-83.00867	Ephemeral	184	2	4	28	Ephemeral
Stream AS- 011	39.01530	-83.00950	Intermittent	57	5	6	54	Modified Small Drainage Warmwater
Stream AS- 012	39.01398	-83.01209	Ephemeral	361	4	8	71	Spring Water
Stream AS- 013	39.01358	-83.01232	Perennial	212	15	20	77	Spring Water
Stream AS- 014	39.01135	-83.01220	Intermittent	328	8	12	76	Spring Water
Stream AS- 015	39.01108	-83.01190	Intermittent	38	4	5	61	Spring Water
Stream AS- 016	39.00898	-83.01234	Intermittent	197	2	3	29	Modified Ephemeral
Total: 16 Total Stream Length				3,155			<u> </u>	

<sup>&</sup>lt;sup>1</sup>Flow regime is defined as perennial, intermittent, or ephemeral. This determination was interpreted using field observations and USGS topographic maps as appropriate.

#### 4.2.1 HHEI Results

Sixteen (16) headwater streams, totaling 3,155 linear feet within the ESC, were evaluated using the HHEI methodology. Of the 16 streams, four were classified as ephemeral streams, four as modified ephemeral streams, four as modified small drainage warmwater streams, and four as spring water streams. Table 4-2.1 provides a summary of the HHEI results for streams identified within the ESC, and completed HHEI forms are provided in Appendix C. Representative photographs (upstream, downstream, substrate) of the streams were taken during the field survey and are provided in Appendix E.

TABLE 4-2.1: HHEI Summary Table

Department of Energy Arboles Station and Transmission Lines Project								
Flow Regime	HHEI Class							Length
	Ephemeral	Modified Ephemeral	Small Drainage Warmwater	Modified Small Drainage Warmwater	Spring Water	Rheocrene	Number of Streams	(feet) within ESC
Ephemeral	4	2	0	0	1	0	7	1,381
Intermittent	0	2	0	4	2	0	8	1,562
Perennial	0	0	0	0	1	0	1	212
Total	4	4	0	4	4	0	16	3,155

# 4.3 Ponds/Open Water

One pond with an acreage of 0.21 acres in the ESC was identified. Table 4-3 provides detailed information on the delineated pond. Jacobs' Pond/Open Water forms are provided in Appendix D and representative photographs are provided in Appendix E.

<sup>&</sup>lt;sup>2</sup>Stream length within the environmental survey area.

**TABLE 4-3: Delineated Pond Table** 

Department of Energy Arboles Station and Transmission Lines Project						
Pond ID	Location		Aaraaaa within FCC	Dualmainama luniadiatianal Status		
	Latitude	Longitude	Acreage within ESC	Prelminary Jurisdictional Status		
Pond AS-001	39.01369	-83.01029	0.21	Jurisdictional		

#### 4.4 Land Use/Habitat

In addition to the delineated wetland and waterbody features, Jacobs observed the following land use types and natural habitat within the ESC: existing roadway/railroad, gravel lot/substation pad, commercial lawn, herbaceous maintained ROW, scrub/shrub maintained ROW, upland forested, and open water. Based on Jacobs' observations, the primary land use the ESC crosses is old field/herbaceous maintained ROW. The land use types identified along with acreages within the ESC are defined in Table 4-4 and shown on Figures 4.1 to 4.9.

TABLE 4-4: Land Use and Natural Habitat Summary

Department of Ener	gy Arboles Station and Transmission Lines Project		
Land Use and Natural Habitat	Land Use Description	Approximate Acreage Within the ESC	Approximate Percentage Within the ESC
Existing Roadway/Railroad	Areas where existing public or private dirt, gravel, or paved roads are present, as well as railroad infrastructure.	7.6	9%
Gravel Lot	Areas covered by gravel where vegetation is suppressed by the presence of the gravel cover; often used for commercial/industrial/residential purposes	1.3	1.5%
Gravel Substation Pad	Areas that include an existing substation and the surrounding gravel pad.	2.2	2.6%
Commercial Lawn	Areas where commercial properties are present, including lawns and other landscaped areas associated with the commercial property. These areas contain frequently mowed grasses and forbs.	19.7	23.4%
Old Field/Herbaceous Maintained ROW	Areas that are regularly maintained and dominated by primarily upland herbaceous vegetation, such as smooth brome ( <i>Bromus inermis</i> ), tall fescue ( <i>Schedonorus arundinaceus</i> ), Queen Anne's lace ( <i>Daucus carota</i> ), tall goldenrod ( <i>Solidago altissima</i> ), common mullein ( <i>Verbascum thapsus</i> ), and other upland herbaceous vegetation. This community may have some wetland vegetation and/or upland shrub vegetation present to a lesser extent.	25.8	42.6%
Upland Scrub/Shrub Maintained ROW	Areas that are regularly maintained and dominated by primarily upland shrub vegetation, such as sumacs ( <i>Rhus</i> spp.), raspberries ( <i>Rubus</i> spp.), multiflora rose ( <i>Rosa multiflora</i> ), hawthorns ( <i>Crataegus</i> spp.), saplings of trees identified in upland forested species description, and other upland shrub species.	7.1	8.4%
Upland Forested	Areas that are dominated by primarily upland forested vegetation, such as maples ( <i>Acer</i> spp.), oaks ( <i>Quercus</i> spp.), shagbark hickory ( <i>Carya ovata</i> ), black cherry ( <i>Prunus serotina</i> ), black walnut ( <i>Juglans nigra</i> ), and other upland tree species. This community may have some wetland vegetation and/or upland vegetation in the shrub or herbaceous strata, but the predominant vegetation is comprised of upland tree species.	10.2	12%

#### TABLE 4-4: Land Use and Natural Habitat Summary

Department of Energy Arboles Station and Transmission Lines Project						
Land Use and Natural Habitat	Land Use Description	Approximate Acreage Within the ESC	Approximate Percentage Within the ESC			
Open Water	Impounded open water features typically used for stormwater retention, cattle ponds, aesthetic or recreational purposes, or a combination of those purposes.		0.4%			
	Totals:	74.3	100%			

# **5 Protected Species**

Jacobs reviewed the USFWS Ohio Ecological Services Office website (USFWS, 2018) for information concerning which federally listed species were known to occur, or to potentially occur, in Pike County, Ohio. In addition, Jacobs was provided with Ohio Natural Heritage Database data from the Ohio Department of Natural Resources (ODNR) Division of Wildlife (DOW), on known occurrences of federally listed and state-listed species within a one-mile radius of the Project area.

#### 5.1 Federal and State Agency Coordination Summary

Table 5-1 includes the federally listed species identified by the USFWS as occurring or potentially occurring in Pike County, Ohio along with other habitat observations and information on recorded locations, if applicable. Table 5-1 also outlines state-listed species identified by the ODNR-DOW (ODNR, 2021) as being located within a one-mile radius of the Project area. Species-specific surveys were not conducted for the federally listed or state-listed species.

TABLE 5-1: Federally Listed and State-Listed Threatened and Endangered Species Impact Assessment

Department of Energy Arboles Station and Transmission Lines Project

Common Name (Scientific Name)	Federal Status	State Status	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area	ODNR Recommendation
Indiana bat (Myotis sodalis)	Endangered	Endangered	Hibernates in caves and mines; Maternity and foraging habitat = small stream corridors with well-developed riparian woods and upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Northern long- eared bat (Myotis septentrionalis)	Threatened	Threatened	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Little brown bat (Myotis lucifugus)	NA	Endangered	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).

TABLE 5-1: Federally Listed and State-Listed Threatened and Endangered Species Impact Assessment

Department of Energy Arboles Station and Transmission Lines Project

Common Name (Scientific Name)	Federal Status	State Status	General Habitat Notes	Recorded Location within Project Vicinity	Potential Habitat in Project Area	ODNR Recommendation
Tricolored bat (Perimyotis subflavus)	NA	Endangered	Hibernates in caves and mines; swarms in surrounding wooded areas in autumn. During late spring and summer, roosts and forages in upland forests.	No records returned	Yes	October 1 through March 31 tree clearing and desktop habitat assessment for potential hibernaculum(a).
Several Mussel Species	NA	Endangered, Threatened	Streams	No records returned	Not likely	Not likely to impact this species.
Several Fish Species	NA	Endangered, Threatened	Perennial Streams	No records returned	Not likely	No in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat.
Timber rattlesnake (Crotalus horridus)	Species of Concern	Endangered	Woodland species. In addition to using wooded areas, also utilizes sunlit gaps in the canopy for basking and deep rock crevices (den sites) for overwintering.	No records returned	Not likely	Not likely to impact this species.
Eastern spadefoot toad (Scaphiopus holbrookii)	NA	Endangered	Found in areas of sandy soils associated with river valleys. Breeding habitats may include flooded agricultural fields or other water holding depressions.	No records returned	Not Likely	Not likely to impact this species.
Midland mud salamander (Pseudotriton montanus diastictus)	NA	Threatened	This species is typically found in streams, seeps and swamps and underneath logs, rocks and leaves	No records returned	Not likely	Not likely to impact this species.

## **5.2 Protected Species Summary**

Coordination with ODNR-DOW was initiated to obtain Environmental Review and Ohio Natural Heritage Database records within a 1-mile buffer area around the project (ODNR-DOW, 2021). Current information on the species provided through USFWS (USFWS, 2021b) and the ODNR-DOW Ohio Natural Heritage Database is provided in Table 5-1 (above).

A consultation request was submitted to the USFWS on March 10, 2021 and their response was received on March 22, 2021. The USFWS confirmed that the project area lies within the range of two federally listed species, Indiana bat and northern long-eared bat (USFWS, 2021b; Table 5-1).

A consultation request was submitted to the ODNR on March 10, 2021 and their response was received on May 6, 2021. The Project area is within range of four state-listed bat species. If trees must be cut, ODNR-DOW recommends only cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a diameter at breast height (DBH) greater than or equal to 20 inches. If trees must be cut during summer months, ODNR-DOW recommends a mist net survey or acoustic survey to be conducted from June 1 to August 15, prior to any cutting. ODNR also recommended that a desktop habitat assessment, followed by a field assessment if needed, be conducted to determine if there are potential hibernaculum(a) present within the Project area.

During the field survey conducted by Jacobs in January 2021, no evidence of potential hibernaculum consisting of caves, rock outcrops, mines, cliffs, or karst features were observed. In addition to the field survey, USFWS and ODNR did not identify any known bat hibernaculum or records of federal or state listed bats within a one-mile radius of the Project.

Jacobs' biologists also followed methodology provided in Appendix H of the USFWS "Range-wide Indiana Bat Survey Guidelines" document to conduct a desktop hibernaculum assessment. Review of the USGS Piketon, Ohio 7.5-minute topographic map identified several mine features within 3 miles of the Project area that are labeled as sand and gravel pits. According the ODNR Division of Mineral Resources data, several active and inactive surface mines are located within 3 miles of the Project area. These mines were identified as sand and gravel surface mines located west of U.S. Route 23 near the Scioto River. No active surface mines are located within 0.25 miles of the Project. One inactive surface mine (G & M Gravel & Stone Co., Permit ID IM-0688) is located approximately 0.15 miles from the western most portion of the Project. According to the ODNR Mines of Ohio Viewer, this inactive surface mine has a Mine Operation Status of "Released" and a Date of Map of 7/29/1982. Aerial imagery indicates that the location of this former surface mine currently consists of active agricultural row crop and old field land use types. Due to the current land use (old field and agricultural land) of this inactive surface mine, it is unlikely that a potential hibernaculum exists at this site. Based on the desktop habitat review, it does not appear likely that potential hibernaculum exists within 0.25-mile of the Project area.

According to ODNR, the Project must not have an impact on freshwater native mussels within the Project area and per the Ohio Mussel Survey Protocol (ODNR-DOW, 2020), all Group 2, 3, and 4 streams require mussel surveys. No in-stream work is currently proposed during construction activities and will not directly impact streams crossed by the Project area. Therefore, mussel surveys will not likely be required. The ODNR-DOW recommends no in-water work in any perennial stream from April 15 through June 30 to reduce impacts to indigenous species and their habitat. Because no in-water work is proposed in any perennial stream within the Project area, the Project is not likely to impact threatened or endangered aquatic species.

The Project is within the range of timber rattlesnake, eastern spadefoot toad, and midland mud salamander. ODNR states that due to the location, type of habitat within the project area, and type of work proposed, the Project is not likely to impact these species.

## **6 Conclusion**

This report presents the background research, field surveys results, and threatened and endangered species consultation conducted for the Arboles Station and Associated Transmission Lines Project located in Pike County, Ohio.

During the January 2021 field survey, eight wetlands, 16 streams, and one pond were delineated within the ESC. The eight wetlands, totaling 0.35 acres within the ESC, were all PEM wetlands. Of the eight wetlands, seven were identified as Category 1 wetlands and one was a Category 2 wetland. No Category 3 wetlands were identified within the ESC.

The 16 streams, totaling 3,155 linear feet, identified within the ESC include seven ephemeral streams, eight intermittent streams, and one perennial stream. All streams were were assessed using the HHEI methodology (drainage area less than 1 mi²). While the jurisdictional status of these identified features is provided with tables of this report, the USACE and OEPA will provide the final determination of hydrologic connectivity and jurisdiction. Coordination with the USACE and OEPA is recommended prior to the submittal of any permit or construction activities, dependent on the planned impacts to wetlands and waterbodies.

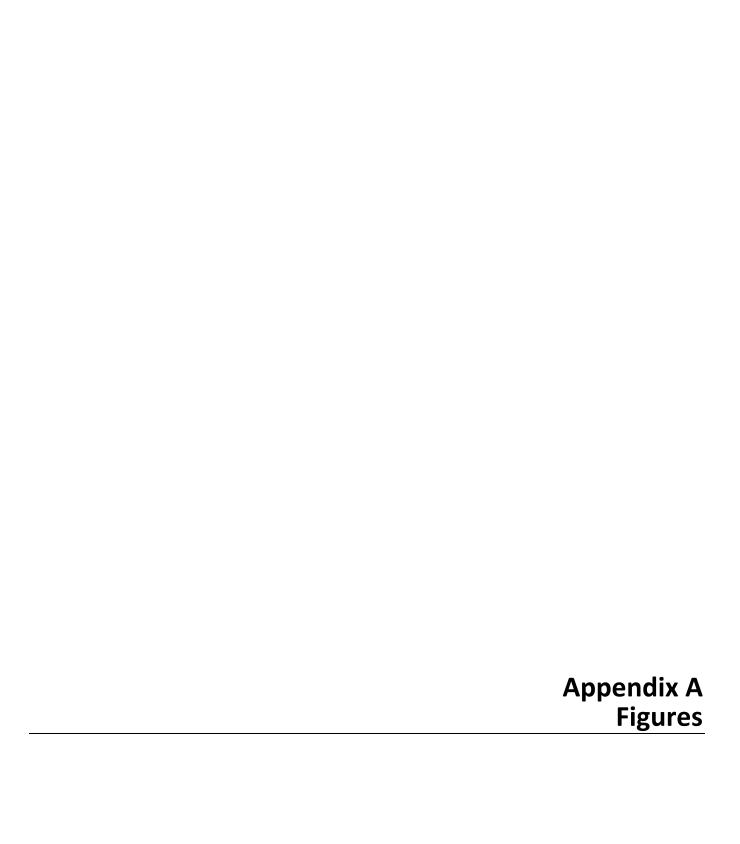
The results of the environmental survey described in this report conducted by Jacobs are limited to what was identified within the ESC, as depicted in Figures 3.1 to 3.9. The information contained in this wetland delineation report is for a study area that may be much larger than the actual Project limits-of-disturbance for construction; therefore, lengths and acreages listed in this report may likely not constitute the actual impacts of the Project at the time of construction. If permits are determined to be necessary, actual impacted lengths and/or acreages will be submitted in subsequent permit applications.

The wetland and waterbodies delineation field survey results presented within this report apply to the site conditions at the time of our assessment. Changes within the environmental survey area that may occur with time due to natural processes or human impacts at the Project site or on adjacent properties, could invalidate the findings of this report, especially if Jacobs is unaware and has not had the opportunity to revisit the Project survey area. Additionally, changes in applicable standards and regulations may also occur as a result of legislation or the expansion of knowledge over time. Therefore, the findings of this wetland and waterbodies delineation report may be invalidated, wholly or in part, by changes that are beyond the control of Jacobs.

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Appendix B U.S. Army Corps of Engineers (USACE) Wetland Determination Forms – Eastern Mountains & Piedmont Region

# Wetland AS-001

Project/Site: Arboles Station a	and Transmissi	on Lines	Project City/	County. Pike County		Sampling	Date: 01/20/2021
Applicant/Owner: AEP			Only/		State: OH	Samplir	Date: 01/20/2021 ng Point: W-BAO-012021-01
Investigator(s): BAO, JFW			Sect	ion, Township, Range:	S 6 T 4N R 22W		Ig 1 0.11t.
Landform (hillslope, terrace, et	C ) Toeslope		l ocal re	elief (concave convex	none). Concave		Slope (%)· 0
Subregion (LRR or MLRA): <u>LF</u>	3.7 3.R. N	Lat	· 39.02382	Long:	-8:	 3.01097	Datum: WGS 84
Soil Map Unit Name: CoB: Co							
Are climatic / hydrologic condit							
Are Vegetation, Soil			-		mal Circumstances		es X No
Are Vegetation , Soil,					d, explain any ansv		
7 to Vogotation , Con	_, or riyare	logy .	naturally problem	iado: (il ficodo	a, explain any ansv	voro in ritorna	1110.)
SUMMARY OF FINDING	GS – Attacl	n site n	nap showing sai	mpling point loca	itions, transec	ts, importa	ant features, etc.
			-	1		<u>-</u>	
Hydrophytic Vegetation Prese			No	Is the Sampled Are	ea y	X	
Hydric Soil Present?			No	within a Wetland?	Yes	XNo	
Wetland Hydrology Present?	Ye	es X	No				
Remarks:							
PEM wetland next to substation	on, almost entir	ely outsi	de of survey corridor.				
HYDROLOGY							
Wetland Hydrology Indicate	ore:				Secondary Indi	cators (minin	num of two required)
Primary Indicators (minimum		rod: choc	ok all that apply)			•	
	or one is requi			(D14)		oil Cracks (B6	·
Surface Water (A1) ☐ High Water Table (A2)		H	True Aquatic Plants			-	ncave Surface (B8)
Saturation (A3)		爿	Hydrogen Sulfide O	res on Living Roots (C		Patterns (B10	)
Water Marks (B1)		一片	Presence of Reduce	= :		Lines (B16) n Water Tabl	(C2)
Sediment Deposits (B2)		ᅢ		on in Tilled Soils (C6)		urrows (C8)	e (C2)
		+	Thin Muck Surface (	, ,			erial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)		+	Other (Explain in Re	•	=	Stressed Pla	
Iron Deposits (B5)		<u> </u>	Other (Explain in Re	marks)		ic Position (D	
Inundation Visible on Ae	rial Imageny (R	7)				quitard (D3)	12)
Water-Stained Leaves (E		' )			_	graphic Relief	f (D4)
Aquatic Fauna (B13)	) <del>)</del>					ral Test (D5)	(D4)
Field Observations:					T AC-Neuti	ai 1631 (D3)	
	Vaa X	Na	_ Depth (inches):	2 00			
Surface Water Present?							
Water Table Present?			Depth (inches):			.0. 1/	ν
Saturation Present? (includes capillary fringe)	Yes	No	_ Depth (inches):	wetian	d Hydrology Pres	ent? Yes_	No
Describe Recorded Data (stre	eam gauge, mo	nitoring	well, aerial photos, pr	evious inspections), if	available:		
Remarks:							

EGETATION (Five Stra	ita) – Use scie	ntific names o	f plants.		Sampling Point: W-BAO-012021-01
			e Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1	•		er Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2					Total Number of Dominant
3					Species Across All Strata:1 (B)
4					Demonstrat Demoissant Operation
5					Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6					
·			= Total Cov	ver	Prevalence Index worksheet:
	50% of total cov	ver: 0 20%			Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			UI lUlai GOVGI		OBL species <u>80</u> x 1 = <u>80</u>
					FACW species0
1					FAC species5 x 3 =15
2			_		FACU species15 x 4 =60
3					UPL species0 x 5 =0
4					Column Totals:100 (A)155 (B)
5					4.55
6					Trevalence index = b/A =
		0	= Total Cov	ver	Hydrophytic Vegetation Indicators:
	50% of total cov	ver: <u>0</u> 20%	of total cover	r:0	X 1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:	15')	)			X 2 - Dominance Test is >50%
1					X 3 - Prevalence Index is ≤3.0¹
2					4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3					data in Remarks or on a separate sheet)
4				<u> </u>	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5					
6.					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
·		-	= Total Cov	- ——— ver	
	500/ of total cov		<u></u>		Definitions of Five Vegetation Strata:
LL L Other trees (Dlat aleas		er: <u>0</u> 20%	Of total cover	": <u> </u>	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:		90	V	OBL	approximately 20 ft (6 m) or more in height and 3 in. (7.6 cm) or larger in diameter at breast height (DBH).
		- 10	<u>Y</u>	- OBL FACU	
2. Andropogon virginicus		·	<u>N</u>		Sapling – Woody plants, excluding woody vines,
3. Setaria pumila		<u>5</u>	N	FAC	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Erigeron annuus			N	FACU_	
5					Shrub – Woody plants, excluding woody vines, approximately 3 to 20 ft (1 to 6 m) in height.
6				- ——	approximately 3 to 20 it (1 to 6 iii) iii neight.
7					Herb – All herbaceous (non-woody) plants, including
8					herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9					ft (1 m) in height.
10					Maritarian Allumentusings regardless of height
11					Woody vine – All woody vines, regardless of height.
		100	_ = Total Cov	ver	
	50% of total cov	ver: 50 20%	of total cover	r 20	
Woody Vine Stratum (Plot siz		)	0, 1012.		
1	··				
_					
2					
3					
4					
5				- ——	Hydrophytic
		0	_ = Total Cov	ver	Vegetation
	50% of total cov	er: 0 20%	of total cover	r: <u> </u>	Present? Yes X No
Remarks: (Include photo num	bers here or on a s	separate sheet.)			1

Sampling Point: W-BAO-012021-01

epth	Matrix	%		K Features		Loc <sup>2</sup>	Tasahuma	Damada
nches)	Color (moist)		Color (moist)	<u>%</u> 10	Type <sup>1</sup> C		Texture	Remarks
0 — 10	2.5Y 5/1	90	10YR 5/8				Clay	
_								
_								
_								
								-
								-
	ncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
	ndicators:							ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (			Dark Surface		- (00) (8	U DA 447		cm Muck (A10) (MLRA 147)
-	ipedon (A2)		Polyvalue Be				148) <u> </u>	Coast Prairie Redox (A16)
Black His	n Sulfide (A4)		☐ Thin Dark Su☐ Loamy Gleye			47, 140)	Пь	(MLRA 147, 148) Piedmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mat		2)		<u></u> '	(MLRA 136, 147)
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)		□∨	ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dar					Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8	)			
-	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangane		s (F12) <b>(</b>	LRR N,		
_	147, 148)		MLRA 136	S)				
	eyed Matrix (S4)		Umbric Surfa					licators of hydrophytic vegetation and
Sandy Re	edox (S5)		Piedmont Flo	odplain So	ils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy Re Stripped	edox (S5) Matrix (S6)			odplain So	ils (F19)	(MLRA 14	<b>8)</b> we	
Sandy Re Stripped Estrictive L	edox (S5)	No	Piedmont Flo	odplain So	ils (F19)	(MLRA 14	<b>8)</b> we	etland hydrology must be present,
Sandy Re Stripped strictive L Type:	edox (S5) Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain So	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Strictive Logical Type:	edox (S5) Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain So	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present,
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Strictive Laws Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Strictive Language Type: Depth (incomarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Real Stripped Strictive L. Type: Depth (incomarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Strictive Language Type: Depth (incomarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Strictive Laws Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Restrictive Language Type: Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Real Stripped Strictive L. Type: Depth (incomarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Respective Language  Strictive Language  Type:  Depth (incommarks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped strictive L Type: Depth (inc marks:	edox (S5) Matrix (S6) ayer (if observed): hes):		Piedmont Flo	odplain Sc laterial (F2	ils (F19)	(MLRA 14	(8) we	etland hydrology must be present, less disturbed or problematic.

Project/Site: Arboles Station	and Transmi	ssion Li	ines Proiect	City/C	County: Pike County		Sampling De	01/20/2021
Applicant/Owner: AEP				City/C	Journey.	State: OH	Sampling Da	Point: U-BAO-012021-01
Investigator(s): BAO, JFW				Conti	on, Township, Range:			roint.
Landform (hillslope, terrace, e	to V. Toeslon							Slana (0/.), 0
				Local rei	Long:	none): Tiet	22 01112	Slope (%): 0
Subregion (LRR or MLRA): <u>L</u> Soil Map Unit Name: <u>CoB</u> : Co								atum: WOO 04
					, Y N			
Are climatic / hydrologic cond								ν
Are Vegetation, Soil _						nal Circumstances		
Are Vegetation , Soil _	_, or Hy	drology	naturally	/ problema	atic? (If needed	l, explain any ans	wers in Remarks	š.)
SUMMARY OF FINDIN	IGS – Atta	ch sit	te map show	ing san	npling point locat	tions, transec	ts, importan	it features, etc.
Hydrophytic Vegetation Pres	sent?	Yes	NoX		Is the Sampled Area	a	,	<b>v</b>
Hydric Soil Present?		Yes	No_X		within a Wetland?	Yes	No <sup>X</sup>	<del></del>
Wetland Hydrology Present	?	Yes	No <u>X</u>					
Remarks:								
Upland point associated with				, , , , , , , , , , , , , , , , , , ,		, , , , , , , , , , , , , , , , , , ,		
HYDROLOGY								
Wetland Hydrology Indica	lors:					Secondary Ind	icators (minimun	m of two required)
Primary Indicators (minimum	1 of one is red	quired;	check all that app	oly)		_ 🔲 Surface S	oil Cracks (B6)	
Surface Water (A1)			☐ True Aquat	ic Plants (	(B14)	☐ Sparsely \	/egetated Conca	ave Surface (B8)
High Water Table (A2)			Hydrogen S	Sulfide Od	or (C1)	Drainage I	Patterns (B10)	
Saturation (A3)			Oxidized R	hizospher	es on Living Roots (C3	3) 🔲 Moss Trim	Lines (B16)	
Water Marks (B1)			Presence o	f Reduce	d Iron (C4)	Dry-Seaso	on Water Table (	(C2)
Sediment Deposits (B2)	)		Recent Iron	Reduction	on in Tilled Soils (C6)	Crayfish B	Burrows (C8)	
Drift Deposits (B3)			Thin Muck	Surface (0	C7)	Saturation	Visible on Aeria	al Imagery (C9)
Algal Mat or Crust (B4)			Other (Expl	lain in Rer	marks)	Stunted or	r Stressed Plants	s (D1)
Iron Deposits (B5)						Geomorph	nic Position (D2)	
Inundation Visible on A	erial Imagery	(B7)				Shallow A	quitard (D3)	
Water-Stained Leaves (	B9)						graphic Relief (D	04)
Aquatic Fauna (B13)						FAC-Neut	ral Test (D5)	
Field Observations:								
Surface Water Present?	Yes	_ No _	X Depth (inc	hes):				
Water Table Present?	Yes	_ No _	X Depth (inc	hes):				
Saturation Present?	Yes	_ No _	X Depth (inc	hes):	Wetland	d Hydrology Pres	ent? Yes	NoX
(includes capillary fringe)				l 4		9.1.1		
Describe Recorded Data (st	ream gauge,	monitoi	ring weii, aeriai p	notos, pre	evious inspections), if a	ivaliable:		
_								
Remarks:								
1								

EGETATION (Five Strat	a) – Use	scientific na	ımes of p	olants.		Sampling Point: U-BAO-012021-01
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 0.00 (A/B)
6						Divisional Index workshoots
			0 =	= Total Cove	er	Prevalence Index worksheet:
	50% of tota	al cover: 0	_ 20% of	total cover:	0	
Sapling Stratum (Plot size:						OBL species 0 x 1 = 0 FACW species 0 x 2 = 0
1						
2						1 AO 3pcolo3 X 0
3						1 A00 species X 4 =
4						UPL species25 x 5 =125 Column Totals: 105 (A) 445 (B)
5						Column Totals:105 (A)445 (B)
6						Prevalence Index = B/A = 4.24
			·	= Total Cove	<u></u>	Hydrophytic Vegetation Indicators:
	50% of tot	al cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		الدن الدن الدن الدن الدن الدن الدن الدن	20 /0 0.	lulai cuvci.		2 - Dominance Test is >50%
`		<i>)</i>				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				= Total Cove		be present, unless disturbed or problematic.
		0				Definitions of Five Vegetation Strata:
		al cover: 0	20% of	total cover:	U	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Setaria faberi				N	UPL	(7.6 cm) or larger in diameter at breast height (DBH).
				N	FACU	Sapling – Woody plants, excluding woody vines,
3. Andropogon virginicus			5	N	FACU	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Daucus carota			5	<u>N</u>	UPL	
5. Erigeron annuus			15	N	FACU	Shrub – Woody plants, excluding woody vines,
6. Schedonorus arundinaceus				Y	FACU_	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						woody ville - All woody villos, rogardiose of florg
			105=	= Total Cove	ər	
	50% of tota	al cover: 53	20% of	total cover:	21	
Woody Vine Stratum (Plot size	:30'	)				
1						
2						
3						
4						
5						
			0 =	= Total Cove	er	Hydrophytic Vegetation
	50% of tot	al cover: 0	20% of	total cover	0	Present? Yes No X
D		'		lotal cover.		
Remarks: (Include photo numb	ers nere or	on a separate si	ileet.)			

Sampling Point: U-BAO-012021-01

Profile Desci	iption: (Describe to	the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicators.)	
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
0 — 10	10YR 6/3	70	10YR 7/8	30	С	M	Silty clay		
_									
_									
¹Type: C=Co	ncentration, D=Deple	etion RM=R	educed Matrix MS	=Masked :	Sand Gra	ains	<sup>2</sup> l ocation: Pl	 L=Pore Lining, M=Matrix.	
Hydric Soil I		Zuon, ruvi ru	caacca mamx, me	Madrica	ound On	AII 10.		ntors for Problematic Hydric	c Soils <sup>3</sup> :
Histosol (			☐ Dark Surface	(97)				cm Muck (A10) <b>(MLRA 147)</b>	
_	pedon (A2)		Polyvalue Bel		o (SS) <b>(N</b>	II DA 1 <i>1</i> 7		oast Prairie Redox (A16)	
							146) C		
Black His			Thin Dark Sur			47, 146)		(MLRA 147, 148)	0)
	Sulfide (A4)		Loamy Gleyed		2)		<u> </u>	iedmont Floodplain Soils (F19	9)
_	Layers (A5)		Depleted Mati					(MLRA 136, 147)	-10)
	ck (A10) (LRR N)		Redox Dark S					ery Shallow Dark Surface (TF	-12)
	Below Dark Surface	(A11)	Depleted Dark		. ,		<u> </u>	ther (Explain in Remarks)	
	rk Surface (A12)		Redox Depres						
-	ucky Mineral (S1) <b>(L</b> I	RR N,	☐ Iron-Mangane		s (F12) <b>(</b>	LRR N,			
	147, 148)		MLRA 136				2		
	eyed Matrix (S4)		Umbric Surface					icators of hydrophytic vegetat	
Sandy Re			Piedmont Floo					tland hydrology must be pres	
Stripped	Matrix (S6)		Red Parent M	aterial (F2	1) <b>(MLR</b>	A 127, 147	') unl	ess disturbed or problematic.	
Restrictive L	ayer (if observed):	No							
Type:									
Depth (inc	hes):		<del></del>				Hydric Soil	Present? Yes N	No X
Remarks:							,		
	nt of Energy property	door not all	ow digging past 13	,11					
03 Departine	it of Effergy property	uoes not an	ow digging past 12	•					

# Wetland AS-002

Project/Site: Arboles Station a	nd Transmi	ssion L	ines P	roject City/0	County. Pike	County		Sampling	Date: 01/20/202	1
Applicant/Owner: AEP				Oity/			State: OH	Samplir	ng Point: W-BAO-012	2021-02
Investigator(s): BAO, JFW				Section Section			T 4N R 22W	campiii	.g : 5	
Landform (hillslope, terrace, etc.	 c.)- Swale								Slope (%)· 1	
Subregion (LRR or MLRA): <u>LR</u>										4
Soil Map Unit Name: Omu1B1										
Are climatic / hydrologic conditi										
Are Vegetation, Soil								-	es X No _	
Are Vegetation , Soil							cplain any answe			
, con	_, Oi 11y	urology	-	natarany problem	iatio. (	ii riocaca, cz	cpiant arry arrows	oro irritorna	1.0.)	
SUMMARY OF FINDING	GS – Atta	ach si	te ma	ap showing sar	npling poi	nt location	ns, transects	s, importa	ant features,	etc.
					<u> </u>			<u> </u>		
Hydrophytic Vegetation Prese	ent?	_		No	Is the Sam		X			
Hydric Soil Present?				No	within a W	etland?	Yes	No	<del></del>	
Wetland Hydrology Present?		Yes _	Х	No						
Remarks:										
PEM wetland within t-line RO\	V; tire ruts r	unning	throug	gh						
HYDROLOGY										
Wetland Hydrology Indicate	nrs.						Secondary Indic	ators (minim	num of two require	ed)
Primary Indicators (minimum		auired:	chack	all that apply)		<u>.</u> I	Surface Soi			<u>eu,</u>
	or one is re	<u>quireu,</u>			/D14\		_	•	<i>)</i> ncave Surface (B	٥١
Surface Water (A1)  High Water Table (A2)			_	True Aquatic Plants						0)
<ul><li>✓ High Water Table (A2)</li><li>✓ Saturation (A3)</li></ul>				Hydrogen Sulfide Oo Oxidized Rhizosphe		1	=		)	
l <b>=</b> ` '					_	10018 (C3)	Moss Trim L		o (C2)	
Water Marks (B1)				Presence of Reduce	. ,	ile (CC)	Dry-Season		3 (02)	
Sediment Deposits (B2)			_	Recent Iron Reduction Thin Muck Surface (			Crayfish Bu		rial Imagery (C9)	
Drift Deposits (B3)			_		-	_	Saturation V			)
Algal Mat or Crust (B4) Iron Deposits (B5)			ш,	Other (Explain in Re	marks)					
Inundation Visible on Aer	ial Imagary	(D7)				1	Geomorphic	•	2)	
		(67)				1	Shallow Aqu Microtopogr		(D4)	
Water-Stained Leaves (B	9)						FAC-Neutra		(D4)	
Aquatic Fauna (B13)						<u>,</u>	FAC-Neulla	T Test (D3)		
Field Observations:	V	NI.	Y	Double (in the ca)						
Surface Water Present?				Depth (inches):	6.00					
Water Table Present?				Depth (inches):					v	
Saturation Present? (includes capillary fringe)	Yes^_	No _		Depth (inches):	6.00	Wetland Hy	ydrology Prese	nt? Yes_	No	
Describe Recorded Data (stre	eam gauge,	monito	ring w	ell, aerial photos, pre	evious inspect	ions), if avail	able:			
Remarks:										

EGETATION (Five Strata	a) – Use s	scientific na	mes of p	olants.		Sampling Point: W-BAO-012021-02
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2						Total Number of Dominant
3						Species Across All Strata: 3 (B)
4						
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tota	al cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				10101 55		OBL species 5 x 1 = 5
1						FACW species 80 x 2 = 160
2						FAC species 40 x 3 = 120
3						FACU species 0 x 4 = 0
4						UPL species
5						Column Totals:125 (A)285 (B)
6						Prevalence Index = B/A = 2.28
·				= Total Cove	 er	Hydrophytic Vegetation Indicators:
	50% of tota	al cover: 0	20% of	total cover	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \	20 /0 0.	lotai 60 voi		X 2 - Dominance Test is >50%
,		/				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			=	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tota	al cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	)				approximately 20 ft (6 m) or more in height and 3 in.
1. Dichanthelium clandestinum			40	Y	_FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Juncus effusus			40	Y	FACW	Sapling – Woody plants, excluding woody vines,
3. Leersia virginica			30	Y	FACW	approximately 20 ft (6 m) or more in height and less
4. Scirpus cyperinus			10	N	FACW	than 3 in. (7.6 cm) DBH.
5. Persicaria sagittata			5	N	OBL	Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						, ,
11						Woody vine – All woody vines, regardless of height.
			125	= Total Cove	<u></u>	
	50% of tota	al cover: 63				
Woody Vine Stratum (Plot size:		-		_		
1						
2						
3						
4						
5.						
o			0 =	- Total Cov		Hydrophytic
		0		= Total Cove		Vegetation Present?  Yes X No
		al cover: 0		total cover:	0	100
Remarks: (Include photo number	ers here or c	n a separate sh	neet.)			

Sampling Point: W-BAO-012021-02

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicators.)
Depth	Matrix			Features	1			
(inches)	Color (moist)		Color (moist)	<u>%</u> _	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
<u>0 — 10</u>	10YR 4/2	90	10YR 4/6	10	C	PL	Silty clay	
_								
								-
_								
							·	
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion, RM=R	educed Matrix, MS	=Masked \$	Sand Gra	ains.	<sup>2</sup> Location: PL	_=Pore Lining, M=Matrix.
Hydric Soil I								tors for Problematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		■ Dark Surface	(S7)			<u></u>	cm Muck (A10) (MLRA 147)
Histic Ep	ipedon (A2)		Polyvalue Bel	ow Surface	e (S8) <b>(N</b>	ILRA 147,	148) 🔲 Co	oast Prairie Redox (A16)
Black His	stic (A3)		Thin Dark Sur	face (S9)	(MLRA 1	47, 148)		(MLRA 147, 148)
	n Sulfide (A4)		Loamy Gleyed		2)		<u> </u>	edmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Mate					(MLRA 136, 147)
	ck (A10) (LRR N)	(8.4.4)	Redox Dark S	`	,			ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dark	,	,		<u> </u>	ther (Explain in Remarks)
	rk Surface (A12) ucky Mineral (S1) <b>(L</b>	DD N	☐ Redox Depres ☐ Iron-Mangane			I DD NI		
	. 147, 148)	KK IV,	MLRA 136		5 (F 12) <b>(</b>	LKK N,		
	leyed Matrix (S4)		☐ Umbric Surface		/II RA 13	6. 122)	<sup>3</sup> Indi	cators of hydrophytic vegetation and
	edox (S5)		Piedmont Flor					tland hydrology must be present,
	Matrix (S6)		Red Parent M					ess disturbed or problematic.
	ayer (if observed):	No		•	, .			·
Type:								
• • • • • • • • • • • • • • • • • • • •	hes):		_				Hydric Soil	Present? Yes X No
Remarks:			_				1	
	nt of Energy property	does not all	ow digging past 12	,"				
			333 [					

# Upland AS-002

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County Sampling Date: 01/20/2021
Applicant/Owner: AEP	State: OH Sampling Point: U-BAO-012021-0;
Investigator(s): BAO, JFW	Section, Township, Range: S 6 T 4N R 22W
Landform (hillslope, terrace, etc.): Hillside	Local relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 39.0165	Long: -83.01728 Datum: WGS 84
Soil Map Unit Name: Omu1B1: Omulga silt loam, 2 to 6 percent	slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time	of year? Yes $X$ No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology signifi	cantly disturbed?  Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology natura	lly problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map sho	ving sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No	K Lute Constate and
Hydric Soil Present? Yes No	
Wetland Hydrology Present? Yes No	
Remarks:	<del></del>
Upland point associated with W-BAO-012021-02	
LIVEROLOGY	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that a	
	atic Plants (B14) Sparsely Vegetated Concave Surface (B8)
	Sulfide Odor (C1)
	Rhizospheres on Living Roots (C3)
	on Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
	Surface (C7) Saturation Visible on Aerial Imagery (C9)
	plain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	☐ Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (i	
Water Table Present? Yes No X Depth (i	
Saturation Present? Yes No _X _ Depth (i	iches): Wetland Hydrology Present? Yes No _ X
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aeria	photos, previous inspections), if available:
gaage, memoring neri, acita	p. 6.10.00
Remarks:	
Tromano.	

EGETATION (Five Strata	a) – Use scientific na	mes of p	olants.		Sampling Point: U-BAO-012021-02
			Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size:1	·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2					Total Number of Dominant
3					Species Across All Strata: 2 (B)
4					Demonstrat Demoisement Conscion
5					Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6					
		0 :	= Total Cove	er	Prevalence Index worksheet:
	50% of total cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:	4.51				OBL species
1	,				FAC species 30 x 2 = 0
2					1 AC species X 3 =
3					FACU species 80 x 4 = 320
4					UPL species x 5 = 50
5					Column Totals:120(A)460(B)
					Prevalence Index = B/A = 3.83
···			= Total Cove	 er	Hydrophytic Vegetation Indicators:
	50% of total cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		20% 01	lotal cover.		2 - Dominance Test is >50%
					3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2					4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3					data in Remarks or on a separate sheet)
4					Problematic Hydrophytic Vegetation¹ (Explain)
5					The discretion of booking will and conditioned by the laws many
6					<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
		0 :	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of total cover: 0	20% of	total cover:	0	_
Herb Stratum (Plot size:	5' )		•		Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Dichanthelium clandestinum	,	30	Υ	FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Schedonorus arundinaceus		60	Y	FACU	Sapling – Woody plants, excluding woody vines,
3. Daucus carota		10		UPL	approximately 20 ft (6 m) or more in height and less
4. Rubus allegheniensis		20		FACU	than 3 in. (7.6 cm) DBH.
5					Shrub – Woody plants, excluding woody vines,
6					approximately 3 to 20 ft (1 to 6 m) in height.
7					Herb – All herbaceous (non-woody) plants, including
8					herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9					ft (1 m) in height.
10					Woody vine – All woody vines, regardless of height.
11					Woody Ville – All Woody Villes, regardless of fleight.
		120	= Total Cove	er	
	50% of total cover: 60	20% of	total cover:	24	
Woody Vine Stratum (Plot size:	)				
1					
2					
3.					
4					
5.					
-		0 :	= Total Cove	 er	Hydrophytic Vegetation
	E00/ of total agreem				Present? Yes NoX
	50% of total cover: 0	'	total cover:		
Remarks: (Include photo number	ers nere or on a separate si	ieet.)			

Sampling Point: U-BAO-012021-02

=Matrix. natic Hydric Soils <sup>3</sup> MLRA 147) ox (A16) i) in Soils (F19) C) Surface (TF12) demarks)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
natic Hydric Soils <sup>3</sup> MLRA 147)  x (A16) t) in Soils (F19) f) Surface (TF12)
MLRA 147)  x (A16)  i)  in Soils (F19)  y)  Surface (TF12)
x (A16) in Soils (F19) ') Surface (TF12)
in Soils (F19)  ') Surface (TF12)
in Soils (F19) ') Surface (TF12)
Surface (TF12)
Surface (TF12)
emarks)
nytic vegetation and
nust be present,
oroblematic.
No X

Project/Site: Arboles Station a	and Transmiss	ion Line	es Proiect	Pike	County	Camandin	01/21/2021	
Applicant/Owner: AEP	una manomio		(	oject City/County: Pike County Sampling Date: 01/21/ State: OH Sampling Point: W-BA				
Investigator(s): BAO, JFW				Section, Townshi	n Dangai S.6		Jillig Politi.	
Landform (hillslope, terrace, et	La V. Swale						Clara (0/ ). 3	
Subregion (LRR or MLRA): <u>LF</u>			LOC	arreller (concave	, convex, none	-83.01412	Slope (%). <u>5</u>	
Soil Map Unit Name: Omu1B1								
Are climatic / hydrologic condit								
Are Vegetation, Soil						Circumstances" present?		
Are Vegetation , Soil _	_, or Hydro	ology _	_ naturally prob	olematic?	(If needed, ex	cplain any answers in Ren	narks.)	
SUMMARY OF FINDIN	GS – Attac	h site	map showing	sampling po	int location	ns, transects, impo	rtant features, etc.	
Hydrophytic Vegetation Pres	ent? Y	es X	No	le the San	npled Area			
Hydric Soil Present?			No	within a V		Yes X		
Wetland Hydrology Present?			No				<u> </u>	
Remarks:								
PEM wetland near the bottom	n of a hill and w	ithin t-li	ne ROW.					
HYDROLOGY								
Wetland Hydrology Indicat	ors:					Secondary Indicators (mir	imum of two required)	
Primary Indicators (minimum	of one is requ	red; ch	eck all that apply)			Surface Soil Cracks (	B6)	
Surface Water (A1)			True Aquatic Pla	ants (B14)	J	Sparsely Vegetated C	Concave Surface (B8)	
High Water Table (A2)		<u>.</u>	Hydrogen Sulfid	e Odor (C1)	J	☑ Drainage Patterns (B		
Saturation (A3)		<u>[</u>	Oxidized Rhizos	pheres on Living	Roots (C3)	Moss Trim Lines (B16	3)	
Water Marks (B1)			Presence of Rec	-	`	Dry-Season Water Ta		
Sediment Deposits (B2)			_	luction in Tilled S	oils (C6)	Crayfish Burrows (C8		
Drift Deposits (B3)			Thin Muck Surfa	ice (C7)	<u> </u>	Saturation Visible on	Aerial Imagery (C9)	
Algal Mat or Crust (B4)			Other (Explain ir	n Remarks)	ſ	Stunted or Stressed F	Plants (D1)	
Iron Deposits (B5)					J	Geomorphic Position	(D2)	
Inundation Visible on Ae	rial Imagery (B	7)			ſ	Shallow Aquitard (D3)	)	
Water-Stained Leaves (E	39)				Ţ	Microtopographic Rel	ief (D4)	
Aquatic Fauna (B13)					[	FAC-Neutral Test (D5	<b>i</b> )	
Field Observations:								
Surface Water Present?	Yes	No X	Depth (inches):					
Water Table Present?	Yes	No_X	Depth (inches):					
Saturation Present?			Depth (inches):		Wetland H	ydrology Present? Yes	x No	
(includes capillary fringe)								
Describe Recorded Data (str	eam gauge, m	onitorin	g well, aerial photos	s, previous inspe	ctions), if avail	able:		
Remarks:								
i								

EGETATION (Five Strat	a) – Use	scientific na	mes of p	olants.		Sampling Point: W-BAO-012121-05
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Descent of Deminant Chapter
5						Percent of Dominant Species That Are OBL, FACW, or FAC:100.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tot	tal cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				10101 22		OBL species 0 x 1 = 0
1						FACW species 110 x 2 = 220
2						FAC species x 3 = 60
3						FACU species 0 x 4 = 0
						UPL species
4 5						Column Totals:130 (A)280 (B)
6						Prevalence Index = B/A = 2.15
o				= Total Cove	er	Hydrophytic Vegetation Indicators:
	CO0/ -f+-4	hal aassam 0				X 1 - Rapid Test for Hydrophytic Vegetation
Ohanda Ohantana (Diataia)		tal cover: 0	20% of	total cover:		X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	er	Definitions of Five Vegetation Strata:
		tal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Juncus effusus				<u>N</u>	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Dichanthelium clandestinum	<u> </u>		20	N	FAC_	Sapling – Woody plants, excluding woody vines,
3. Onoclea sensibilis			20	N	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Dichanthelium scoparium			70	Y	FACW	(nan 3 in. (7.0 ciii) טסט.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Manager All woods vince regardless of height
11						Woody vine – All woody vines, regardless of height.
			130=	= Total Cove	ər	
	50% of tot	tal cover: 65	20% of	total cover:	26	
Woody Vine Stratum (Plot size:			_	_		
1						
2						
3						
4						
5.						
J			0 =	= Total Cove		Hydrophytic
		0				Vegetation Present? Yes X No
		-		total cover:	0	
Remarks: (Include photo numb	ers here or	on a separate sh	neet.)			

Sampling Point: W-BAO-012121-05

epth	Matrix	<u></u> %		x Features		Loc <sup>2</sup>	Tanduna	Damanto
nches)	Color (moist) 10YR 5/1	<u></u> 85	Color (moist) 7.5YR 5/8	<u>%</u> 15	Type <sup>1</sup> C	M, PL	<u>Texture</u>	Remarks
0 — 10	1018 5/1		7.518 5/6			- WI, PL	Silty clay	
_								
_								
								-
						· ——		
_								
_								
								-
	ncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gr	ains.		L=Pore Lining, M=Matrix.
dric Soil II								ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (			Dark Surface		- (00) (1	41 DA 447		cm Muck (A10) (MLRA 147)
-	pedon (A2)		Polyvalue Be				148) <u> </u>	Coast Prairie Redox (A16)
Black His	n Sulfide (A4)		☐ Thin Dark Su☐ Loamy Gleye			147, 140)	Пь	(MLRA 147, 148) riedmont Floodplain Soils (F19)
	Layers (A5)		✓ Depleted Ma		2)		<u>—</u> ·	(MLRA 136, 147)
_	ck (A10) <b>(LRR N)</b>		Redox Dark		3)		□v	ery Shallow Dark Surface (TF12)
	Below Dark Surface	e (A11)	Depleted Dar	•	•			Other (Explain in Remarks)
Thick Da	rk Surface (A12)		Redox Depre	ssions (F8	)			
-	ucky Mineral (S1) <b>(L</b>	RR N,	Iron-Mangan		s (F12) <b>(</b>	LRR N,		
_	147, 148)		MLRA 13				2	
J Sandy Gl	eyed Matrix (S4)		Umbric Surfa	ce (F13) (I	MLRA 13	6, 122)	³Ind	icators of hydrophytic vegetation and
<b>-</b>								
Sandy Re			Piedmont Flo	odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	tland hydrology must be present,
Stripped	Matrix (S6)			odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	
Stripped estrictive L		No	Piedmont Flo	odplain Sc	ils (F19)	(MLRA 14	<b>8)</b> we	tland hydrology must be present,
Stripped estrictive L	Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain Sc	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped strictive L Type: Depth (inc	Matrix (S6) ayer (if observed):	No	Piedmont Flo	odplain Sc	ils (F19)	(MLRA 14	8) we ') un	tland hydrology must be present,
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6) ayer (if observed):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (inc	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (ince	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (ince	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incestmarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incommarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incommarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped estrictive L Type: Depth (incemarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.
Stripped strictive L Type: Depth (incomarks:	Matrix (S6)  ayer (if observed):  hes):		Piedmont Flo	odplain Sc Material (F2	ils (F19)	(MLRA 14	8) we ') un	etland hydrology must be present, less disturbed or problematic.

# Upland AS-003

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County Sampling Date: 01/21/2021
Applicant/Owner: AEP	State: OH Sampling Point: U-BAO-012121-05
Investigator(s): BAO, JFW	Section, Township, Range: S 6 T 4N R 22W
Landform (hillslope, terrace, etc.): Footslope	Local relief (concave, convex, none): Undulating Slope (%): 2
Subregion (LRR or MLRA): LRR N Lat: 39.01651	Local relief (concave, convex, none): Undulating Slope (%): 2  Long: -83.01417 Datum: WGS 84
Soil Map Unit Name: Omu1B1: Omulga silt loam, 2 to 6 percent slo	ppes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of	f year? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significar	ntly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally	problematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showi	ing sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes NoX	── Is the Sampled Area  ✓
Hydric Soil Present? Yes No X	
Wetland Hydrology Present? Yes NoX	
Remarks:	
Upland point associated with W-BAO-012121-05	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that app	
	c Plants (B14) Sparsely Vegetated Concave Surface (B8)
	sulfide Odor (C1)
	nizospheres on Living Roots (C3) Moss Trim Lines (B16)
	f Reduced Iron (C4) Dry-Season Water Table (C2)
Sediment Deposits (B2)	Reduction in Tilled Soils (C6) Crayfish Burrows (C8)
Drift Deposits (B3)	Surface (C7) Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	ain in Remarks) Stunted or Stressed Plants (D1)
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)	Shallow Aquitard (D3)
Water-Stained Leaves (B9)	Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No _X _ Depth (inch Water Table Present? Yes No _X _ Depth (inch	
Water Table Present? Yes No X Depth (inch Saturation Present? Yes No X Depth (inch	·
(includes capillary fringe)	wetland hydrology Present? Yes No^_
Describe Recorded Data (stream gauge, monitoring well, aerial ph	notos, previous inspections), if available:
Remarks:	

EGETATION (Five Strat	a) – Use	scientific na	mes of p	olants.		Sampling Point: U-BAO-012121-05
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Description of Description of One of the
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of tot	tal cover: 0				Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 01	lulai Gover		OBL species 0 x 1 = 0
						FACW species 20 x 2 = 40
1						FAC species30 x 3 =90
2						FACU species70 x 4 =280
3						UPL species0 x 5 =0
4						Column Totals:(A)(B)
5						Provolence Index = R/A = 3.42
6				= Total Cove		Trevalence index = b/A =
	_					Hydrophytic Vegetation Indicators:
		tal cover: 0	20% of	total cover:	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		)				2 - Dominance Test is >50%
1						3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						Froblematic Hydrophytic vegetation (Explain)
5						11 - 11 - tare of hydric call and watland hydrology must
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0 :	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of tot	tal cover: 0	20% of	total cover:	0	_
Herb Stratum (Plot size:		1				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Andropogon virginicus		_ /	10	N	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
Dichanthelium clandestinum			30	<u> </u>	FAC	
Dichanthelium scoparium	·		20		FACW	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Schedonorus arundinaceus			60	<u>Y</u>	FACU	than 3 in. (7.6 cm) DBH.
					17.00	Shrub – Woody plants, excluding woody vines,
5						approximately 3 to 20 ft (1 to 6 m) in height.
6						
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						, , ,
			120 =	= Total Cove	er	
			20% of	total cover:	24	
Woody Vine Stratum (Plot size:	30	)				
1						
2						
3						
4						
5.						l
			0 =	= Total Cove	 er	Hydrophytic Vegetation
	EOO/ of tot	tal aguari O		total cover:		Present? Yes NoX_
		•		total cover.		
Remarks: (Include photo numb	ers here or	on a separate st	neet.)			

Sampling Point: U-BAO-012121-05

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicato	ors.)		
Depth	Matrix		Redox	<u>Features</u>	4						
(inches)	Color (moist)		Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture		Remark	(S	
0 — 10	10YR 4/3						Silty clay loam				
_											
								-			
_											
			_								
_											
1			- december 100		01-0		21	. Dana Lini	14 14-4		
	ncentration, D=Deple	etion, RM=Re	educed Matrix, MS	=Masked	Sand Gra	ains.	<sup>2</sup> Location: P				ile <sup>3</sup> .
Hydric Soil I			□ posto r	(07)				ators for Pr		-	. cin
Histosol			Dark Surface		- (00) (5)	U D A 447		cm Muck (/	, .		
	ipedon (A2)		Polyvalue Bel				148) <u> </u>	oast Prairie		6)	
Black His	n Sulfide (A4)		☐ Thin Dark Sui☐ Loamy Gleye			47, 148)		MLRA 14 iedmont Flo		ilo (E10)	
_	Layers (A5)		Depleted Mat		(2)		<u> </u>	MLRA 13)	•	iis (F 19)	
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)			ery Shallow		nce (TF12)	
	Below Dark Surface	(Δ11)	Depleted Dark	`	,			ory oriallow Other (Expla			
	rk Surface (A12)	(/ ( ) / )	Redox Depre		. ,			raioi (Expla	iii iii i toina	110)	
	ucky Mineral (S1) <b>(L</b>	RR N.	☐ Iron-Mangane			_RR N.					
-	147, 148)	,	MLRA 136		- (, (-						
	leyed Matrix (S4)		Umbric Surface		MLRA 13	6, 122)	<sup>3</sup> Ind	icators of hy	ydrophytic y	egetation	and
	edox (S5)		Piedmont Flo					tland hydro		-	
	Matrix (S6)		Red Parent M					less disturb			
Restrictive L	ayer (if observed):	No									
Type:											
• • • • • • • • • • • • • • • • • • • •	hes):		<u> </u>				Hydric Soil	Present?	Yes	No _	Χ
Remarks:			_				1				
	nt of Energy property	does not all	ow digging past 12	)"							
oo Boparano	in or Energy property	acconordin	ow digging pace 12	-							

# Wetland AS-004

Project/Site: Arboles Station a	ind Transm	ission L	ines P	roject City	County. Pike	County		Sampling	Date: 01/2	21/2021
Applicant/Owner: AEP				Oily	City/County: Pike County State: OH Sampling Date: 01/21/2021 Sampling Point: W-BAO-012121					
Investigator(s): BAO, JFW				Sec	0.0 T. (1) D. 001//					
Landform (hillslope, terrace, et	C ) Toeslor	oe .		L ocal re	elief (concave	convex none	e). Concave		Slope (	%)· 1
Subregion (LRR or MLRA): <u>LR</u>	<sup>y.</sup> , <u></u> ≀R N		Lat: (	39.01608	oner (correcte)	Lona:	-83	.00787	Datum: V	VGS 84
Soil Map Unit Name: UoA: Urb										
Are climatic / hydrologic conditi										
Are Vegetation <u>√</u> , Soil							Circumstances"		S X	No
Are Vegetation , Soil							kplain any answ			_ 110
Are regetation , con	_, 0, 11	yarology	-	naturally problem	ilatio:	(II riccaca, cz	Cplain any answ	ora in recina	11.3.)	
SUMMARY OF FINDING	GS – Att	ach si	te ma	ap showing sa	mpling poi	int location	ns, transect	s, importa	ant featu	ıres, etc.
Hydrophytic Vegetation Prese	ent?	Yes	Х	No	Is the Sam	pled Area				
Hydric Soil Present?				No	within a W	etland?	YesX	No		
Wetland Hydrology Present?				No						
Remarks:					I					
PEM wetland at toe of slope n	ext to road	. Drains	to culv	ert that feeds S-BA	O-012121-01	. Vegetation is	s regularly mow	ed.		
-						_				
HYDROLOGY										
Wetland Hydrology Indicate	nre:						Secondary Indic	atore (minim	um of two	required)
Primary Indicators (minimum		auirod:	obook	all that apply)		<u>.</u> I		•		required)
	or one is re	<u>equirea,</u>			(D14)		Surface Soi	-		inno (DO)
Surface Water (A1)  High Water Table (A2)			_	Frue Aquatic Plants		J		egetated Cor		ace (B8)
<ul><li>✓ High Water Table (A2)</li><li>✓ Saturation (A3)</li></ul>				Hydrogen Sulfide C Dxidized Rhizosphe		1	☑ Drainage Pa ☑ Moss Trim I	-	)	
Water Marks (B1)				Presence of Reduc	_	1,0003 (00)		Water Tabl	e (C2)	
Sediment Deposits (B2)			$\overline{}$	Recent Iron Reduct	, ,	oils (C6)	Crayfish Bu		6 (02)	
Drift Deposits (B3)				Thin Muck Surface		0110 (00)		/isible on Ae	rial Image	ry (C9)
Algal Mat or Crust (B4)				Other (Explain in R		Ī	_	Stressed Pla	_	., (,
Iron Deposits (B5)					,	Ī		Position (D		
Inundation Visible on Aer	ial Imagery	(B7)				j	Shallow Aqı		,	
Water-Stained Leaves (B		, ,				j		aphic Relief	(D4)	
Aquatic Fauna (B13)	•					]	FAC-Neutra		` ,	
Field Observations:										
Surface Water Present?	Yes	No_	Χ	Depth (inches):						
Water Table Present?				Depth (inches):	4.00					
Saturation Present?				Depth (inches):	4.00	Wetland Hy	ydrology Prese	nt? Yes	X N	ю
(includes capillary fringe)										
Describe Recorded Data (stre	am gauge	, monito	ring we	ell, aerial photos, p	evious inspec	ctions), if avail	able:			
Remarks:										

EGETATION (Five Stra	ta) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012121-02
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of to	tal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:				<del>-</del>		<u> </u>
1						171011 species X
2						1710 opeoloo X 0
3						1 ACC species X 4
4						UPL species 0 x 5 = 0
5						Column Totals:105 (A)260 (B)
6						Prevalence Index = B/A =2.48
				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of to	tal cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		lai cover	20 /0 01	lotal cover.		2 - Dominance Test is >50%
`		/				X 3 - Prevalence Index is ≤3.0¹
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				Tatal Cau		be present, unless disturbed or problematic.
	_	_		= Total Cove		Definitions of Five Vegetation Strata:
		tal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
•				<u>N</u>	OBL	(7.6 cm) or larger in diameter at breast height (DBH).
				<u>Y</u>	FACW	Sapling - Woody plants, excluding woody vines,
3. Ludwigia alternifolia			5	N	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Solidago canadensis			30	Y	FACU	than 5 m. (7.0 cm) DDM.
5. Epilobium coloratum			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Microstegium vimineum			10	N	FAC_	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						Woody vine - All woody vines, regardless of height.
			105	= Total Cove	ər	
	50% of to	tal cover: 63	20% of	total cover:	25	
Woody Vine Stratum (Plot size	e:30	)')				
1						
2						
3						
4						
5						
			0 :	= Total Cove	er	Hydrophytic Vegetation
	50% of to	tal cover: 0	20% of	total cover:	0	Present? Yes X No
D				lotal Cover.		
Remarks: (Include photo num	bers nere or	on a separate si	Pe	artly mowed		

Sampling Point: W-BAO-012121-02

Depth	Matrix	%		x Features		1 - 2	T 4	Damada
inches)	Color (moist)		Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks
0 — 10	10YR 5/2	80	10YR 6/6	15		M		
<u> </u>			10YR 5/8	5	C	PL	Silty clay loam	
_								
								-
_								
	ncentration, D=Depl	etion, RM=	Reduced Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
ydric Soil Ir –								ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (			Dark Surface	` '				cm Muck (A10) (MLRA 147)
	pedon (A2)		Polyvalue Be				148) <u> </u>	Coast Prairie Redox (A16)
Black His			Thin Dark Su			47, 148)		(MLRA 147, 148)
_	n Sulfide (A4) Layers (A5)		☐ Loamy Gleye ☐ Depleted Ma		-2)		<u> </u>	iedmont Floodplain Soils (F19) (MLRA 136, 147)
	ck (A10) <b>(LRR N)</b>		Redox Dark		3)			ery Shallow Dark Surface (TF12)
	Below Dark Surface	(A11)	Depleted Dai	•	•			Other (Explain in Remarks)
_	rk Surface (A12)	,	Redox Depre					,
_	ucky Mineral (S1) <b>(L</b>	RR N,	☐ Iron-Mangan			_RR N,		
MLRA	147, 148)		MLRA 13	6)				
				•				
	eyed Matrix (S4)		Umbric Surfa	ace (F13) <b>(</b> I				licators of hydrophytic vegetation and
Sandy Re	eyed Matrix (S4) edox (S5)		Umbric Surfa	ace (F13) <b>(I</b> bodplain Sc	ils (F19)	(MLRA 14	18) we	etland hydrology must be present,
Sandy Re Stripped I	eyed Matrix (S4) edox (S5) Matrix (S6)		Umbric Surfa	ace (F13) <b>(I</b> bodplain Sc	ils (F19)	(MLRA 14	18) we	
Sandy Re Stripped I estrictive La	eyed Matrix (S4) edox (S5)	No	Umbric Surfa	ace (F13) <b>(I</b> bodplain Sc	ils (F19)	(MLRA 14	18) we	etland hydrology must be present,
Sandy Re Stripped I estrictive La	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):	No	Umbric Surfa	ace (F13) <b>(I</b> bodplain Sc	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive L	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):	No	Umbric Surfa	ace (F13) <b>(I</b> bodplain Sc	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present,
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive Le Type: Depth (incle	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive Le Type: Depth (incle emarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Stripped In Stripped In Strippe:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Stripped In Stripped In Strippe:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Stripped In Stripped In Strippe:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Strictive Les Type: Depth (includent)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Strictive Les Type: Depth (includent September 2015)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Strictive Les Type: Depth (includent September 2015)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped In Strictive Les Type: Depth (includent September 2015)	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Interestrictive Least Type:  Depth (inclements:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive Le Type: Depth (incle	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Interestrictive Least Type:  Depth (inclements:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Re Stripped I estrictive La Type: Depth (inclemarks:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.
Sandy Resident Stripped Interestrictive Least Type:  Depth (inclements:	eyed Matrix (S4) edox (S5) Matrix (S6) ayer (if observed):		☐ Umbric Surfa ☐ Piedmont Flo ☐ Red Parent №	ace (F13) <b>(I</b> podplain So Material (F2	ils (F19)	(MLRA 14	18) we 7) un	etland hydrology must be present, less disturbed or problematic.

# Upland AS-004

Project/Site: Arboles Station and Tran	smission Lines Proje	ect City/0	County: Pike County		Sampling Date: 01/21/2021
Applicant/Owner: AEP				_ State: OH	Sampling Point: U-BAO-012121-02
Investigator(s): BAO, JFW		Secti	on, Township, Range: S	6 T 4N R 22W	
Landform (hillslope, terrace, etc.): Hills	ide	Local re	lief (concave, convex, nor	ne): Convex	Slope (%): <u>3</u>
Landform (hillslope, terrace, etc.): <u>Hills</u> Subregion (LRR or MLRA): <u>LRR N</u>	Lat: <u>39.</u>	01607	Long:	-83.	.00783 Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-					
Are climatic / hydrologic conditions on	the site typical for thi	is time of year? \	Yes X No	(If no, explain in F	Remarks.)
Are Vegetation, Soil, o	· Hydrologys	significantly distu	rbed? Are "Normal	Circumstances"	present? Yes X No
Are Vegetation , Soil , o	· Hydrology r	naturally problem	atic? (If needed, e	explain any answe	ers in Remarks.)
SUMMARY OF FINDINGS – A	Attach site map	showing san	npling point location	ons, transects	s, important features, etc.
Hydrophytic Vegetation Present?	Yes N	Jo X	La the Consulted Asses		
Hydric Soil Present?	Yes N		Is the Sampled Area within a Wetland?	Yes	NoX
Wetland Hydrology Present?	Yes N				
Remarks:					
Upland point associated with W-BAO-	012121-02. Vegetati	ion has been mov	wed		
	_				
LIVEROLOGY					
HYDROLOGY					
Wetland Hydrology Indicators:					ators (minimum of two required)
Primary Indicators (minimum of one is			(2.4.1)	$\equiv$	Cracks (B6)
Surface Water (A1)	_	e Aquatic Plants			getated Concave Surface (B8)
High Water Table (A2) Saturation (A3)		drogen Sulfide Oc	res on Living Roots (C3)		atterns (B10)
Water Marks (B1)		sence of Reduce	=	Moss Trim L	Water Table (C2)
Sediment Deposits (B2)			on in Tilled Soils (C6)	Crayfish Bu	• •
Drift Deposits (B3)		n Muck Surface (			isible on Aerial Imagery (C9)
Algal Mat or Crust (B4)	_	er (Explain in Re	•		Stressed Plants (D1)
Iron Deposits (B5)			•		Position (D2)
Inundation Visible on Aerial Imag	ery (B7)			☐ Shallow Aqu	uitard (D3)
Water-Stained Leaves (B9)				Microtopogr	aphic Relief (D4)
Aquatic Fauna (B13)				FAC-Neutra	I Test (D5)
Field Observations:					
	No X De				
	No X De				
<u> </u>	No X De	pth (inches):	Wetland H	lydrology Prese	nt? Yes No <u>X</u>
(includes capillary fringe)  Describe Recorded Data (stream gau	ge. monitoring well.	aerial photos, pre	evious inspections), if ava	ilable:	
	ge,ege,	аспа: р.петес, р.п	,,,,,		
Remarks:					
r terriarite.					

EGETATION (Five Strat	a) – Use	scientific na	mes of p	olants.		Sampling Point: U-BAO-012121-02
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:0 (A)
2						Total Number of Dominant
3						Species Across All Strata: 1 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 0.00 (A/B)
6						
			0	= Total Cove	er	Prevalence Index worksheet:
	50% of to	tal cover: 0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:				•		OBL species 0 x 1 = 0  FACW species 0 x 2 = 0
1						171011 opcolos X Z
2						1 AO 3pcolo3 X 0
3						17100 species X +
4						UPL species 0 x 5 = 0
5						Column Totals:100 (A)400 (B)
6						Prevalence Index = B/A = 4.00
-			-	= Total Cove	 er	Hydrophytic Vegetation Indicators:
	EOO/ of to	tal agyar: 0				1 - Rapid Test for Hydrophytic Vegetation
Charle Charles (Dist size)		tal cover: 0	20% 01	lotal cover.		2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			0	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of to	tal cover: 0	20% of	total cover:	0	Tree Manda relate avaluation was divisions
Herb Stratum (Plot size:	5'	_)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Andropogon virginicus			10	N	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
2. Rubus allegheniensis			10	N	FACU	Sapling – Woody plants, excluding woody vines,
3. Schedonorus arundinaceus			70	Y	FACU	approximately 20 ft (6 m) or more in height and less
4. Solidago canadensis			10	N	FACU	than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						
11						Woody vine – All woody vines, regardless of height.
			100	= Total Cove	er	
	50% of to	tal cover: 50	20% of	total cover:	20	
Woody Vine Stratum (Plot size						
1	•	/				
_						
3						
T						
5			0 :	- Total Ossi		Hydrophytic
				= Total Cove		Vegetation Present? Yes No X
				total cover:	0	100
Remarks: (Include photo numb	ers here or	on a separate s	heet.)			

Sampling Point: U-BAO-012121-02

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the ir	ndicator	or confirm	the absence	of indicators.)	
Depth	Matrix			Features	;				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
<u>8 — 0</u>	10YR 6/4		10YR 6/8	25	C	M	Silty clay loam		
0 — 8	1		2.5Y 6/1	5	С	M	Silty clay 👍	texture Silty clay loam	
_									
							•		
_									
¹Type: C=Cc	ncentration, D=Depl		Peduced Matrix MS	=Masked	Sand Gr		<sup>2</sup> l ocation Pl	 _=Pore Lining, M=Matrix.	
Hydric Soil I		euon, rawi–r	Reduced Matrix, MS	-iviaskeu	Sand Gr	ali 15.		tors for Problematic Hydric	Soils <sup>3</sup> .
Histosol			☐ Dark Surface	(97)				cm Muck (A10) <b>(MLRA 147)</b>	00.13 .
	ipedon (A2)		Polyvalue Bel		e (S8) <b>(N</b>	II RΔ 147		oast Prairie Redox (A16)	
Black His			Thin Dark Sur				140) 0	(MLRA 147, 148)	
	n Sulfide (A4)		Loamy Gleyed			77, 170)	Пр	edmont Floodplain Soils (F19	
	Layers (A5)		Depleted Matr		۷)		<u>—</u> · ·	(MLRA 136, 147)	,
	ck (A10) <b>(LRR N)</b>		Redox Dark S	` ,	6)		Пу	ery Shallow Dark Surface (TF	12)
_	Below Dark Surface	(A11)	Depleted Dark					ther (Explain in Remarks)	,
	rk Surface (A12)	(, , , ,	Redox Depres		. ,			arer (=/tprairr in recinarity)	
	ucky Mineral (S1) <b>(L</b>	RR N.	☐ Iron-Mangane			LRR N.			
	147, 148)	,	MLRA 136		- (, (	,			
	leyed Matrix (S4)		☐ Umbric Surface		MLRA 13	6. 122)	<sup>3</sup> Indi	cators of hydrophytic vegetati	on and
	edox (S5)		Piedmont Floo					tland hydrology must be prese	
	Matrix (S6)		Red Parent M					ess disturbed or problematic.	<i>'</i>
	ayer (if observed):	Yes			, ,	<u> </u>	1	<u>'</u>	
Type: Ro	-								
Depth (inc							Hydric Soil	Present? Yes N	o X
	11C3). <u>-</u>		<del>_</del>				Tiyane 3011	rresent: res iv	<u> </u>
Remarks:	nt of Energy property	, dooo not o	llow diaging poot 10	<b>5</b> 11					
US Departine	nt of Energy property	does not a	now digging past 12	-					

Project/Site: Arboles Station a	and Transmission Line	e Project	. Pike County	•	. 5 . 01/21/2021
•	and transmission Line	City/C	county: Tike County	Sam	ipling Date:
Applicant/Owner: AEP				State: S:	ampling Point: W-BAO-012121-0
Investigator(s): BAO, JFW	. []-1		on, Township, Range: _		
Landform (hillslope, terrace, et					
Subregion (LRR or MLRA): LF				-83.0055	
Soil Map Unit Name: UoA: Urb					
Are climatic / hydrologic condit					
Are Vegetation, Soil					
Are Vegetation , Soil .	_, or Hydrology _	_ naturally problema	atic? (If needed	, explain any answers in l	Remarks.)
SUMMARY OF FINDIN	GS – Attach site	map showing sam	pling point locat	ions, transects, im	portant features, etc.
Hydrophytic Vegetation Pres	ent? Yes X	<u>С</u> Nо	la Mas Causalad Assa	_	
Hydric Soil Present?		No	Is the Sampled Area within a Wetland?	Yes	No
Wetland Hydrology Present?	Yes X	No			
Remarks:					
PEM wetland formed from for	mer construction area	. Concrete foundations t	hroughout.		
			· ·		
Soils were not obtained due to	o US DOE restrictions	on digging in the area. A	Assumed hydric due to	strong vegetative and hy	drologic indicators.
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indicators (	minimum of two required)
Primary Indicators (minimum		eck all that apply)		Surface Soil Cracl	
Surface Water (A1)	Γ	True Aquatic Plants (	B14)		ed Concave Surface (B8)
High Water Table (A2)	Ť	Hydrogen Sulfide Od	·	Drainage Patterns	
Saturation (A3)	Ī		es on Living Roots (C3		
Water Marks (B1)	Ī	Presence of Reduced	-	Dry-Season Wate	•
Sediment Deposits (B2)	Ī	Recent Iron Reduction	· ·	Crayfish Burrows	·
Drift Deposits (B3)	Ī	Thin Muck Surface (0			on Aerial Imagery (C9)
Algal Mat or Crust (B4)	Ī	Other (Explain in Rer	•	Stunted or Stresse	=
Iron Deposits (B5)			•	Geomorphic Posit	ion (D2)
Inundation Visible on Ae	rial Imagery (B7)			Shallow Aquitard	(D3)
Water-Stained Leaves (E				Microtopographic	
Aquatic Fauna (B13)	•			FAC-Neutral Test	(D5)
Field Observations:					
Surface Water Present?	Yes X No	Depth (inches):	2.00		
Water Table Present?		Depth (inches):			
Saturation Present?				l Hydrology Present?	Yes <sup>X</sup> No
(includes capillary fringe)					
Describe Recorded Data (stre	eam gauge, monitorin	g well, aerial photos, pre	vious inspections), if a	vailable:	
Remarks:					

EGETATION (Five Stra	ita) – Us	e scientific n	ames of <sub>l</sub>	olants.		Sampling Point: W-BAO-012121-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
			0	= Total Cov	er	Prevalence Index worksheet:
	50% of t	total cover:0	20% of	total cover:	0	
Sapling Stratum (Plot size:	4	)		·		<u> </u>
· -			5	Y	OBL	1710W species X Z
2.						1 AO 3pcolo3 X 0
3.						17100 species X +
4						UPL species 0 x 5 = 0
5						Column Totals:130 (A)150 (B)
6						Prevalence Index = B/A = 1.15
-				= Total Cov	er	Hydrophytic Vegetation Indicators:
	50% of t	total agyar: 3				X 1 - Rapid Test for Hydrophytic Vegetation
Charle Charter /Diet sies		total cover:3	20% 01	total cover.	<u> </u>	X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				$\frac{X}{3}$ - Prevalence Index is $\leq 3.0^{1}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
				= Total Cov	er	Definitions of Five Vegetation Strata:
		total cover:0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	)				approximately 20 ft (6 m) or more in height and 3 in.
			90	Y	OBL_	(7.6 cm) or larger in diameter at breast height (DBH).
2. Scirpus atrovirens			5	N	OBL_	Sapling – Woody plants, excluding woody vines,
3. Juncus canadensis			20	<u>N</u>	OBL	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Scirpus cyperinus			5	N	FACW	than 3 m. (7.0 cm) DBH.
5. Andropogon virginicus			5	N	FACU	Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						woody vine – All woody vines, regardless of neight.
			125	= Total Cov	er	
	50% of t	total cover: 63	20% of	total cover:	25	
Woody Vine Stratum (Plot siz	:e: 3	30' )		·		
1						
2						
3						
4				-		
5.						
v			0	= Total Cov		Hydrophytic
	<b>500</b> / 5					Vegetation Present?  Yes X No
		total cover: 0		total cover:	0	
Remarks: (Include photo num	bers here o	or on a separate s	sheet.)			

Sampling Point: W-BAO-012121-01

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			x Features						
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Text</u>	ure	Remark	S
_										
_										
_										
_			_							_
_										
¹Type: C=Co	oncentration, D=Depl	etion RM=Re	duced Matrix MS	=Masked S	Sand Gra	ine	<sup>2</sup> Locatio	on: PL=Pore Li	ning M=Matri	<u> </u>
Hydric Soil I		Buon, rawi–rac	ducca Matrix, Mc	)-IVId3NCu V	Dana Ora			Indicators for I		
•		г	Dork Surface	(87)						•
Histosol		<u> </u> 	Dark Surface		o (CO) ###	I D A 447	140\		(A10) <b>(MLRA</b> rie Redox (A10	
	ipedon (A2)	<u> </u> 	Polyvalue Be				140)		те кеаох (Аті 1 <b>47, 148)</b>	0)
Black His		<u>l</u>	Thin Dark Su Loamy Gleye			47, 148)				lo (E10)
_	n Sulfide (A4)	<u> </u> 	Depleted Mat		۷)				loodplain Soi	15 (F 18)
	Layers (A5) ck (A10) <b>(LRR N)</b>	<u> </u>			• • • • • • • • • • • • • • • • • • • •				136, 147)	oo /TE12)
	ck (A10) <b>(LRR N)</b> I Below Dark Surface	<u>Ι</u> (Δ11) Γ	Redox Dark S Depleted Dar						ow Dark Surfa Iain in Remarl	
	rk Surface (A12)	(A11) <u>[</u>	Redox Depre		. ,			Ciriei (Exp	iaiii iii Reiliaii	(5)
	lucky Mineral (S1) <b>(L</b>	DDN [	Iron-Mangan			DD N				
-	147, 148)	KK N, <u>I</u>	MLRA 13		5 (F 12) <b>(L</b>	KK N,				
		г		•	/II DA 12/	2 122)		<sup>3</sup> Indicators of	budrophytic v	agatation and
	leyed Matrix (S4)	<u>. ц</u>	Umbric Surfa				0)			-
	edox (S5)	_ <u>.</u> L	Piedmont Flo						rology must be	
	Matrix (S6)	<u>_</u>	Red Parent N	nateriai (FZ	I) (IVILRA	4 127, 147	<del>')</del>	uniess distur	bed or proble	mauc.
	ayer (if observed):	No								
Type:			=							
Depth (inc	ches):		_				Hydri	c Soil Present?	? Yes	No
Remarks:										
Soils were no	t obtained due to US	DOE restriction	ons on digging in	the area. A	Assumed	hydric due	e to stror	ng vegetative an	d hydrologic i	ndicators.

Project/Site: Arboles Station and Transmis	sion Lines Project	City/County: Pike Cou	unty	_ Sampling Date: 01/21/2021				
Applicant/Owner: AEP			State: OH	Sampling Point: U-BAO-012121-01				
Investigator(s): BAO, JFW			ange: S 18 T 4N R 21 W					
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, con	nvex, none): Flat	Slope (%): 0				
Landform (hillslope, terrace, etc.): Flat Subregion (LRR or MLRA): LRR N	Lat: 39.01474	Lo	ng:	00554 Datum: WGS 84				
Soil Map Unit Name: UoA: Urbanland-Omu								
Are climatic / hydrologic conditions on the s	ite typical for this time of	f year? Yes X No	(If no, explain in F	Remarks.)				
Are Vegetation, Soil, or Hyd	Irology significar	ntly disturbed? Are	"Normal Circumstances"	present? Yes X No				
Are Vegetation , Soil , or Hyd		problematic? (If r	needed, explain any answe	ers in Remarks.)				
SUMMARY OF FINDINGS – Atta	ch site map showi	ng sampling point	locations, transects	s, important features, etc.				
Hadron to the Manual State of Proceedings	V N V							
Hydrophytic Vegetation Present?	Yes No X	— Is the Sample within a Wetla	d Area	NoX				
Hydric Soil Present? Wetland Hydrology Present?	Yes NoX Yes NoX	within a wetta	inu? Yes	NO				
Remarks:	165 NO_X	<u> </u>						
Upland point associated with Wetland AS-	∩∩5 (\\/₋B∆∩_∩12121_∩1	) Soil sample was unabl	e to be observed due to LL	S DOE restrictions in area due to				
various underground electrical wires	303 (VV-BAO-012121-01	j. Ooli sample was unabi	e to be observed due to o	3 DOE restrictions in area due to				
HYDROLOGY								
Wetland Hydrology Indicators:			Secondary Indica	ators (minimum of two required)				
Primary Indicators (minimum of one is req	uired; check all that app	ly)	Lustrace Soil	Cracks (B6)				
Surface Water (A1)	True Aquati	c Plants (B14)	Sparsely Ve	egetated Concave Surface (B8)				
High Water Table (A2)		ulfide Odor (C1)		atterns (B10)				
Saturation (A3)	Oxidized Rh	nizospheres on Living Roo	ots (C3) 📙 Moss Trim L	ines (B16)				
Water Marks (B1)	Presence of	Reduced Iron (C4)	Dry-Season	Water Table (C2)				
Sediment Deposits (B2)	_	Reduction in Tilled Soils	` ' 📻 '					
Drift Deposits (B3)	Thin Muck S		_	/isible on Aerial Imagery (C9)				
Algal Mat or Crust (B4)	U Other (Expla	ain in Remarks)		Stressed Plants (D1)				
Iron Deposits (B5)	(0.7)		= '	Geomorphic Position (D2)				
Inundation Visible on Aerial Imagery (	B/)		☐ Shallow Aquitard (D3) ☐ Microtopographic Relief (D4)					
Water-Stained Leaves (B9) Aquatic Fauna (B13)			FAC-Neutral Test (D5)					
Field Observations:			I AO-Neulla	Trest (D3)				
	No X Depth (inch	200):						
	No X Depth (inch							
<u> </u>	No X Depth (inch	,	Istland Hydrology Press	nt? Yes No X				
(includes capillary fringe)	_ No _X Deptil (inci	les) vu	etland Hydrology Preser	itt: res NO				
Describe Recorded Data (stream gauge, r	nonitoring well, aerial ph	notos, previous inspection	s), if available:					
Remarks:								
I .								

EGETATION (Five Stra	ıta) – Use	scientific n	ames of <sub>l</sub>	olants.		Sampling Point: U-BAO-012121-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		· ·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 3 (B)
4						Percent of Deminant Species
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 33.33 (A/B)
6	_					
			0	= Total Cov	er	Prevalence Index worksheet:
	50% of to	otal cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 01	total cover.		OBL species
						FACW species 0 x 2 = 0
1						FAC species 50 x 3 = 150
2						FACU species30 x 4 =120
3						UPL species 20 x 5 = 100
4						Column Totals:(A)(B)
5						Prevalence Index = B/A = 3.7
6				= Total Cov		Hydrophytic Vegetation Indicators:
						1 - Rapid Test for Hydrophytic Vegetation
		otal cover: <u>20</u>	20% of	total cover:	8	
Shrub Stratum (Plot size:		)				2 - Dominance Test is >50%
1						3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation¹ (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			0	= Total Cov	er	Definitions of Five Vegetation Strata:
	50% of to	otal cover:0	20% of	total cover:	0	Troe Mondy plants evaluding woody vines
Herb Stratum (Plot size:	5'	)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Andropogon gerardii			40	Y	_FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Erigeron annuus			20	Y	FACU	Sapling – Woody plants, excluding woody vines,
3 Daucus carota			20	Y	UPL	approximately 20 ft (6 m) or more in height and less
4. Setaria pumila			10		FAC	than 3 in. (7.6 cm) DBH.
5. Trifolium repens			10	N	FACU	Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						it (1 iii) iii rieigitt.
11						Woody vine – All woody vines, regardless of height.
				= Total Cov	er	
	EOO/ of to	otal cover: 50				
Mandy Vina Stratum (Diet air		Λ' ·	20% 01	total cover.	20	
Woody Vine Stratum (Plot siz						
1						
2						
3						
4			·			
5						Hydrophytic
			0	= Total Cov	er	Vegetation
	50% of to	otal cover:0	20% of	total cover:	0	Present? Yes NoX
Remarks: (Include photo num	bers here o	r on a separate s	sheet.)			

Sampling Point: U-BAO-012121-01

Profile Description: (Describe to the depth	needed to document the indicator or confirm	the absence of indicators.)
Depth <u>Matrix</u>	Redox Features	
(inches) Color (moist) %	Color (moist) % Type <sup>1</sup> Loc <sup>2</sup>	Texture Remarks
_		
<del></del>		
_		
_		
_ <del>_</del>		
_		
		2
<sup>1</sup> Type: C=Concentration, D=Depletion, RM=F	Reduced Matrix, MS=Masked Sand Grains.	<sup>2</sup> Location: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1)	☐ Dark Surface (S7)	2 cm Muck (A10) (MLRA 147)
Histic Epipedon (A2)	Polyvalue Below Surface (S8) (MLRA 147,	
Black Histic (A3)	Thin Dark Surface (S9) (MLRA 147, 148)	(MLRA 147, 148)
Hydrogen Sulfide (A4)	Loamy Gleyed Matrix (F2)	Piedmont Floodplain Soils (F19)
Stratified Layers (A5)	Depleted Matrix (F3)	(MLRA 136, 147)
2 cm Muck (A10) (LRR N)	Redox Dark Surface (F6)	☐ Very Shallow Dark Surface (TF12)
Depleted Below Dark Surface (A11)	Depleted Dark Surface (F7)	Other (Explain in Remarks)
Thick Dark Surface (A12)	Redox Depressions (F8)	
Sandy Mucky Mineral (S1) (LRR N,	Iron-Manganese Masses (F12) (LRR N,	
MLRA 147, 148)	MLRA 136)	
Sandy Gleyed Matrix (S4)	Umbric Surface (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of hydrophytic vegetation and
Sandy Redox (S5)	Piedmont Floodplain Soils (F19) (MLRA 148	
Stripped Matrix (S6)	Red Parent Material (F21) (MLRA 127, 147)	
Restrictive Layer (if observed): Yes	rear arent material (i 21) (in2.ut i 27, 117)	arriose distarbed of problematic.
_		
Type:		
Depth (inches):	<u> </u>	Hydric Soil Present? Yes No _X
Remarks:		
Soil sample was unable to be observed due to	US DOE restrictions in area. Soils estimated due	to restriction based on relative topography and plant
species.		

# Wetland AS-006

Project/Site: Arboles Station and Transmission Lines Project	City/County: Pike County Sampling Date: 01/21/2021
Applicant/Owner: AEP	State: OH Sampling Point: W-BAO-012121-04
Investigator(s): BAO, JFW	Section, Township, Range: S 7 T 4N R 22W
Landform (hillslope, terrace, etc.): Swale Lo	ocal relief (concave, convex, none): Concave Slope (%): 1
Subregion (LRR or MLRA): LRR N Lat: 39.01328	Long: -83.01067 Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga complex, 0 to 6 percen	nt slopes NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year	ear? Yes X No (If no, explain in Remarks.)
Are Vegetation, Soil, or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation , Soil , or Hydrology naturally pr	oblematic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present?         YesX No	within a Wetland? Yes No
Remarks:	
PEM wetland fed by a culvert and drains to Pond AS-001.	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1)	Plants (B14) Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)	ide Odor (C1)
Saturation (A3) Oxidized Rhizo	ospheres on Living Roots (C3) Hoss Trim Lines (B16)
	educed Iron (C4)
	eduction in Tilled Soils (C6)
Drift Deposits (B3)	<del></del>
Algal Mat or Crust (B4)  Other (Explain	
Iron Deposits (B5)	Geomorphic Position (D2)
Inundation Visible on Aerial Imagery (B7)  Water-Stained Leaves (B9)	☐ Shallow Aquitard (D3) ☐ Microtopographic Relief (D4)
Aquatic Fauna (B13)	FAC-Neutral Test (D5)
Field Observations:	<u> </u>
Surface Water Present? Yes X No Depth (inches	s). 1.00
Water Table Present?  Yes No _X Depth (inches	
Saturation Present? Yes X No Depth (inches	· <del></del>
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photo	os, previous inspections), if available:
Remarks:	

EGETATION (Five Stra	ıta) – Us	e scientific n	ames of p	plants.		Sampling Point: W-BAO-012121-04
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		· ·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:3 (A)
2						Total Number of Dominant
3						Species Across All Strata: 3 (B)
4						Descent of Deminant Chapter
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
				= Total Cove	er	Prevalence Index worksheet:
	50% of	total cover:0	20% of	total cover:	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:	4	)		10101 55		OBL species 0 x 1 = 0
Platanus occidentalis		/	20	Υ	FACW	FACW species110 x 2 =220
2						FAC species 10 x 3 = 30
3						FACU species 0 x 4 = 0
						UPL species
4 5						Column Totals:120 (A)250 (B)
6.						Prevalence Index = B/A = 2.08
0				= Total Cove		Hydrophytic Vegetation Indicators:
	500/ af					X 1 - Rapid Test for Hydrophytic Vegetation
		total cover:10	) 20% or	total cover:	4	X 2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				$\frac{X}{X}$ 3 - Prevalence Index is $\leq 3.0^{\circ}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4				-		
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6			- ——			be present, unless disturbed or problematic.
				= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of	total cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	)				approximately 20 ft (6 m) or more in height and 3 in.
1. Juncus effusus			30	Y	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Phalaris arundinacea			60	Y	FACW	Sapling – Woody plants, excluding woody vines,
3. Dichanthelium clandestinu	m		10	N	_FAC	approximately 20 ft (6 m) or more in height and less
4						than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6		<u> </u>				approximately 3 to 20 ft (1 to 6 m) in height.
7		<u> </u>				Herb – All herbaceous (non-woody) plants, including
8				<u> </u>	<u> </u>	herbaceous vines, regardless of size, and woody
9				<u> </u>		plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						
11.						Woody vine – All woody vines, regardless of height.
			100	= Total Cove	er	
	50% of	total cover: 50				
M-adulina Stratum (Diat siz		30' )	20 /0 01	lotal cover.		
Woody Vine Stratum (Plot siz		/				
_						
2						
3						
4			- ——			
5						Hydrophytic
				= Total Cove	er	Vegetation
	50% of	total cover: 0	20% of	total cover:	0	Present? Yes X No
Remarks: (Include photo num	bers here	or on a separate	sheet.)			

Sampling Point: W-BAO-012121-04

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)									
Depth	Matrix		Redox	Features					
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	Remarks	
0 — 10	10YR 4/2	90	10YR 6/8	10	C	M	Silty clay loam		
_			_						
_			_						
			_						
_									
<sup>1</sup> Type: C=Co	ncentration, D=Deple	etion, RM=R	educed Matrix, MS	=Masked \$	Sand Gra	ains.	<sup>2</sup> Location: Pl	L=Pore Lining, M=Matrix.	
Hydric Soil II		,	,					ators for Problematic Hydric Soils <sup>3</sup> :	
Histosol (			☐ Dark Surface	(S7)				cm Muck (A10) <b>(MLRA 147)</b>	
	pedon (A2)		Polyvalue Bel		e (S8) <b>(N</b>	II RA 147		oast Prairie Redox (A16)	
Black His			Thin Dark Sur				140) 0	(MLRA 147, 148)	
	Sulfide (A4)		Loamy Gleyed			47, 140)	Пв	iedmont Floodplain Soils (F19)	
	Layers (A5)		☐ Coarry Gleyet ☐ Depleted Matr		۷)		<u> </u>	(MLRA 136, 147)	
_	ck (A10) <b>(LRR N)</b>				• • • • • • • • • • • • • • • • • • • •				
	• • • • • • • • • • • • • • • • • • • •	(111)	☐ Redox Dark S ☐ Depleted Dark					ery Shallow Dark Surface (TF12) ther (Explain in Remarks)	
	Below Dark Surface	(A11)			. ,		<u> </u>	uller (Explain in Remarks)	
	rk Surface (A12)	DD N	Redox Depres			DD N			
	ucky Mineral (S1) <b>(L</b> l	KK N,	☐ Iron-Mangane		s (F12) (	LKK N,			
	147, 148)		MLRA 136		# DA 40	0 400)	31	: - 4 <del>- 6</del>	
	eyed Matrix (S4)		Umbric Surfac					icators of hydrophytic vegetation and	
Sandy Re			Piedmont Floo					tland hydrology must be present,	
	Matrix (S6)		Red Parent M	aterial (F2	1) (MLR	A 127, 147	() unl	ess disturbed or problematic.	
Restrictive L	ayer (if observed):	No							
Туре:			_						
Depth (inc	hes):		_				Hydric Soil	Present? Yes X No No	
Remarks:							-1		
US Departme	nt of Energy property	does not all	ow digging past 12						
,	03.1 1 3		00 01						

# Upland AS-006 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transm	ission L	ines F	Project	City/C	Sounty: Pike	County		Sampling	Date: 01	1/21/2021
Applicant/Owner: AEP					City/C	ounty		State: OH	_ Sampling	Dale	U-BAO-012121-04
Investigator(s): BAO, JFW					04	T	. D S	7 T 4N R 22W	Sampin	ng Politi.	
	Hilleide									01	(0/) 3
Landform (hillslope, terrace, et					Local rei	iet (concave	, convex, nor	ne): OOHVOX	2.04060	Slope	(%): <u>3</u>
Subregion (LRR or MLRA): <u>LF</u>								-8:			WG3 64
Soil Map Unit Name: UoA: Urb										<u>.</u>	
Are climatic / hydrologic condit											
Are Vegetation <u>√</u> , Soil _								Circumstances			No
Are Vegetation , Soil .	_, or Hy	/drology	<i>'</i>	_ naturally	problema	atic?	(If needed, e	explain any ansv	vers in Rema	ırks.)	
SUMMARY OF FINDIN	GS – Att	ach si	te m	ap showi	ng san	npling po	int locatio	ons, transec	s, import	ant fea	tures, etc.
Hydrophytic Vegetation Pres	ent?	Yes		_ NoX		ls the Sar	npled Area				
Hydric Soil Present?		Yes		No_X		within a V		Yes	No	X	
Wetland Hydrology Present?				No X							
Remarks:											
Upland point associated with	W-BAO-012	2121-04									
vegetation mowed											
HYDROLOGY											
Wetland Hydrology Indicate	 ors:							Secondary Indi	cators (minim	num of tw	o required)
Primary Indicators (minimum		auired.	check	all that ann	lv)				oil Cracks (B6		<u> </u>
Surface Water (A1)	01 0110 10 10	<del>rquirou,</del>		True Aquation	•	R14)			egetated Co	•	ırface (B8)
High Water Table (A2)			=	Hydrogen S	,	,			atterns (B10		Trace (Bo)
Saturation (A3)				Oxidized Rh			Roots (C3)	_ `	Lines (B16)	')	
Water Marks (B1)				Presence of		_	110013 (03)		n Water Tabl	le (C2)	
Sediment Deposits (B2)				Recent Iron			oile (C6)		urrows (C8)	ie (02)	
Drift Deposits (B3)			_	Thin Muck S			olis (CO)		Visible on Ae	arial Imac	nery (C9)
Algal Mat or Crust (B4)			_	Other (Expla	-	-			Stressed Pla		iciy (OS)
Iron Deposits (B5)			ш	Otrici (Expir	alli ili i (Ci	nans)			ic Position (D		
Inundation Visible on Ae	rial Imager	(B7)							ιο τ ositioπ (Ε <sub>l</sub> uitard (D3)	)2)	
Water-Stained Leaves (E		(67)							raphic Relief	f (D4)	
Aquatic Fauna (B13)	13)							_	al Test (D5)	i (D4)	
							1	I AC-Neuti	ai Test (D3)		
Field Observations:	V	NI-	Y	Danath (in ala	\.						
Surface Water Present?				Depth (inch							
Water Table Present?				Depth (inch							/
Saturation Present? (includes capillary fringe)	Yes	No_		Depth (inch	nes):	<del></del> -	Wetland F	lydrology Pres	ent? Yes_		No X
Describe Recorded Data (str	eam gauge	, monito	ring w	ell, aerial ph	notos, pre	vious inspe	ctions), if ava	ilable:			
,			•	•	·	·	,				
Remarks:											
rtemane.											
											ļ
											ļ

EGETATION (Five Strata	a) – Use	scientific na	mes of p	olants.		Sampling Point: U-BAO-012121-04
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tot:	al cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 01	total cover.		OBL species 0 x 1 = 0
						FACW species0 x 2 =0
1						FAC species40 x 3 =120
2						FACU species10 x 4 =40
3						UPL species0 x 5 =0
4						Column Totals: (A) (B)
5 6						Prevalence Index = B/A = 3.2
0				= Total Cove	er	Hydrophytic Vegetation Indicators:
	500/ 51 1					1 - Rapid Test for Hydrophytic Vegetation
		al cover: 0	20% of	total cover:_	0	2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1						
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation¹ (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of tota	al cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	.)				approximately 20 ft (6 m) or more in height and 3 in.
1. Dichanthelium clandestinum	<u> </u>		30	Y	_FAC	(7.6 cm) or larger in diameter at breast height (DBH).
2. Allium canadense			10	N	FACU	Sapling – Woody plants, excluding woody vines,
3. Setaria pumila			10	N	FAC	approximately 20 ft (6 m) or more in height and less
4. Poa sp.			50	Y		than 3 in. (7.6 cm) DBH.
5						Shrub – Woody plants, excluding woody vines,
6.						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3
10						ft (1 m) in height.
11.						Woody vine – All woody vines, regardless of height.
11			100 :	= Total Cove		-
	=00/ 5/ /	. 50				
··· · · · · · · · · · · · · /DI . · ·		al cover: 50	20% or	total cover:	20	
Woody Vine Stratum (Plot size:		/				
1						
2						
3			-			
4						
5						Hydrophytic
			0 =	= Total Cove	er	Vegetation
	50% of tota	al cover: 0	20% of	total cover:	0	Present? Yes NoX
Remarks: (Include photo number						
Tremand: (morade photo name	515 11616 61	on a separate of	1001.)			

Sampling Point: U-BAO-012121-04

Profile Description: (Describe to	the depth needed to docume	ent the indicator or confirm	the absence of indicate	ors.)
Depth <u>Matrix</u>		Features 2	_	
(inches) Color (moist)	% Color (moist)	% Type <sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
0 — 10 10YR 4/3	80 10YR 4/6	20 C M	Silty clay loam	
_				
_ <del>_</del>				
_				
				_
<del>_</del>				
<del>-</del>				
<sup>1</sup> Type: C=Concentration, D=Depleti	on RM=Reduced Matrix MS=	Masked Sand Grains	<sup>2</sup> Location: PL=Pore Lini	ing M=Matrix
Hydric Soil Indicators:	on, ran reduced mann, me	macroa cana crame.		roblematic Hydric Soils <sup>3</sup> :
☐ Histosol (A1)	☐ Dark Surface (	S7)		A10) <b>(MLRA 147)</b>
Histic Epipedon (A2)		w Surface (S8) <b>(MLRA 147,</b>		e Redox (A16)
Black Histic (A3)		ace (S9) (MLRA 147, 148)	(MLRA 14	* *
Hydrogen Sulfide (A4)	Loamy Gleyed			podplain Soils (F19)
Stratified Layers (A5)	Depleted Matri	, ,	(MLRA 13	
2 cm Muck (A10) (LRR N)	Redox Dark S			v Dark Surface (TF12)
Depleted Below Dark Surface (A	- ·	• •		in in Remarks)
Thick Dark Surface (A12)	Redox Depres		, , ,	,
Sandy Mucky Mineral (S1) (LRF		se Masses (F12) (LRR N,		
MLRA 147, 148)	MLRA 136)			
☐ Sandy Gleyed Matrix (S4)	Umbric Surfac	e (F13) (MLRA 136, 122)	<sup>3</sup> Indicators of h	ydrophytic vegetation and
Sandy Redox (S5)		dplain Soils (F19) (MLRA 148		plogy must be present,
Stripped Matrix (S6)	Red Parent Ma	aterial (F21) <b>(MLRA 127, 147</b> )	unless disturb	ed or problematic.
Restrictive Layer (if observed): N	0			
Type:				
Depth (inches):			Hydric Soil Present?	Yes NoX
Remarks:				
US Department of Energy property d	oes not allow digging past 12'	•		
or repairment or minergy property a	and marament angging pass in			

# Wetland AS-007 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station and Transmission Line	s Project City/C	ounty: Pike County	Sampling	Date: 01/22/2021
Applicant/Owner: AEP		:	State: OH Sampl	ing Point: W-BAO-012221-01
Investigator(s): BAO, JFW	Section	on, Township, Range: S 7	T 4N R 22W	
Landform (hillslope, terrace, etc.): Gulch or Gully	Local reli	ef (concave, convex, none)	): Concave	Slope (%): 1
Subregion (LRR or MLRA): <u>LRR N</u> La	at: 39.01074	Long:	-83.01210	Datum: WGS 84
Soil Map Unit Name: UoA: Urbanland-Omulga comp				
Are climatic / hydrologic conditions on the site typical	for this time of year? Y	es X No (If	no, explain in Remarks.)	
Are Vegetation, Soil, or Hydrology	significantly disturt	ped? Are "Normal C	ircumstances" present?	Yes X No
Are Vegetation , Soil , or Hydrology		atic? (If needed, exp	olain any answers in Rema	arks.)
				_
SUMMARY OF FINDINGS – Attach site	map showing sam	pling point location	s, transects, import	tant features, etc.
Hydrophytic Vegetation Present? Yes X	No			
	No	Is the Sampled Area within a Wetland?	Yes X	
	No	William a Wolland	<u> </u>	
Remarks:				
PEM linear wetland in maintained transmission line	ROW, between two built	up mounds		
HYDROLOGY				
Wetland Hydrology Indicators:		<u>S</u> Г	econdary Indicators (minir	<u> </u>
Primary Indicators (minimum of one is required; che	<b>–</b>	<u>L</u>	Surface Soil Cracks (B	
Surface Water (A1)  ✓ High Water Table (A2)	True Aquatic Plants (		Sparsely Vegetated Co	
☐ Saturation (A3)	Hydrogen Sulfide Odd	es on Living Roots (C3)	☐ Drainage Patterns (B10☐ Moss Trim Lines (B16)	
Water Marks (B1)	Presence of Reduced	· · · · · · · · · · · · · · · · · · ·	Dry-Season Water Tab	
Sediment Deposits (B2)	Recent Iron Reduction		Crayfish Burrows (C8)	ile (O2)
Drift Deposits (B3)	Thin Muck Surface (C		Saturation Visible on A	erial Imagery (C9)
Algal Mat or Crust (B4)	Other (Explain in Rem	· ·	Stunted or Stressed Pl	
Iron Deposits (B5)	_ ` ` .	Ţ	Geomorphic Position (I	
Inundation Visible on Aerial Imagery (B7)			Shallow Aquitard (D3)	
Water-Stained Leaves (B9)		<u>_</u>	Microtopographic Relie	ef (D4)
Aquatic Fauna (B13)		<u> </u>	✓ FAC-Neutral Test (D5)	
Field Observations:				
		2.00		
	_ ' \ /	5.00		
	Depth (inches):	Wetland Hyd	drology Present? Yes	X No
(includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring	well aerial photos pre	vious inspections) if availa	ble.	
gaage,e	,, aca. p, p	,,,		
Remarks:				

EGETATION (Five Stra	ta) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012221-01
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size:1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
			=	= Total Cove	ər	Prevalence Index worksheet:
	50% of to	tal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:			_		_	OBL species 0 x 1 = 0 FACW species 90 x 2 = 180
1						
2						
3						1 ACO species
4						UPL species 0 x 5 = 0
5						Column Totals: 90 (A) 180 (B)
6						Prevalence Index = B/A = 2.00
				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of to	tal cover: 0				X 1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		\	20 /0 01	luiai cover.		X 2 - Dominance Test is >50%
`		/				$\frac{X}{2}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				Tatal Cau		be present, unless disturbed or problematic.
		_		= Total Cove		Definitions of Five Vegetation Strata:
		tal cover: 0	20% of	total cover:	0	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
				N	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Equisetum hyemale			10	N	FACW	Sapling - Woody plants, excluding woody vines,
3. Juncus effusus			30	Y	FACW	approximately 20 ft (6 m) or more in height and less than 3 in. (7.6 cm) DBH.
4. Eupatorium perfoliatum			20	Y	FACW	tilati 3 iii. (7.0 ciii) DDT.
5. Cyperus esculentus			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Carex cristatella			10	<u>N</u>	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Manada All woody vinos regardless of height
11						Woody vine – All woody vines, regardless of height.
			90 :	= Total Cove	ər	
	50% of to	tal cover: 45	20% of	total cover:	18	
Woody Vine Stratum (Plot size		· · · · · · · · · · · · · · · · · · ·	_	-		
1						
2						
3						
4						
5.						
J			0 :	= Total Cove		Hydrophytic
		. 0				Vegetation Present? Yes X No
		tal cover: 0		total cover:	0	11000
Remarks: (Include photo numl	bers here or	on a separate s	heet.)			

Sampling Point: W-BAO-012221-01

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicator	s.)	
Depth	Matrix			<u>Features</u>	- 1					
(inches)	Color (moist)	<u></u> %	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	-	Remarks	
<u>0 — 10</u>	10YR 4/2	90 _	5YR 4/6	10			Silty clay			
_										
								-		
_										
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion RM=R	educed Matrix MS	=Masked	Sand Gra	ains	<sup>2</sup> Location: P	I =Pore I inin	g M=Matrix	
Hydric Soil I		04011, 1441 14	oddood Matrix, Mo	Macked	ound on				blematic Hyc	Iric Soils <sup>3</sup> :
Histosol			☐ Dark Surface	(S7)					10) <b>(MLRA 14</b>	
	ipedon (A2)		Polyvalue Bel		e (S8) <b>(N</b>	II RA 147.		com Madic (7 t Coast Prairie I		••
Black His			Thin Dark Sur					(MLRA 147		
_	n Sulfide (A4)		Loamy Gleyed			.,,,	ПР		,o, odplain Soils (f	<del>-</del> 19)
	Layers (A5)		✓ Depleted Mati		_,		<u>—</u> ·	(MLRA 136		10)
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)		Пν		, , Dark Surface (	(TF12)
	Below Dark Surface	(A11)	Depleted Dark	,	,		_	•	in Remarks)	( )
	rk Surface (A12)	( )	Redox Depres		. ,			\ 1	,	
	ucky Mineral (S1) (L	RR N,	Iron-Mangane			LRR N,				
	. 147, 148)	<b>,</b>	MLRA 136		( )(	<b>,</b>				
	leyed Matrix (S4)		Umbric Surface		MLRA 13	6, 122)	<sup>3</sup> Ind	icators of hyd	drophytic vege	tation and
	edox (S5)		Piedmont Floo					-	ogy must be pr	
	Matrix (S6)		Red Parent M						d or problema	
	ayer (if observed):	No		`					·	
Type:	•									
• • • • • • • • • • • • • • • • • • • •	:hes):		_				Hydric Soil	Drasant?	Yes X	No
			<del>_</del>				Tiyunc 3011	rieseit:	163 <u> </u>	<u> </u>
Remarks:	nt of Engrave property	المغمم ممد مال	avv diamina naat 10	<b>.</b> "						
US Departine	nt of Energy property	does not all	ow digging past 12	-						

### Upland AS-007

### WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transmissio	n Lines	Project	City/Co	ounty: Pike County			Sampling	Date: 01	/22/2021
Applicant/Owner: AEP			-	_ 01.97.00		Sta	<sub>ate</sub> . OH	Samplir	na Point	U-BAO-012221-01
Investigator(s): BAO, JFW				Section	n, Township, Range	S7T4	N R 22W	сатр	ig i oiiit.	
Landform (hillslope, terrace, et	c ). Hillside		ı	ocal relie	of (concave, convex	none). (	Convex		Slone	(%)· 1
Subregion (LRR or MLRA): <u>LF</u>	RR N	l a	t· 39.01056	.ooai roile	Long.	, 110110). <u> </u>	-83.	01210	Datum.	WGS 84
Soil Map Unit Name: UoA: Urb										
Are climatic / hydrologic condit										
Are Vegetation, Soil			-						es X	No
Are Vegetation , Soil,							n any answe			_ 110
, com	_, 01 11ya101	ogy .	natarany p	robiciliai	io: (ii nocac	за, охріаі	in any anowe	oro irr recina	11.0.)	
<b>SUMMARY OF FINDIN</b>	GS – Attach	site r	nap showin	ıg samı	pling point loca	ations,	transects	s, importa	ant fea	tures, etc.
			-					<u> </u>		
Hydrophytic Vegetation Prese		S	No <u>X</u>	_	Is the Sampled Are	ea			X	
Hydric Soil Present?	Yes	s	NoX	_	within a Wetland?		Yes	No		
Wetland Hydrology Present?	Yes	s	No <u>X</u>	_						
Remarks:										
Upland point associated with	W-BAO-012221	-01								
HYDROLOGY										
Wetland Hydrology Indicate						Seco	ondary Indic	ators (minim	num of tw	o required)
Primary Indicators (minimum		ad: cha	ck all that apply	d)			Surface Soil	•		o required)
Surface Water (A1)	Of Othe is require		True Aquatic		111)		Sparsely Ve	•	-	urfaco (BR)
High Water Table (A2)		⊢	Hydrogen Sul	-	·		Oparsely ve Drainage Pa	-		nace (Do)
Saturation (A3)		F	1		s on Living Roots (C		Moss Trim L	-	,	
Water Marks (B1)		F	Presence of F				Dry-Season		e (C2)	
Sediment Deposits (B2)			1		in Tilled Soils (C6)		Crayfish Bu		0 (02)	
Drift Deposits (B3)		Ī	Thin Muck Su		` '		Saturation V		erial Imac	iery (C9)
Algal Mat or Crust (B4)		Ē	Other (Explain	-		_	Stunted or S		_	, , , ,
Iron Deposits (B5)					,		Geomorphic			
Inundation Visible on Ae	rial Imagery (B7	)					Shallow Aqu	itard (D3)	,	
Water-Stained Leaves (E	39)						Microtopogr	aphic Relief	(D4)	
Aquatic Fauna (B13)							FAC-Neutra	l Test (D5)		
Field Observations:										
Surface Water Present?	Yes N	lo X	_ Depth (inche	es):						
Water Table Present?	Yes N	lo X	_ Depth (inche	es):						
Saturation Present?			_ Depth (inche			nd Hydro	logy Prese	nt? Yes_		No <u>X</u>
(includes capillary fringe)  Describe Recorded Data (stre		- 141			: i=-= #i===- \					
Describe Recorded Data (stre	eam gauge, mor	illoring	weii, aeriai pho	nos, prev	ious inspections), ir	avallable	): -			
Remarks:										

EGETATION (Five Strata	a) – Use	scientific na	ımes of p	olants.		Sampling Point: U-BAO-012221-01
				Dominant		Dominance Test worksheet:
<u>Tree Stratum</u> (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:1 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Deminant Species
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	ər	Prevalence Index worksheet:
	50% of tot	tal cover: 0	20% of	total cover	0	Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			2070 01	total cover.		OBL species x 1 = 0
						FACW species5 x 2 =10
1						FAC species40 x 3 =120
2						FACU species70 x 4 =280
3						UPL species0 x 5 =0
4						Column Totals:115 (A)410 (B)
5 6.						Prevalence Index = B/A = 3.57
6			·	= Total Cove	 er	Hydrophytic Vegetation Indicators:
	500/ -f+-4					1 - Rapid Test for Hydrophytic Vegetation
01 1 01 1 (D1 1 )		tal cover: 0	20% of	total cover:	0	2 - Dominance Test is >50%
Shrub Stratum (Plot size:		)				3 - Prevalence Index is ≤3.0 <sup>1</sup>
1						3 - Prevalence index is \$5.0      4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2						data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						
5						<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6						be present, unless disturbed or problematic.
			=	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of tot	tal cover: 0	20% of	total cover:	00	Tree – Woody plants, excluding woody vines,
Herb Stratum (Plot size:	5'	_)				approximately 20 ft (6 m) or more in height and 3 in.
1. Asclepias syriaca			10	N	<u>FACU</u>	(7.6 cm) or larger in diameter at breast height (DBH).
2. Pycnanthemum virginianum			10	<u>N</u>	FAC_	Sapling – Woody plants, excluding woody vines,
3. Setaria pumila			30	Y	_FAC	approximately 20 ft (6 m) or more in height and less
4. Equisetum hyemale			5	N	FACW	than 3 in. (7.6 cm) DBH.
5. Schedonorus arundinaceus			60	Υ	FACU	Shrub – Woody plants, excluding woody vines,
6						approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10					=	
11						Woody vine – All woody vines, regardless of height.
				= Total Cove	er	
	50% of tot	tal cover: 58				
Woody Vine Stratum (Plot size:			20 /0 01	lotal cover.		
1						
2						
3						
4						
5						Hydrophytic
			=	= Total Cove	er	Vegetation
	50% of tot	tal cover: 0	20% of	total cover:	0	Present? Yes NoX
Remarks: (Include photo number	ers here or	on a separate sl	heet.)			

Sampling Point: U-BAO-012221-01

Profile Desc	ription: (Describe t	o the depth	needed to docum	ent the in	dicator	or confirm	the absence	of indicators	.)	
Depth	Matrix			Features			_		_	
(inches)	Color (moist)	<u></u> %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	_	Remarks	
<u>0 — 10</u>	10YR 4/3	70	10YR 5/6	30	C	M	Silty clay loam			
_										
_										
_										
1Typo: C=Co	noontration D=Donle		laduaad Matrix, MS	-Maakad	Sand Cr		<sup>2</sup> l continue DI	-Doro Lining	M-Motriy	
Hydric Soil I	ncentration, D=Deple	euon, Rivi-R	teduced Matrix, MS	-iviaskeu	Sand Gra	airis.		L=Pore Lining	, M-Maurx. Diematic Hydri	ic Soils <sup>3</sup> :
-			Dork Surface	(07)					-	
Histosol	ipedon (A2)		☐ Dark Surface☐ Polyvalue Bel		~ (SO) <b>(N</b>	II DA 147		oast Prairie R	0) <b>(MLRA 147</b> )	)
Black His			Thin Dark Sur				146) C	(MLRA 147,		
_	n Sulfide (A4)		Loamy Gleyed			47, 140)	Пв		1 <b>46)</b> Iplain Soils (F1	10)
	Layers (A5)		Depleted Mati		-2)			(MLRA 136,		19)
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)				ark Surface (T	E12)
	Below Dark Surface	(Δ11)	Depleted Dark	`	,			ther (Explain i		112)
	rk Surface (A12)	(A11)	Redox Depres		. ,			tilei (Explaii)	iii iteiliaiks)	
	ucky Mineral (S1) <b>(L</b>	DD NI	☐ Iron-Mangane			DD N				
	147, 148)	ixix iv,	MLRA 136		3 (1 12) (	LIXIX IN,				
	leyed Matrix (S4)		Umbric Surface		MI RA 13	6 122)	<sup>3</sup> Indi	icators of hydr	ophytic vegeta	ation and
	edox (S5)		Piedmont Floo					-	y must be pre	
	Matrix (S6)		Red Parent M						or problemation	
	ayer (if observed):	No		atoriai (i Z	- 1) ( <b>_</b>		1	occ diotal bod	or problemate	·
Type:	ayor (ii obsorrou).	INO								
• • • • • • • • • • • • • • • • • • • •	de e e V						Unadaia Cail	D		NI- Y
	ches):		=				Hydric Soil	Present?	/es	No X
Remarks:										
US Departme	nt of Energy property	does not al	low digging past 12	2"						

# Wetland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station a	and Transmission Li	nes Proiect	County: Pike County	Sampling Date: 01/22/2021
Applicant/Owner: AEP		City/C	Journey	State: OH Sampling Date: W-BAO-01222
Investigator(s): BAO, JFW		Conti	on, Township, Range: S	
				one): Concave Slope (%): 1
Subregion (LRR or MLRA): <u>LF</u>		Local rei	lei (concave, convex, no	-83.01237 Datum: WGS 84
		mpley 0 to 6 percent slepe	Long:	NWI classification: N/A
Are climatic / hydrologic condit	• •			
				al Circumstances" present? Yes X No
Are Vegetation , Soil _	_, or Hydrology	naturally problema	atic? (If needed,	explain any answers in Remarks.)
SUMMARY OF FINDING	GS – Attach sit	e map showing san	npling point locati	ons, transects, important features, et
Hydrophytic Vegetation Prese	ent? Yes	X No	Is the Sampled Area	
Hydric Soil Present?		X No	within a Wetland?	Yes No
Wetland Hydrology Present?		X No		
Remarks:				
PEM wetland in t-line ROW				
HYDROLOGY				_
Wetland Hydrology Indicate	ors:			Secondary Indicators (minimum of two required
Primary Indicators (minimum		check all that apply)		Surface Soil Cracks (B6)
Surface Water (A1)		True Aquatic Plants (	B14)	Sparsely Vegetated Concave Surface (B8)
High Water Table (A2)		Hydrogen Sulfide Od		Drainage Patterns (B10)
Saturation (A3)			es on Living Roots (C3)	
Water Marks (B1)		Presence of Reduced		Dry-Season Water Table (C2)
Sediment Deposits (B2)		Recent Iron Reduction		Crayfish Burrows (C8)
Drift Deposits (B3)		Thin Muck Surface (0		Saturation Visible on Aerial Imagery (C9)
Algal Mat or Crust (B4)		Other (Explain in Rer	•	Stunted or Stressed Plants (D1)
Iron Deposits (B5)			,	Geomorphic Position (D2)
Inundation Visible on Aer	rial Imagery (B7)			Shallow Aquitard (D3)
Water-Stained Leaves (E				Microtopographic Relief (D4)
Aquatic Fauna (B13)	-,			FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present?	Yes No	X Depth (inches):		
Water Table Present?		Depth (inches):	4.00	
Saturation Present?		Depth (inches):		Hydrology Present? Yes X No
(includes capillary fringe)	165 <u>//</u> 110 _	Deptil (iliches)	wettand	Hydrology Fresent: Tes No
Describe Recorded Data (stre	eam gauge, monitor	ing well, aerial photos, pre	vious inspections), if av	ailable:
Remarks:				

EGETATION (Five Strat	a) – Use	scientific na	ames of p	olants.		Sampling Point: W-BAO-012221-02
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 1		· ·		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Percent of Dominant Species
5						That Are OBL, FACW, or FAC: 100.00 (A/B)
6						
			=	= Total Cove	ər	Prevalence Index worksheet:
	50% of to	otal cover: 0	20% of	total cover:	0	
Sapling Stratum (Plot size:						OBE species
1						
2						_
3						1 ACO species X 4
4						UPL species 0 x 5 = 0
5						Column Totals:120 (A)220 (B)
6						Prevalence Index = B/A = 1.83
<u> </u>				= Total Cove	er	Hydrophytic Vegetation Indicators:
	50% of to	otal cover: 0				1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		)tai cover	20 /0 01	luiai cover.		X 2 - Dominance Test is >50%
,		/				$\frac{X}{2}$ 3 - Prevalence Index is $\leq 3.0^{1}$
1 2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting
3						data in Remarks or on a separate sheet)
4						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
5						
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			:	= Total Cove	ər	Definitions of Five Vegetation Strata:
	50% of to	otal cover: 0	20% of	total cover:	0	Tree Weedy plants evaluding woody vines
Herb Stratum (Plot size:	5'	)				Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
1. Eupatorium perfoliatum			20	N	FACW	(7.6 cm) or larger in diameter at breast height (DBH).
2. Typha angustifolia			30	Y	OBL_	Sapling – Woody plants, excluding woody vines,
3. Mimulus ringens			10	N	OBL	approximately 20 ft (6 m) or more in height and less
4. Dichanthelium clandestinum	n		20	N	FAC	than 3 in. (7.6 cm) DBH.
5. Juncus effusus			10	N	FACW	Shrub – Woody plants, excluding woody vines,
6. Carex squarrosa			30	Y	FACW	approximately 3 to 20 ft (1 to 6 m) in height.
7						Herb – All herbaceous (non-woody) plants, including
8						herbaceous vines, regardless of size, and woody
9						plants, except woody vines, less than approximately 3 ft (1 m) in height.
10						
11						Woody vine – All woody vines, regardless of height.
				= Total Cove	er	
	50% of to	otal cover: 60		total cover:		
Woody Vine Stratum (Plot size		0' )	20 /0 0.	lotal 60 vol		
1	•					
2						
3						
4						
5			0 :	T t-1 0		Hydrophytic
		_		= Total Cove		Vegetation Present?  Yes X No
	50% of to	otal cover:0	20% of	total cover:	0	Flesent: 163 No
Remarks: (Include photo numb	ers here o	r on a separate s	heet.)			

Sampling Point: W-BAO-012221-02

epth	Matrix	% Color		x Features		Loc <sup>2</sup>	T = 1 of 1	Danasika
nches)			(moist)	<u>%</u> 10	Type <sup>1</sup>		Texture	Remarks
<u> </u>			YR 4/6		C	PL	silty clay loam	
_								
_								
					-			-
					-			
_								
_								
	ncentration, D=Depletion	n, RM=Reduce	d Matrix, MS	S=Masked	Sand Gra	ains.		L=Pore Lining, M=Matrix.
dric Soil II	ndicators:						Indic	ators for Problematic Hydric Soils <sup>3</sup> :
Histosol (			ark Surface					cm Muck (A10) <b>(MLRA 147)</b>
	ipedon (A2)		olyvalue Bel				148) 🔲 🤇	Coast Prairie Redox (A16)
Black His			hin Dark Su			47, 148)		(MLRA 147, 148)
	Sulfide (A4)		oamy Gleye		=2)		<u> </u>	Piedmont Floodplain Soils (F19)
	Layers (A5)		epleted Mat		<b>C</b> \		$\Box$	(MLRA 136, 147)
	ck (A10) <b>(LRR N)</b> Below Dark Surface (A <sup>2</sup>	<del></del> -	ledox Dark S epleted Dar	`	,			/ery Shallow Dark Surface (TF12) Other (Explain in Remarks)
•	rk Surface (A12)		ledox Depre					otilei (Explain in Nemarks)
	ucky Mineral (S1) (LRR		on-Mangane			RR N.		
-	147, 148)	, <u></u>	MLRA 136		, , <b>(</b>			
-	eyed Matrix (S4)		mbric Surfa		MLRA 13	6, 122)	<sup>3</sup> Inc	licators of hydrophytic vegetation and
	edox (S5)		iedmont Flo					etland hydrology must be present,
			ed Parent M					less disturbed or problematic.
Stripped	Matrix (S6)	<u> </u>						
	Matrix (S6) ayer (if observed): No							
strictive L								
strictive L Type:	ayer (if observed): No							I Present? Yes X No
strictive L Type: Depth (inc	ayer (if observed): No							Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present?
strictive L Type: Depth (inc marks:	ayer (if observed): No		gging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		gging past 12	2"				l Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		gging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
Type: Depth (inc	ayer (if observed): No		ging past 12	2"				Present? Yes X No
Type: Depth (inc	ayer (if observed): No		ging past 12	2"				I Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No
strictive L Type: Depth (inc marks:	ayer (if observed): No		ging past 12	2"				Present? Yes X No

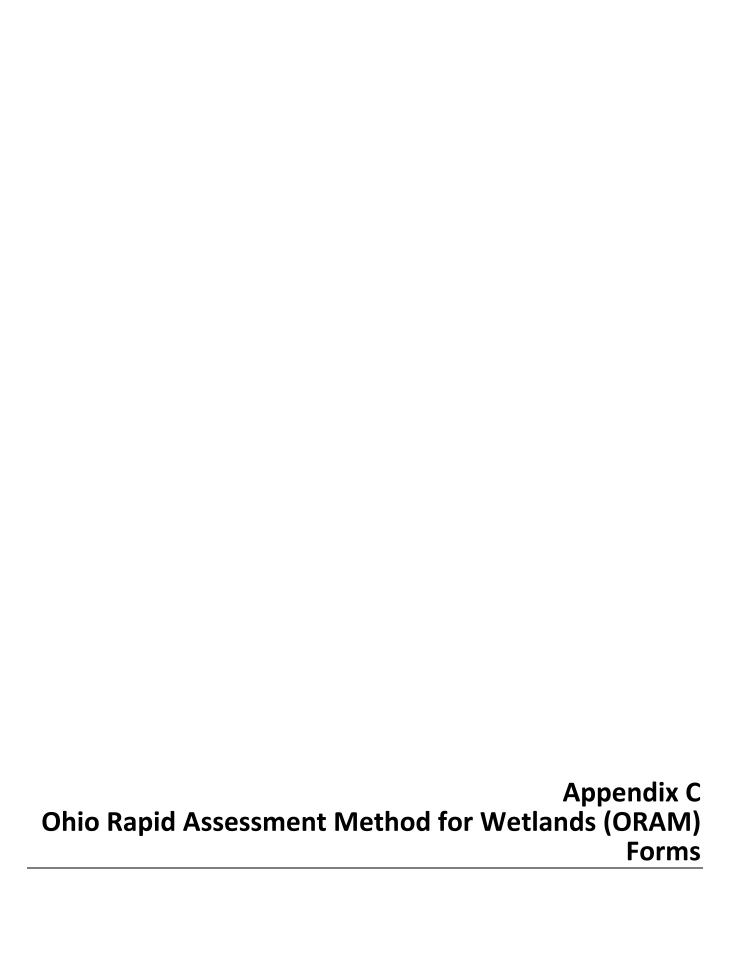
## Upland AS-008 WETLAND DETERMINATION DATA FORM – Eastern Mountains and Piedmont Region

Project/Site: Arboles Station	and Transn	nission I	ines Project	C:+/C	County: Pike County		Camanlina	Date: 01/22/2021
•	dia manon	111001011 E	inco i roject	City/C	Jounty:	Otata OH	Sampling	ng Point: <sup>U-BAO-012221-02</sup>
Applicant/Owner: AEP Investigator(s): BAO, JFW				04				ng Point:
	Hilloide				on, Township, Range			
Landform (hillslope, terrace, e					ief (concave, convex			
Subregion (LRR or MLRA): L					Long: _			
Soil Map Unit Name: UoA: Ur								
Are climatic / hydrologic condi								V
Are Vegetation, Soil _						rmal Circumstances	s" present? \	res X No
Are Vegetation , Soil	_, or H	lydrology	/ natura	ally problem	atic? (If neede	ed, explain any ans	wers in Rema	arks.)
SUMMARY OF FINDIN	IGS – Att	tach si	te map sho	wing san	npling point loca	ations, transed	ts, import	ant features, etc.
Hydrophytic Vegetation Pres	sent?	Yes _	No	X	Is the Sampled Ar	ea		V
Hydric Soil Present?		Yes _	No	<u>X</u>	within a Wetland?	Yes	No	X
Wetland Hydrology Present?	?	Yes _	No	<u>X</u>				
Remarks:					ı			
Upland point associated with	W-BAO-01	2221-02						
								_
HYDROLOGY								
Wetland Hydrology Indicat	tors:					Secondary Ind	licators (minin	num of two required)
Primary Indicators (minimum	1 of one is r	equired;	check all that a	pply)		📙 Surface S	oil Cracks (Be	3)
Surface Water (A1)			True Aqu	atic Plants (	(B14)	Sparsely \	√egetated Co	ncave Surface (B8)
High Water Table (A2)			Hydroger	n Sulfide Od	or (C1)	Drainage	Patterns (B10	))
Saturation (A3)			Oxidized	Rhizospher	es on Living Roots (0	C3) 🔲 Moss Trin	n Lines (B16)	
Water Marks (B1)			Presence	of Reduce	d Iron (C4)	☐ Dry-Seaso	on Water Tab	le (C2)
Sediment Deposits (B2)	)		Recent Ir	on Reduction	on in Tilled Soils (C6)	Crayfish E	Burrows (C8)	
Drift Deposits (B3)			Thin Muc	k Surface (0	C7)	Saturation	ı Visible on A	erial Imagery (C9)
Algal Mat or Crust (B4)			Other (Ex	φlain in Rei	marks)	☐ Stunted o	r Stressed Pla	ants (D1)
Iron Deposits (B5)						☐ Geomorpl	hic Position ([	02)
Inundation Visible on Ae	erial Imager	y (B7)				Shallow A	quitard (D3)	
Water-Stained Leaves (	B9)			Microtopographic Relief (D4)				f (D4)
Aquatic Fauna (B13)	,					FAC-Neut	tral Test (D5)	. ,
Field Observations:								
Surface Water Present?	Yes	No	X Depth (ii	nches):				
Water Table Present?			X Depth (ii					
Saturation Present?			X Depth (ii	,		nd Hydrology Pres	cont? Vac	No X
(includes capillary fringe)	165	NO_	Deptil (ii	ici ies)	wetiai	ila Hyarology Fres	seill: 165_	NO
Describe Recorded Data (st	ream gauge	e, monito	ring well, aerial	photos, pre	evious inspections), if	available:		
Remarks:								
1								

EGETATION (Five Strata	a) – Use	scientific na	mes of p	olants.		Sampling Point: U-BAO-012221-02
				Dominant		Dominance Test worksheet:
Tree Stratum (Plot size: 1		•		Species?		Number of Dominant Species That Are OBL, FACW, or FAC:  (A)
2						Total Number of Dominant
3						Species Across All Strata: 2 (B)
4						Developed of Developed On seize
5						Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)
6						
				= Total Cove	<del></del>	Prevalence Index worksheet:
	50% of tot	al cover: 0				Total % Cover of: Multiply by:
Sapling Stratum (Plot size:			20 /0 0.	lulai cuvci		OBL species 0 x 1 = 0
						FACW species0 x 2 =0
1						FAC species60 x 3 =180
2						FACU species 50 x 4 = 200
3						UPL species0 x 5 =0
4						Column Totals:110 (A)380 (B)
5						Provolence Index = R/A = 3.45
6				= Total Cove		Trevalence index = b/A =
						Hydrophytic Vegetation Indicators:
		al cover: 0	20% of	total cover:	0	1 - Rapid Test for Hydrophytic Vegetation
Shrub Stratum (Plot size:		)				2 - Dominance Test is >50%
1						3 - Prevalence Index is ≤3.0 <sup>1</sup>
2						4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
3						Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
4						Froblematic Hydrophytic vegetation (Explain)
5						11 - 11 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1
6						<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
			=	= Total Cove	er	Definitions of Five Vegetation Strata:
	50% of tot	al cover: 0	20% of	total cover:	0	-
Herb Stratum (Plot size:		)		_		Tree – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and 3 in.
Schedonorus arundinaceus		_ /	40	Υ	FACU	(7.6 cm) or larger in diameter at breast height (DBH).
Dichanthelium clandestinum			50	<u>'</u>	FAC	
Setaria pumila			10		FAC	Sapling – Woody plants, excluding woody vines, approximately 20 ft (6 m) or more in height and less
Asclepias syriaca			10	N	FACU	than 3 in. (7.6 cm) DBH.
				11	17.00	Shrub – Woody plants, excluding woody vines,
5						approximately 3 to 20 ft (1 to 6 m) in height.
6						
7						Herb – All herbaceous (non-woody) plants, including herbaceous vines, regardless of size, and woody
8						plants, except woody vines, less than approximately 3
9						ft (1 m) in height.
10						Woody vine – All woody vines, regardless of height.
11						, , , ,
			110=	= Total Cove	∍r	
	50% of total	al cover: <u>55</u>	20% of	total cover:	22	
Woody Vine Stratum (Plot size:	30'	<u>'</u> )				
1						
2						
3.						
4						
5.						
o			0 =	= Total Cove		Hydrophytic
	=00/ -£1-1	. 0				Vegetation Present? Yes No X
				total cover:_	0	
Remarks: (Include photo number	ers here or	on a separate sh	neet.)			

Sampling Point: U-BAO-012221-02

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix			Features	- 1					
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	<u>Texture</u>	R	lemarks	
<u>0 — 10</u>	10YR 4/3		10YR 5/6	30	C	M	Silty clay loam			
_										
								-		
_										
<sup>1</sup> Type: C=Co	ncentration, D=Depl	etion RM=R	educed Matrix MS	=Masked	Sand Gra	ains	<sup>2</sup> I ocation: PI	 _=Pore Lining, M	1=Matrix	
Hydric Soil I		54511, 1411 14	oddood Matrix, Mo	Mackey	ound on			tors for Proble		oils³:
Histosol			☐ Dark Surface	(S7)				cm Muck (A10)	•	
	ipedon (A2)		Polyvalue Bel		e (S8) <b>(N</b>	II RA 147.		oast Prairie Red		
Black His			Thin Dark Sur				140, 0	(MLRA 147, 14		
_	n Sulfide (A4)		Loamy Gleyed			.,,,	Пр	edmont Floodpla		
	Layers (A5)		Depleted Matr		_,		<u>—</u> · ·	(MLRA 136, 14		
	ck (A10) <b>(LRR N)</b>		Redox Dark S		3)		Пу	ery Shallow Dark		)
	Below Dark Surface	(A11)	Depleted Dark	,	,			ther (Explain in F		,
	rk Surface (A12)	( /	Redox Depres		. ,		<del>_</del>	\	,	
	ucky Mineral (S1) (L	RR N,	☐ Iron-Mangane			LRR N,				
	. 147, 148)		MLRA 136		( ) (					
	leyed Matrix (S4)		Umbric Surface		MLRA 13	6, 122)	<sup>3</sup> Indi	cators of hydrop	hytic vegetation	and
	edox (S5)		Piedmont Floo					tland hydrology i		
	Matrix (S6)		Red Parent M					ess disturbed or		
	ayer (if observed):	No		•			1		·	
Type:	•									
• • • • • • • • • • • • • • • • • • • •	hes):		_				Hydric Soil	Present? Ve	s No_	X
			<del></del>				Tiyane 3011	Tresent: Te.	<u> </u>	
Remarks:	nt of Energy property	, dooo not al	low diaging poot 10	,,,						
US Departine	nt of Energy property	does not at	low digging past 12							



Site: A	EP Arboles	Station and T-Lines, W-BAO-012021-01	Rater(s): B Otto;	J Wessel	Date: 01/20/2021
1.0	1.0	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign score  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20  10 to <25 acres (4 to <10.1h  3 to <10 acres (1.2 to <4ha)  0.3 to <3 acres (0.12 to <1.2  0.1 to <0.3 acres (0.04 to <0  <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
4.0	5.0	Metric 2. Upland bu	ffers and surround	ding land use.	
max 14 pts.	subtotal	2a. Calculate average buffer width. S  WIDE. Buffers average 50r  MEDIUM. Buffers average  NARROW. Buffers average  VERY NARROW. Buffers a  2b. Intensity of surrounding land use.  VERY LOW. 2nd growth or  LOW. Old field (>10 years).  MODERATELY HIGH. Res	elect only one and assign score. n (164ft) or more around wetland 25m to <50m (82 to <164ft) aroun 10m to <25m (32ft to <82ft) arou verage <10m (<32ft) around wetla	Do not double check. perimeter (7) Id wetland perimeter (4) und wetland perimeter (1) and perimeter (0) average. Idlife area, etc. (7) forest. (5) Inservation tillage, new fallo	
7.0	12.0	Metric 3. Hydrology			
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)    3e. Modifications to natural hydrologic   None or none apparent (12) Recovered (7)   Recent or no recovery (1)	e water (3) e or stream) (5) 3d ly one and assign score. (2) c regime. Score one or double ch	Part of wetland/u Part of riparian of ripa	sin (1)  lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) lated (2) ated in upper 30cm (12in) (1)
7.0	19.0	Metric 4. Habitat Alt	eration and Devel	opment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or d None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	one and assign score.  ouble check and average.  Check all disturbances observe mowing grazing clearcutting	shrub/sapling ren herbaceous/aqua sedimentation	
SI	19.0	ge	✓ selective cutting woody debris removal toxic pollutants	dredging farming nutrient enrichme	ent

Site:AE	P Arboles	Station and T-Lines, W-BAO-012021-01 Rater	(s): B Ott	o; J Wessel	Date: 01/20/2021
	19.0				
sub	ototal first pa	nge			
0.0	19.0	ľ Metric 5. Special Wetlan	ıds.		
max 10 pts.	subtotal	Check all that apply and score as indicated.			
		Bog (10)			
		Fen (10)			
		Old growth forest (10)  Mature forested wetland (5)			
		Lake Erie coastal/tributary wetland-u	unrestricted hyd	rology (10)	
		Lake Erie coastal/tributary wetland-r		ogy (5)	
		Lake Plain Sand Prairies (Oak Oper	nings) (10)		
		Relict Wet Prairies (10) Known occurrence state/federal thre	eatened or enda	ingered species (10)	
		Significant migratory songbird/water		. , ,	
		Category 1 Wetland. See Question	1 Qualitative R	ating (-10)	
-3	16	Matala C. Dia at a says a			
J	10	Metric 6. Plant commun		- ·	opograpny.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	474
		Score all present using 0 to 3 scale.  Aquatic bed	0 1	Absent or comprises <0.1ha (0.2 Present and either comprises sm	
		1 Emergent	·	vegetation and is of moderate	•
		Shrub		significant part but is of low qua	
		Forest Mudflats	2	Present and either comprises sig vegetation and is of moderate of	
		Open water		part and is of high quality	quality of comprises a small
		Other	3	Present and comprises significar	nt part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality	У
		Select only one.  High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predom	inance of nonnative or
		Moderate (3)		disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compor	_
		Low (1) None (0)		although nonnative and/or disturbance can also be present, and speci-	
		6c. Coverage of invasive plants. Refer		moderately high, but generally	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage  Extensive >75% cover (-5)	high	A predominance of native specie and/or disturbance tolerant nati	
		Moderate 25-75% cover (-3)		absent, and high spp diversity	
		Sparse 5-25% cover (-1)		the presence of rare, threatene	
		Nearly absent <5% cover (0)	BA	On an Water Olars On lite	
		Absent (1) 6d. Microtopography.	<u>wuanat and</u> 0	Open Water Class Quality Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	3 acres)
		Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		Standing dead >25cm (10in) dbh  Amphibian breeding pools	Microtopog	raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if	more common
			2	of marginal quality	ut not of highest
			۷	Present in moderate amounts, but quality or in small amounts of h	_
			3	Present in moderate or greater a	
4.0				and of highest quality	
ן טון	GRAN	ID TOTAL (max 100 pts)			

Site: AEP Arboles Station and T-Lines, W-BAO-012021-02 J Wessel Rater(s): B Otto; Date: 01/20/2021 Metric 1. Wetland Area (size). Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts) Metric 2. Upland buffers and surrounding land use. 2a. Calculate average buffer width. Select only one and assign score. Do not double check. max 14 pts subtotal 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) 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), shrubland, 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. 3a. Sources of Water. Score all that apply. subtotal 3b. Connectivity. Score all that apply. max 30 pts. High pH groundwater (5) 100 year floodplain (1) Other groundwater (3) Between stream/lake and other human use (1) Precipitation (1) Part of wetland/upland (e.g. forest), complex (1) Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1) Perennial surface water (lake or stream) (5) 3d. Duration inundation/saturation. Score one or dbl check. 3c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4) >0.7 (27.6in) (3) Regularly inundated/saturated (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundated (2) ✓ <0.4m (<15.7in) (1) ✓ Seasonally saturated in upper 30cm (12in) (1) 3e. Modifications to natural hydrologic regime. Score one or double check and average. None or none apparent (12) Check all disturbances observed Recovered (7) ditch point source (nonstormwater) Recovering (3) tile filling/grading Recent or no recovery (1) dike road bed/RR track weir dredging stormwater input other 19.0 Metric 4. Habitat Alteration and Development. 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 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) Check all disturbances observed Recovered (6) mowing shrub/sapling removal Recovering (3) grazing herbaceous/aquatic bed removal Recent or no recovery (1) clearcutting sedimentation selective cutting dredging 9.0 woody debris removal farming toxic pollutants nutrient enrichment

Site: AEP Arboles Station and T-Lines, W-BAO-012021-02 Rate	r(s): B Ott	o; J Wessel	Date: 01/20/2021
19.0 subtotal first page			
0.0 19.0 Metric 5. Special Wetlan	nds.		
max 10 pts. subtotal Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland. Lake Plain Sand Prairies (Oak Oper Relict Wet Prairies (10) Known occurrence state/federal the Significant migratory songbird/water Category 1 Wetland. See Question	-unrestricted hyd -restricted hydrol enings) (10) reatened or enda er fowl habitat or	ngered species (10) usage (10)	
2 21 Metric 6. Plant commun	nities, inte	erspersion, microt	opography.
max 20 pts. subtotal 6a. Wetland Vegetation Communities.	Vegetation (	Community Cover Scale	
Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	471 acres) contiguous area
Aquatic bed	1	Present and either comprises sm	nall part of wetland's
1 Emergent		vegetation and is of moderate	quality, or comprises a
Shrub		significant part but is of low qua	ality
Forest	2	Present and either comprises sig	
Mudflats		vegetation and is of moderate	
Open water		part and is of high quality	. , .
Other	3	Present and comprises significan	nt part or more of wetland's
6b. horizontal (plan view) Interspersion.	Ü	vegetation and is of high quality	
Select only one.		T vogotation and to or riight qualit	<u>y</u>
High (5)	Narrative De	escription of Vegetation Quality	
Moderately high(4)	low	Low spp diversity and/or predom	inance of poppative or
	IOW		
Moderate (3)		disturbance tolerant native spe	
Moderately low (2)	mod	Native spp are dominant compor	-
Low (1)		although nonnative and/or distu	
None (0)		can also be present, and speci	•
6c. Coverage of invasive plants. Refer		moderately high, but generally	
to Table 1 ORAM long form for list. Add		threatened or endangered spp	
or deduct points for coverage	high	A predominance of native specie	
Extensive >75% cover (-5)		and/or disturbance tolerant nat	ive spp absent or virtually
Moderate 25-75% cover (-3)		absent, and high spp diversity	
Sparse 5-25% cover (-1)		the presence of rare, threatene	ed, or endangered spp
Nearly absent <5% cover (0)			
✓ Absent (1)	Mudflat and	Open Water Class Quality	
6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	8 acres)
Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
Standing dead >25cm (10in) dbh			
Amphibian breeding pools	Microtopogi	raphy Cover Scale	
	0	Absent	
	1	Present very small amounts or if	more common
		of marginal quality	
	2	Present in moderate amounts, but	ut not of highest
	_	quality or in small amounts of h	
	3	Present in moderate or greater a	<del></del>
	0	and of highest quality	
21 GRAND TOTAL (max 100 pts)			
I - I DIVUIAD I O I VE (III ax 100 hrs)			

Site: A	EP Arboles	Station and T	-Lines, W	/-BAO-01212	1-05	Rater(s):	B Otto;	J	Wessel	<b>Date</b> : 01/2	1/2021
1.0	1.0	Metric Select one				rea (size	·).				
		2 1 3 0 1	5 to <50 0 to <25 to <10 a .3 to <3 a .1 to <0.0	acres (4 to decres (1.2 to acres (0.12 to	to <20 <10 1I <4ha) o <1 1 I to <0	0.2ha) (5 pts) ha) (4 pts) ) (3 pts)					
7.0	8.0	Metric	2. L	Jpland	bu	ffers and	d surrou	nding	land use.		
max 14 pts.	subtotal	2a. Calcula W W N N V 2b. Intensit U V N N N V V D N N V V N N V V N N V V N N N V V N N N V V N	ate avera VIDE. Bu IEDIUM. IARROW ERY NA By of surr ERY LO OW. Old IODERA	- ge buffer win uffers average Buffers average Buffers average RROW. Burounding land W. 2nd growd field (>10 y TELY HIGH	dth S ge 50r erage verage ffers a d use wth or vears)	Select only one m (164ft) or moi 25m to <50m (8 e 10m to <25m average <10m ( Select one or older forest, pr , shrubland, you	and assign score around wetlast to <164ft) are (32ft to <82ft) <32ft) around vidouble check airie, savannalung second gropesture, park,	ore. Do not and perime cound wetla around we wetland per and averag n, wildlife al with forest. conservati	double check. ter (7) Ind perimeter (4) Itland perimeter (1) Itland perimeter (0) Itland perimeter (0) Itland perimeter (0) Itland perimeter (7) Itland perimeter (7) Itland perimeter (8) Itland perimeter (9) Itland peri		
10.0	18.0	Metric	3. F	lydrolo	gy	-					
max 30 pts.	subtotal	3c. Maximu > 0 0	ligh pH g pther grou recipitati easonal/ erennial um water 0.7 (27.6 .4 to 0.7 0.4m (<1 ations to lone or n lecovere lecoverin	Intermittent surface wat depth. Selvin) (3) m (15.7 to 2 5.7in) (1) natural hydone apparerd (7)	surfacer (lakeect on 7.6in) rologient (12)	ce water (3) ke or stream) (5 kly one and assi (2) c regime. Scon Check all dis ditch tile dike weir	gn score.	3d. Dura	Part of wetland/u Part of riparian or tion inundation/sat Semi- to permand Regularly inunda Seasonally inund Seasonally satura	nin (1) lake and other hun pland (e.g. forest), r upland corridor (1 uration. Score one ently inundated/sat ted/saturated (3) lated (2) ated in upper 30cm enstormwater)	complex (1) ) e or dbl check turated (4)
8.0	26.0	Metric	: 4. F	labitat	Αlt	teration	and Dev	elopn	nent.		
max 20 pts.	subtotal	4a. Substra  N  R  R  4b. Habitat  V  G  G  F  P	ate disturione or necovered ecovering economic develop xxellent for good (5) doderated air (3) oor to falloor (1)	bance. Scoone apparer d (3) g (2) no recovery ment. Select (7) l (6) y good (4) ir (2)	re one at (4) (1) et only	e or double che	ck and average	-	-33-		<b>1</b>
si	26.0	R R R	lecovere lecoverin		` ,	✓ mowing grazing ✓ clearcu ✓ selectiv	tting e cutting debris removal	<b>✓</b>	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	itic bed removal	

Site:AE	P Arboles	Station and T-Lines, W-BAO-012121-05	Rater(s): B Otto	; J Wessel	Date: 01/21/2021
	26.0				
su	btotal first pa	ge			
10.0 I	26.0	Metric 5. Special W	etlands.		
max 10 pts.	subtotal	Check all that apply and score as indic			
max to plot	oubtota.	Bog (10)			
		Fen (10)			
		Old growth forest (10)			
		Mature forested wetland (5)  Lake Erie coastal/tributary w	vetland-unrestricted hydro	ology (10)	
		Lake Erie coastal/tributary w	•		
		Lake Plain Sand Prairies (O	ak Openings) (10)		
		Relict Wet Prairies (10)  Known occurrence state/fed	eral threatened or endang	garad species (10)	
		Significant migratory songbi			
		Category 1 Wetland. See C			
0	20				
3	29	Metric 6. Plant com	munities, inte	rspersion, microt	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities	Vegetation Co	ommunity Cover Scale	
		Score all present using 0 to 3 scale.		Absent or comprises <0.1ha (0.2	
		Aquatic bed 1 Emergent	1	Present and either comprises sn vegetation and is of moderate	-
		Shrub		significant part but is of low qu	
		Forest	2	Present and either comprises sig	
		Mudflats		vegetation and is of moderate	quality or comprises a small
		Open water Other	3	part and is of high quality  Present and comprises significal	at part, or more, of wetland's
		6b. horizontal (plan view) Interspersio	·	vegetation and is of high qualit	
		Select only one.			
		High (5)		cription of Vegetation Quality	
		Moderately high(4)  Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compor	
		Low (1)		although nonnative and/or dist	•
		None (0)		can also be present, and speci	•
		6c. Coverage of invasive plants. Refeto Table 1 ORAM long form for list. A		moderately high, but generally threatened or endangered spp	
		or deduct points for coverage		A predominance of native specie	
		Extensive >75% cover (-5)		and/or disturbance tolerant nat	ive spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity	
		Sparse 5-25% cover (-1) Nearly absent <5% cover (0	,	the presence of rare, threatene	ed, or endangered spp
		✓ Absent (1)	•	Open Water Class Quality	
		6d. Microtopography.		Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.		Low 0.1 to <1ha (0.247 to 2.47 a	
		Vegetated hummucks/tussu Coarse woody debris >15cn		Moderate 1 to <4ha (2.47 to 9.8 High 4ha (9.88 acres) or more	8 acres)
		Standing dead >25cm (10in	` '	Tilgit 4tia (3.00 acres) of filore	
		Amphibian breeding pools	•	phy Cover Scale	
				Absent	
			1	Present very small amounts or if	more common
			2	of marginal quality  Present in moderate amounts, b	ut not of highest
				quality or in small amounts of I	_
	•		3	Present in moderate or greater a	mounts
20	0041	ID TOTAL (me = 400 + 1		and of highest quality	
23	GKAN	ID TOTAL (max 100 pts)			

Site: Al	EP Arboles	Station and T-Lines, W-BAO-012121-02	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
1.0	1.0	Metric 1. Wetland Are	na (sizo)		
max 6 pts.	subtotal	Select one size class and assign score.    >50 acres (>20.2ha) (6 pts)   25 to <50 acres (10.1 to <20.2   10 to <25 acres (4 to <10.1ha   3 to <10 acres (1.2 to <4ha) (3   0.3 to <3 acres (0.12 to <1.2h   0.1 to <0.3 acres (0.04 to <0.1   <0.1 acres (0.04ha) (0 pts)	2ha) (5 pts) ) (4 pts) 3 pts) a) (2pts)		
2	3.0	Metric 2. Upland buff	fers and surroundi	ing land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average 25 NARROW. Buffers average 1 VERY NARROW. Buffers average 25 VERY NARROW. Buffers average 1 VERY LOW. 2nd growth or old LOW. Old field (>10 years), s MODERATELY HIGH. Reside	(164ft) or more around wetland pe 5m to <50m (82 to <164ft) around 10m to <25m (32ft to <82ft) aroun erage <10m (<32ft) around wetlan	erimeter (7) wetland perimeter (4) d wetland perimeter (1) d perimeter (0) verage. life area, etc. (7) prest. (5) ervation tillage, new fallo	ow field. (3)
6.0	9.0	Metric 3. Hydrology.			
max 30 pts.	subtotal	3a. Sources of Water. Score all that ap High pH groundwater (5) Other groundwater (3) ✓ Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lake 3c. Maximum water depth. Select only >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2 ✓ <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic r None or none apparent (12) Recovered (7) ✓ Recovering (3) Recent or no recovery (1)	water (3) or stream) (5) one and assign score.	Part of wetland/u Part of riparian or Duration inundation/sati Semi- to permane Regularly inundati Seasonally inund V Seasonally satura	in (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) ated (2) ated in upper 30cm (12in) (1)
8.0	17.0	Metric 4. Habitat Alte		pment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score one of None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select only of Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or dot None or none apparent (9) Recovered (6) Recovering (3)	uble check and average.  Check all disturbances observed mowing grazing	shrub/sapling ren	
SL	17.0	Recent or no recovery (1)	clearcutting selective cutting woody debris removal toxic pollutants	sedimentation dredging farming nutrient enrichme	ent

Site:AE	P Arboles	Station and T-Lines, W-BAO-012121-02	er(s): B Ott	to; J Wessel	Date: 01/21/2021
sul	17.0	ge			
0.0	17.0	Metric 5. Special Wetl	ands.		
max 10 pts.	subtotal	Check all that apply and score as indicated			
		Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetlan Lake Erie coastal/tributary wetlan Lake Plain Sand Prairies (Oak C Relict Wet Prairies (10) Known occurrence state/federal Significant migratory songbird/w	nd-restricted hydro openings) (10) threatened or enda ater fowl habitat or	angered species (10) usage (10)	
		Category 1 Wetland. See Quest	ion 1 Qualitative F	Rating (-10)	
4	21	Metric 6. Plant commu		•	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.  Score all present using 0 to 3 scale.	Vegetation 0	Community Cover Scale  Absent or comprises <0.1ha (0.2)	471 acres) contiguous area
		Aquatic bed	1	Present and either comprises sm	
		1 Emergent		vegetation and is of moderate	•
		Shrub		significant part but is of low qu	
		Forest	2	Present and either comprises sig	
		Mudflats Open water		vegetation and is of moderate part and is of high quality	quality of comprises a small
		Other	3	Present and comprises significant	nt part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high qualit	
		Select only one.			
		High (5) Moderately high(4)	<u>Narrative D</u> low	escription of Vegetation Quality  Low spp diversity and/or predom	inance of poppative or
		Moderate (3)	IOW	disturbance tolerant native spe	
		Moderately low (2)	mod	Native spp are dominant compor	
		✓ Low (1)		although nonnative and/or dist	
		None (0)		can also be present, and speci	•
		6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		moderately high, but generally threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native specie	
		Extensive >75% cover (-5)	9	and/or disturbance tolerant nat	· ·
		Moderate 25-75% cover (-3)		absent, and high spp diversity	
		Sparse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly absent <5% cover (0)  Absent (1)	Mudflat and	d Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.8	3 acres)
		Coarse woody debris >15cm (6ir Standing dead >25cm (10in) dbr		High 4ha (9.88 acres) or more	
		1 Amphibian breeding pools		raphy Cover Scale	
		<u>.                                    </u>	0	Absent	
			1	Present very small amounts or if	more common
				of marginal quality	ut not of high set
			2	Present in moderate amounts, be quality or in small amounts of h	_
			3	Present in moderate or greater a	
				and of highest quality	
21	GRAN	ID TOTAL (max 100 pts)			

Site: Al	EP Arboles	Station and T-Lines, W-BAO-012121-01	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
1.0	1.0				
1.0	1.0	Metric 1. Wetland A	rea (size).		
max 6 pts.	subtotal	Select one size class and assign sco >50 acres (>20.2ha) (6 pts 25 to <50 acres (10.1 to <2 10 to <25 acres (4 to <10.1 3 to <10 acres (1.2 to <4ha 0.3 to <3 acres (0.12 to <1 ✓ 0.1 to <0.3 acres (0.04 to < <0.1 acres (0.04ha) (0 pts)	) 20.2ha) (5 pts) ha) (4 pts) ı) (3 pts) .2ha) (2pts)		
2	3.0	Metric 2. Upland bu	iffers and surroun	iding land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers  2b. Intensity of surrounding land use VERY LOW. 2nd growth of LOW. Old field (>10 years MODERATELY HIGH. Re	m (164ft) or more around wetland 25m to <50m (82 to <164ft) arouse 10m to <25m (32ft to <82ft) arouse 40m to <25m (32ft to <82ft) around we	d perimeter (7) und wetland perimeter (4) round wetland perimeter (1) stland perimeter (0) nd average. wildlife area, etc. (7) th forest. (5) onservation tillage, new fallo	
8.0	11.0	Metric 3. Hydrology	<b>/.</b>		
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3)  Precipitation (1) Seasonal/Intermittent surfa Perennial surface water (la 3c. Maximum water depth. Select of >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in)  O.4m (<15.7in) (1) 3e. Modifications to natural hydrology None or none apparent (12) Recovered (7) Recovering (3) Recent or no recovery (1)	ice water (3) ke or stream) (5) nly one and assign score. ) (2) ic regime. Score one or double or	Part of wetland/u Part of riparian or Semi- to permand Regularly inunda Seasonally inunda Seasonally saturate Part of riparian or Part of wetland/u	nin (1) lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ted/saturated (3) lated (2) ated in upper 30cm (12in) (1)
		1	stormwater input	dredging other	
6.0	17.0	Metric 4. Habitat Al	teration and Deve	elopment.	
max 20 pts.	subtotal	4a. Substrate disturbance. Score or None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1)  4b. Habitat development. Select onl Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)  4c. Habitat alteration. Score one or None or none apparent (9) Recovered (6)	y one and assign score.  double check and average.  Check all disturbances obser mowing	✓ shrub/sapling ren	
SU	17.0	Recovering (3) Recent or no recovery (1)	grazing clearcutting selective cutting woody debris removal toxic pollutants	herbaceous/aqua sedimentation dredging farming nutrient enrichme	

Site:AE	P Arboles	Station and T-Lines, W-BAO-012121-01 Rate	r(s): B Ott	to; J Wessel	Date: 01/21/2021
sī	17.0	nge			
0.0	17.0	Metric 5. Special Wetla	nds.		
max 10 pts.	subtotal	Check all that apply and score as indicated.  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland Lake Erie coastal/tributary wetland	-unrestricted hydro		
		Lake Plain Sand Prairies (Oak Operation Relict Wet Prairies (10)  Known occurrence state/federal the Significant migratory songbird/wate Category 1 Wetland. See Question	reatened or enda er fowl habitat or	usage (10)	
-2	15	Metric 6. Plant commu	-	•	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	474
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2	
		Aquatic bed	1	Present and either comprises sm	-
		1 Emergent		vegetation and is of moderate	
		Shrub		significant part but is of low qua	
		Forest	2	Present and either comprises sig	
		Mudflats		vegetation and is of moderate	quality or comprises a small
		Open water		part and is of high quality	
		Other	3	Present and comprises significar	
		6b horizontal (plan view) Interspersion.		vegetation and is of high quality	У
		Select only one.			
		High (5)	Narrative D	escription of Vegetation Quality	
		Moderately high(4)	low	Low spp diversity and/or predom	
		Moderate (3)		disturbance tolerant native spe	cies
		Moderately low (2)	mod	Native spp are dominant compor	<del>-</del>
		✓ Low (1)		although nonnative and/or distu	urbance tolerant native spp
		None (0)		can also be present, and speci	es diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally	w/o presence of rare
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	
		or deduct points for coverage	high	A predominance of native specie	s, with nonnative spp
		✓ Extensive >75% cover (-5)		and/or disturbance tolerant nat	ive spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity	and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly absent <5% cover (0)		-	
		Absent (1)	Mudflat and	d Open Water Class Quality	
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 a	cres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88	
		Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more	
		Standing dead >25cm (10in) dbh		-	
		1 Amphibian breeding pools	Microtopog	raphy Cover Scale	
			0	Absent	
			1	Present very small amounts or if	more common
				of marginal quality	
			2	Present in moderate amounts, but	ut not of highest
			_	quality or in small amounts of h	
			3	Present in moderate or greater a	<del></del>
			-	and of highest quality	· · · ·
15	GRAN	ID TOTAL (max 100 pts)		9 4-20()	

Site: Al	EP Arboles	Station and T-Lines, W-BAO-012121-04	Rater(s): B Otto;	J Wessel	Date: 01/21/2021
2.0	2.0				
2.0	2.0	Metric 1. Wetland A	rea (sıze).		
max 6 pts.	subtotal	Select one size class and assign scon  >50 acres (>20.2ha) (6 pts)  25 to <50 acres (10.1 to <20  10 to <25 acres (4 to <10.1h  3 to <10 acres (1.2 to <4ha)  0.3 to <3 acres (0.12 to <1.2  0.1 to <0.3 acres (0.04 to <0  <0.1 acres (0.04ha) (0 pts)	0.2ha) (5 pts) na) (4 pts) (3 pts) 2ha) (2pts)		
2.0	4.0	Metric 2. Upland bu	ffers and surroun	ding land use.	
max 14 pts.	subtotal	MEDIUM. Buffers average NARROW. Buffers average VERY NARROW. Buffers average VERY NARROW. Buffers average VERY LOW. 2nd growth or LOW. Old field (>10 years).  MODERATELY HIGH. Res	n (164ft) or more around wetland 25m to <50m (82 to <164ft) arou 10m to <25m (32ft to <82ft) arouverage <10m (<32ft) around we	d perimeter (7) and wetland perimeter (4) bund wetland perimeter (1) tland perimeter (0) d average. wildlife area, etc. (7) th forest. (5) boservation tillage, new fallo	
15.0	19.0	  Metric 3. Hydrology			
max 30 pts.	subtotal	3a. Sources of Water. Score all that High pH groundwater (5) Other groundwater (3)  Precipitation (1) Seasonal/Intermittent surface Perennial surface water (lak 3c. Maximum water depth. Select on >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) <ol> <li>&lt;0.4m (&lt;15.7in) (1)</li> </ol> 3e. Modifications to natural hydrologic None or none apparent (12)	e water (3) e or stream) (5) ly one and assign score.  (2) c regime. Score one or double of	Part of wetland/u Part of riparian of d. Duration inundation/sat Semi- to perman Regularly inunda Seasonally inund Seasonally satura heck and average.	nin (1)  lake and other human use (1)  pland (e.g. forest), complex (1)  r upland corridor (1)  uration. Score one or dbl check  ently inundated/saturated (4)  ted/saturated (3)
9.0	28.0	Recovered (7) Recovering (3) Recent or no recovery (1)  Metric 4. Habitat Alt	ditch tile  dike weir  stormwater input	✓ point source (nor ✓ filling/grading road bed/RR trac dredging other	·
max 20 pts.	subtotal	4a. Substrate disturbance. Score one		iopinenti	
		None or none apparent (4)  Recovered (3)  Recovering (2)  Recent or no recovery (1)  4b. Habitat development. Select only  Excellent (7)  Very good (6)  Good (5)  Moderately good (4)  Fair (3)  Poor to fair (2)  Poor (1)  4c. Habitat alteration. Score one or definition.	one and assign score.		
si	28.0	None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1)	Check all disturbances observed mowing grazing clearcutting selective cutting woody debris removal toxic pollutants	shrub/sapling ren herbaceous/aqua sedimentation dredging farming nutrient enrichme	atic bed removal

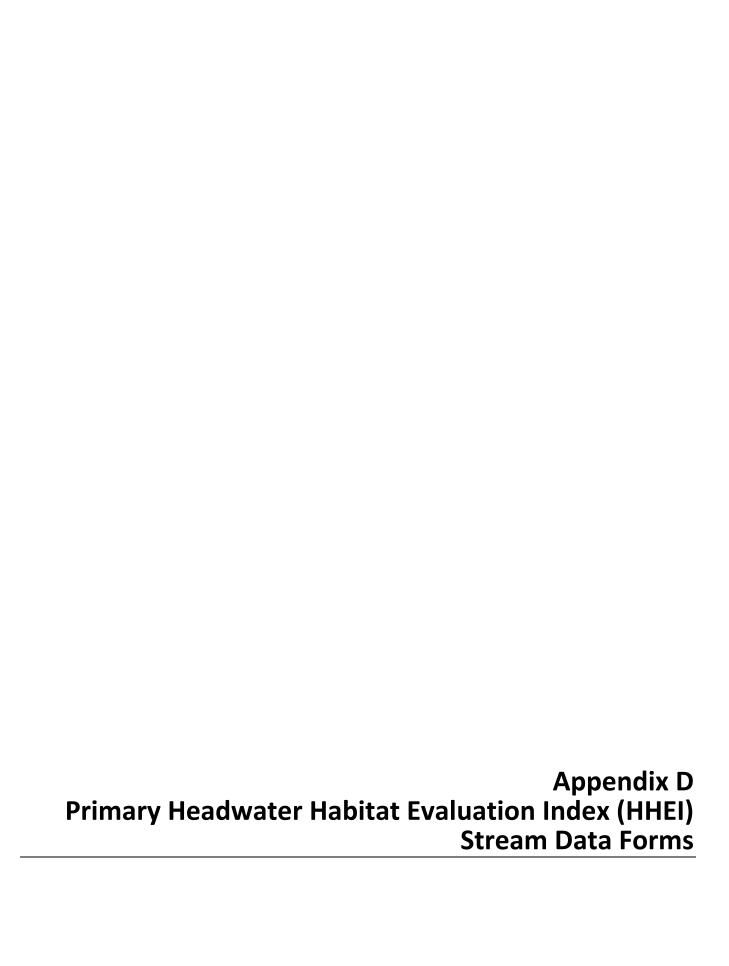
Site: AEP Arboles Station and T	Γ-Lines, W-BAO-012121-04	Rater(s): B Ott	to; J Wessel	Date: 01/21/2021
28.0				
subtotal first page				
0.0 28.0 Metric	c 5. Special W	etlands.		
max 10 pts. subtotal Check all the	hat apply and score as inc	licated.		
	Bog (10)			
	Fen (10) Old growth forest (10)			
	Mature forested wetland (5	5)		
	₋ake Erie coastal/tributary	,	drology (10)	
	_ake Erie coastal/tributary		ology (5)	
	_ake Plain Sand Prairies (	Oak Openings) (10)		
	Relict Wet Prairies (10) Known occurrence state/fe	deral threatened or enda	angered species (10)	
	Significant migratory songl		. , ,	
	Category 1 Wetland. See	Question 1 Qualitative R	Rating (-10)	
4 32 Metric	0 51 (			
4 32 Metric	c 6. Plant com	imunities, int	terspersion, micro	topography.
	nd Vegetation Communitie		Community Cover Scale	0.474
	resent using 0 to 3 scale. Aquatic bed	01	Absent or comprises <0.1ha (0.  Present and either comprises s	
	Emergent	ı	vegetation and is of moderate	•
	Shrub		significant part but is of low qu	
	orest	2	Present and either comprises s	
<u> </u>	Mudflats		vegetation and is of moderate	quality or comprises a small
	Open water Other	3	part and is of high quality  Present and comprises signification	ant part or more of wetland's
	ntal (plan view) Interspersi	<del>_</del>	vegetation and is of high qual	
Sele <u>ct onl</u> y	one.			
	High (5)		escription of Vegetation Quality	
	Moderately high(4) Moderate (3)	low	Low spp diversity and/or predor disturbance tolerant native sp	
	Moderately low (2)	mod	Native spp are dominant compo	
	_ow (1)		although nonnative and/or dis	
	None (0)	for	can also be present, and spec	-
	age of invasive plants. Re ORAM long form for list. <i>i</i>		moderately high, but generally threatened or endangered sp	
	points for coverage	high	A predominance of native speci	
	Extensive >75% cover (-5)		and/or disturbance tolerant na	
	Moderate 25-75% cover (-	3)	absent, and high spp diversity	
	Sparse 5-25% cover (-1) Nearly absent <5% cover (	0)	the presence of rare, threaten	led, or endangered spp
	Absent (1)	•	d Open Water Class Quality	
6d. Microto		0	Absent <0.1ha (0.247 acres)	
	resent using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47	-
	Vegetated hummucks/tuss Coarse woody debris >15c		Moderate 1 to <4ha (2.47 to 9.8 High 4ha (9.88 acres) or more	88 acres)
	Standing dead >25cm (10i	` '	Tright tha (5.00 deles) of more	
	Amphibian breeding pools	•	raphy Cover Scale	
		0	Absent	<u></u>
		1	Present very small amounts or of marginal quality	it more common
		2	Present in moderate amounts, I	but not of highest
			quality or in small amounts of	_
		3	Present in moderate or greater	amounts
32 GRAND TOTA	Al /mass 4004-\		and of highest quality	
JOE IGRAND TOTA	<b>AL</b> (max 100 pts)			

Site: Al	EP Arboles	Station a	nd T-Lines	, W-BAO-012221-01	Rater(s): B	Otto;	J Wessel	Date: 01/2	2/2021
-		1			•				
1.0	1.0	Metr	ic 1.	Wetland A	Area (size).				
max 6 pts.	subtotal	Select o	>50 acr 25 to <5 10 to <2 3 to <10 0.3 to < 0.1 to <	ass and assign scores (>20.2ha) (6 pts 50 acres (10.1 to <25 acres (4 to <10.0 acres (1.2 to <4ha 3 acres (0.12 to <10.3 acres (0.04 to <10.4 to <10.3 acres (0.04 to <10.5 acres (0.04 to <10.00 acre	e) 20.2ha) (5 pts) 1ha) (4 pts) a) (3 pts) .2ha) (2pts) <0.12ha) (1 pt)				
7.0	8.0	Metr	ic 2.	Upland bu	ıffers and	surround	ing land use.		
max 14 pts.	subtotal	2b. Inte	WIDE. MEDIU NARRO VERY N ensity of so VERY L LOW. MODER	Buffers average 50M. Buffers average 50W. Buffers average NARROW. Buffers arrounding land use 20W. 2nd growth cold field (>10 years RATELY HIGH. Re	Om (164ft) or more a 25m to <50m (82 ge 10m to <25m (3 average <10m (<3 e. Select one or do or older forest, prair s), shrubland, young	around wetland per to <164ft) around 2ft to <82ft) around 2ft) around wetlar buble check and a ie, savannah, wilc g second growth feasture, park, cons	wetland perimeter (4) and wetland perimeter (1) and perimeter (0) verage. Ilife area, etc. (7) perest. (5) ervation tillage, new fallo		
8.0	16.0	Metr	ic 3.	Hydrology	/.				
max 30 pts.	subtotal	3c. Max	High phother green of the precipit Season Perenniximum wa >0.7 (2) 0.4 to 0 <0.4mm (diffications Recove Recove	7.6in) (3) .7m (15.7 to 27.6in) <15.7in) (1) to natural hydrolog r none apparent (12 red (7)	ace water (3) ske or stream) (5) nly one and assign ) (2) gic regime. Score o	3d. score. one or double chec rbances observed	Part of wetland/upart of riparian or Duration inundation/sate Semi- to permane Regularly inundation/seasonally inundations Seasonally saturack and average.	nin (1) lake and other humpland (e.g. forest), r upland corridor (1 uration. Score one ently inundated/satited/saturated (3) lated (2) ated in upper 30cm	complex (1) ) or dbl check urated (4)
7.0	23.0	]   Meti	ric 4.	Habitat A	Iteration a	nd Develo	pment.		I
max 20 pts.	subtotal	4a. Sub	ostrate dis None o Recove Recove Recent Ditat devel Excelle Very go Good (8 Modera Fair (3) Poor to Poor (1 Ditat altera None o Recove Recove	turbance. Score of r none apparent (4) red (3) ring (2) or no recovery (1) opment. Select on (7) sod (6) 5) tely good (4) fair (2) ) tion. Score one or none apparent (9) red (6)	ly one and assign s	and average.  score.  average. bances observed			
St	23.0 ubtotal this pa	age				oris removal	farming nutrient enrichme	ent	

Site:AE	P Arboles	Station and T-Lines, W-BAO-012221-01	Rater(s): B Otto	o; J Wessel	Date: 01/22/2021
sı	23.0	nge			
0.0	23.0	Metric 5. Special V	Vetlands.		
max 10 pts.	subtotal	Check all that apply and score as inc Bog (10) Fen (10) 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/fe Significant migratory song	dicated.  5)  wetland-unrestricted hydrologous (10)  Oak Openings) (10)  ederal threatened or endal	ogy (5) ngered species (10)	
		Category 1 Wetland. See			
-1	22	Metric 6. Plant con	nmunities, inte	erspersion, microt	opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communition	es. Vegetation C	Community Cover Scale	
		Score all present using 0 to 3 scale.	0	Absent or comprises < 0.1ha (0.2	
		Aquatic bed 1 Emergent Shrub	ı	Present and either comprises sn vegetation and is of moderate significant part but is of low qu	quality, or comprises a
		Forest	2	Present and either comprises sig	
		Mudflats Open water		vegetation and is of moderate part and is of high quality	
		Other6b. horizontal (plan view) Interspers	3 .ion.	Present and comprises significative vegetation and is of high quality	
		Select only one. High (5)	Narrative De	escription of Vegetation Quality	
		Moderately high(4) Moderate (3)	low	Low spp diversity and/or predom disturbance tolerant native spe	
		Moderately low (2) Low (1)	mod	Native spp are dominant comport although nonnative and/or dist can also be present, and spec	urbance tolerant native spp
		None (0) 6c. Coverage of invasive plants. Reto Table 1 ORAM long form for list.		moderately high, but generally threatened or endangered spp	w/o presence of rare
		or deduct points for coverage  Extensive >75% cover (-5  Moderate 25-75% cover (-5)  Sparse 5-25% cover (-1)	•	A predominance of native species and/or disturbance tolerant nat absent, and high spp diversity the presence of rare, threateners	tive spp absent or virtually and often, but not always,
		Nearly absent <5% cover	(0)	!	,
		Absent (1)		Open Water Class Quality	
		6d. Microtopography.  Score all present using 0 to 3 scale.	<u> </u>	Absent <0.1ha (0.247 acres) Low 0.1 to <1ha (0.247 to 2.47 a	ocres)
		Vegetated hummucks/tus		Moderate 1 to <4ha (2.47 to 9.8	
		Coarse woody debris >156	cm (6in) 3	High 4ha (9.88 acres) or more	
		Standing dead >25cm (10	·		
		1 Amphibian breeding pools	Microtopogr 0	Absent	
			1	Present very small amounts or if of marginal quality	more common
			2	Present in moderate amounts, b quality or in small amounts of	<del>-</del>
00	Ī		3	Present in moderate or greater a and of highest quality	
22	GRAN	ID TOTAL (max 100 pts)			_

Site: Al	EP Arboles	Station and T-Lines, \	V-BAO-012221-02	Rater(s): B Otto;	J Wessel	Date: 01/22/2021
1 0	1 0		-			
1.0	1.0	Metric 1. \	<b>Vetland A</b> ı	rea (size).		
max 6 pts.	subtotal	25 to <50 10 to <25 3 to <10 a 0.3 to <3 0.1 to <0.	ss and assign score s (>20.2ha) (6 pts) acres (10.1 to <20 acres (4 to <10.1h acres (1.2 to <4ha) acres (0.12 to <1.2 3 acres (0.04 to <0 s (0.04ha) (0 pts)	2.2ha) (5 pts) ia) (4 pts) (3 pts) tha) (2pts)		
7.0	8.0	Metric 2. U	Jpland but	ffers and surro	unding land use	•
max 14 pts.	subtotal	WIDE. B  WEDIUM NARROV VERY NA  2b. Intensity of sur VERY LOW. OI MODERA	uffers average 50n. Buffers average 2  N. Buffers average 2  RROW. Buffers a counding land use. 1  DW. 2nd growth or d field (>10 years), TELY HIGH. Resi	10m to <25m (32ft to <82ft verage <10m (<32ft) around Select one or double check older forest, prairie, savanna shrubland, young second g	land perimeter (7) around wetland perimeter (4) around wetland perimeter (1) wetland perimeter (0) and average. ah, wildlife area, etc. (7) rowth forest. (5) a, conservation tillage, new fal	
9.0	17.0	Metric 3. I	Hydrology.			
max 30 pts.	subtotal	3a. Sources of Wa  High pH ( Other gro  ✓ Precipital Seasonal Perennia 3c. Maximum wate  >0.7 (27. 0.4 to 0.7 ✓ <0.4m (< 3e. Modifications to Recovere ✓ Recoveri	ter. Score all that a groundwater (5) undwater (3) ion (1) /Intermittent surface surface water (laker depth. Select onloin) (3) m (15.7 to 27.6in) of natural hydrologic none apparent (12) d (7)	e water (3) e or stream) (5) y one and assign score.  (2) regime. Score one or dout Check all disturbances ob ditch tile dike weir	Part of wetland// Part of riparian of riparian of riparian of semi- to perman Regularly inunds Seasonally inunds Seasonally saturate check and average.  served  point source (no filling/grading road bed/RR trad dredging	ain (1) //ake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) turation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3) dated (2) rated in upper 30cm (12in) (1)
8.0	25.0	   Motrio 4	Jobitot Alt	stormwater input	other	
max 20 pts.	subtotal			eration and De	-	
		None or r Recovered Recoverid Recent o  4b. Habitat develop Excellent Very goo Good (5) Moderate Fair (3) Poor to fa Poor (1)	none apparent (4) d (3) ng (2) no recovery (1) ment. Select only (7) d (6) ly good (4) nir (2)	one and assign score.  ouble check and average.		
si	25.0	Recovered Recovering Recent of		Check all disturbances ob  mowing grazing clearcutting selective cutting woody debris remova toxic pollutants	shrub/sapling re herbaceous/aqu sedimentation dredging	atic bed removal

Site:AE	EP Arboles	Station and T-Lines, W-BAO-012221-02	ater(s): B Ott	o; J Wessel	Date: 01/22/2021
sı	25.0 ubtotal first pa	ige			
0.0	25.0	Metric 5. Special We	tlands.		
max 10 pts.	subtotal	Check all that apply and score as indica  Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary we Lake Plain Sand Prairies (Oal Relict Wet Prairies (10) Known occurrence state/feder Significant migratory songbird Category 1 Wetland. See Qu	tland-unrestricted hyd tland-restricted hydrol c Openings) (10) ral threatened or enda /water fowl habitat or	ngered species (10) usage (10)	
2	27	Metric 6. Plant comm			opography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.		Community Cover Scale	- p - g p y -
111dx 20 pts.	Subtotal	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2-	471 acres) contiguous area
		Aquatic bed 1 Emergent Shrub	1	Present and either comprises sm vegetation and is of moderate of significant part but is of low quarters.	all part of wetland's quality, or comprises a
		Forest Mudflats	2	Present and either comprises sig vegetation and is of moderate of	nificant part of wetland's
		Open water		part and is of high quality	Land an arrange of a discourse
		Other6b. horizontal (plan view) Interspersion.	3	Present and comprises significan vegetation and is of high quality	
		Select only one. High (5)	Narrativo Do	escription of Vogetation Quality	
		Moderately high(4)	low	Escription of Vegetation Quality  Low spp diversity and/or predomi	nance of nonnative or
		Moderate (3)	IOW	disturbance tolerant native spec	
		Moderately low (2)	mod	Native spp are dominant compon	
		Low (1)		although nonnative and/or distu	
		✓ None (0)		can also be present, and specie	
		6c. Coverage of invasive plants. Refer		moderately high, but generally	•
		to Table 1 ORAM long form for list. Add		threatened or endangered spp	•
		or deduct points for coverage	high	A predominance of native species	s, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant nati	ve spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity a	and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatene	d, or endangered spp
		Nearly absent <5% cover (0) Absent (1)	Mudflat and	Open Water Class Quality	
		6d. Microtopography.	<u>wuunat anu</u> 0	Absent <0.1ha (0.247 acres)	
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 acres)	eros)
		Vegetated hummucks/tussuck		Moderate 1 to <4ha (2.47 to 9.88	
		Coarse woody debris >15cm (		High 4ha (9.88 acres) or more	acres)
		Standing dead >25cm (10in) of	· /	Thigh 4ha (9.86 acres) or more	
				ranhy Cayar Saala	
		1 Amphibian breeding pools		raphy Cover Scale	
			0	Absent  Present year small amounts or if	more commen
			1	Present very small amounts or if	more common
			2	of marginal quality  Present in moderate amounts, but	It not of highest
			۷		_
			3	quality or in small amounts of h	
	ĭ		3	Present in moderate or greater a	nounts
27	GRAN	ID TOTAL (max 100 pts)		and of highest quality	



Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 200 LAT 39.02297 LONG -83.01206 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REMAY not have existed prior to modification. Substation drainage	COVERY
TYPE	HEI etric pints bstrate ax = 40 7
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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]	Depth ax = 30
□ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	inkfull /idth ax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)  This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):	
None       1.0       2.0       3.0         0.5       1.5       2.5       >3	
Flat (0.5 %100 %) Flat to Moderate Moderate (2 %100 %) Moderate to Severe	

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### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.80 mile CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 100% Canopy (% open): Were samples collected for waterchemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location substation mowed ROW

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Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (m²) 0.010  LENGTH OF STREAM REACH (ft) 129 LAT 39.02164 LONG -83.01314 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction	tions
STREAM CHANNEL MODIFICATIONS: ☑ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECENTED FROM THE PROPERTY OF	OVERY
TYPE	HEI etric ints estrate x = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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]	Depth x = 30
□ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] □ > 3.0 m - 4.0 m (> 9' 7"-13') [25 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts] □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	nkfull idth x=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
None	

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# QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.82 mile Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.020  LENGTH OF STREAM REACH (ft) 200 LAT 39.02134 LONG -83.01349 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruct	tions
STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERED RECOVERING RECOVERING RECENT OR NO RECOVERED RECOVERING RECOVERI	OVERY
TYPE	HEI etric ints strate c = 40
Bidr Slabs, Boulder, Cobble, Bedrock 20% (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15 TOTAL NUMBER OF SUBSTRATE TYPES: 4	- В
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts]	Depth c= 30
COMMENTS MAXIMUM POOL DEPTH (inches) 3.00	***
□ > 4.0 meters (> 13") [30 pts]       □ > 1.0 m - 1.5 m (> 3" 3" - 4" 8") [15 pts]         □ > 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]	nkfull dth c=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)   2.50	B_
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Mature Forest, Shrub or Old Field Mature Forest, Shrub or Old Field Moderate Shrub or O	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 th) Flat to Moderate  Moderate (2 th 100 th) Moderate to Severe  Severe (10 th 100 th)	_

## ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.83 mile Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 80% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.001  LENGTH OF STREAM REACH (ft) 200 LAT 39.02073 LONG -83.01389 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: None/Natural Channel Recovered Recovering Recent or no recovered riparian, culverted	
TYPE	HEI etric ints ostrate x = 40
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 4  2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the	Depth
COMMENTS	nkfull idth ix=30
> 1.5 m - 3.0 m (> 4' 8" - 9' 7")[20 pts]  COMMENTS AVERAGE BANKFULL WIDTH (feet) 2.00	5
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Mone COMMENTS  FLOODPLAIN QUALITY (Most Predominant per Bank) L R  L R  U Conservation Tillage Immature Forest, Shrub or Old Field Urban or Industrial Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Intermittent	
SINUO SITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 th) Flat to Moderate  Moderate (2 th 100 th)  Moderate to Severe  Severe  Severe (10 th 100 th)	

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Little Beaver Creek Distance from Evaluated Stream 0.88 mile CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): \_\_N 60% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location ROW scrub-shrub

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.067  LENGTH OF STREAM REACH (ft) 77 LAT 39.01782 LONG -83.02038 RIVER MILE  DATE 01/20/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions of the control of t	ions
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERING Culvert; 4wheel trails	OVERY
I I I I BEDRUCK (10 DISI U/o I II I ENE DE RUUS 13 DISI U/o I	tric nts strate = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):  □ > 4.0 meters (> 13°) [30 pts] □ > 1.0 m - 1.5 m (> 3° 3° - 4° 8°) [15 pts] Wid Max  □ > 1.5 m - 3.0 m (> 4° 8° - 9° 7°) [20 pts] □ ≤ 1.0 m (≤ 3° 3°) [5 pts]  5	=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)  This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial)   Dry channel, no water (ephemeral)  COMMENTS   Intermittent as confirmed by NHD    SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0	
0.5	

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 80% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location upland herb scrub-shrub undefined drainage from pond

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	6
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012021-06  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.02  LENGTH OF STREAM REACH (ft) 200 LAT 39.01786 LONG -83.01771 RIVER MILE  DATE 01/20/2021 SCORER BAO, JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instru  STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO FE Culverted; access road crosses	uctions
TYPE	HHEI Metric Points ubstrate Max = 40  A + B
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Sankfull Width Max=30
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: RiverLeft (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R  Wide >10m Mature Forest, Wetland Conservation Tillage  Moderate 5-10m Immature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Penced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  O.5 1.5 2.5 3  STREAM GRADIENT ESTIMATE	
☐ Flat (0.5 \$\pi 100 \$\pi) ☐ Flat to Moderate ☐ Moderate (2 \$\pi 100 \$\pi) ☐ Moderate to Severe ☐ Severe (10 \$\pi 100 \$\pi)	Ŋ.

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 90% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location wooded herb to scrub-shrub ROW

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 49 LAT 39.01606 LONG -83.01361 RIVER MILE  DATE 01/21/2021 SCORER BAO COMMENTS Ephemeral but portion underground  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO REACCESS road and soil disturbance throughout area	ctions
TYPE	HEI etric pints bstrate ax = 40 7
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    30 centimeters [20 pts]	DI Depth ax = 30 5 ankfull Vidth ax=30
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R L R  Wide >10m Mature Forest, Wetland Conservation Tillage  Wide >10m Mature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Residential, Park, New Field Open Pasture, Row Crop  None Fenced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral with interstitial portion  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  0.5 3.0	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1) Flat to Moderate  Moderate (2 \$100 \$1) Moderate to Severe  Severe (10 \$100 \$1)	

## QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 60% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location upland herb ROW

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (MP) 0.001  LENGTH OF STREAM REACH (ft) 137 LAT 39.01602 LONG -83.01001 RIVER MILE  DATE 01/21/2021 SCORER JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RE	ctions
Upper riparian mowed	
TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         Mine of the content	HEI etric pints bstrate ax = 40
Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock ON (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6 TOTAL NUMBER OF SUBSTRATE TYPES: 4	+ B
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]	Depth ax = 30
COMMENTS MAXIMUM POOL DEPTH (inches) 1.00	98
□ > 4.0 meters (> 13") [30 pts]       □ > 1.0 m - 1.5 m (> 3" 3" - 4" 8") [15 pts]         □ > 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]	ankfull Vidth ax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 1.00	
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*	
RIPARIAN WIDTH L R (Per Bank) L R  Mature Forest, Wetland Moderate 5-10m Moderate 5-10m Residential, Park, New Field Mone COMMENTS  FLOODPLAIN QUALITY (Most Predominant per Bank) L R  L R  L R  Conservation Tillage Urban or Industrial Open Pasture, Row Crop Mining or Construction	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):           ☑ None         ☐ 1.0         ☐ 2.0         ☐ 3.0           ☐ 0.5         ☐ 1.5         ☐ 2.5         ☐ >3	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1)  Flat to Moderate  Moderate (2 \$100 \$1)  Moderate to Severe  Severe (10 \$100 \$1)	

## QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Big Run Distance from Evaluated Stream >2 miles CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location scrub-shrub mowed

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.020  LENGTH OF STREAM REACH (ft) 200 LAT 39.01578 LONG -83.00876 RIVER MILE  DATE 01/21/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruc	- : : :
STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO	
TYPE         PERCENT         TYPE         PERCENT         PERCENT         Memory Percent	HEI etric pints pstrate x = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  Ma  > 30 centimeters [20 pts]  > 5 cm - 10 cm [15 pts]	Depth x = 30
□ > 4.0 meters (> 13') [30 pts]       □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]         □ > 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]	nkfull fidth x=30
This information must also be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$) Flat to Moderate  Moderate (2 \$100 \$) Moderate to Severe  Severe Severe	_

### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{\mathbf{Y}}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	3
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.001  LENGTH OF STREAM REACH (ft) 190 LAT 39.01578 LONG -83.00865 RIVER MILE  DATE 01/21/2021 SCORER JFW COMMENTS Ephemeral  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECUPPER riparian mowed	ctions
TYPE	HHEI letric oints abstrate ax = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box):    30 centimeters [20 pts]	ol Depth ax = 30 5 ankfull Width ax=30
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R L R  Wide >10m Mature Forest, Wetland Conservation Tillage  Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Penced Pasture Mining or Construction  COMMENTS  FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0  0.5 3.0	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 th) Flat to Moderate  Moderate (2 th 100 th) Moderate to Severe  Severe  Severe (10 th 100 th)	

### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Big Run Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	1
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012121-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.060  LENGTH OF STREAM REACH (ft) 50 LAT 39.01574 LONG -83.00873 RIVER MILE  DATE 01/21/2021 SCORER BAO COMMENTS Intermittent  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECUlverts, channelization, and artificial substrate	ctions
TYPE	IHEI letric coints bstrate ax = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Y one box):    30 centimeters [20 pts]	ol Depth ax = 30 25 ankfull Vidth ax=30
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)  L R   (Per Bank)   L R   L R    Wide >10m   Mature Forest, Wetland   Conservation Tillage   Urban or Industrial    Narrow <5m   Residential, Park, New Field   Open Pasture, Row Crop   None   Fenced Pasture   Mining or Construction    COMMENTS   Moist Channel, isolated pools, no flow (intermittent)    Stream Flowing   Moist Channel, isolated pools, no flow (intermittent)    COMMENTS   Dry channel, no water (ephemeral)    COMMENTS   SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None   1.0   2.0   3.0    O.5   1.5   2.5   >3	
Flat (0.5 m/100 m) Flat to Moderate Moderate (2 m/100 m) Moderate to Severe (10 m/100 m)	

### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 40% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N \_ Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012121-04 FLOW -BAO-012121-0

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	1
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-01  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.02  LENGTH OF STREAM REACH (ff) 200 LAT 39.01444 LONG -83.01204 RIVER MILE  DATE 01/22/2021 SCORER BAO COMMENTS Ephemeral; high gradient  NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Institute of the control of the con	
STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO FINE Stream begins definition at culvert; high gradient	RECOVERY
TYPE	HHEI Metric Points Substrate Max = 40  31
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):  > 30 centimeters [20 pts] 5 cm - 10 cm [15 pts]	ool Depth Max = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):  □ > 4.0 meters (> 13°) [30 pts] □ > 1.0 m - 1.5 m (> 3° 3° - 4° 8°) [15 pts] □ > 1.5 m - 3.0 m (> 4° 8° - 9° 7°) [20 pts] □ > 1.5 m - 3.0 m (> 4° 8° - 9° 7°) [20 pts]	Bankfull Width Max=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)   4.00	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
Stream Flowing Subsurface flow with isolated pools (interstitial) COMMENTS Ephemeral  SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):  None 1.0 2.0 3.0 0.5 2.5 3	
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1) Flat to Moderate Moderate (2 \$100 \$1) Moderate to Severe V Severe (10 \$100 \$1	t)

#### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles CWH Name: Distance from Evaluated Stream ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 10% Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: **BIOLOGICAL OBSERVATIONS** (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location Boulders undefined / drainage S-BAO-012221-02

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

Version 4.0 October 2018

Field Methods for Evaluating Primary Headwater Streams in Ohio Ohio EPA, Division of Surface Water

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION AEP Arboles Station and Transmission Lines Project, S-BAO-012221-02  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mir) 0.590  LENGTH OF STREAM REACH (ft) 200 LAT 39.01359 LONG -83.01251 RIVER MILE  DATE 01/22/2021 SCORER BAO, JFW COMMENTS Perennial	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction  STREAM CHANNEL MODIFICATIONS: None/Natural Channel Recovered Recovering Recent or no reco	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). 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]   10%   SILT [3 pt]   10%     BOULDER (>256 mm) [16 pts]   10%   LEAF PACK/WOODY DEBRIS [3 pts]   0%     BEDROCK [16 pts]   0%   FINE DETRITUS [3 pts]   0%     COBBLE (65-256 mm) [12 pts]   30%   CLAY or HARDPAN [0 pt]   0%     GRAVEL (2-64 mm) [9 pts]   30%   MUCK [0 pts]   0%     SAND (<2 mm) [6 pts]   10%   ARTIFICIAL [3 pts]   0%    Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock   50%   SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:   21 TOTAL NUMBER OF SUBSTRATE TYPES:   6	ric nts trate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) 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
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):    > 4.0 meters (> 13') [30 pts]	th =30
COMMENTS AVERAGE BANKFULL WIDTH (feet)  This information mustalso be completed	
RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*    RIPARIAN WIDTH   FLOODPLAIN QUALITY (Most Predominant per Bank)	
Stream Flowing	
STREAM GRADIENT ESTIMATE  Flat (0.5 th 100 ft)  Flat to Moderate  Moderate (2 th 100 ft)  Moderate to Severe  Severe (10 th 100 ft)	_

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):

WWH Name	Scioto River			Distance from Evaluated Stream	>2 miles
CWH Name:	·			Distance from Evaluated Stream	
EWH Name:	**			Distance from Evaluated Stream	
	7.	IES OF MAPS, INCLUDING	THE ENTIRE WATER SHED A	REA. CLEARLY MARK THE SITE LOC	CATION.
JSGS Quadrar	ngle Name: Piketor	ı, OH	NRCS Soil Map Page:	NRCS Soil Map Stream	Order:
County: Pike			Township/City: Scioto T	ownship	2012027-100003
	ELLANEOUS				
Base Flow Con	ditions? (Y/N): Y	Date of last precipit	ation: 01/16/21	Quantity: 0.20	
Photo-documer	ntation Notes:				
Elevated Turbid	lity?(Y/N): N	Canopy (% open):	10%		
Nere samples	collected for water	chemistry?(Y/N): N	Lab Sample # or ID	(attach results):	
Field Measures	33: E(V)	Dissolved Oxygen (mg	350 SEV W	Conductivity (umhos/cr	m)
ls the sampling	reach representati	ive of the stream (Y/N)	If not, explain:		
Additional com	ments/description o	f pollution impacts:			
Additional com	ments/description o	fpollution impacts:		<u> </u>	
Additional com	ments/description o	BIOLOGICA	AL OBSERVATIONS	<u> </u>	
		BIOLOGICA (Record al	l observations below)		
Fish Observed	? (Y/N) N S	BIOLOGICA (Record al pecies observed (if know	l observations below)		
Fish Observed Frogs or Tadpo	? (Y/N) N S	BIOLOGICA (Record al pecies observed (if know N) N Species obser	l observations below) n); ved (if known);		
Fish Observed Frogs or Tadpo Salamanders O	? (Y/N) N S eles Observed? (Y/N ebserved? (Y/N) N	BIOLOGICA (Record all pecies observed (if know N) N Species observed (i	l observations below) n): ved (if known): f known):		
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi	? (Y/N) N S eles Observed? (Y/N ebserved? (Y/N) N	BIOLOGICA (Record all pecies observed (if know. N) N Species observed (if Species observed (if rved? (Y/N) N Species	l observations below) n): ved (if known): f known): es observed (if known):		
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi	? (Y/N) N S eles Observed? (Y/N ebserved? (Y/N) N	BIOLOGICA (Record all pecies observed (if know. N) N Species observed (if Species observed (if rved? (Y/N) N Species	l observations below) n): ved (if known): f known):		
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg	? (Y/N) N S eles Observed? (Y/N) N ebserved? (Y/N) N envertebrates Observerding Biology:	BIOLOGICA (Record all pecies observed (if know N) N Species observed (if Species observed (if rved? (Y/N) N Species	l observations below) n): ved (if known): f known): es observed (if known):	200000000000000000000000000000000000000	6% %
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR	? (Y/N) N Sples Observed? (Y/N) N Sples Observed? (Y/N) N Sples Observed? (Y/N) N Sples Observed Biology: N Sples Observed	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	200000000000000000000000000000000000000	mpleted)
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR	? (Y/N) N Sples Observed? (Y/N) N Sples Observed? (Y/N) N Sples Observed? (Y/N) N Sples Observed Biology: N Sples Observed	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed' Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg DR Incl	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know. N) N Species observed (if rved? (Y/N) N Species NARRATIVE DESCR marks and other features of	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)
Fish Observed' Frogs or Tadpo Salamanders O Aquatic Macroi Comments Reg	? (Y/N) N S	BIOLOGICA (Record all pecies observed (if know) N) N Species observed (if Species observed (if rved? (Y/N) N Species NARRATIVE DESCR	l observations below) n); ved (if known); f known); es observed (if known);	I REACH (This <u>must</u> be co	mpleted)

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)						
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-03  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.220  LENGTH OF STREAM REACH (ft) 200 LAT 39.01161 LONG -83.01267 RIVER MILE  DATE 01/22/2021 SCORER JFW COMMENTS Intermittent						
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions  STREAM CHANNEL MODIFICATIONS:   NONE / NATURAL CHANNEL PROCESSED RECOVERING RECOVERING RECENT OR NO RECOVERY						
TYPE         PERCENT         TYPE         PERCENT         TYPE         PERCENT         10%         Image: State of the state o	HHEI Metric Points Substrate Max = 40					
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 6	A + B					
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]   5 cm - 10 cm [15 pts]     > 22.5 - 30 cm [30 pts]   < 5 cm [5pts]     > 10 - 22.5 cm [25 pts]   NO WATER OR MOIST CHANNEL [0pts]	ool Depth Max = 30					
COMMENTS MAXIMUM POOL DEPTH (inches) 6.00 3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):	Bankfull					
> 4.0 meters (> 13') [30 pts] > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	Width Max=30					
COMMENTS AVERAGE BANKFULL WIDTH (feet) 8	20					
This information <u>must</u> also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*						
RIPARIAN WIDTH L R (Per Bank) L R  Wide >10m Moderate 5-10m Moderate 5-10m Narrow <5m None Residential, Park, New Field Moderate Servet Mining or Construction COMMENTS						
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing Moist Channel, isolated pools, no flow (intermittent)  Subsurface flow with isolated pools (interstitial) Dry channel, no water (ephemeral)  COMMENTS Intermittent	į.					
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None						
STREAM GRADIENT ESTIMATE  Flat (0.5 \$100 \$1)  Flat to Moderate  Moderate (2 \$100 \$1)  Moderate to Severe  Severe (10 \$100 \$1)	4)					

#### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH: COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 30% Canopy (% open): Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: Orange film on substrate BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) Y Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: One gray spotted frog observed DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location -BAO-012221-04 slope Boulder S-BAO-012221-03

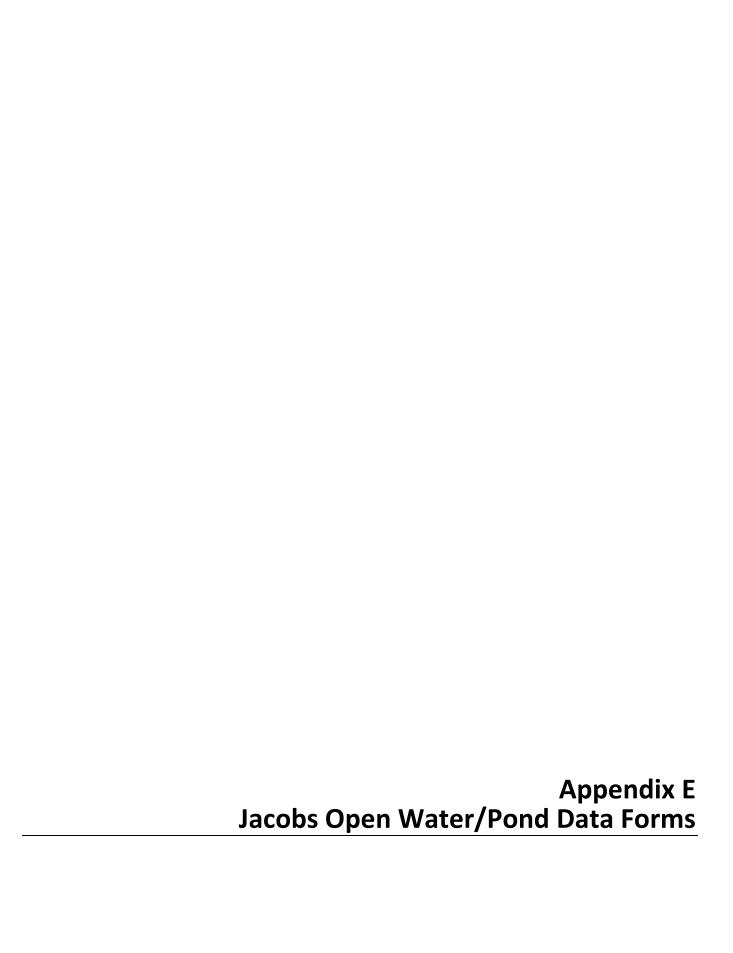
Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-04  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (mi²) 0.062  LENGTH OF STREAM REACH (ft) 72 LAT 39.01096 LONG -83.01204 RIVER MILE  DATE 01/22/2021 SCORER JFW COMMENTS Intermittent	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction  STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECO	
1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes.  (Max of 32). 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]	ric nts trate = 40
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONL Yone box):    > 30 centimeters [20 pts]	201000001
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check <i>ONL</i> Y one box):  □ > 4.0 meters (> 13') [30 pts] □ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts] Wid Max= □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]  15	th 30
COMMENTS AVERAGE BANKFULL WIDTH (feet) 4.00	1
This information must also be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R  Wide >10m	
FLOW REGIME (At Time of Evaluation) (Check ONLY one box):  Stream Flowing	
U 0.5	_

### ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Stream Order: NRCS Soil Map Page: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 50% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): pH (S.U.) Conductivity (umhos/cm) Field Measures:Temp (°C) Dissolved Oxygen (mg/l) Is the sampling reach representative of the stream (Y/N) $\underline{Y}$ If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location S-BAO-012221-04 Culvert S-BAO-012221-03

Primary Headwater Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3)	
SITE NAME/LOCATION Arboles Station and Transmission Lines Project, S-BAO-012221-05  SITE NUMBER RIVER BASIN 05060002 RIVER CODE DRAINAGE AREA (m²) 0.038  LENGTH OF STREAM REACH (ft) 199 LAT 39.00896 LONG -83.01198 RIVER MILE  DATE 01/22/2021 SCORER BAO COMMENTS INTERMITTENT	
NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instruction STREAM CHANNEL MODIFICATIONS: NONE / NATURAL CHANNEL RECOVERED RECOVERING RECENT OR NO RECOVERING RECENT OR NO RECOVERED RECOVERE	
TYPE	HEI etric pints pstrate ix = 40
time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):    > 30 centimeters [20 pts]	Depth ix = 30
3. BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):  □ > 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]  □ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]	nkfull /idth ax=30
COMMENTS AVERAGE BANKFULL WIDTH (feet)   2.00	
This information mustalso be completed  RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*  RIPARIAN WIDTH FLOODPLAIN QUALITY (Most Predominant per Bank)  L R (Per Bank) L R L R  Wide >10m Mature Forest, Wetland Conservation Tillage  Moderate 5-10m Moderate 5-10m Mature Forest, Shrub or Old Field Urban or Industrial  Narrow <5m Residential, Park, New Field Open Pasture, Row Crop	
None	
SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):   None	

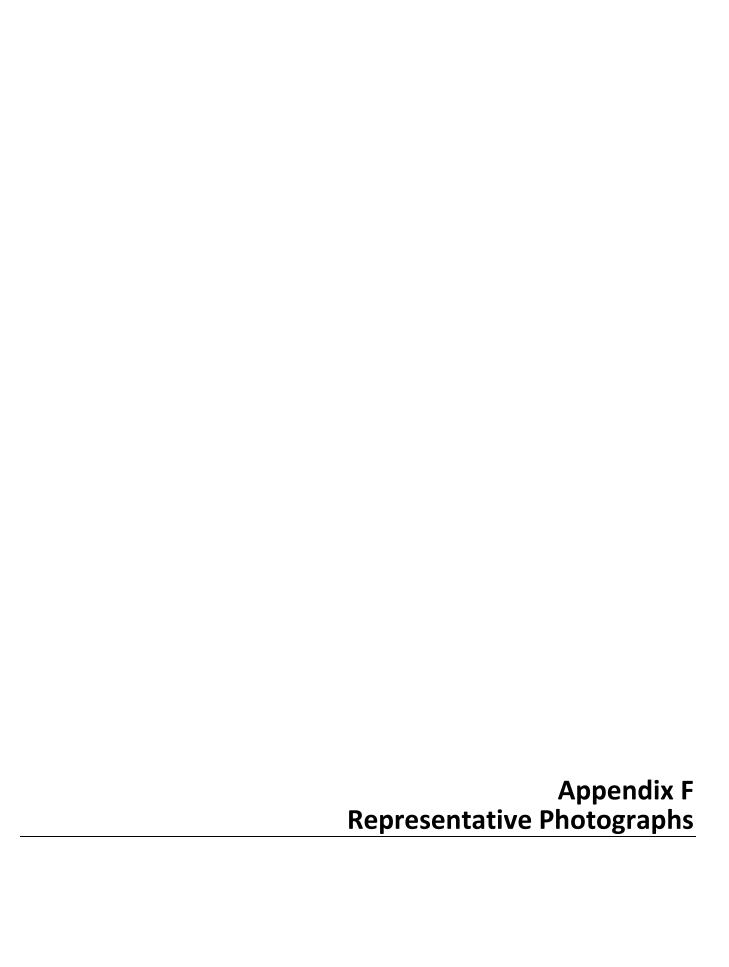
#### QHEI PERFORMED? Yes No QHEI Score (If Yes, Attach Completed QHEI form) DOWNSTREAM DESIGNATED USE(S) ☑ WWH Name: Scioto River Distance from Evaluated Stream >2 miles Distance from Evaluated Stream CWH Name: ■ EWH Name: Distance from Evaluated Stream MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION. USGS Quadrangle Name: Piketon, OH NRCS Soil Map Page: NRCS Soil Map Stream Order: Township/City: Scioto Township County: Pike MISCELLANEOUS 01/16/21 0.20 Base Flow Conditions? (Y/N): Date of last precipitation: Quantity: Photo-documentation Notes: Elevated Turbidity?(Y/N): N 20% \_\_ Canopy (% open): Were samples collected for water chemistry? (Y/N): Lab Sample # or ID (attach results): Field Measures:Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (umhos/cm) Is the sampling reach representative of the stream (Y/N) If not, explain: Additional comments/description of pollution impacts: BIOLOGICAL OBSERVATIONS (Record all observations below) Fish Observed? (Y/N) N Species observed (if known): Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): Salamanders Observed? (Y/N) N Species observed (if known):\_\_\_\_ Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): Comments Regarding Biology: DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed) Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location path Culvert Upland fallow field; maintained ROW

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed):



**Jacobs** 

Oucobs.					
POND DATA SHEET					
Pond AS- FEATURE ID: (P-BAO-0		ASSOCIATE	Wetland AS-006 (W-BAO-012121-04), DFEATURES: Stream AS-011 (S-BAO-012121-01),		
Survey Type: Wetland and waterbodies delineation  Stream AS-013 (S-BAO-012221-02)					
DATE: 01/21/2021	CLIENT/Project Name: AEP Arboles Station and Transmission Lines				
Investigators:  Ben Otto/Jen Wessel  Route: Existing C			Senterline		
STATE/COUNTY: Ohio/Pike County			IS THIS A MAPPED NWI FEATURE?: NO		
WATERBODY CHARACTERISTICS					
WATERBODY TYPE:	Pond				
AVG. DEPTH:	24"				
AVG. WIDTH (WATER SURFACE):	100'				
APPROXIMATE SIZE:	0.21 acres in survey corridor, extends beyond western boundary of survey corridor.				
QUALITATIVE ATTRIBUTES					
AVERAGE WATER APPEARANCE:	Cloudy brown-green				
PRIMARY SUBSTRATE (IF OBSERVED):	Silt				
POTENTIAL HABITAT FOR:	Amphibians				
SURROUNDING LAND USE:	Mowed commercial lawn				
WETLAND FRINGE (IF PRESENT):	N/A				
COMMENTS					
Retention pond fed by Wetland AS-006 and Stream AS-011. Monk overflow outlet leads to culvert at head of Stream AS-013.					







Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate



Upstream Downstream



Substrate





Upstream Downstream



Substrate





Upstream Downstream



Substrate



Upstream Downstream



Substrate



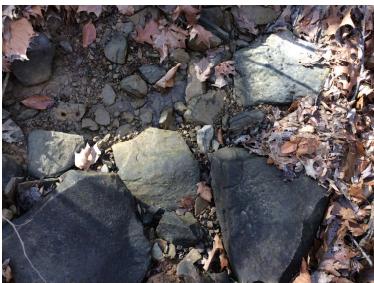


Upstream Downstream



Substrate





Downstream Substrate



Upstream





Upstream Downstream



Substrate





Upstream Downstream



Substrate



Upstream Substrate



Downstream





Upstream Downstream





Soil N





E S











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Soil















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Soil E









Soil E







Soil S

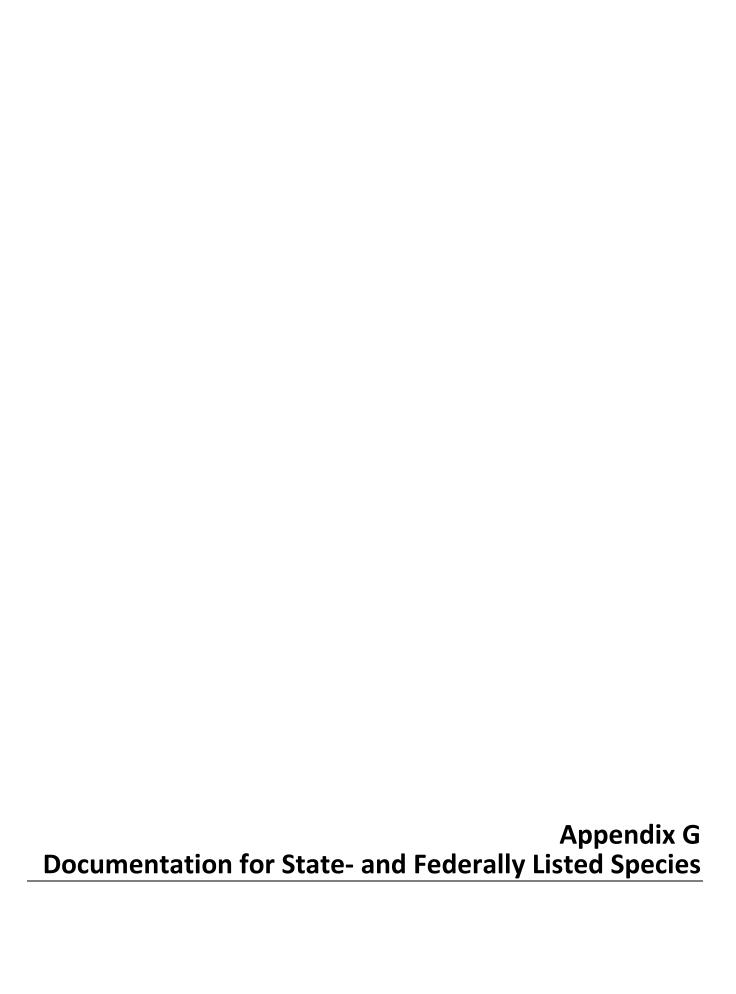




Soil S







## Otto, Ben/CIN

From: Ohio, FW3 <ohio@fws.gov>

**Sent:** Monday, March 22, 2021 10:43 AM **To:** Otto, Ben/CIN; Grant S Stuller

**Cc:** nathan.reardon@dnr.state.oh.us; Parsons, Kate

**Subject:** [EXTERNAL] AEP - Arboles Station Transmission Lines Project in Scioto Township, Pike

County, Ohio



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# 03E15000-2021-TA-1017

Dear Mr. Otto,

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened and endangered species pursuant to the Endangered Species Act of 1973 (16 U.S.C. 1531 et seq), as amended (ESA).

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found 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 breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet 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, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule

(see <a href="http://www.fws.gov/midwest/endangered/mammals/nleb/index.html">http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</a>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then 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 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. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

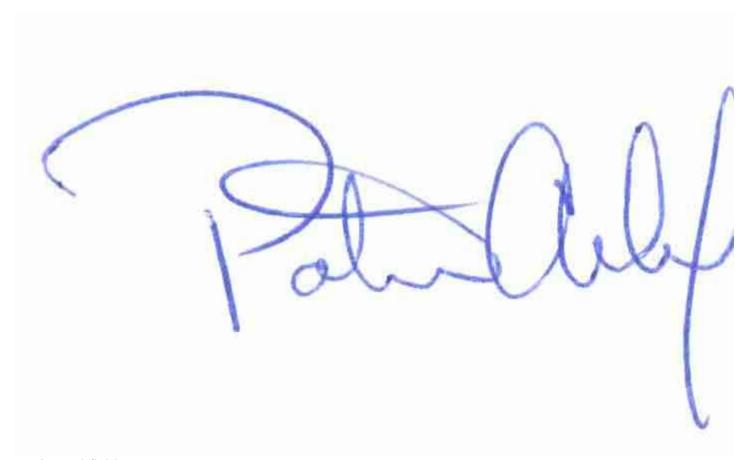
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army 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. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or 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, coordination with the Service should be initiated to assess any potential impacts.

Thank you for your efforts to conserve listed species and sensitive habitats in Ohio. We recommend coordinating with the Ohio Department of Natural Resources due to the potential for the proposed project to affect state listed species and/or state lands. Contact Mike Pettegrew, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@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,



Patrice Ashfield Field Office Supervisor

ce: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229 Phone: (614) 265-6621 Fax: (614) 267-4764

May 6, 2021

Ben Otto 2 Crowne Point Court Suite 100 Cincinnati, Ohio 45241

Re: 21-0342; AEP Arboles Station and Associated Transmission Lines Project

**Project:** The proposed project includes the construction of five 138 kilovolt (kV) transmission lines, the removal of approximately 0.8-mile of existing 100-foot 138 kV transmission line right-of-way (ROW,) rebuilding approximately 0.4- mile of existing 100-foot 138 kV line ROW, and the construction of the Arboles substation.

**Location:** The proposed project is located in Scioto Township, Pike County Ohio.

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

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

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

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

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

The entire state of Ohio is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species, the northern long-eared bat (Myotis septentrionalis), a state endangered and federally threatened species, the little brown bat (Myotis lucifugus), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". https://ohiodnr.gov/static/documents/wildlife/wildlifemanagement/Bat+Survey+Guidelines.pdf

If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31, however, limited summer tree cutting may be acceptable after consultation with DOW (contact Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh">sarah.stankavich@dnr.state.oh</a>.

The DOW also recommends that a desktop habitat assessment, followed by a field assessment if needed, is conducted to determine if there are potential hibernaculum(a) present within the project area. Information about how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana Bat Survey Guidelines." If a habitat assessment finds that potential hibernacula are present within 0.25 miles of the project area, please send this information to Sarah Stankavich, <a href="mailto:sarah.stankavich@dnr.state.oh.us">sarah.stankavich@dnr.state.oh.us</a> for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species. The project is within the range of the following listed mussel species:

#### Federally Endangered

clubshell (*Pleurobema clava*) Northern riffleshell (*Epioblasma torulosa rangiana*) rayed bean (*Villosa fabalis*)

#### **State Endangered**

Ohio pigtoe (*Pleurobema cordatum*) washboard (*Megalonaias nervosa*) yellow sandshell (*Lampsilis teres*)

### State Threatened

black sandshell (*Ligumia recta*) fawnsfoot (*Truncilla donaciformis*) threehorn wartyback (*Obliquaria reflexa*)

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 following listed fish species:

#### State Endangered

bigeye shiner (*Notropis boops*) goldeye (*Hiodon alosoides*), popeye shiner (*Notropis ariommus*), shoal chub (*Macrhybopsis hyostoma*), shortnose gar (*Lepisosteus platostomus*), shovelnose sturgeon (*Scaphirhynchus platorynchus*),

#### State Threatened

blue sucker (*Cycleptus elongatus*), channel darter (*Percina copelandi*), paddlefish (*Polyodon spathula*) river darter (*Percina shumardi*), Tippecanoe darter (*Etheostoma tippecanoe*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the timber rattlesnake (*Crotalus 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 within 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 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 within 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 midland mud salamander (*Pseudotriton montanus diastictus*), a state threatened species. Due to the location, the type of habitat within the project area, and the type of work proposed, 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.

 $\frac{http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community\\ \%20Contact%20List\_8\_16.pdf$ 

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <a href="mailto:Sarah.Tebbe@dnr.state.oh.us">Sarah.Tebbe@dnr.state.oh.us</a> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)