Letter of Notification Innovation Extension 138kV Transmission Line Project

PUCO Case No. 22-0781-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.

August 31, 2022

Letter of Notification

AEP Ohio Transmission Company, Inc. (AEP Ohio Transco)
Innovation Extension 138kV Transmission Line Project

4906-6-05

American Electric Power Ohio Transmission Company, Incorporated (the "Company") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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

The Company has identified the need to construct the new Innovation Extension 138kV Transmission Line Project (the "Project), in the City of New Albany, Jersey Township, Licking County, Ohio. The Project consists of constructing 2.2 miles of double circuit 138 kV transmission line between the Innovation 138 kV Station (approved in PUCO Case No. 21-1083-EL-BLN) and Kirk-Jug 345 kV Transmission Line, specifically the Babbitt-Kirk 138 kV circuit. The Project will support the customer's new development in the area. The Project is part of the larger West Licking County Area Improvements, which consists of the Innovation 138kV Station as well as the rebuild of the Conesville-Corridor 345 kV Transmission Line Adjustment Project (approved in PUCO Case No. 22-0058-EL-BLN).

Figures 1 and Figures 2, included in **Appendix A,** show the location of the Project in relation to the surrounding vicinity.

The Project meets the requirements for a Letter of Notification (LON) because it is within the types of projects defined by item 1(d)(ii) of Ohio Administrative Code Section 4906-1-01 Appendix A of the Application Requirement Matrix For Electric Power Transmission Lines:

1 *New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*

(d) Line(s) primarily needed to attract or meet the requirements of a specific customer or customers, as follows:

(ii) Any portion of the line is on property owned by someone other than the specific customer or applicant

The Project has been assigned PUCO Case No. 22-0781-EL-BLN.

B(2) Statement of Need

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

A customer has requested a new substation to serve their facility requiring 64 MW of initial load and 256 MW of peak demand. To meet the customer's needs, AEP Ohio Transco will be required to construct a new 138 kV station, named Innovation Station, with seven breakers in a breaker and half configuration. In order to serve the customer, the Company will also be required to construct approximately 2 miles of 138 kV double circuit transmission line from Innovation Station to the Babbitt – Kirk 138 kV circuit, which is the subject of this filing. Furthermore, Ohio Power Company will be required to reroute the existing Conesville-Corridor 345 kV line to the north side of the new station site to accommodate the station configuration. The customer has requested an in-service date of March 31, 2023, for the initial load.

The addition of Innovation Station also benefits existing customers by creating a through-path. Because the Innovation Station will interconnect with the Babbitt-Kirk 138 kV circuit, which serves load to Hazelton Switch (8.75 MW peak load, 2,133 customers), adding breakers at Innovation Station will reduce the exposure of potential outages caused by the Babbitt-Kirk 138 kV circuit.

Failure to move forward with the proposed project will result in the inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the New Albany area (potentially 256 MW peak).

The need and solution for this supplemental project was presented and reviewed with stakeholders at the December 18th, 2020, and July 17th, 2021, PJM SRRTEP meetings. The project was subsequently assigned PJM supplemental number s2578. The Project was listed in the 2022 AEP Ohio Transmission Company, Inc supplemental LTFR document, page 73-74 (Form FE-T9, Planned Transmission Lines), see Appendix B.

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 and proposed transmission lines and substations is shown on **Figure 1** in Appendix A.

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 Company conducted an alternatives analysis that included reviewing six alternative routes within the Project Study Area. Based on desktop and field examination, the Company concluded that the Proposed

Route, shown as **Figure 2** in **Appendix A**, was the most feasible and appropriate route for the Project. The goal of selecting a suitable route for the Project was to minimize impacts on land use as well as natural and cultural resources while avoiding circuitous routes, significantly higher costs, and non-standard design requirements. The selection of the Proposed Route was based on siting decisions made throughout the process, the knowledge of subject matter experts from the Company and the Company's consultant, engaging the public, working with developers in the area, and a comparative analysis of potential impacts.

The Proposed Route was selected because it limits property owners impacted by utilizing land owned by the Customer, has no residences within 100 feet, utilizes property owned by the Customer, parallels an existing gasoline pipeline, avoids drinking water source protection areas as well as stream/wetland conservation easements, minimizes access impacts due to proximity to existing roadways, and would not limit future development in the area that is undergoing rapid commercial and industrial growth. A total of 17 wetlands, six streams, and two ponds were identified by the Company's consultant during initial ecological investigations, however, only one of these wetlands will be temporary impacted by timber matting activities for equipment access. Additionally, one wetland crossed by the Proposed Route is anticipated to be removed, by the property owner, prior to the Company's start of construction, as a result of new commercial/industrial development. Lastly, the Proposed Route would not conflict with any of the Company or others potential plans within the region and represents the most suitable location for meeting the Customer and Company needs in the area.

B(5) Public Information Program

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

The Company informs affected property owners and tenants about its projects 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 under Ohio Revised Code ("OAC") Section 4906-6-08(A)(1-6). Further, the Company will mail letters, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner the Company approached for an easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. Section 4906-6-08(B). The Company also maintains a website (http://aeptransmission.com/ohio/) which will provide 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 affected by this proposed 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 anticipated to begin in December 2022, and the anticipated in-service date is April 2023.

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 depicts the proposed Project area with existing transmission liens and substations on a topographic map of the 1:24,000-scale (1-inch equals 2,000 feet), provided by the National Geographic Society, i-cubed. **Figure 2** shows the Project area on recent aerial photography, dated 2021, as provided by the USGS, at a scale of 1:2,400 (1-inch equals 200 feet). Due to recent and current commercial and industrial development within the area of the Project, current aerials do not reflect existing conditions and most recent/available aerial is represented on the provided figures.

To visit the Project site from Columbus, Ohio, take I-670 East to I-270 North. Take exit 33 towards Easton Way, then take exit 30 and merge onto OH-161 East for approximately 12.5 miles. Take exit 51 for County Highway 41/Mink Street. Turn left onto Mink Street and follow the road for 1.2 miles. Then turn left onto Jug Street and follow the road for 0.7 mile. The northern end of the Project site will be on the left. The approximate address of the Project site is 12525 Jug Street Road NW, at latitude 40.09489°, longitude -82.72631°

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.

Please refer to table provided in **Appendix C** for the property parcel numbers and an indication as whether the easement/option necessary to construct and operate the facility has been obtained.

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 transmission line construction for the Innovation 138kV Transmission Line Project is anticipated to include the following:

- Voltage: 138kV
- Conductors: Double Circuit, (2-bundle) 1033KCM ACSS 54/7 Strand, CURLEW
- Static Wire: (2) 159KCM ACSR 12/7 Strand, GUINEA
- Insulators: Polymer
- ROW Width: 100-foot
- Structure Types: (1) steel mono-pole dead end

(5) steel two-pole dead ends
(13) steel mono-poles with davit arms

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.

No occupied residences or institutions are located within 100 feet of the Project.

B(9)(c) Project Cost

The estimated capital cost of the project.

The capital cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $19,032,000 from a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the AEP Ohio Transmission Company'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) Land Use Characteristics

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

An aerial photograph of the Project vicinity is provided as **Figure 2**. The Project location and vicinity have historically been primarily agricultural land and scrub-shrub vegetation cover with a scattered woodlots throughout the Project area and recently have undergone land use change to light commercial and industrial use. The Project is located in the City of New Albany, Jersey Township, Licking County. There are no parks, wildlife management areas, or nature preserve lands within 1,000 feet of the Project.

B(10)(b) Agricultural Land Information

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

The Licking County Auditor provided a list of parcels registered as Agricultural District Land on May 31, 2022 and confirmed that no changes to the previously provided list has occurred on July 19, 2022. As a result, the Project is not located within lands identified as Agricultural District Lands.

B(10)(c) Archaeological and Cultural Resources

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

Phase I Archaeological investigations and separate History/Architecture Investigations for the Project occurred in June 2022. Five (5) previously identified archaeological sites identified in the Project area and nine (9) history/architecture resources were identified during the survey and recommend as not being eligible for listing in the National Register of Historic Places (NRHP). On July 15 and 22, 2022, the Ohio State Historic Preservation Office ("SHPO") concurred with the recommendations and stated that the Project will have no effect on historic properties and no further investigations or consultation with SHPO is necessary. Coordination with SHPO is provided as **Appendix D**.

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 OHC000005. The Company will also coordinate storm water permitting needs with local government agencies, as necessary. The Company will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant conducted a stream and wetland delineation within the Project study area. Seventeen wetlands, six streams, and two ponds were identified within the Project study area. Of the delineated resources, streams will be avoided or crossed by temporary timber mat bridges to avoid disturbances. Additionally, only one wetland is proposed for less than one-tenth acre of temporary timber matting activities. Therefore, the Project activities are authorized under non-reporting under Nationwide Permit 57 and further coordination with regulatory agencies is not necessary. Furthermore, no FEMA regulated floodplains or floodways will be disturbed by the Project. Additional details regarding delineated features are provided in Section (10) (f) below.

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.

On February 2, 2022, coordination letters were sent to United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural heritage Program (ONHP) and

Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species.

Responses were received from the USFWS on February 10, 2022 and from the ODNR on March 2, 2022. According to a response letter received from the USFWS on February 10, 2022, this Project is located within the range of the federally endangered Indiana bat (*Myotis sodalist*) and federally threatened northern long-eared bat (*Myotis septentroinalis*). With regard to state threatened and endangered species that may occur within the Project vicinity, nine species were listed by ODNR. These species included: northern long-eared bat, Indiana bat, little brown bat (*Myotis lucifugus*), tricolored bat (*Perimyotis subflavus*), fawnsfoot (*Truncilla donaciformis*), lake chubsucker (*Erimyzon suceta*), eastern massasauga (*Sistrurus* catenatus), least bittern (*Ixobrychus exilis*), northern harrier (*Circus hudsonis*), and upland sandpiper (*Bartramia longicauda*).

Based on general observations during the ecological survey, portions of the Project survey corridor contained potential summer habitat for the listed bat species. The ODNR commented that there is a known records for northern long-eared bat within the Project area and summer tree cutting is not recommended as well as additional summery surveys would not constitute a presence/absence in the area. Therefore, the Company intends to adhere to the ODNR and USFWS recommendation of seasonal tree cutting (between October 1st and March 31st), to avoid impacts to the northern long-eared bat as well as the other listed bat species' summer habitat.

A desktop assessment for features potentially suitable as bat hibernacula within 0.25-mile of the Project area was conducted in accordance with the *May 2022, ODNR Division of Wildlife (DOW) and USFWS (OH-Field Office) Joint Guidance for Bat Surveys and Tree Clearing* (**Appendix E**). Based on the desktop habitat assessment, no caves, mines, or other potential known hibernacula was identified within 0.25-mile of the Project area (see **Appendix F**). Furthermore, potential presence of fawnsfoot or lake chubsucker are unlikely to be significantly affected by the Project due to avoidance of in-stream work proposed for the Project. For the eastern massasauga, the ODNR commented within their response that due to the location, type of habitat within the Project area, and type of work proposed, the Project is not likely to impact this species. Lastly, an avian habitat assessment was completed by the Company's consultant and concluded an absence of habitat suitable for the listed bird species within the Project area. The ODNR was provided the results of the avian habitat assessment and concurred with the absence of listed bird species nesting habitats within the Project area on May 24, 2022.

A copy of the agencies' correspondence are provided in **Appendix E**. Additional information regarding habitat assessments within the Project area is provide within the Wetland Delineation and Stream Assessment Report found in **Appendix F**.

B(10)(f) Areas of Ecological Concern

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

findings of the investigation, and a copy of any document produced as a result of the investigation.

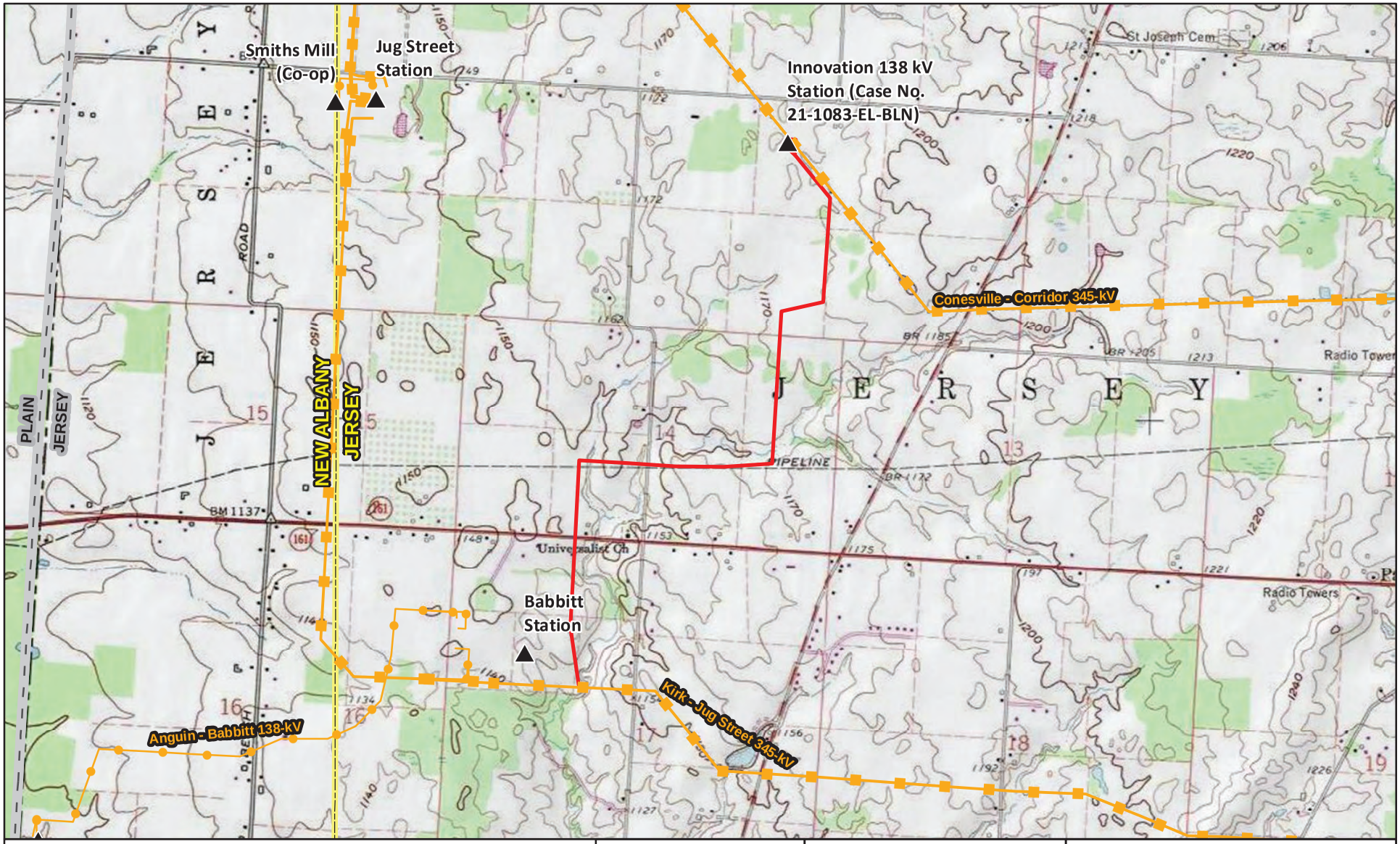
The Company's consultant prepared an Ecological Report and Addendum Ecological Report, which are provided in **Appendix E**. The survey of the Project area identified 17 wetlands [nine palustrine emergent (PEM), two palustrine scrub-shrub (PSS), four palustrine forested (PFO), one PEM/PSS complex, and one PEM/PFO complex] as well as six streams and two ponds. Of these delineated features, the Company anticipates requiring one stream and one wetland crossing. The stream crossing will include installation of timber matting above the ordinary high-water mark (OHWM); therefore, no stream disturbances are anticipated for the Project. Active construction by others was identified within the extent of the one wetland (Wetland 12) resulting in removal of the wetland as associated with the authorized permits (Ohio EPA ID No. 206872W / USACE#: LRH-2019-977-MUS- South Fork Licking River). Therefore, the wetland will not exist during construction of the Project and a Pre-Construction Notification (PCN) under the Nationwide Permit 57 to the USACE is not warranted and the Project will be compliant with the non-reporting conditions of the Nationwide Permit 57 for automatic Section 404/401 authorization. No other streams, ponds, and/or wetlands will be impacted by this Project.

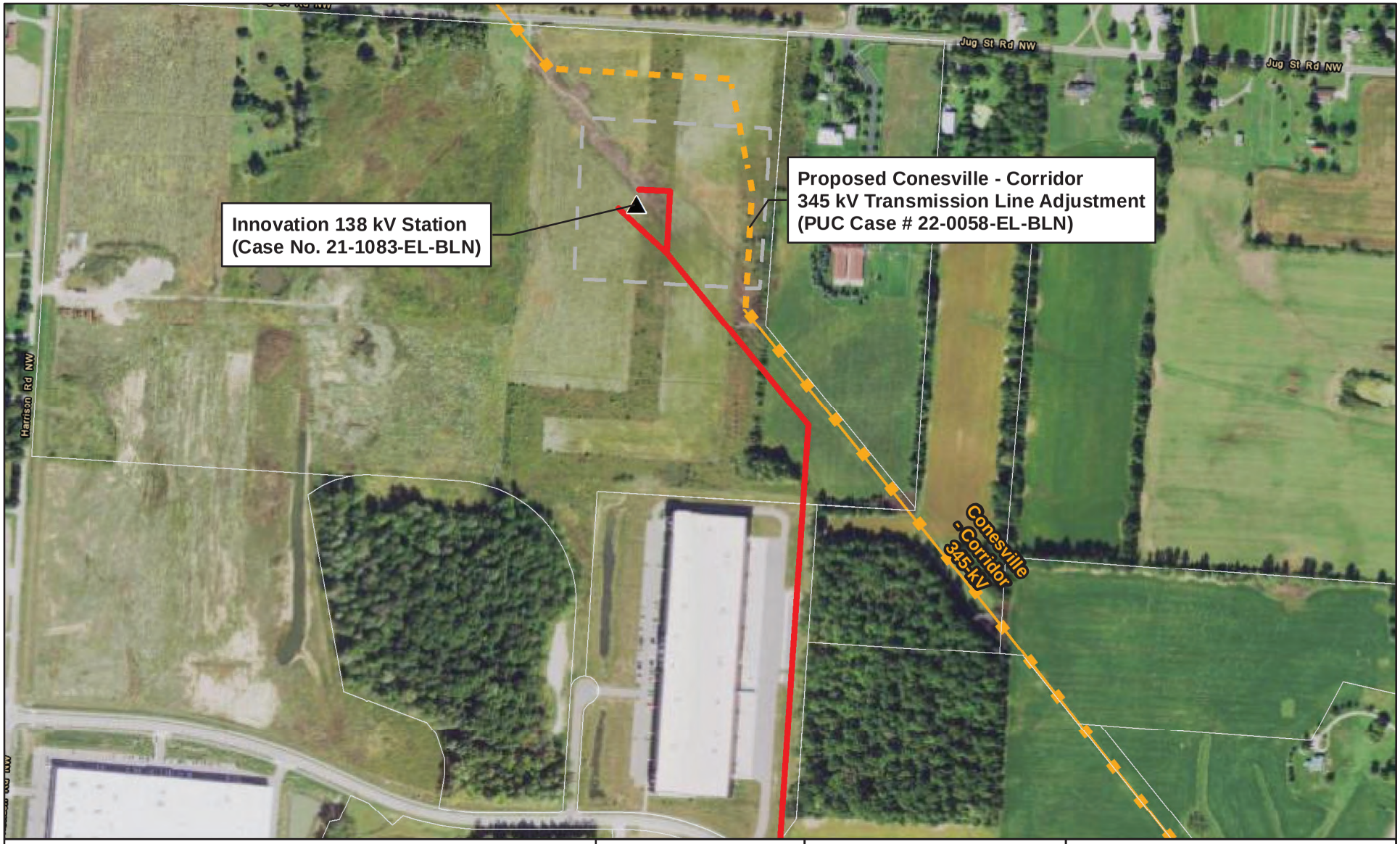
B(10)(g) Unusual Conditions

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 Figures


Smiths Mill (Co-op)
Jug Street Station
Innovation 138 kV Station (Case No. 21-1083-EL-BLN)
Conesville - Corridor 345-kV
Babbitt Station
Kirk - Jug Street 345-kV
Anguin - Babbitt 138-kV
NEW ALBANY JERSEY
PLAIN JERSEY
JERSEY
Substation
Proposed Innovation Extension 138 kV Transmission Line
USGS 7.5' Topographical Quadrangle
Township Boundary
Data Sources: AEP (2021), ESRI (2013), PowerMap (2010), National Geographic Society, i-cubed USGS 7.5 Topographic Quadrangle (Jersey)
Coordinate System: State Plane Ohio North NAD 83
August 29, 2022
FIGURE 1
TOPOGRAPHIC OVERVIEW
AEP OHIO TRANSMISSION COMPANY
Letter of Notification
Innovation Extension 138 kV
Transmission Line Project
0 1,000 2,000 3,000 4,000
Feet



- Substation
- Proposed Innovation Extension 138 kV Transmission Line
- Proposed Conesville-Corridor 345 kV Transmission Line Adjustment (Filed Seperately)
- Existing 345 kV Transmission Line
- Proposed Innovation 138 kV Station (Filed Seperately)
- Parcel Boundary

Data Sources: AEP (2021), ESRI (2013), USGS (2018), PowerMap (2010)

Coordinate System:
State Plane Ohio South
NAD 83

August 29, 2022

FIGURE 2
AERIAL MAP
PAGE 1 OF 3

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Letter of Notification
Innovation Extension 138 kV
Transmission Line Project

0 200 400
Feet

Proposed Innovation Extension 138 kV Transmission Line

Parcel Boundary

Data Sources: AEP (2021), ESRI (2013), USGS (2018), PowerMap (2010)

Coordinate System: State Plane Ohio South NAD 83

August 29, 2022

FIGURE 2
AERIAL MAP
PAGE 2 OF 3

AEP OHIO TRANSMISSION COMPANY

Letter of Notification
Innovation Extension 138 kV
Transmission Line Project

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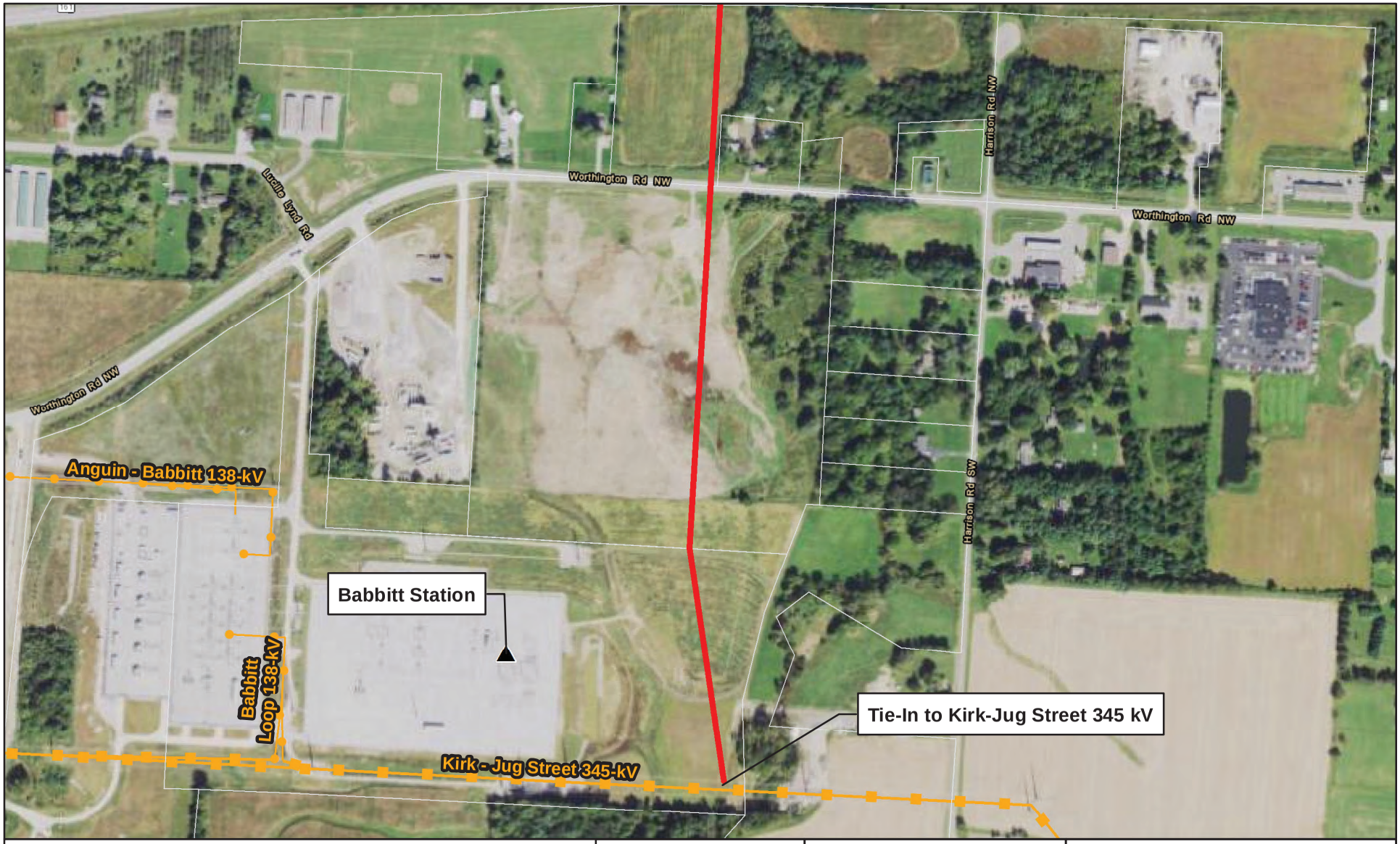


- Substation
- Proposed Innovation Extension 138 kV Transmission Line
- Existing 138 kV Transmission Line
- Existing 345 kV Transmission Line
- Parcel Boundary

Data Sources: AEP (2021), ESRI (2013), USGS (2018), PowerMap (2010)

Coordinate System: State Plane Ohio South NAD 83

August 29, 2022

FIGURE 2
AERIAL MAP
PAGE 3 OF 3

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Letter of Notification
Innovation Extension 138 kV
Transmission Line Project

0 200 400
Feet

Appendix B PJM and Long Term Forecast Reports

AEP Transmission Zone M-3 Process
Innovation Station 138 kV

Need Number: AEP-2020-OH048

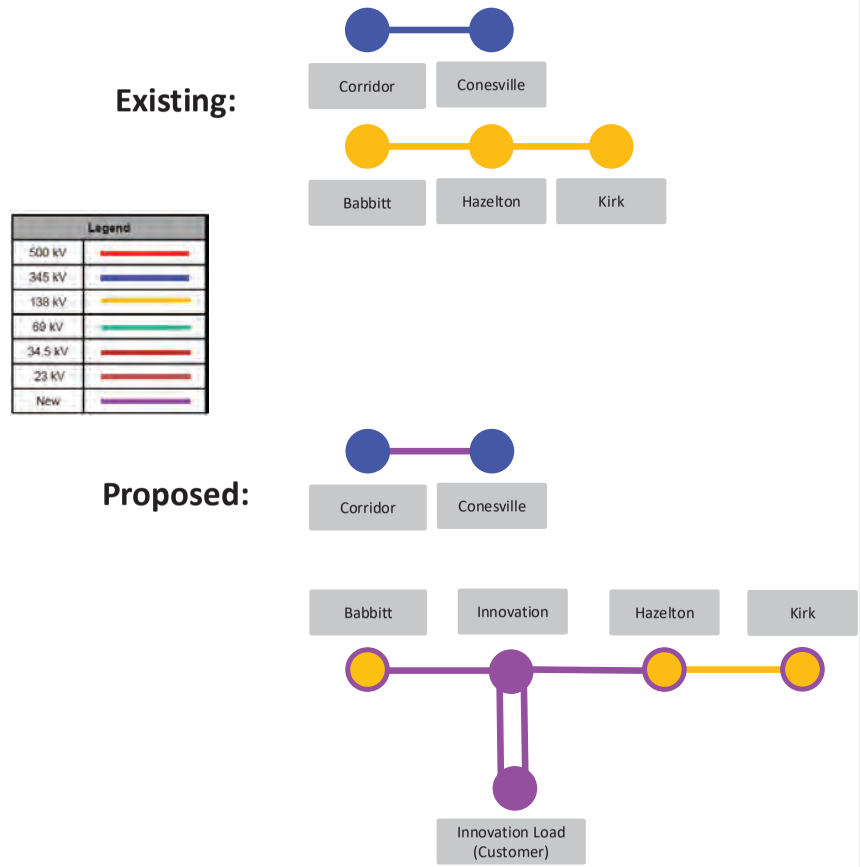
Process Stage: Solutions Meeting 07/16/2021

Proposed Solution:

- **Innovation 138 kV Station:** Construct a greenfield 138kV breaker and half station that includes seven 138kV 3000A 63kA circuit breakers and four total line exits to serve the requested load. **Estimated Cost: $11.611M**
- **Innovation Extension 138kV**: Tap the existing Babbitt-Kirk 138kV circuit creating the Babbitt-Innovation and Kirk-Innovation 138kV circuits and construct approximately 2.2 miles of double circuit line to serve the new station. Extend the telecom fiber into Innovation station for relaying/communication. **Estimated Cost: $ 13.334M**
- **Conesville-Corridor 345kV**: Relocate a portion of the existing Conesville-Corridor 345kV single circuit line to accommodate the install of Innovation Station. Approximately 0.40 miles of line to be rerouted around station site. **Estimated Cost: $2.478M**
- **Babbitt 138 kV Station:** Update remote end relay settings and telecom electronics. **Estimated Cost: $ 0.074M**
- **Kirk 138 kV Station:** Update remote end relay settings and telecom electronics. **Estimated Cost: $0.062M**

Total Estimated Cost: $ 27.6M

Bubble Diagram



AEP Transmission Zone M-3 Process
Innovation Station 138 kV

Alternatives Considered:

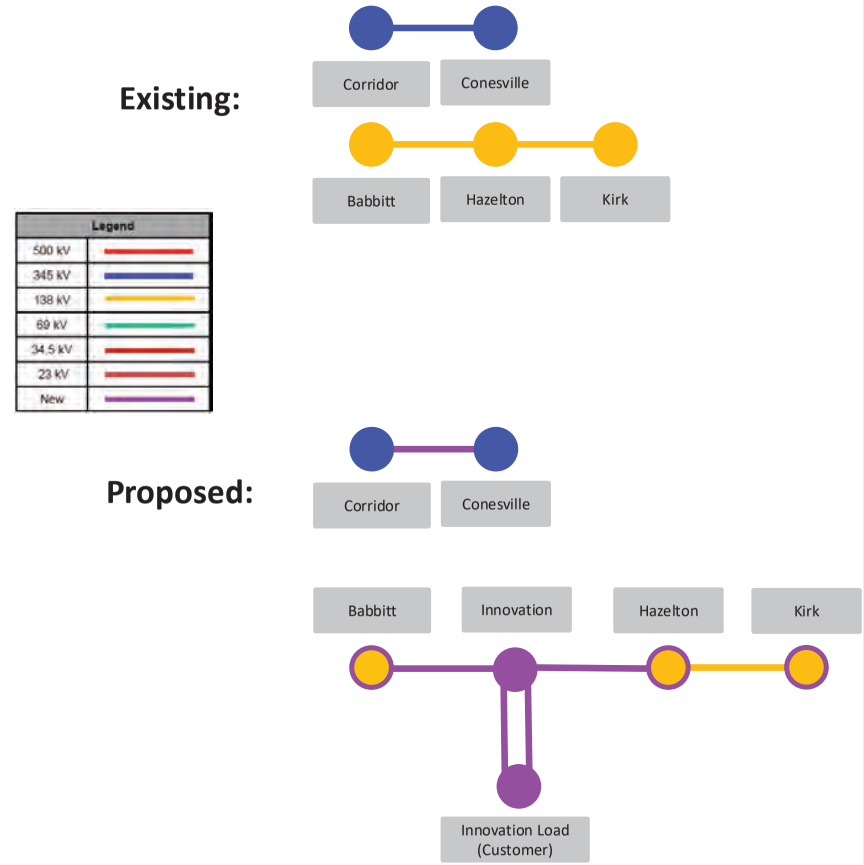
Construct approximately 2 miles of new 138 kV line from Babbitt station to the site. This option was not chosen because it would require additional station work at Babbitt to connect the new line exits. Constructing and operating Innovation station initially as a ring laid out as a breaker and a half configuration was considered, but not chosen after taking into account the customer's anticipated future load requirements. There would have been approximately $1M in incremental costs to convert the station from ring to breaker and a half as part of the second build out.

Projected In-Service: 3/31/2023

Project Status: Scoping

Model: RTEP 2025

Bubble Diagram



PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
Specifications of Planned Transmission Lines

11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 69 kV line
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure, reliability, and operational issues
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	East Logan - South Lancaster 69kV (S2577 TP2019119)
2.	POINTS OF ORIGIN AND TERMINATION	East Logan - South Lancaster INTERMEDIATE STATIONS - Rockbridge, Enterprise Switch, & West Logan
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	16.4 mi / 60 ft / 1 circuit
4.	VOLTAGE: DESIGN / OPERATE	69 kV / 69 kV
5.	APPLICATION FOR CERTIFICATE:	N/A
6.	CONSTRUCTION:	2023 - 2024
7.	CAPITAL INVESTMENT:	$50M
8.	PLANNED SUBSTATION:	N/A
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Rebuild of existing 69 kV line
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Increased risk of equipment failure, reliability, and operational issues
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Babbitt – Innovation (s2578 TP2020225)
2.	POINTS OF ORIGIN AND TERMINATION	Babbitt – Innovation INTERMEDIATE STATIONS - N/A
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	2.12 miles / 100 ft. / 2 circuit
4.	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	2022
6.	CONSTRUCTION:	2024-2025
7.	CAPITAL INVESTMENT:	$4.23M

PUCO FORM FE-T9
AEP OHIO TRANSMISSION COMPANY
Specifications of Planned Transmission Lines

8.	PLANNED SUBSTATION:	Innovation
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Build double circuit line to customer site
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Kirk – Innovation (s2578 TP2020225)
2.	POINTS OF ORIGIN AND TERMINATION	Kirk – Innovation INTERMEDIATE STATIONS - Hazelton
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	2.12 miles / 100 ft. / 2 circuit
4.	VOLTAGE: DESIGN / OPERATE	138 kV / 138 kV
5.	APPLICATION FOR CERTIFICATE:	2022
6.	CONSTRUCTION:	2024-2025
7.	CAPITAL INVESTMENT:	$4.23M
8.	PLANNED SUBSTATION:	Innovation
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Build double circuit line to customer site
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to provide requested service to customer
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Hemlock - Bryson (s2434 TP2020091)
2.	POINTS OF ORIGIN AND TERMINATION	Hemlock - Bryson INTERMEDIATE STATIONS - N/A
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	4.12 miles / 60 ft / 1 circuit
4.	VOLTAGE: DESIGN / OPERATE	69 kV / 69 kV
5.	APPLICATION FOR CERTIFICATE:	N/A

Appendix C Property Agreements

Parcel ID	Agreement Type	Easement Obtained
095-112074-00.000	Customer Owned	Yes
093-106422-00.002	New Easement Agreement	No
095-112080-02.001	New Easement Agreement	No
093-107490-00.001	New Easement Agreement	No
093-107400-09.000	Customer Owned	Yes
035-10740-04.000	New Easement Agreement	No
035-107400-05.000	New Easement Agreement	No
035-107400-00.000	Customer Owned	Yes
035-106428-00.000	Customer Owned	Yes
093-107268-00.000	New Easement Agreement	No
035-106566-00.000	Customer Owned	Yes
035-106566-00.004	Customer Owned	Yes
094-107514-00.000	New Easement Agreement	No
094-106596-00.005	Company Owned	N/A

Appendix D SHPO Coordination

In reply, refer to
2022-LIC-55084

June 22, 2022

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

RE: Innovation Extension 138kV Transmission Line Project, Jersey Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received June 10, 2022 regarding the proposed Innovation Extension 138kV Transmission Line Project, Jersey Township, Licking 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 *Phase I Archaeological Investigations for the 3.5 km (2.2 mi) Innovation Extension 138kV Transmission Line Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2022).

A literature review, visual inspection, surface collection, shovel probe, and shovel test unit excavation was completed as part of the investigations. Five (5) previously identified archaeological sites is located within the project area, Ohio Archaeological Inventory (OAI) #33LI1208, 33LI2093, and 33LI2412-33LI2414. The sites were not reidentified during this survey. None of the sites were previously determined eligible for listing in the National Register of Historic Places (NRHP). No new archaeological was identified during survey. Our office agrees no additional archeological investigation is needed.

The history/architecture survey was submitted to our office on June 21, 2022. Our office will coordinate the results of that survey under a separate cover. If you have any questions, please contact me at (614) 298-2022, or by e-mail at khorrocks@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1093718

July 15, 2022

In reply, please refer to:
2022-LIC-55084

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

RE: History/Architecture Investigations for the 3.5 km (2.2 mi) Innovation Extension 138kV Transmission Line Project in Jersey Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to correspondence received on June 21, 2022. The comments of Ohio's State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and 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 *History/Architecture Investigations for the 3.5 km (2.2 mi) Innovation Extension 138kV Transmission Line Project in Jersey Township, Licking County, Ohio* by Weller & Associates, Inc. (2022).

A literature review and field survey were completed as part of the investigations. A total of nine (9) extant properties fifty years of age or older were identified within the Area of Potential Effects. It is Weller's recommendation that these properties are not eligible for listing in the National Register of Historic Places. Our office agrees with Weller's recommendations regarding eligibility. Therefore, we agree that there will be no effect on historic resources as a result of the project.

If you have any questions, please contact me at jwilliams@ohiohistory.org or (614) 298-2000. Thank you for your cooperation.

Sincerely,

Joy Williams

Joy Williams, Project Reviews Manager
Resource Protection and Review

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

RPR Serial No: 1083274

Appendix E Agency Correspondence

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

March 2, 2022

Brian Miller
AECOM
Foster Plaza 6
681 Andersen Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0097; AEP Innovation Extension 138kV Transmission Line

Project: The proposed project consists of the construction of a 2-mile 138kV transmission line between the newly proposed Innovation Station and tie-in to the existing Kirk-Jug 138k/345 kV transmission line.

Location: The proposed project is located in Jersey Township, Licking 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: A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state nature preserves, wildlife areas, parks or forests, national wildlife refuges, or other protected natural areas within the project area. 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.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*Range-wide Indiana Bat Survey Guidelines*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton 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 the 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

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

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat 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 least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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 US Fish & Wildlife Service.

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

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

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

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

Holmes, Joshua

From: Ohio, FW3 <ohio@fws.gov>
Sent: Thursday, February 10, 2022 2:14 PM
To: Holmes, Joshua
Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate
Subject: [EXTERNAL] AEP, Innovation Extensions 138kV Transmission Line Project, Licking 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

Project Code: 2022-0002500

Dear Mr. Holmes,

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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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 http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, 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

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

Appendix F Ecological Resources Inventory Report

INNOVATION EXTENSION 138KV TRANSMISSION LINE PROJECT AND PRELIMINARY ACCESS ROADS

LICKING COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Prepared by:

525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60661692

April 2022

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1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to construct a new 138 kV transmission line as part of the Innovation Extension 138kV Transmission Line and Preliminary Access Roads (Project) in Licking County, Ohio. The Project consists of constructing approximately 2-miles of a new 138kv transmission line located between the Proposed Innovation Station and tie-in to the Kirk-Jug 138/345kV transmission line as well as associated preliminary access roads connecting to the transmission line right-of-way (ROW). As the access roads are preliminary, changes to the access road locations as well as extra workspaces outside of the Study Areas will be provided within a future Addendum Report. The Study Area associated with this Report for the Project is located on Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

The purpose of the field survey was to assess the presence of wetlands and other "waters of the United States" (WOTUS) that occur along the proposed Project alignment. Secondarily, land uses were also recorded to classify and characterize potential habitat for rare, threatened, and endangered species. This report will be used to assist AEP Ohio Transco's efforts to identify potential WOTUS and rare, threatened, and endangered species habitat present along the proposed Project alignment to avoid or minimize impacts during construction activities.

2.0 METHODOLOGY

The field survey was conducted over a 200-foot survey area consisting of a 100-foot buffer on each side of the transmission centerline as well as a 50-foot area centered along preliminary proposed access roads, composing a Project survey area of approximately 72.93 acres. Prior to conducting field surveys, digital U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data, and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), FEMA 100-year floodplain data (FEMA), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

Field survey activities included recording the physical boundaries of observed water features using sub-meter capable EOS Arrow Global Positioning System (GPS) units in conjunction with ArcCollector application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System (GIS) software, where the data was reviewed, edited for accuracy, and compiled in a format suitable for transfer and use by AEP Ohio Transco. Water features were delineated and assessed based upon the appropriate procedures detailed below. Land uses observed within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetation cover of the location.

2.1 WETLAND DELINEATION

The Project survey area was evaluated according to the procedures outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (*1987 Manual*) (Environmental Laboratory, 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region* (*Version 2.0*) (*EMP Regional Supplement*) (USACE, 2012) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (MW Regional Supplement*) (USACE, 2010).

During field survey activities AECOM utilized the routine on-site delineation method described in the *1987 Manual* and *Regional Supplements* that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. If a wetland was identified, AECOM completed a USACE Wetland Determination Data form (USACE Data form) within each unique wetland habitat to serve as a representative of the wetland hydrology, vegetative community, and soil characteristics. Adjacent to each wetland complex, AECOM completed an additional USACE Data form as a representative of the upland community.

Additionally, USACE Data forms and representative photographs were also taken to represent upland communities where desktop review indicated the potential presence of an aquatic feature based on aerial imagery, two or less wetland criteria were observed, and/or an absence of an aquatic features was observed for areas mapped as an NWI and/or NHD feature.

2.1.1 WETLAND CLASSIFICATION

Wetlands identified in the field were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al*, 1979). The unique wetland habitats were classified as palustrine emergent (PEM), palustrine forested (PFO), palustrine unconsolidated bottom (PUB), palustrine scrub-shrub (PSS), or other classifications for some wetlands, multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation having 30% or greater coverage is listed.

2.1.2 WETLAND ASSESSMENT

Each delineated wetland was assessed following the Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) (Mack, 2001). Wetland assessments utilized the 10-page ORAM form, providing a final Category rating for each wetland.

2.2 STREAM ASSESSMENT

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines OHWM as “that 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, 2005).

2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT

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* (Rankin, 2006) and in the OEPA’s *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 mi2 (259ha), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the HHEI methodology and all other streams assessed as QHEI. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and by AECOM’s professional judgment.

Streams assessed in the Project survey area were reviewed for existing OEPA Aquatic Life Use Designations per OEPA’s Water Quality Standards (OAC Chapter 3745-1). Those without an existing use designation were assigned a provisional aquatic life use designation based upon habitat assessment results (Rankin, 1989; OEPA 2020).

2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state on the basis of whether it may be ineligible for coverage under Ohio EPA's 401 Water Quality Certification for Nationwide Permits. Mapping provided by OEPA illustrate the eligibility of streams in the area for a nationwide 401 permit. Three categories are identified: eligible, ineligible, and possibly eligible with additional field screening required. Impacts to streams within each watershed would then have eligibility for 401 Water Quality Certification determined by the watershed category. The three categories are defined as:

Eligible: Streams within the watershed are eligible for coverage under Ohio EPA's water quality certification for the nationwide permits if all other general and regional special terms and conditions are met.

Ineligible: Projects affecting high quality streams and undesignated streams draining directly to high quality streams, as represented in the map, must undergo an individual 401 Water Quality Certification review process.

Possibly Eligible: Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds that do not directly but eventually drain into high quality waters, might be eligible for coverage under Ohio EPA's 401 Water Quality Certification for Nationwide Permits depending on the results of a field screening assessment. The procedures for determining individual stream eligibility in this scenario are specified in Appendix D “Stream Eligibility Determination Process” of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

2.2.3 UPLAND DRAINAGE FEATURES

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OWHM (USACE, 2005), and are equivalent to a swale or an erosional feature as described by the USACE: “generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale” (USACE, 2007).

A roadside ditch may also be documented as a UDF if it meets the “not potentially jurisdictional” characterization as described in the Office of Environmental Services *Roadway Ditch Characterization Flowchart* (Ohio Department of Transportation, 2014). This would include a ditch that originates entirely within the roadway right-of-way, has a seasonal flow regime, was not constructed to drain a wetland, and does not have hydrophytic vegetation extending more than an insignificant amount beyond its original configuration.

In addition, UDF’s (including swales, ditches, and other erosional features) are generally not “waters of the U.S.” except in certain circumstances, such as relocated streams.

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered species review and general field habitat surveys within the Project survey area. AECOM submitted requests to Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received in March and February 2022, respectively (**Appendix D**). Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of assessing potential impacts to rare, threatened, and endangered species. Land uses within the Project survey area were assigned a general classification based upon the principal land characteristics and vegetative cover as observed during the field surveys.

AECOM conducted a desktop assessment of the Project survey area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project which is located in **Appendix D**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and United States Geological Survey websites

3.0 RESULTS

On December 6 thru 8, 2021, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. A reverification of features and survey of additional route adjustments were completed on March 23, 2022. Within the Project survey area, AECOM delineated 17 wetlands and 6 streams. Two ponds were identified within the study area. The delineated features are discussed in detail in the following sections.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

Soils in delineated wetlands were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Survey, eight soil series are mapped within the Project survey area (USDA NRCS 2021a and 2021b). Of these, four soil map units are identified as hydric, comprising approximately 28.1% of the mapped unit areas. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Project survey area. Soil map units located in the Project survey area and vicinity are shown on **Figure 2**.

TABLE 1 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT SURVEY AREA

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Amanda	AmD2	Amanda silt loam, 12 to 18 percent slopes, eroded	Knolls on till plains, valleys on till plains	No	N/A
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Drainageways, depressions	No	Condit 5% Pewamo, low carbonate till 3%
	BeB	Bennington silt loam, 2 to 6 percent slopes	Drainageways, depressions	No	Condit 3% Pewamo, low carbonate till 3%
Carlisle	Ca	Carlisle muck	Depressions	Yes	Carlisle 100%
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Drainageways, depressions	No	Condit 4% Marengo 3%
	Cen1C2	Centerburg silt loam, 6 to 12 percent slopes	Drainageways, depressions	No	Condit 4%
Condit	Cn	Condit silt loam, 0 to 1 percent slopes	End moraines, ground moraines	Yes	Condit 90% Pewamo 3% Condit, fine-loamy 3%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Condit 9% Pewamo, low carbonate till 85%
Shoals	Sh	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded	Flood plains	No	Sloan 8%
Westland	Ws	Westland silty clay loam	Flats on outwash terraces, depressions on outwash terraces	Yes	Westland 100%

NA = Not Applicable or Not Available

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area contains four mapped NWI wetlands. The locations of NWI mapped wetlands in the Project vicinity are shown on **Figure 2**. A summary of NWI-mapped wetlands occurring in the Project survey area and their associated field identified resources is presented in **Table 2**.

TABLE 2 - NWI DISPOSITION SUMMARY TABLE WITHIN THE PROJECT SURVEY AREA

NWI Code	NWI Description	Related Field Inventoried Resource (Wetland ID/Stream ID)	Comments
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	Stream 1and Stream 4	Perennial Stream within wooded area and extends on both sides of the study area
R5UBH	Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded	Stream 5 and Stream 6	Perennial Stream that extends past the east edge of Study area
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	Wetland 12	Aerial mapping and nearby photo point documented old field
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	Wetland 12	Aerial mapping and nearby photo point documented old field

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified 17 wetlands (nine PEM, two PSS, four PFO, one PEM/PFO, and one PEM/PSS complexes) within the Project survey area. Of these wetlands, eight were assigned ORAM Category 1 and nine were assigned as Category 2. No Category 3 wetlands were identified within the Project survey area. AECOM has given each wetland within the Project survey area a provisional determination of jurisdictional (non-isolated, i.e., WOTUS). Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. The locations and approximate extent of the wetlands identified within the Project survey area are shown on **Figure 3**. Details for each delineated wetland in the survey area are provided in **Table 3**. Completed USACE data forms and photographs of each wetland are provided in **Appendix A**.

Wetland 12 was identified within an active construction activity that permitted the removal of this wetland. Therefore, Wetland 12 will not be present during construction of the transmission line. The permits numbers/authorization associated with this activity completed by others are Ohio EPA ID No. 206872W / USACE#: LRH-2019-977-MUS- South Fork Licking River.

TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROJECTSURVEY AREA

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 01	40.087064	-82.727613	No	PEM	0.255	37.5	Modified 2	Str. 7 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 02	40.084834	-82.727699	No	PFO	0.149	42.5	Modified 2	Str. 8 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 03	40.083978	-82.727677	No	PSS	0.166	33.5	Modified 2	Str. 9 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 04a	40.082682	-82.726948	No	PEM	0.146	47.5	2	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 04b	40.082651	-82.726799	No	PFO	0.353	47.5	2	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 05	40.082341	-82.726586	No	PSS	0.241	45.0	2	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 06a	40.081965	-82.728173	No	PSS	0.452	44.0	Modified 2	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 06b	40.082179	-82.727279	No	PEM	0.137	44.0	Modified 2	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 07	40.081397	-82.728078	No	PEM	0.084	23.0	1	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 08	40.081430	-82.728700	No	PEM	0.188	23.0	1	Str. 10 / Str. 11 (Proposed)	None	None	Concrete Foundation	<0.01	0
Wetland 09	40.081326	-82.729661	No	PEM	0.183	15.0	1	Str. 11 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 10	40.081521	-82.733829	No	PEM	0.022	15.0	1	Str. 12/13 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 11	40.081534	-82.734558	No	PEM	0.019	39.0	1	Str. 13 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 12	40.076619	-82.737872	No	PEM	2.221	46.5	2	Str.17 (Proposed)	None	Str.17	Concrete Foundation	Disturbed by Others*	Disturbed by Others*
Wetland 13	40.073084	-82.737153	No	PFO	0.061	37.0	Modified 2	Str. 19 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 14	40.082181	-82.728389	No	PFO	0.994	57.5	2	Str. 9 / Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 15	40.081278	-82.726424	No	PEM	0.013	12.0	1	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 16	40.081294	-82.727263	No	PEM	0.052	17.0	1	Str. 10 (Proposed)	None	None	Concrete Foundation	0	0
Wetland 17	40.081415	-82.737044	No	PEM	0.018	20.0	1	Str. 14 (Proposed)	None	None	Concrete Foundation	0	0
Total:					**5.753**							**<0.01**	**0.000**

*__Disturbed by Others__: Wetland 12 was identified within an active construction activity that permitted the removal of Wetland 12. Therefore, Wetland 12 will not be present during construction of the transmission line. The permits numbers/authorization associated with this activity completed by others are Ohio EPA ID No. 206872W / USACE#: LRH-2019-977-MUS- South Fork Licking River.

3.2 STREAM DELINEATION

During the field survey, AECOM delineated six streams (three intermittent and three perennial) within the Project survey area. HHEI evaluations were conducted on 3 intermittent streams, two assigned as Class II and one as Class III. Additionally, three perennial streams have an existing OEPA Aquatic Life Use Designation (OAC-3745-1), which overrules any provisional classification based upon field habitat assessment results. Therefore, no QHEI evaluations were completed within the Project survey area.

AECOM has provided a provisional determination that all delineated streams within the Project survey area appear to be jurisdictional (i.e., WOTUS), based on their observed or presumed confluence with downstream waters. Final jurisdictional status can only be determined by the USACE and AECOM assessments are provisional. A summary of the delineated features is provided in **Table 4**. Stream data forms and photographs of each delineated stream resource are provided in **Appendix B**.

3.2.1 OEPA STREAM ELIGIBILITY

OEPA stream eligibility for 401 Water Quality Certification mapping was reviewed for all of the delineated streams. The Project occurs across two watersheds, designated by 401 WQC eligibility, as listed in Table 5. These watersheds are listed as “eligible” and “possibly eligible”. OEPA stream eligibility mapping for the Project vicinity, is provided on **Figure 4**.

3.3 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2** and no regulated FEMA 100-year floodplains and/or floodways are located within the Project area.

TABLE 4 - SUMMARY OF DELINEATED STREAMS WITHIN THE PROJECT SURVEY AREA

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Classification / Rating / OAC Designation			Fill Type	Length (LF)
Stream 01	40.082510	-82.726740	Perennial	South Fork Licking River	1,092	32.0	28.0	Chapter 3745-1	N/A	WWH	Eligible	No	None	0
Stream 02	40.082050	-82.726680	Intermittent	UNT to South Fork Licking River	103	2.7	2.0	HHEI	51	Class II	Eligible	No	None	0
Stream 03	40.08182	-82.72887	Intermittent	UNT to South Fork Licking River	143	3.7	2.9	HHEI	55	Class II	Eligible	No	None	0
Stream 04	40.081730	-82.734420	Perennial	South Fork Licking River	271	29.7	19.6	Chapter 3745-1	N/A	WWH	Eligible	No	None	0
Stream 05	40.081820	-82.736950	Intermittent	UNT to South Fork Licking River	341	15.2	8.5	HHEI	79	Class III	Eligible	Yes - Air Bridge	None	0.003
Stream 06	40.074470	-82.736900	Perennial	South Fork Licking River	190	12.0	10.0	Chapter 3745-1	N/A	WWH	Eligible	No	None	0
Total:					**2,140**									**0.003**

TABLE 5- SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE PROJECTSURVEY AREA

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050400060402	Headwaters South Fork Licking River	Eligible	6
050400060401	Headwaters Blacklick Creek	Possibly Eligible	0
		Total	**6**

3.4 PONDS

Two ponds were observed within the Project survey area. Photographs of the delineated ponds are provided in **Appendix C**.

3.5 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of woody and herbaceous lands, as described in **Table 6**, below, are present within the Project survey area, including old field, scrub-shrub, agricultural land, pasture/hay fields, residential landscaped areas, stream/wetland areas, and urban areas. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**.

TABLE 6- VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Agricultural	Agricultural lands being utilized for row-crop production and associated activities, typically devoid of vegetation outside of the target crop and opportunistic/invasive species.	5.78	7.9
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey area and adjacent areas are frequently mowed grasses and forbs.	11.16	15.3
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey area of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study areas and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	9.09	12.5
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with a few woody species, to a community dominated by forest herbs and woody species.	14.9	20.4
Successional Hardwood Woodlands	Successional mixed hardwood woodlands are present along the Project survey area. Woody species dominating these areas ranged between 2-6” DBH and included red elm (Ulmus rubra), white ash (Fraxinus americana), black maple (Acer negundo), black cherry (Prunus serotina), and quaking aspen (Populus tremuloides). The dominant shrub-layer species included Morrow's honeysuckle (Lonicera morrowii), black cherry (Prunus serotina), multiflora rose (Rosa multiflora) and blackberry (Rubus occidentalis).	2.10	2.9
Streams/Wetlands/Ponds	Streams and wetlands were observed both within and beyond the survey area for the Project.	7.17	9.8%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	22.73	31.2%
Totals:		**72.93**	**100%**

3.6 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

AECOM conducted a rare, threatened, and endangered species review for areas within the Project survey area. A summary of the agency coordination is provided below. Correspondence letters from the USFWS and ODNR for the Innovation Extension 138kV transmission line and preliminary access roads are included as **Appendix D**. **Table 7** provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project area is provided as **Appendix C**.

TABLE 7
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Mammals							
Indiana Bat (*Myotis sodalis*)	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low-density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	<u>Summer habitat</u> **Yes** - Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. <u>Hibernaculum(a)</u> **No** – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See **Appendix E**.	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS and ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination would be required with both ODNR and USFWS. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. If implementation of seasonal tree clearing is not possible, the USFWS and ODNR recommends presence/absences surveys be conducted between June 1 and August 15, prior to any cutting. In accordance with the *2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)* (copy of guidance provided as **Attachment D**) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, *2022 Joint Guidance* provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	<u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing between October 1 and March 31 is recommended. If seasonal tree clearing cannot be completed, additional coordination including roost/emergence surveys, mist net surveys, and/or other presence absence surveys may be warranted to be completed between June 1 and August 15. <u>Hibernaculum(a)</u> No potential hibernaculum(a) is present within the Project area and no further coordination is warranted.

TABLE 7
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Northern Long-eared Bat (*Myotis septentrionalis*)	Threatened	Threatened	Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel, and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forest and woodlots containing potential roosts (i.e., live trees and/or snags ≥ 3-inches dbh that have any exfoliating bark, cracks, crevices, hollows, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet 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 structure should also be considered potential summer habitat. In the winter, northern long-eared bats hibernate in caves and abandoned mines.	<u>Summer habitat</u> **Yes** - Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. ODNR commented known records for species within Project area. <u>Hibernaculum(a)</u> **No** – No Mines openings and/or known caves are located within 0.25 miles of Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See **Appendix E**.	<u>Summer Tree Clearing</u> April 1 – September 30	The USFWS and ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination would be required with both ODNR and USFWS. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. The ODNR commented that the Project is within the vicinity of known records of this species. Therefore, summer tree cutting is not recommended and additional summer surveys would not constitute a presence/absence in the area. However, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, *2022 Joint Guidance* provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	<u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing between October 1 and March 31 is recommended. If summer tree cutting is required, additional summer surveys would not constitute presence/absence due to know presence of this species. Additional consultation with the ODNR for permission for limited summer tree cutting is recommended and roosts/emergent surveys may be required. <u>Hibernaculum(a)</u> No potential hibernacula are present within the Project area and no further coordination is warranted.

TABLE 7
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Little brown bat (*Myotis lucifugus*)	Endangered	NA	The little brown bat shares similar habitat requirements as other Myotis species including the Indiana bat and northern long-eared bat. This species may roost in trees, attics, or other man-made structures during the summer season. In winter, they may hibernate in caves, mines, or man-made structures with appropriate temperature regimes.	Summer habitat **Yes** - Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) **No** – No Mines openings and/or known caves are located within 0.25 miles of Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See **Appendix E**.	Summer Tree Clearing April 1 – September 30	The ODNR stated that the entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the ODNR. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, ODNR recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species. If implementation of seasonal tree clearing is not possible, the ODNR recommends presence/absences surveys be conducted between June 1 and August 15, prior to any cutting. In accordance with the *2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)* (copy of guidance provided as **Attachment D**) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, *2022 Joint Guidance* provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing between October 1 and March 31 is recommended. If seasonal tree clearing cannot be completed, additional coordination including roost/emergence surveys, mist net surveys, and/or other presence absence surveys may be warranted to be completed between June 1 and August 15. Hibernaculum(a) No potential hibernaculum(a) is present within the Project area and no further coordination is warranted.
Tricolored bat (*Perimyotis subflavus*)	Endangered	NA	The tricolored bat primarily roosts in trees during the summer months. During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat **Yes** - Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat. Hibernaculum(a) **No** – No Mines openings and/or known caves are located within 0.25 miles of Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See **Appendix E**.	Summer Tree Clearing April 1 – September 30	The entire state of Ohio is within range of this species. Therefore, the ODNR recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the ODNR. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, the ODNR recommend the clearing of trees between October 1 and March 31 in order to avoid adverse effect to this species. If implementation of seasonal tree clearing is not possible, the ODNR recommends presence/absences surveys be conducted between June 1 and August 15, prior to any cutting. In accordance with the *2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)* (copy of guidance provided as **Attachment D**) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches. ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR 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 the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species. Furthermore, *2022 Joint Guidance* provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing between October 1 and March 31 is recommended. If seasonal tree clearing cannot be completed, additional coordination including roost/emergence surveys, mist net surveys, and/or other presence absence surveys may be warranted to be completed between June 1 and August 15. Hibernaculum(a) No potential hibernaculum(a) is present within the Project area and no further coordination is warranted.

TABLE 7
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Mussels							
Fawnsfoot (*Truncilla donaciformis*)	Threatened	None	This species can be found in medium to large rivers at depths between less than three feet to 18 feet. It prefers sand or mud substrates. It is also adapted to lakes and embankments.	**No** - potentially suitable habitat was observed within the Project survey area	N/A	ODNR stated that 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.	No potentially suitable habitat was observed within the Project survey area. No impacts to mussel species and their habitat are anticipated.
Fish							
Lake chubsucker *(Erimyzon sucetta)*	Threatened	None	This species is found mainly in lakes, ponds, swamps, and streams**.**	**Yes**, streams and ponds are present, but no-in water work is anticipated	N/A	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 this or other aquatic species	No work in-stream or water is proposed; no further coordination required.
Reptiles							
Eastern massasauga (*Sisrurus catenatus*)	Endangered	None	This species utilizes a range of habitat including wet prairies, fens, and other wetlands, as well as drier uplands.	**No** potentially suitable habitat was observed for this species	N/A	ODNR stated that due to the location and type of habitat within the project area, and the type of work proposed the project is not likely to impact this species.	No potentially suitable habitat was observed within the Project survey area.
Birds							
Upland Sandpiper (*Bartramia longicauda)*	Endangered	None	This species utilizes dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and sometimes the grassy extensions of airports.	**No** potentially suitable habitat was observed for this species. See **Appendix F**	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 15 through July 31. ODNR concurred with absence of habitat present within the Project area (See Appendix F).	No potentially suitable habitat was observed within the Project survey area.
Least bittern *(Ixobrychus exilis)*	Threatened	None	Dense emergent wetlands with dense, tall growths of aquatic or semi aquatic vegetation interspersed with clumps of woody vegetation and open water.	**No** potentially suitable habitat was observed for this species. See **Appendix F**	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of May 1 through July 31. ODNR concurred with absence of habitat present within the Project area (See Appendix F).	No potentially suitable habitat was observed within the Project survey area.
Northern harrier (*Circus hudsonius*)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	**No** potentially suitable habitat was observed for this species. See **Appendix F**	N/A	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 15 to July 31. ODNR concurred with absence of habitat present within the Project area (See Appendix F).	No potentially suitable habitat was observed within the Project survey area.

ODNR Coordination –

Coordination with the ODNR was initiated during the planning stages of the Project to obtain records of protected species located in the vicinity of the Project. On March 2, 2022, the ODNR Office of Real Estate Environmental Review Section replied to a request for records of protected species within an extended area around the Project site. The Ohio Natural Heritage Database (ONHD) review found no records of state-protected species or state protected resource areas at or within a one-mile radius of the Project survey area.

The ODNR Division of Wildlife (DOW) recommended 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. In addition, the DOW listed multiple state-listed species with known ranges crossed by the Project survey area, including:

- Four mammal species: Indiana bat, northern long-eared bat, little brown bat and tricolored bat;
- One mussel species: Fawnsfoot;
- One fish species: lake chubsucker;
- One reptile: eastern massasauga
- Three bird species: least bittern, northern harrier, and upland sandpiper.

Potentially suitable summer habitat for the four bats were identified in the Project survey area and one of the four listed bat species, northern long-eared bat, was identified by the ODNR as a known presence within the Project survey area. Therefore, the ODNR recommends tree clearing activities to occur between October 1 and March 31. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, little brown bat, and the tricolored bat between June 1 and August 15 to confirm presence/absence. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. Therefore, limited tree clearing activities could be permitted upon completion and coordination of results of emergent and/or roost tree surveys with the ODNR. Regarding potential hibernaculum(a) within the Project area, a desktop hibernaculum(a) review was completed in accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) and no known karst, mines, and/or caves were identified within 0.25 miles of the Project survey area during the desktop analysis and no caves or mines were identified during the ecological survey.

The DOW noted that the Project is within the range of the northern harrier, least bittern and upland sand piper. Based on the habitat assessment and concurrence from the ODNR, no suitable nesting habitat is present within the Project area (See **Appendix F**).

Due to the absence of in-stream work proposed, the Project is not likely to impact either lake chubsucker or fawnsfoot. Furthermore, one reptile, eastern massasauga, was identified by the ODNR as being within range

of the Project. However, the ODNR committed that due to the location, the type of habitat presents within the project area, and the type of work proposed, this project is not likely to impact this species.

USFWS Coordination –

Coordination with the USFWS was also initiated during the planning stages of the Project to obtain technical assistance regarding federally listed species that may occur within the Project area. The USFWS responded on February 10, 2022, noting that the Project lies within the range of the federally endangered Indiana bat and the federally threatened northern long-eared bat. USFWS recommends that trees ≥3 inches dbh, be saved wherever possible. If no caves or abandoned mines are present and trees ≥3 inches cannot be avoided, USFWS recommends that tree removal occur between October 1 and March 31 to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months.

4.0 SUMMARY

The ecological survey of the Project survey area identified a total of 17 wetlands, six streams and two ponds. The wetlands within the Project survey area included nine PEM, two PSS, four PFO, one PEM/PSS complex, and one PEM/PFO complex. Eight wetlands were identified as Category 1 wetlands and nine wetlands were identified as Category 2 wetlands. One of the wetlands, Wetland 12, was identified within a development by others and is permitted to be removed prior to construction of the transmission line. Furthermore, six streams (three intermittent and three perennial) were identified within the Project survey area. HHEI assessments were conducted on three streams, while three streams have an existing OEPA aquatic life use designation. AECOM has preliminary determined that the assessed streams within the Project survey area appear to be jurisdictional (i.e., WOTUS).

Of the ten state and/or federal listed threatened or endangered species within range of the Project survey area, four bat species were identified as displaying summer roosting habitat and no hibernacula was identified within 0.25 miles of the Project survey area. Due to presence of summer roosting habitat for these bat species, it was recommended by the ODNR and USFWS to complete seasonal tree clearing activities between October 1st and March 31st. If seasonal tree clearing cannot be completed, mist net surveys could be completed for Indiana bat, little brown bat, and/or tricolored bat between April 1 to September 30. However, northern long eared bat is known to occur within the Project area and additional mist net surveys would not constitute presence/absence for this species. Therefore, limited summer tree cutting inside of the know buffer for this species could be permitted by further coordinating results of emergent and/or roost surveys with the ODNR. No habitats for the other six listed species were identified within the Project survey area or will be avoided by construction activities.

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; therefore, lengths and acreages listed in this report may not

constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

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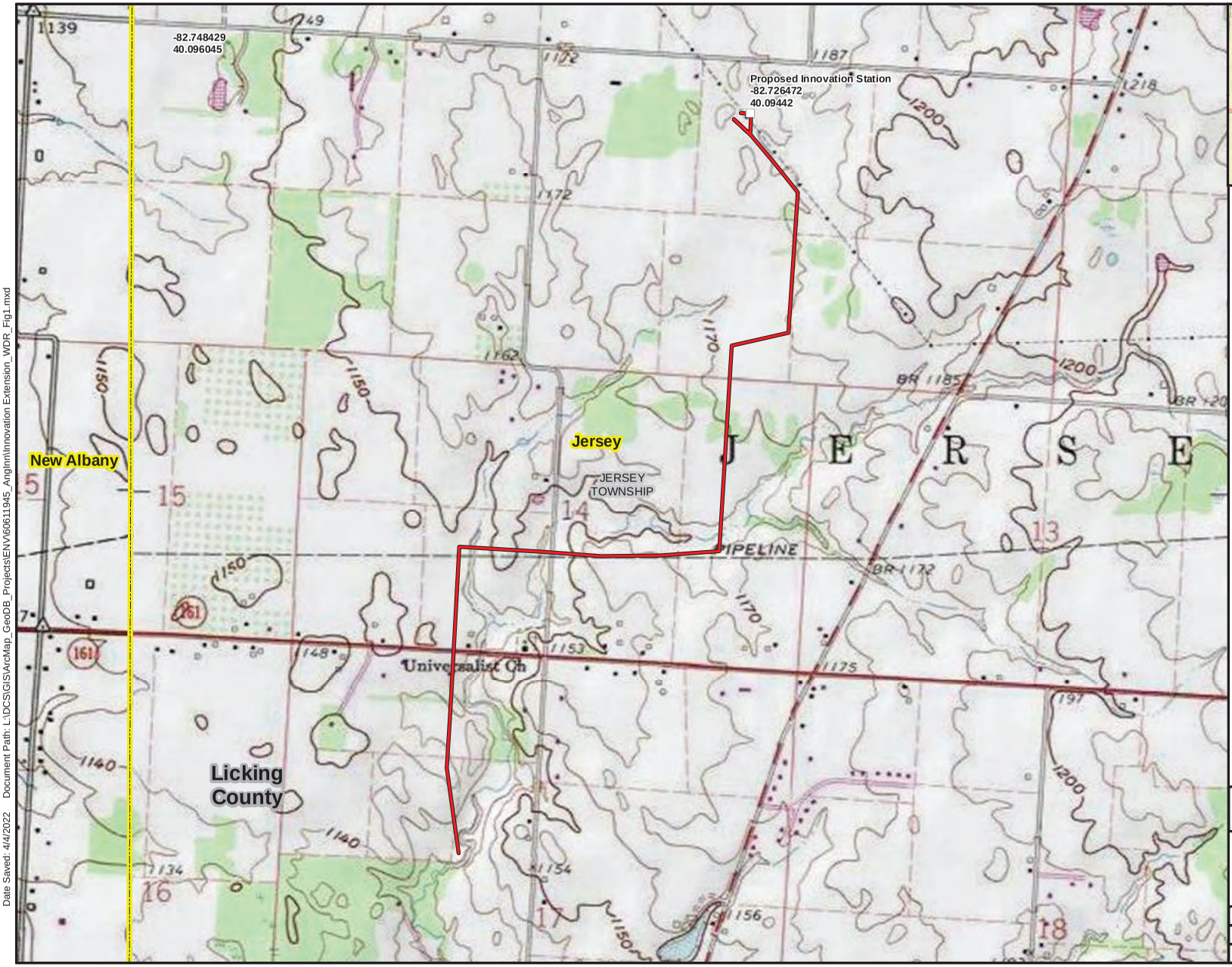

Legend

- Proposed Innovation Station
- Proposed Innovation Extension 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary

N

0 500 1,000 2,000

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 1
PROJECT OVERVIEW

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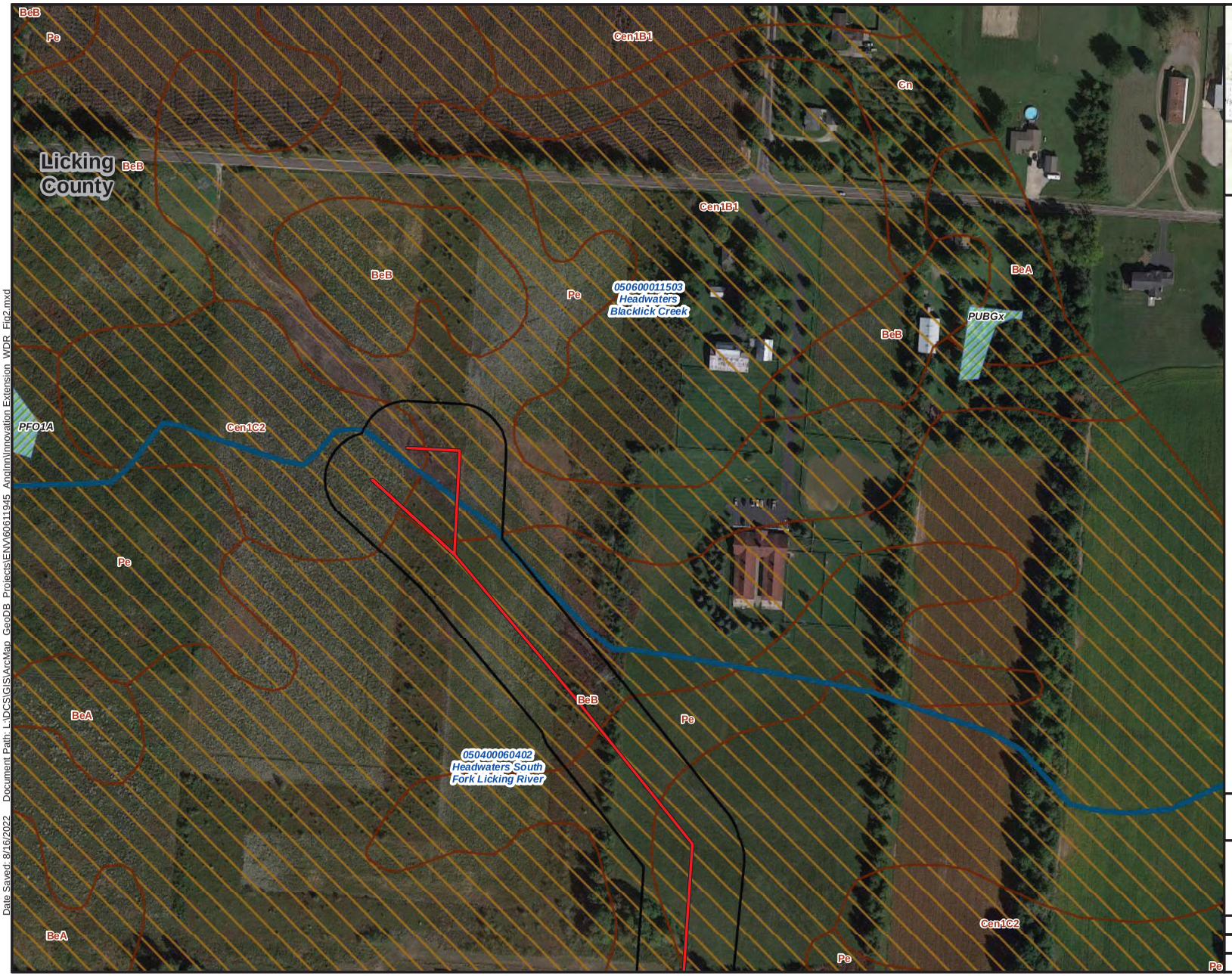

Legend

- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2A
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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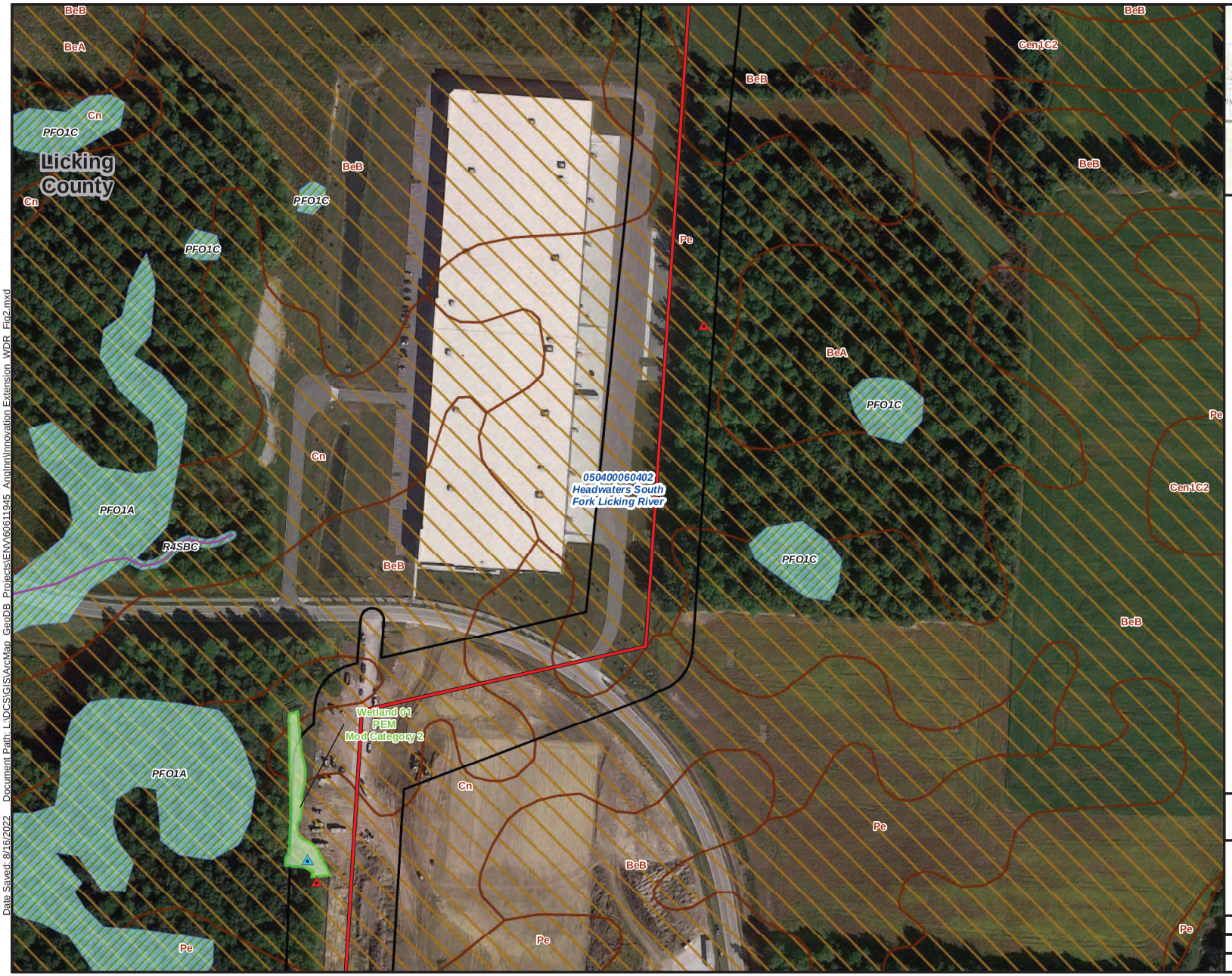

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2B
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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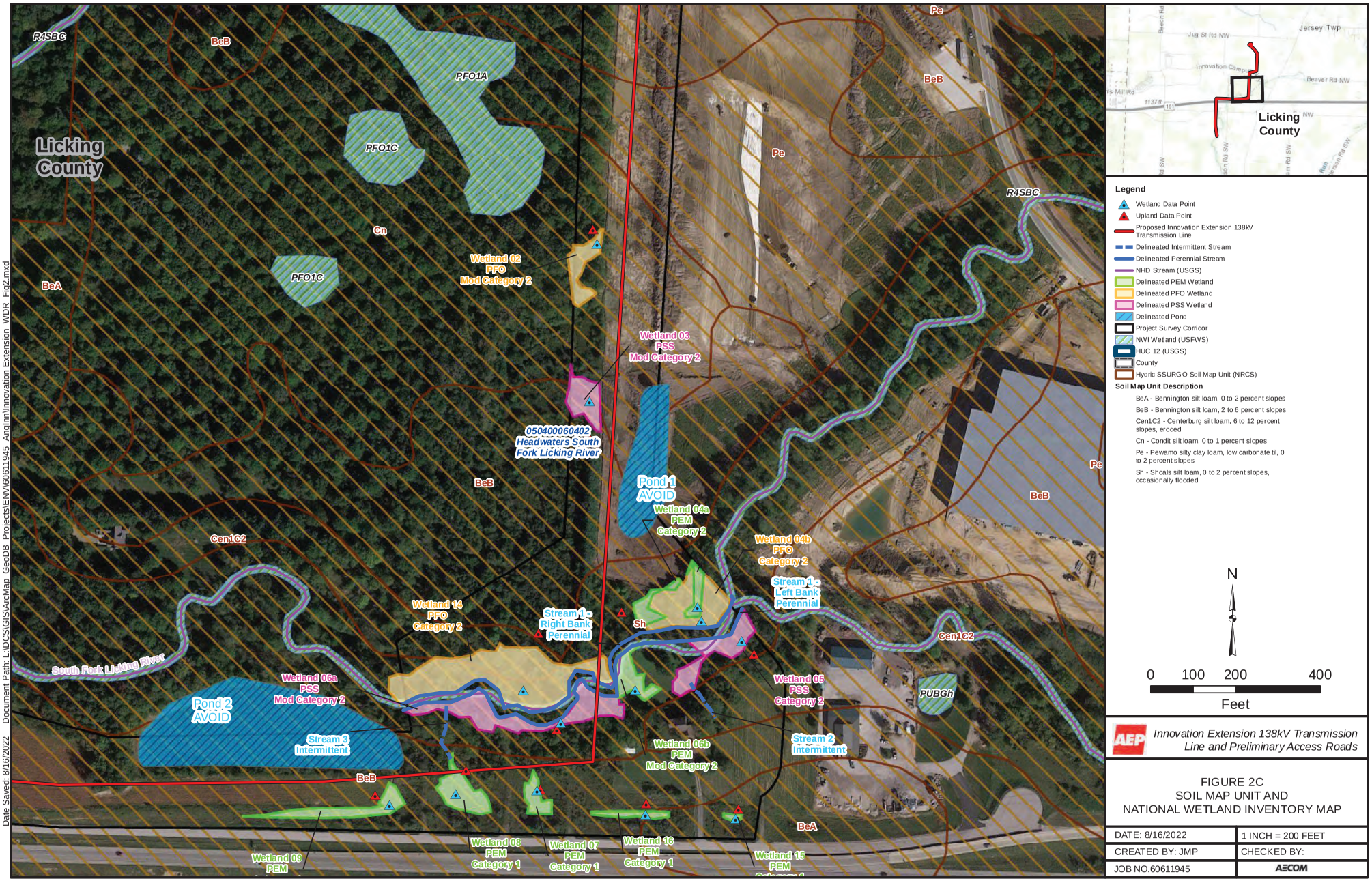

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2C
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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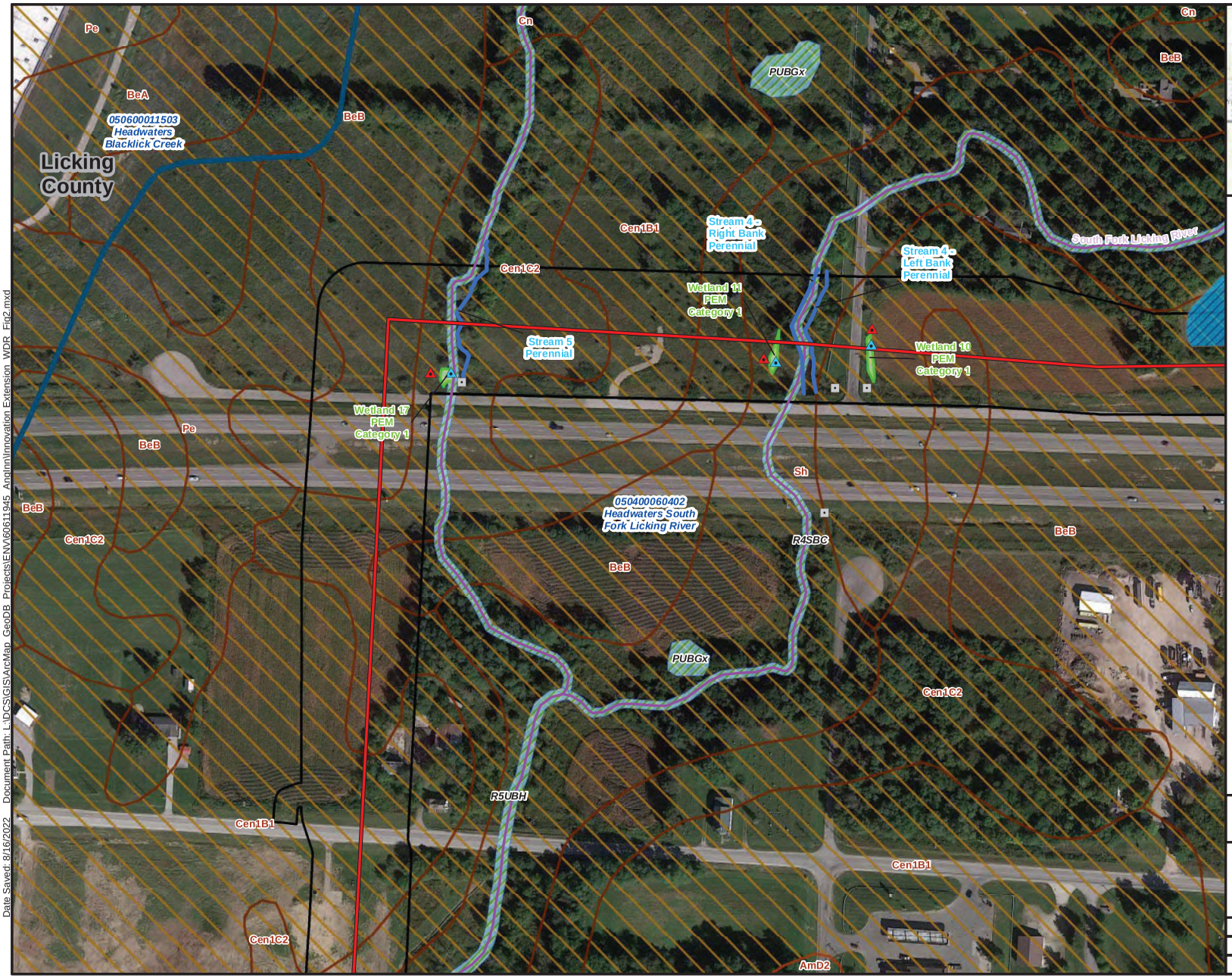

Legend

- Culvert
- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated Pond
- Project Survey Corridor
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- AmD2 -Amanda silt loam, 12 to 18 percent slopes, eroded
- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2D
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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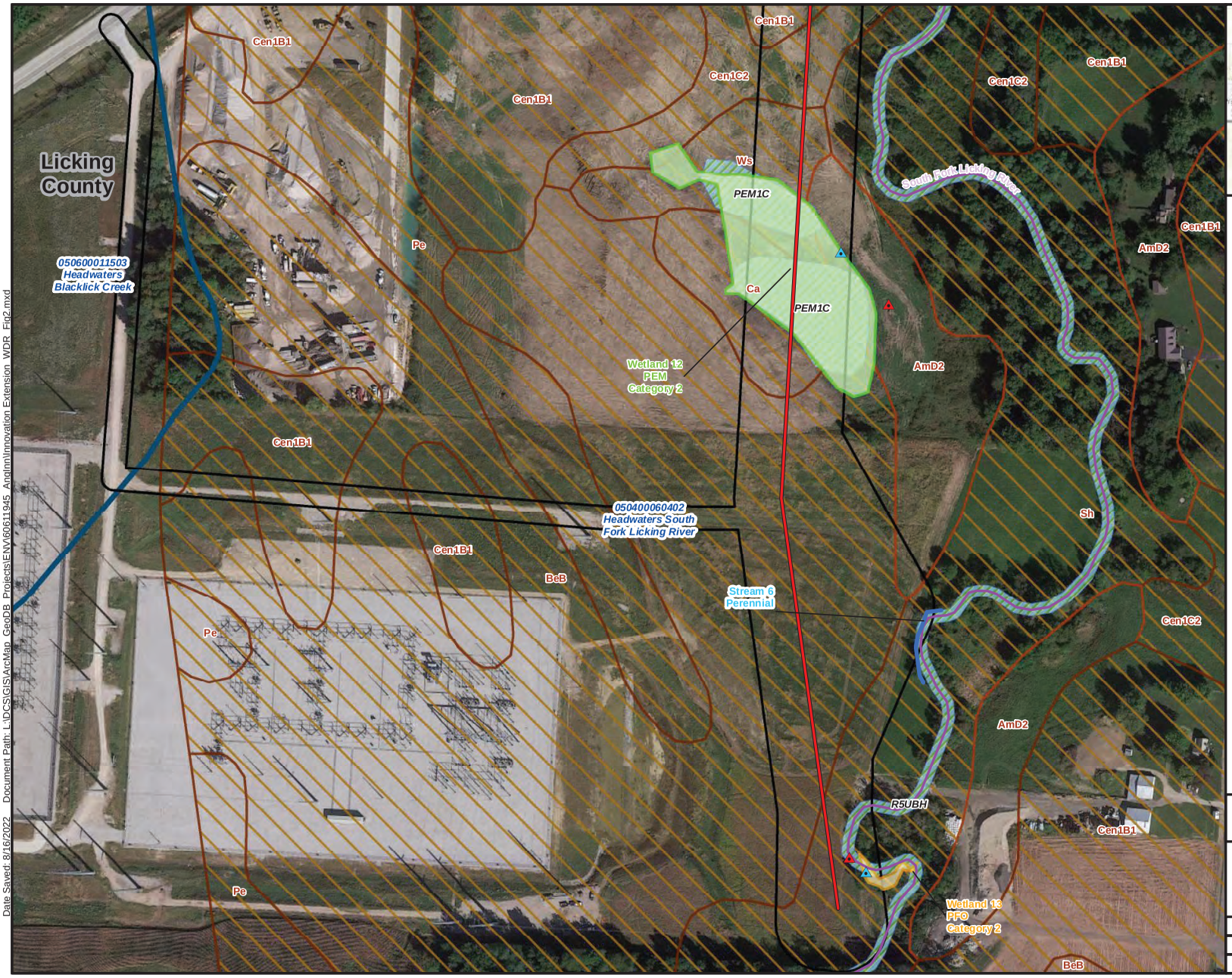

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PFO Wetland
- Project Survey Corridor
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- AmD2 -Amanda silt loam, 12 to 18 percent slopes, eroded
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Ca - Carlisle Muck
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded
- Ws - Westland silt clay loam

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2E
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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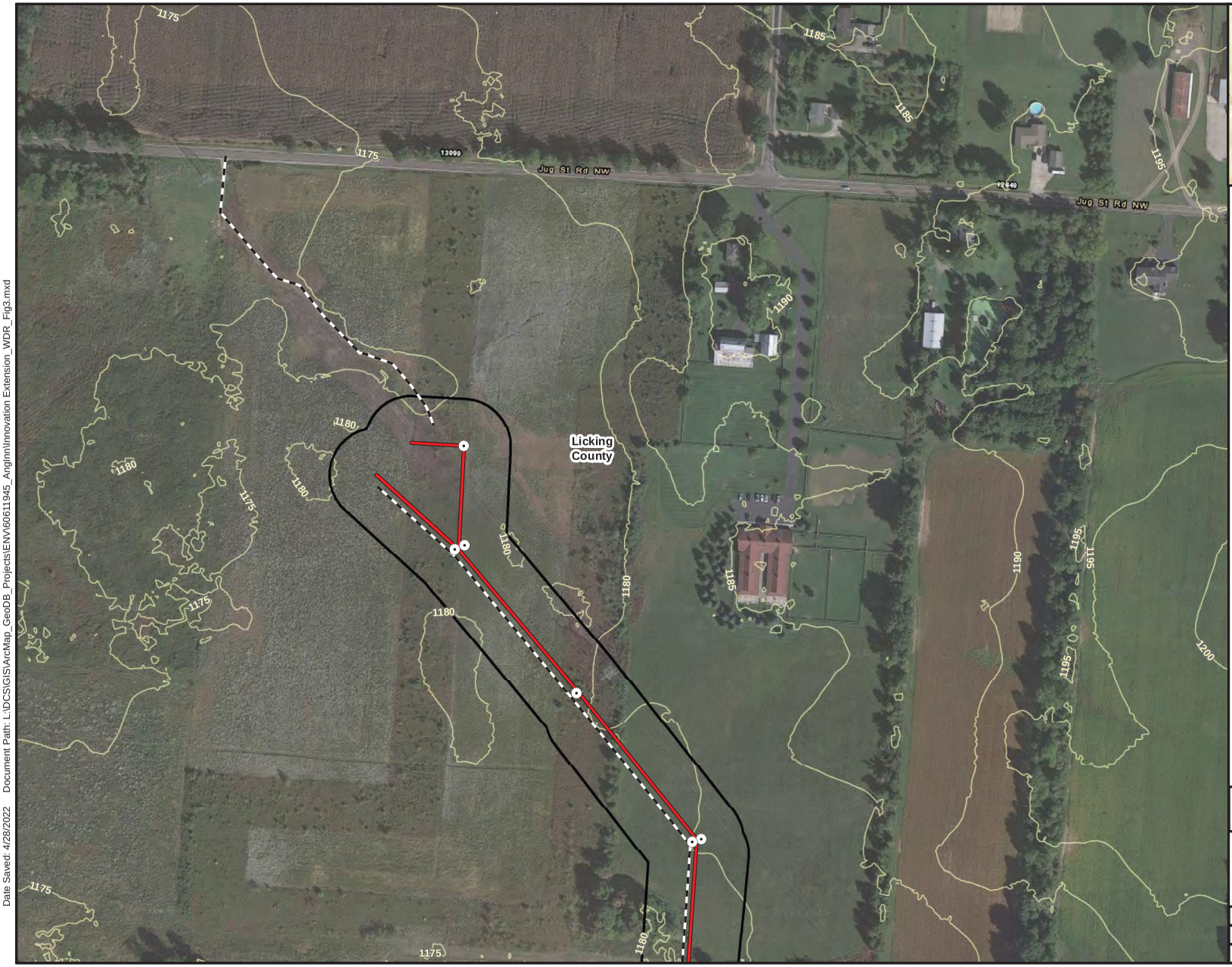

Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Proposed Access Route
- Contour (5-Ft)
- Project Survey Corridor

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3A
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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Legend

- Photo Location
- Wetland Data Point
- Upland Data Point
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Proposed Access Route
- Contour (5-Ft)
- NHD Stream (USGS)
- Delineated PEM Wetland
- Project Survey Corridor

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3B
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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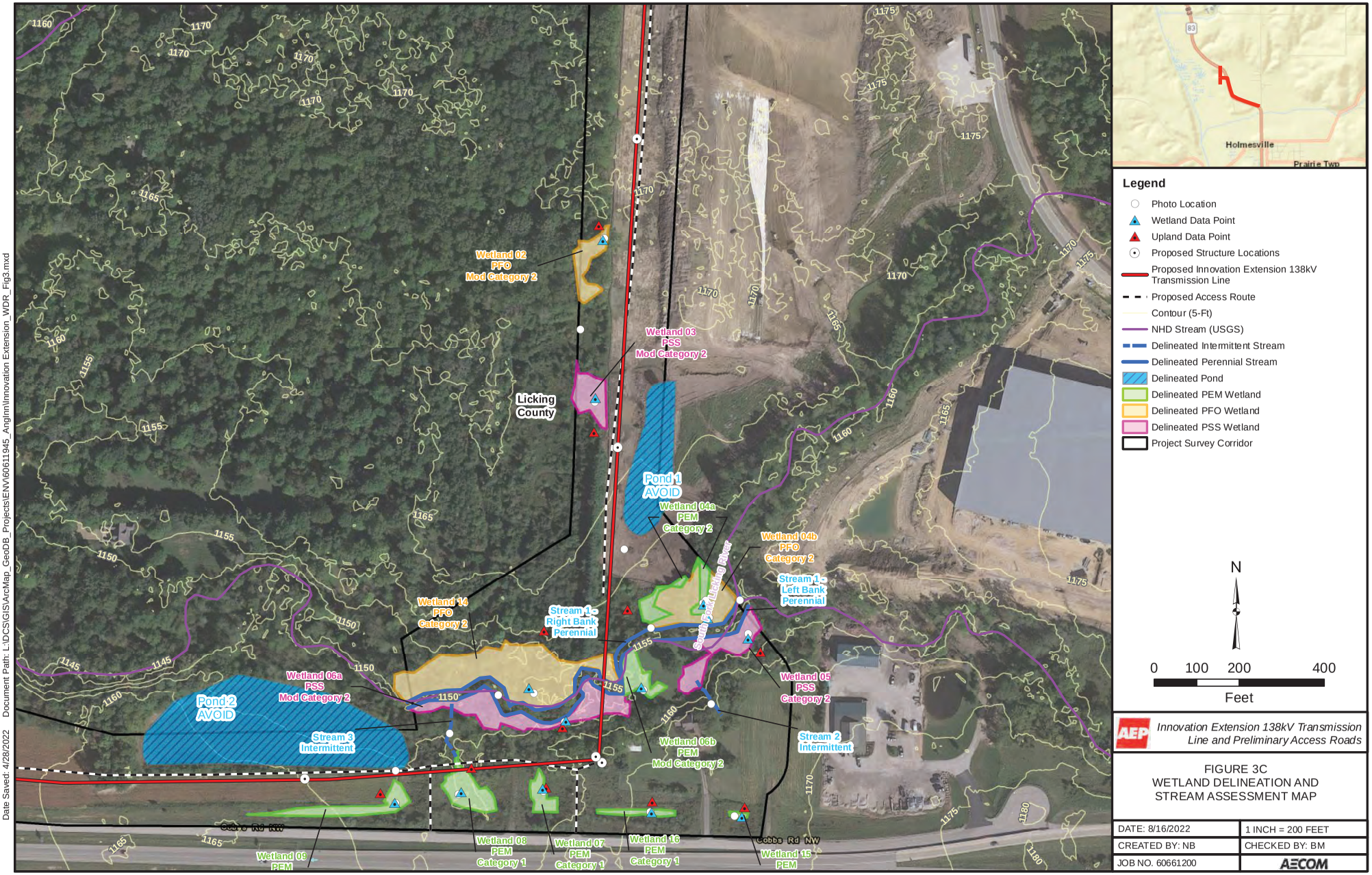

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Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3C
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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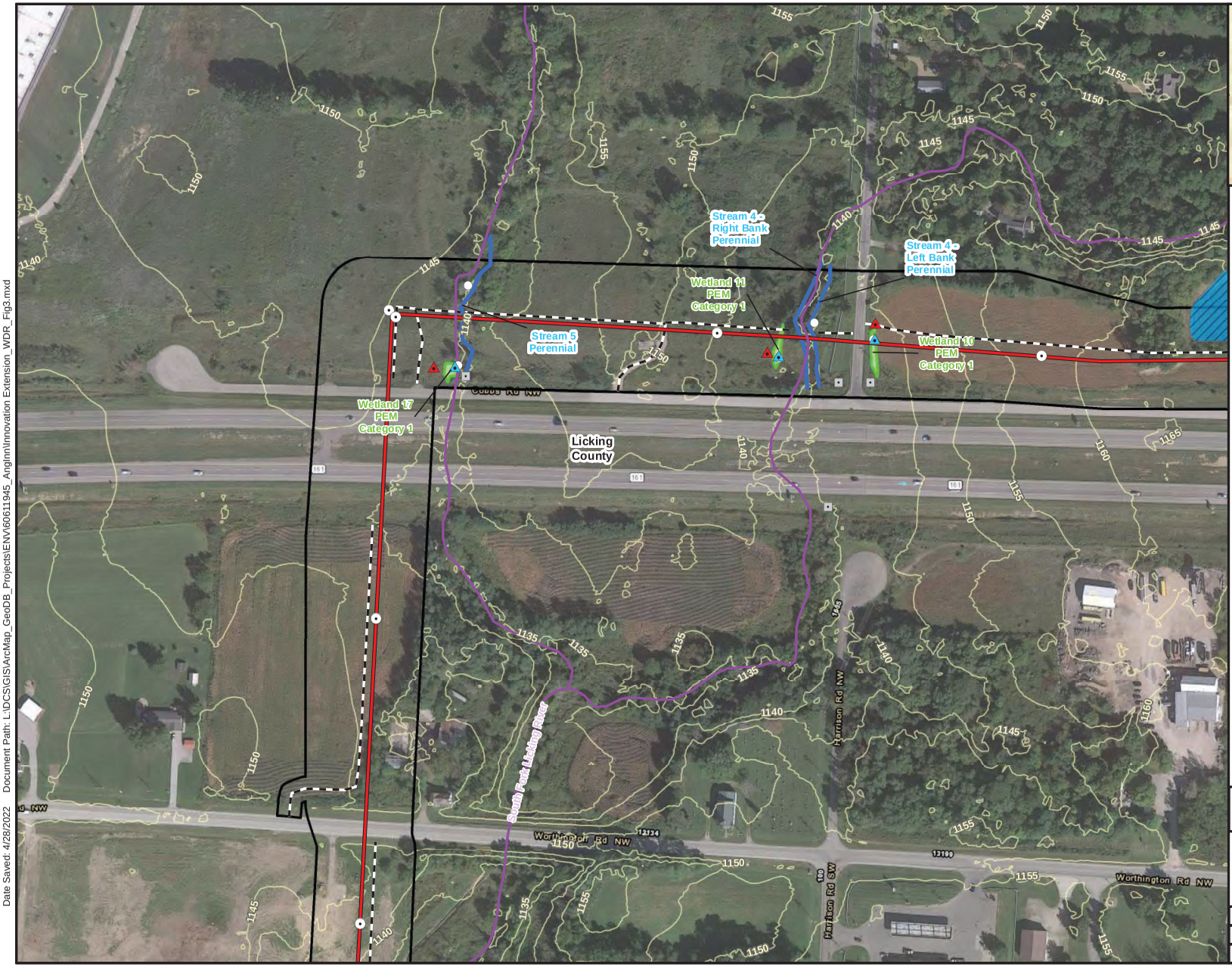

Legend

- Photo Location
- Culvert
- Wetland Data Point
- Upland Data Point
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Proposed Access Route
- Contour (5-Ft)
- NHD Stream (USGS)
- Delineated Perennial Stream
- Delineated Pond
- Delineated PEM Wetland
- Project Survey Corridor

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3D
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

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Legend

- Photo Location
- Wetland Data Point
- Upland Data Point
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Proposed Access Route
- Contour (5-Ft)
- NHD Stream (USGS)
- Delineated Perennial Stream
- Delineated PEM Wetland
- Delineated PFO Wetland
- Project Survey Corridor

N

0 100 200 400

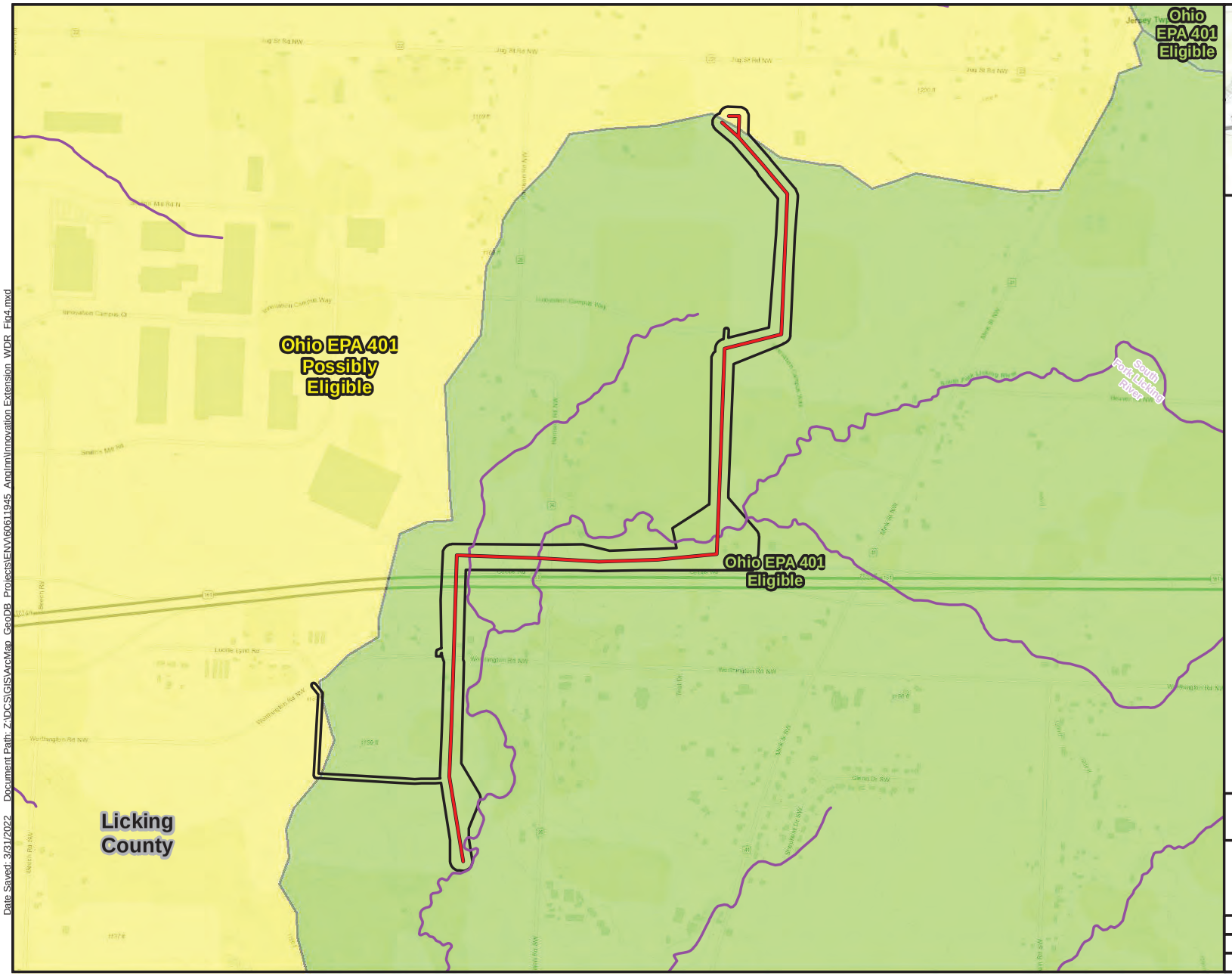
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3E
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: NB	CHECKED BY: BM
JOB NO. 60661200	AECOM

Date Saved: 4/28/2022 Document Path: L:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60611945_AnglnnInnovation Extension_WDR_Fig3.mxd



Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- Project Survey Corridor

OEPA Stream Eligibility:

- Eligible
- Possibly Eligible
- County

N

0 500 1,000 2,000

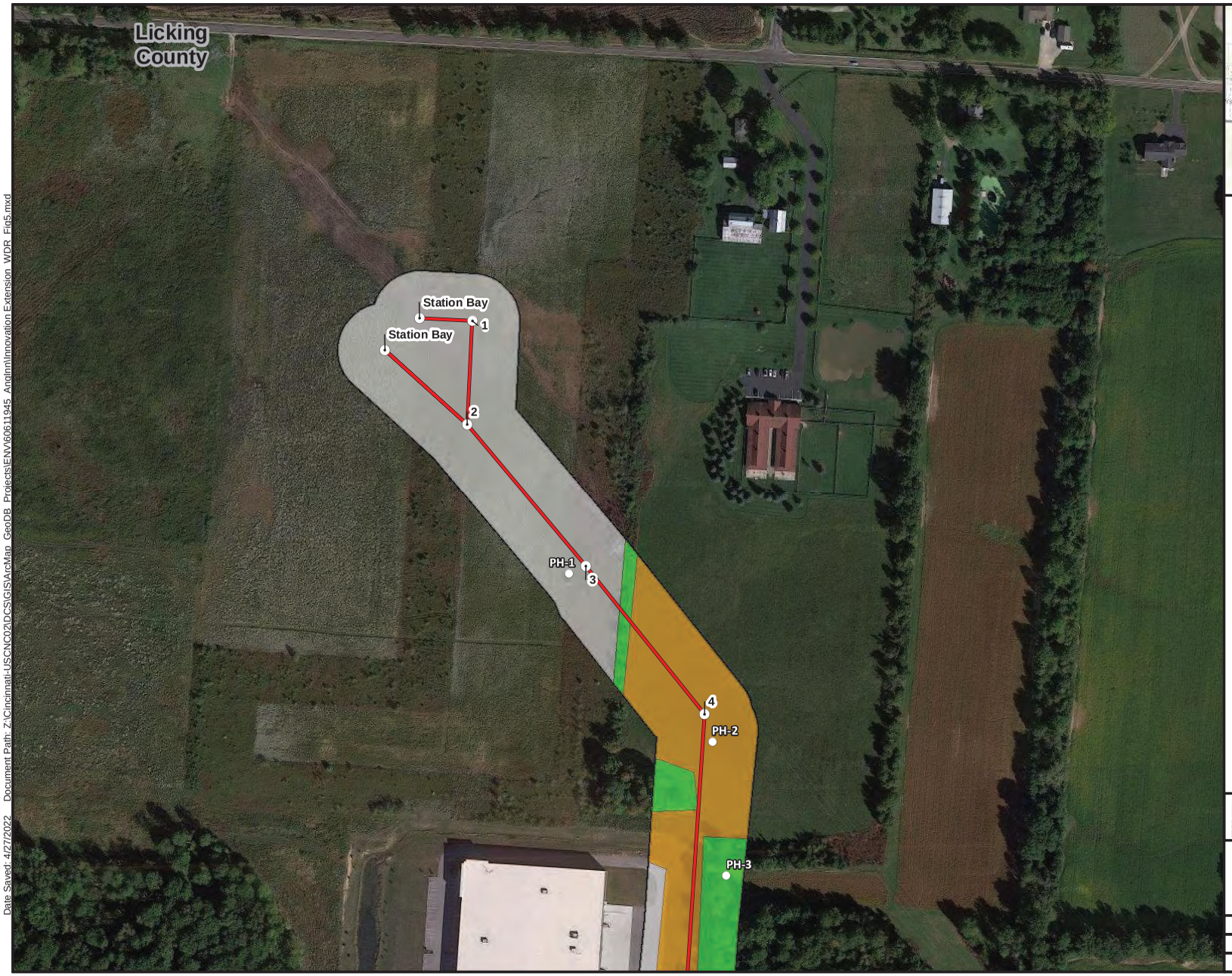
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4
STREAM ELIGIBILITY MAP

DATE: 3/31/2022	1 INCH = 1,000 FEET
CREATED BY: JMP	CHECKED BY:
JOB NO. 60611945	AECOM

Date Saved: 3/31/2022 Document Path: Z:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anp\Inn\Innovation Extension WDR Fig4.mxd



Legend

- Appendix C - Photograph Locations
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor

Vegetation Community Type

- Forested
- Landscaped Areas
- Urban

N

0 100 200 400

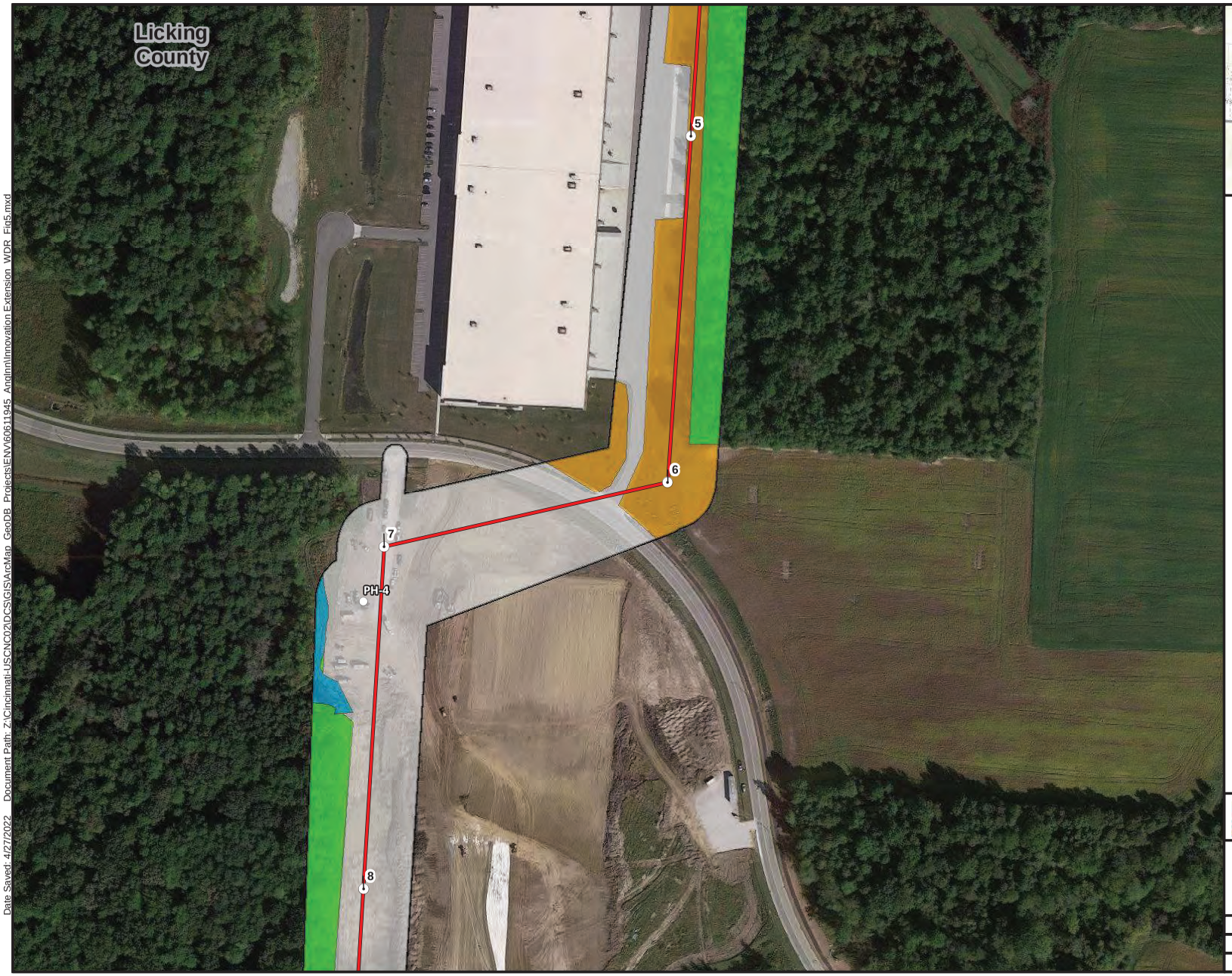
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5A
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: JMP	CHECKED BY: NB
JOB NO.60611945	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AndInn\Innovation Extension WDR Fig5.mxd



Legend

- Appendix C - Photograph Locations
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor

Vegetation Community Type

- Forested
- Landscaped Areas
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

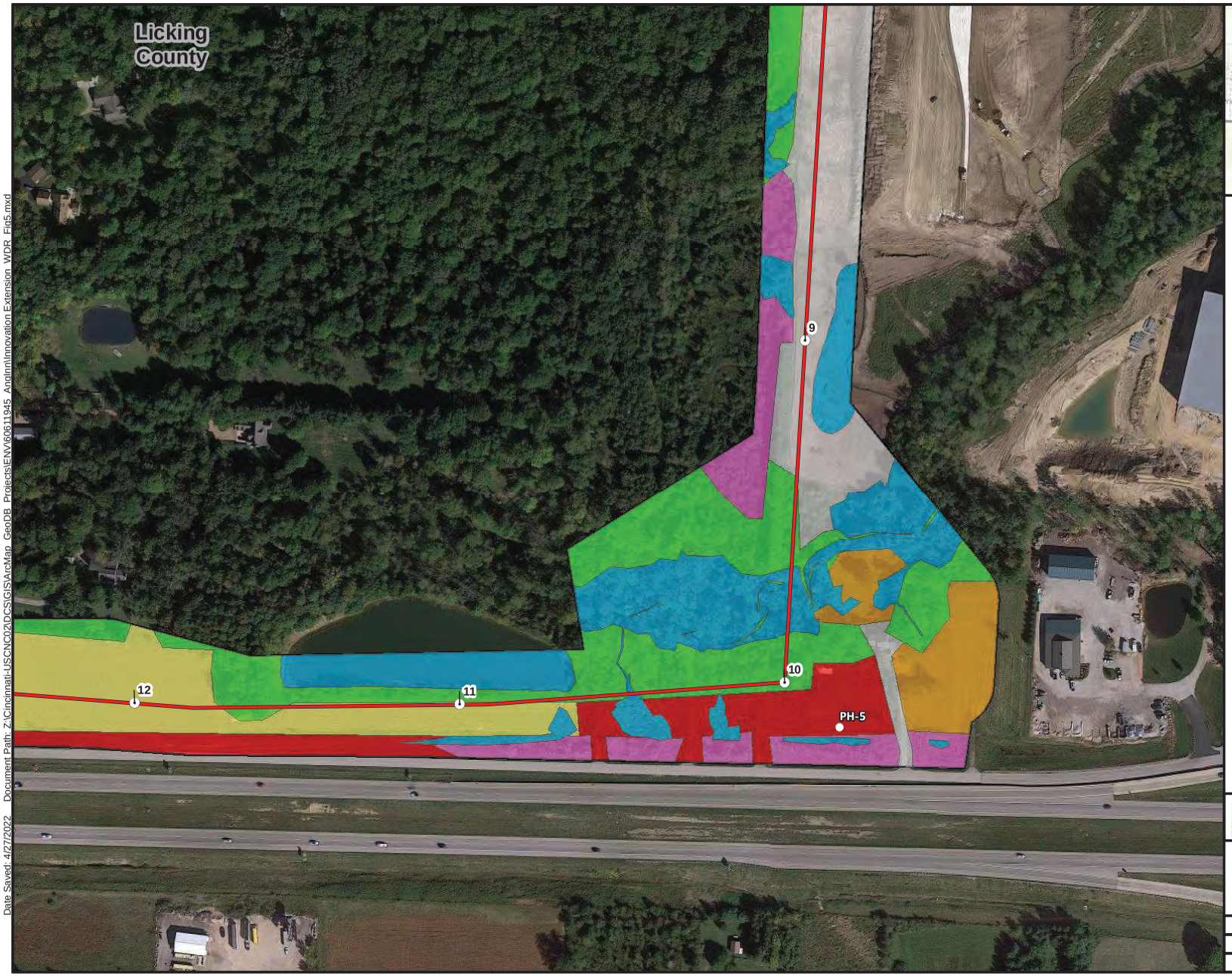
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5B
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: JMP	CHECKED BY: NB
JOB NO.60611945	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AndInn\Innovation Extension WDR Fig5.mxd



Legend

- Appendix C - Photograph Locations
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Scrub-Shrub
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

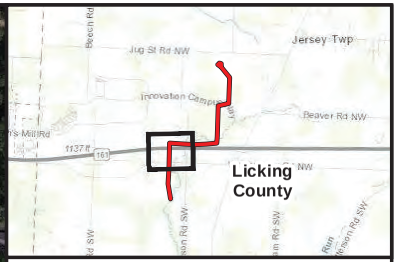
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5C
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: JMP	CHECKED BY: NB
JOB NO.60611945	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anol\nn\Innovation Extension WDR Fig5.mxd



Legend

- Appendix C - Photograph Locations
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

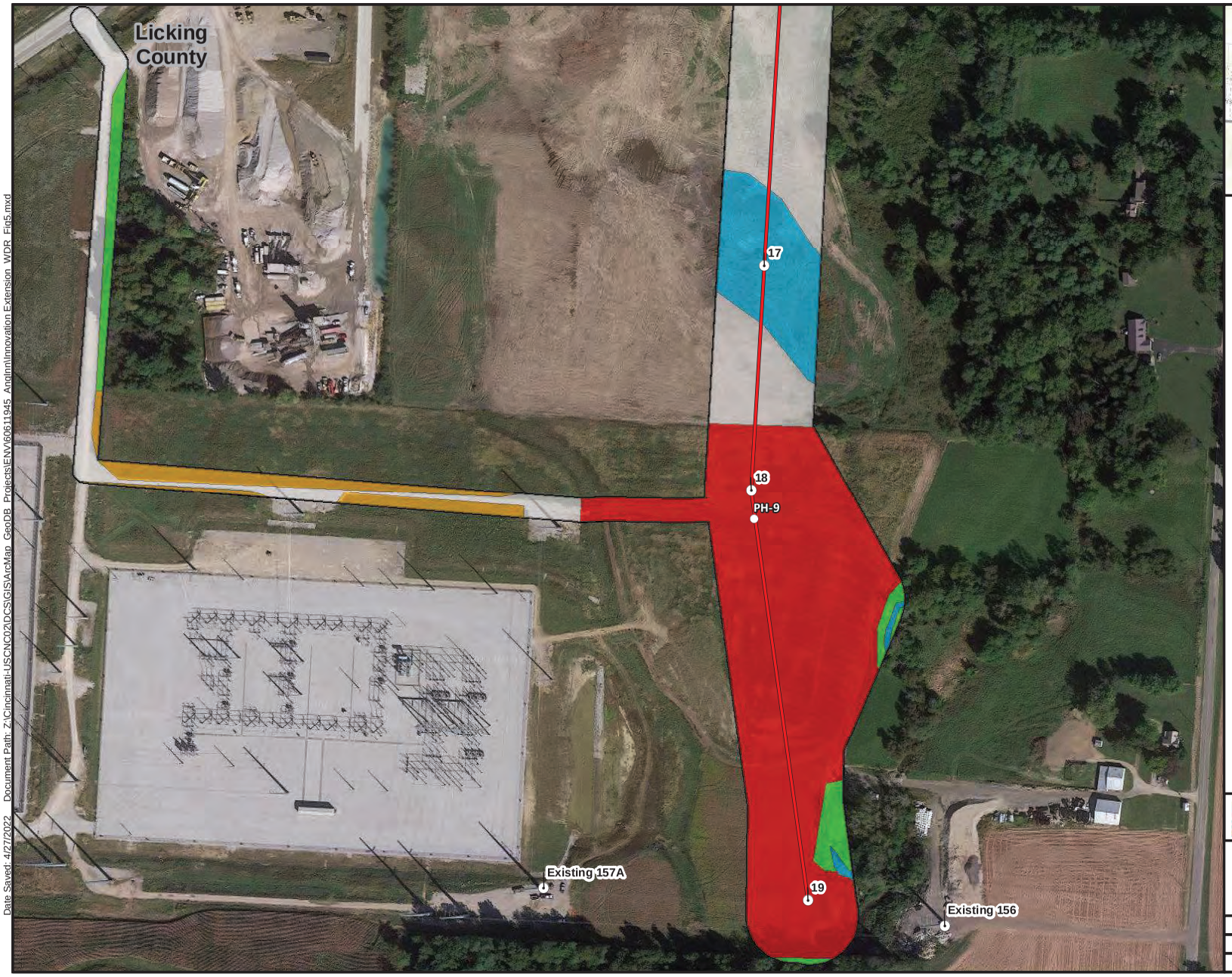
Feet

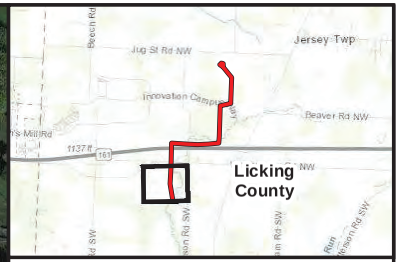
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5D
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: JMP	CHECKED BY: NB
JOB NO.60611945	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anol\nn\Innovation Extension WDR Fig5.mxd





Legend

- Appendix C - Photograph Locations
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- Project Survey Corridor

Vegetation Community Type

- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5E
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: JMP	CHECKED BY: NB
JOB NO.60611945	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Arc\Inn\Innovation Extension WDR Fig5.mxd

APPENDIX A

U.S. ARMY CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS

OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

Wetland 01

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S NA, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.08677 | Long: -82.72756 | Datum: WGS 84

Soil Map Unit Name: Cn - Condit silt loam, 0 to 1 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 X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
On edge of woodlot, mostly disturbed within survey area from construction activities (soils and vegetation), open to west to PFO component and NWI-mapped wetland; highly disturbed due to construction, drains to west into woods; appears to be non-isolated from NWI wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	10	Yes	FACW
2. *Acer rubrum*	5	Yes	FAC
3.			
4.			
5.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Quercus palustris*	5	Yes	FACW
2. *Lindera benzoin*	10	Yes	FACW
3. *Hamamelis virginiana*	5	Yes	FACU
4. *Rosa multiflora*	5	Yes	FACU
5. *Elaeagnus umbellata*	2	No	UPL
	27	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Juncus effusus*	20	Yes	OBL
2. *Cinna arundinacea*	15	Yes	FACW
3. *Scirpus cyperinus*	15	Yes	OBL
4. *Scirpus atrovirens*	10	No	OBL
5. *Mimulus ringens*	10	No	OBL
6. *Epilobium coloratum*	5	No	OBL
7. *Vernonia gigantea*	5	No	FAC
8. *Lysimachia nummularia*	15	Yes	FACW
9. *Verbena hastata*	5	No	FACW
10. *Onoclea sensibilis*	5	No	FACW
	105	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 10 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	65	x 2 =	130
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	2	x 5 =	10
Column Totals:	147 (A)		270 (B)

Prevalence Index = B/A = 1.84

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%; vegetation disturbed from recent woodlot clearing for construction activities on east side of mapped wetland area.

Wetland 01

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations
10-18	10YR 5/1	90	10YR 2/1	10	C	M	Loamy/Clayey	Concretions

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix; soils partially disturbed from construction activities/clearing.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 6

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary wetland indicators are present; primary source of hydrology is precipitation; wetland extends to NWI-mapped wetland to west that drains to an NHD-mapped stream that flows south to South Fork Licking River that flows south and east to Buckeye Lake that drains east to Licking River, a TNW.

Upland 01

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): None

Slope (%): 2 | Lat: 40.08664 | Long: -82.72749 | Datum: WGS 84

Soil Map Unit Name: Cn - Condit silt loam, 0 to 1 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point at to W-01, 5' south of boundary in woodlot in undisturbed area; not a wetland point as hydric soil criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus rubra*	20	Yes	FACU
2. *Quercus alba*	10	Yes	FACU
3. *Quercus palustris*	5	No	FACW
4. *Acer saccharinum*	10	Yes	FACW
5.			
	45	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Lindera benzoin*	40	Yes	FACW
2. *Rosa multiflora*	10	No	FACU
3. *Ulmus rubra*	10	No	FAC
4.			
5.			
	60	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Carex blanda*	5	Yes	FAC
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	5	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	55	x 2 =	110
FAC species	15	x 3 =	45
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	110 (A)		315 (B)

Prevalence Index = B/A = 2.86

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%.

Upland 01

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/2	100					Loamy/Clayey	
6-16	10YR 5/3	60	10YR 5/8	30	C	M	Loamy/Clayey	Prominent redox concentrations
			10YR 4/2	10	D	M		

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 11
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 10

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Two primary hydrology indicators present, possibly due to recent heavy rains.

Wetland 02

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.08500 | Long: -82.72758 | Datum: WGS 84

Soil Map Unit Name: Cn - Condit silt loam, 0 to 1 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 x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	**Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Open to West to mapped NWI wetland area; completely disturbed to East of point in study area as a filled in depression. Wetland appears to drain to NHD-mapped stream off-site to west.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	30	Yes	FACW
2. *Gleditsia triacanthos*	15	Yes	FACU
3. *Ulmus rubra*	15	Yes	FAC
4.			
5.			
	60	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Carpinus caroliniana*	20	Yes	FAC
2. *Ulmus rubra*	10	Yes	FAC
3. *Lindera benzoin*	15	Yes	FACW
4.			
5.			
	45	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Carex cristatella*	40	Yes	FACW
2. *Cinna arundinacea*	15	Yes	FACW
3. *Lysimachia nummularia*	10	No	FACW
4. *Persicaria virginiana*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: 15' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 87.5% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	50	x 3 =	150
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	175 (A)		430 (B)
Prevalence Index = B/A =			2.46

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%. Vegetation partially disturbed due to clearing from adjacent construction activities.

Wetland 02

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 3/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicators present as low value/low chroma matrix withrequired redox concentrations in pore linings and within closed depression subject to ponding. Soils partly disturbed due to fill from adjacent construction activities.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. Hydrology partially disturbed due to fill from adjacent construction activity. Wetland extends to NWI-mapped wetland to west that drains to an NHD-mapped stream that flows south to South Fork Licking River that flows south and east to Buckeye Lake that drains east to Licking River, a TNW.

Upland 02

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): None

Slope (%): ____ | Lat: 40.08509 | Long: -82.7276 | Datum: WGS 84

Soil Map Unit Name: Cn - Condit silt loam, 0 to 1 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point out to wetland -02, about 10 north of boundary in woods in undisturbed area. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus alba*	30	Yes	FACU
2. *Quercus muehlenbergii*	20	Yes	FACU
3.			
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Carpinus caroliniana*	20	Yes	FAC
2. *Prunus serotina*	10	No	FACU
3. *Acer negundo*	10	No	FAC
4. *Hamamelis virginiana*	20	Yes	FACU
5. *Rosa multiflora*	10	No	FACU
	70	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Parathelypteris noveboracensis*	30	Yes	FAC
2. *Geum canadense*	30	Yes	FAC
3. *Potentilla indica*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	65	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	90	x 3 =	270
FACU species	95	x 4 =	380
UPL species	0	x 5 =	0
Column Totals:	185 (A)		650 (B)
Prevalence Index = B/A =			3.51

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test < 50%, prevalence index > 3.0

Upland 02

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/3	100					Loamy/Clayey	
10-17	10YR 3/2	98	10YR 5/6	2	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present, low value/low chroma matrix of insufficient thickness w/in 12" of surface

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 13
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 13

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

One secondary hydrology indicator present.

Upland 03

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-03

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): None

Slope (%): 2 | Lat: 40.08376 | Long: -82.72765 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point out 5' south of boundary in scrub shrub area away from construction disturbances. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Catalpa speciosa*	5	Yes	FACU
2. *Aesculus flava*	3	Yes	FACU
3.			
4.			
5.			
	8	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Catalpa speciosa*	10	No	FACU
2. *Fraxinus americana*	10	No	FACU
3. *Rosa multiflora*	40	Yes	FACU
4. *Hamamelis virginiana*	5	No	FACU
5. *Toxicodendron radicans*	10	No	FAC
	75	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Solidago altissima*	40	Yes	FACU
2. *Agrimonia parviflora*	20	Yes	FACW
3. *Alliaria petiolata*	30	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	20	x 2 =	40
FAC species	40	x 3 =	120
FACU species	113	x 4 =	452
UPL species	0	x 5 =	0
Column Totals:	173 (A)		612 (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present as dominance test < 50% and prevalence index > 3.0

Upland 03

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	2.5Y 6/3	98	10YR 4/4	2	C	PL	Loamy/Clayey	Distinct redox concentrations
8-16	2.5Y 5/3	70	2.5Y 5/6	30	C	M		Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 16
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 13

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

One secondary hydrology indicator present, possibly due to recent heavy rains.

Upland 14

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/06/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211206-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S N/A, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): None

Slope (%): 2 | Lat: 40.0899 | Long: -82.72456 | Datum: WGS 84

Soil Map Unit Name: Pe - Pewamo silty clay loam, low carbonate till, 0 to 2 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Suspicously wet area within woodlot near tree clearing edge,investigated for wetland criteria; undisturbed next to recently cleared portion of woodlot. Not a wetland point as hydric soil criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	25	Yes	FACW
2. *Ulmus rubra*	15	Yes	FAC
3. *Carya ovata*	10	Yes	FACU
4.			
5.			
	50	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Ulmus rubra*	15	Yes	FAC
2. *Rosa multiflora*	15	Yes	FACU
3. *Rhamnus cathartica*	10	No	FAC
4. *Aesculus flava*	5	No	FACU
5. *Lindera benzoin*	10	No	FACW
	55	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Cinna arundinacea*	60	Yes	FACW
2. *Carex blanda*	15	No	FAC
3. *Solidago canadensis*	10	No	FACU
4. *Persicaria virginiana*	10	No	FAC
5. *Prunella vulgaris*	5	No	FAC
6. *Alliaria petiolata*	10	No	FAC
7.			
8.			
9.			
10.			
	110	=Total Cover	
Woody Vine Stratum (Plot size: 15' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	95	x 2 =	190
FAC species	80	x 3 =	240
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	215 (A)		590 (B)

Prevalence Index = B/A = 2.74

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation criteria present as dominance test > 50%.

Upland 14

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present as low value/low chroma matrix without required redox features.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 7
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Recent heavy rains have contributed to wet conditions and two primary hydrology indicators present; primary source of hydrology is precipitation.

Wetland 03

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-03

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.08398 | Long: -82.72764 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Open to west, disturbed to east by construction and fill (soils); does not extend or appear to drain to new stormwater pond to east.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	10	Yes	FACW
2. *Fraxinus pennsylvanica*	5	Yes	FACW
3.			
4.			
5.			
	15	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Cornus alba*	40	Yes	
2. *Cornus racemosa*	10	No	FAC
3. *Rosa multiflora*	5	No	FACU
4. *Fraxinus pennsylvanica*	10	No	FACW
5. *Quercus palustris*	20	Yes	FACW
	85	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Lysimachia nummularia*	40	Yes	FACW
2. *Scirpus atrovirens*	25	Yes	OBL
3. *Agrimonia parviflora*	10	No	FACW
4. *Solidago gigantea*	10	No	FACW
5. *Onoclea sensibilis*	5	No	FACW
6. *Juncus effusus*	15	No	OBL
7. *Phalaris arundinacea*	5	No	FACW
8.			
9.			
10.			
	110	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	115	x 2 =	230
FAC species	10	x 3 =	30
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	170 (A)		320 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%

Wetland 03

SOIL

Sampling Point: WRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	2.5Y 4/2	85	10YR 3/6	15	C	PL	Loamy/Clayey	Prominent redox concentrations
7-16	2.5Y 5/1	60	10YR 5/6	40	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

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hydric soil indicator present as depleted matrix, high value/low chroma matrix present; soils in part disturbed from adjacent construction activities and fill.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 3
Water Table Present?	Yes X	No ___	Depth (inches): 8
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 3

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. No evident drainage pathway present on-site or from aerial imagery to adjacent features, construction activities and fill to east prevents drainage to east.

Wetland 04b

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-04-PFO

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): None

Slope (%): 0 | Lat: 40.08256 | Long: -82.72669 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, frequently flooded | 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 ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PFO component of PEM/PFO wetland complex, sample point near top-of-bank of right descending bank of South Fork Licking River, soils may be naturally problematic due to fllodplain conditions. Sample point meets all wetland criteria

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer negundo*	30	Yes	FAC
2. *Quercus palustris*	20	Yes	FACW
3. *Populus deltoides*	20	Yes	FAC
4.			
5.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Acer negundo*	30	Yes	FAC
2. *Rosa multiflora*	10	Yes	FACU
3. *Fraxinus pennsylvanica*	5	No	FACW
4. *Hamamelis virginiana*	3	No	FACU
5.			
	48	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Scirpus atrovirens*	70	Yes	OBL
2. *Elymus virginicus*	10	No	FACW
3. *Verbesina alternifolia*	15	No	FACW
4. *Solidago gigantea*	5	No	FACW
5. *Lysimachia nummularia*	10	No	FACW
6. *Hydrophyllum canadense*	5	No	FACW
7.			
8.			
9.			
10.			
	115	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	70	x 1 =	70
FACW species	70	x 2 =	140
FAC species	80	x 3 =	240
FACU species	13	x 4 =	52
UPL species	0	x 5 =	0
Column Totals:	233 (A)		502 (B)

Prevalence Index = B/A = 2.15

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetatin indicator present as dominance test > 50%.

Wetland 04b

SOIL

Sampling Point: L-20211207-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-13	10YR 4/2	100					Loamy/Clayey	
13-20	2.5YR 4/2	90	2.5YR 5/3	10	C	PL	Sandy	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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Hydric soils presumed present due to proximity to perennial stream and PEM sample point of wetland complex. Recent flooding and sedimentation evident, upper layer of soil possibly with insufficient time to develop hydric soil indicators, though lower layer does exhibit depleted matrix conditions.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ___ Depth (inches): ___

Water Table Present? Yes ___ No ___ Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No ___ Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overbank flow from perennial stream. Wetland abuts perennial South Fork Licking River which flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Wetland 04a

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-04-PEM

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.08265 | Long: -82.72673 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent, frequently flooded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PEM component of PEM/PFO complex, on right descending bank of South Fork Licking River. Sample point meets all wetland criteria and abuts perennial stream.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rubus occidentalis*	5	Yes	UPL
2. *Rosa setigera*	5	Yes	FACU
3.			
4.			
5.			
	10 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Scirpus atrovirens*	60	Yes	OBL
2. *Elymus virginicus*	20	No	FACW
3. *Phalaris arundinacea*	10	No	FACW
4. *Lysimachia nummularia*	40	Yes	FACW
5. *Apocynum cannabinum*	2	No	FAC
6.			
7.			
8.			
9.			
10.			
	132 =Total Cover		
Woody Vine Stratum (Plot size: 15' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	70	x 2 =	140
FAC species	2	x 3 =	6
FACU species	5	x 4 =	20
UPL species	5	x 5 =	25
Column Totals:	142 (A)		251 (B)
Prevalence Index = B/A =			1.77

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- ____ 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as prevalence index < 3.0.

Wetland 04a

SOIL

Sampling Point: L-20211207-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/2	97	10YR 4/6	3	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix, high value/low chroma matrix with redox concentrations

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water Table Present? Yes X No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts perennial South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 04

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-04

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex

Slope (%): 2 | Lat: 40.08261 | Long: -82.72737 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, frequently flooded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to W-04, 10' west of boundary in old field area at slightly higher elevation. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Pyrus calleryana*	10	Yes	UPL
2. *Quercus rubra*	10	Yes	FACU
3. *Quercus palustris*	5	No	FACW
4. *Gleditsia triacanthos*	3	No	FACU
5. *Cornus racemosa*	5	No	FAC
	46	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Solidago altissima*	30	Yes	FACU
2. *Agrimonia parviflora*	30	Yes	FACW
3. *Panicum virgatum*	10	No	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	35	x 2 =	70
FAC species	18	x 3 =	54
FACU species	43	x 4 =	172
UPL species	20	x 5 =	100
Column Totals:	116 (A)		396 (B)
Prevalence Index = B/A =			3.41

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present as dominance test < 50% and prevalence index > 3.0

Upland 04

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	2.5Y 5/3	90	10YR 5/6	10	C	M	Loamy/Clayey	Prominent redox concentrations
6-16	2.5Y 5/2	50	2.5Y 5/6	50			Sandy	mixed matrix

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present.

Wetland 05

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/06/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211206-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.08243 | Long: -82.72635 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
On LDB of S-01 at crossing, open to east. Boundary delineated by toe of slope and bankfull of S-02, and by Lysimacchia in residential lawn. Wetland abuts South Fork Licking River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	5	Yes	OBL
2. *Ulmus americana*	10	Yes	FACW
3. *Ulmus rubra*	5	Yes	FAC
4. *Celtis occidentalis*	3	No	FAC
5. *Populus deltoides*	3	No	FAC
	26	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Ulmus rubra*	15	Yes	FAC
2. *Lindera benzoin*	20	Yes	FACW
3. *Rosa multiflora*	5	No	FACU
4. *Acer negundo*	5	No	FAC
5.			
	45	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Cinna arundinacea*	25	Yes	FACW
2. *Lysimachia nummularia*	20	Yes	FACW
3. *Carex grayi*	20	Yes	FACW
4. *Hydrophyllum virginianum*	10	No	FAC
5. *Phalaris arundinacea*	3	No	FACW
6.			
7.			
8.			
9.			
10.			
	78	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 8 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	98	x 2 =	196
FAC species	41	x 3 =	123
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	149 (A)		344 (B)

Prevalence Index = B/A = 2.31

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%.

Wetland 05

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-18	10YR 4/2	90	10YR 4/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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Hydric soil indicator present as depleted matrix, high value/low chroma matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overbank flow; Wetland abuts South Fork Licking River that flows west, south then east to Buckeye Lake that flows to Licking River, a TNW.

Upland 05

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/06/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211206-03

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): Convex

Slope (%): 5 | Lat: 40.08234 | Long: -82.72625 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam 0 to 2 percent slopes, frequently flooded | NWI classification: NA

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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point out to W-02, around 10' south on hillslope; not a wetland point as hydric soil and hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Prunus serotina*	15	Yes	FACU
2. *Quercus alba*	5	No	FACU
3. *Ulmus rubra*	10	Yes	FAC
4.			
5.			
	30	=Total Cover	

Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Ulmus rubra*	20	Yes	FAC
2. *Rosa multiflora*	20	Yes	FACU
3. *Lindera benzoin*	20	Yes	FACW
4. *Rhamnus cathartica*	5	No	FAC
5.			
	65	=Total Cover	

Herb Stratum (Plot size: 5' r)			
1. *Acer negundo*	5	No	FAC
2. *Carex blanda*	20	Yes	FAC
3. *Hydrophyllum virginianum*	10	Yes	FAC
4. *Cinna arundinacea*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	40	=Total Cover	

Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 71.4% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	70	x 3 =	210
FACU species	40	x 4 =	160
UPL species	0	x 5 =	0
Column Totals:	135 (A)		420 (B)
Prevalence Index = B/A =			3.11

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
hydrophytic vegetation indicator present as dominance test > 50%

Upland 05

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/2	100					Loamy/Clayey	
6-14	10YR 4/3	95	10YR 4/6	5	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

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No hydric soil indicators present as low value/low chroma matrix without redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): 0

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? Yes ___ No x Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No primary or secondary wetland hydrology indicators present.

Wetland 06 PEM

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211206-01-PEM

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): concave

Slope (%): 2 | Lat: 40.081892 | Long: -82.727880 | Datum: NAD 83

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | 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 X, Soil ____, or Hydrology ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
PEM portion of Wetland 06 complex between scrub-shrub riparian and residential yard; wetland boundary extended beyond original study area, on left descending bank of Stream 1/3.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Cornus alba*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Phalaris arundinacea*	40	Yes	FACW
2. *Lysimachia nummularia*	30	Yes	FACW
3. *Schedonorus arundinaceus*	10	No	FACU
4. *Poa pratensis*	10	No	FAC
5. *Glechoma hederacea*	10	No	FACU
6. *Rumex crispus*	5	No	FAC
7.			
8.			
9.			
10.			
	105 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	90	x 2 =	180
FAC species	15	x 3 =	45
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	125 (A)		305 (B)

Prevalence Index = B/A = 2.44

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%

SOIL

Sampling Point: L-20211206-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 3/3	100					Loamy/Clayey	
4-7	7.5YR 3/3	60	7.5YR 5/8	40	c	M	Loamy/Clayey	Prominent redox concentrations
7-13	7.5YR 2.5/1	90	7.5YR 5/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as low value/low chroma matrix with redox concentrations and concretions/soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present.

Wetland 06

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/06/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211206-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 3 | Lat: 40.081966 | Long: -82.727634 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam 0 to 2 percent slopes, frequently flooded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
PSS on terrace of stream to toe of slope. 10 flags, open to North and West into restricted property, boundary delineated by topography and vegetation. Abuts perennial South Fork Licking River

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	15	Yes	FAC
2. *Ulmus rubra*	5	Yes	FAC
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Fraxinus pennsylvanica*	15	Yes	FACW
2. *Acer negundo*	10	Yes	FAC
3. *Rosa multiflora*	10	Yes	FACU
4. *Rhamnus cathartica*	5	No	FAC
5.			
	40	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Verbesina alternifolia*	30	Yes	FACW
2. *Lysimachia nummularia*	40	Yes	FACW
3. *Phalaris arundinacea*	5	No	FACW
4. *Elymus virginicus*	10	No	FACW
5. *Carex grayi*	10	No	FACW
6.			
7.			
8.			
9.			
10.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: 15' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	110	x 2 =	220
FAC species	35	x 3 =	105
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	155 (A)		365 (B)

Prevalence Index = B/A = 2.35

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
hydropytic vegetation indicator present as dominance test > 50%

Wetland 06

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	100					Loamy/Clayey	
6-18	10YR 4/2	95	10YR 4/6	5	c	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as low value/low chroma matrix with redox concentrations in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No x	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from perennial stream. Wetland abuts South Fork Licking River that flows south and east to Buckeye Lake that drains to Licking River, a TNW.

Upland 06

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/06/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211206-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex

Slope (%): 10 | Lat: 40.08185 | Long: -82.72791 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, frequently flooded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point at 5' south of boundary near top of slope; not a wetland point as hydric soil and hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	15	Yes	FACW
2. *Prunus serotina*	5	Yes	FACU
3. *Acer saccharinum*	5	Yes	FACW
4.			
5.			
	25	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rhamnus cathartica*	15	Yes	FAC
2. *Rosa multiflora*	15	Yes	FACU
3. *Lindera benzoin*	10	Yes	FACW
4. *Rubus allegheniensis*	5	No	FACU
5.			
	45	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Carex blanda*	30	Yes	FAC
2. *Verbesina alternifolia*	20	Yes	FACW
3. *Hydrophyllum canadense*	20	Yes	FACW
4. *Potentilla indica*	10	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	80	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 77.8% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	45	x 3 =	135
FACU species	35	x 4 =	140
UPL species	0	x 5 =	0
Column Totals:	150 (A)		415 (B)

Prevalence Index = B/A = 2.77

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
hydrophytic vegetation indicator present as dominance test > 50%

Upland 06

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/2	80	10YR 5/8	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil criteria present as low value/low chroma matrix without redox concentrations in pore linings.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): 0

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? Yes ___ No x Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

only one secondary hydrology indicator present.

Wetland 07

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-05

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 1 | Lat: 40.08145 | Long: -82.72808 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Fully delineated as approximate wetland, is on restricted property slightly, drains to west via culvert and to North via wet weather conveyance. Soils disturbed by pipeline crossing, veg is also managed (problematic?). All wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rosa setigera*	5	Yes	FACU
2. *Cornus alba*	10	Yes	FACW
3.			
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Lysimachia nummularia*	30	Yes	FACW
3. *Juncus effusus*	10	No	OBL
4. *Panicum virgatum*	20	No	FAC
5. *Apocynum cannabinum*	10	No	FAC
6. *Phalaris arundinacea*	5	No	FACW
7. *Solidago canadensis*	5	No	FACU
8. *Ludwigia palustris*	2	No	OBL
9.			
10.			
	122 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	52	x 1 =	52
FACW species	45	x 2 =	90
FAC species	30	x 3 =	90
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	137 (A)		272 (B)
Prevalence Index = B/A =			1.99

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%. Vegetation maintained by pipeline easement (not problematic).

Wetland 07

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/2	90	10YR 4/6	10	RM	PL	Loamy/Clayey	
10-17	10YR 3/2	90	10YR 3/6	10	RM	PL	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix with high value/low chroma matrix with redox concentrations present; recovered from past disturbances due to pipeline construction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- X Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- X Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2
Water Table Present?	Yes X	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 12

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. Wetland drains partially to north through wet weather conveyance (vegetated swale) to South Fork Licking River, and partially to west through culvert to wetland 05 then north to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 07

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-05

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex

Slope (%): 2 | Lat: 40.08146 | Long: -82.72805 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point out to wetland 05 about 5' east in old field haitat. Soils disturbed by past pipeline, veg managed for pipeline. Not a wetland point as wetland hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rosa setigera*	10	Yes	FACU
2. *Cornus alba*	5	Yes	FACW
3.			
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Solidago altissima*	40	Yes	FACU
2. *Apocynum cannabinum*	20	Yes	FAC
3. *Panicum virgatum*	20	Yes	FAC
4. *Juncus effusus*	5	No	OBL
5. *Agrimonia parviflora*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	10	x 2 =	20
FAC species	40	x 3 =	120
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	105 (A)		345 (B)
Prevalence Index = B/A =			3.29

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%; managed vegetation not problematic.

Upland 07

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
8-15	10YR 4/4	80	10YR 4/6	20	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix in upper layer, possibly a result of past soil disturbances from pipeline construction activities.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology indicators present, sample point out at higher elevation that comparable wetland sample point.

Wetland 08

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-06

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.08143 | Long: -82.72876 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in to PEM wetland between driveways on old terrace of river; pipeline passes through wetland (soils disturbed? And vegetation mangated/problematic?); drains to North to South Fork Licking River.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Cornus racemosa*	3	Yes	FAC
3. *Rosa setigera*	3	Yes	FACU
4.			
5.			
	11 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Scirpus atrovirens*	20	Yes	OBL
3. *Lysimachia nummularia*	20	Yes	FACW
4. *Typha angustifolia*	10	No	OBL
5. *Juncus effusus*	10	No	OBL
6.			
7.			
8.			
9.			
10.			
	120 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	85	x 2 =	170
FAC species	3	x 3 =	9
FACU species	3	x 4 =	12
UPL species	0	x 5 =	0
Column Totals:	131 (A)		231 (B)
Prevalence Index = B/A =			1.76

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%; managed vegetation not problematic.

Wetland 08

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	75	10YR 2/1	10	RM	M	Loamy/Clayey	
			10YR 4/6	15	C	PL		Prominent redox concentrations
9-17	10YR 3/1	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicators present as depleted matrix and redox depressions, high value/low chroma matrix with required redox concentrations. soils disturbances not a factor

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 7

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overflow from adjacent wetland. Wetland drains to north via intermittent stream to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 08

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-06

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Convex

Slope (%): 3 | Lat: 40.08159 | Long: -82.72868 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to wetland 06 in adjacent scrub/shrub habitat at higher elevation; not a wetland point as hydric soil and wetland hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus rubra*	20	Yes	FAC
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Ulmus rubra*	20	Yes	FAC
2. *Rosa multiflora*	20	Yes	FACU
3. *Lonicera japonica*	20	Yes	FACU
4. *Cornus alba*	10	No	FACW
5.			
	70	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Alliaria petiolata*	40	Yes	FAC
2. *Solidago canadensis*	5	No	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	45	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	80	x 3 =	240
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	135 (A)		440 (B)
Prevalence Index = B/A =			3.26

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%.

Upland 08

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-17	10YR 3/3	95	10YR 4/4	5	C	PL	Loamy/Clayey	Faint redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology indicators present.

Wetland 09

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211207-07

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.08136 | Long: -82.72932 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology X significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Draingae ditch wetland drains across Ag field to Pond 02, disturbed and atypical due to toe of roadway embankment drainage ditch, pipeline crossing and ag field; wetland fully delineated. Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Panicum dichotomiflorum*	40	Yes	FACW
2. *Phragmites australis*	50	Yes	FACW
3. *Typha angustifolia*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	90	x 2 =	180
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as Rapid Test for hydrophytic vegetation, all plants are FACW or OBL.

Wetland 09

SOIL

Sampling Point: WRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/2	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicators present as high value/low chroma matrix with required redox concentrations and in depression subject to ponding. Soils not problematic.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation; wetland drains north to Pond 02 via short erosion channel, which drains north to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 09

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/07/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211207-07

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): None

Slope (%): 2 | Lat: 40.08142 | Long: -82.72944 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil X, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to wetland 07, about 15' west of boundary at equal elevation in soy filed, soils and vegetation disturbed from farming, tilling. Not a wetland point as wetland hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Setaria pumila*	40	Yes	FAC
2. *Glycine max*	20	Yes	UPL
3. *Panicum virgatum*	30	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	70	x 3 =	210
FACU species	0	x 4 =	0
UPL species	20	x 5 =	100
Column Totals:	90 (A)		310 (B)
Prevalence Index = B/A =			3.44

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%; vegetation problematic due to active row-crop field.

Upland 09

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	70	10YR 4/4	30	C	M	Loamy/Clayey	Distinct redox concentrations
8-15	10YR 3/3	70	10YR 5/6	30	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix due to high value/low chroma matrix present in upper layer. Soils disturbed from tilling/farming and past pipeline construction.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No wetland hydrology indicators present.

Wetland 10

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211208-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.08161 | Long: -82.73383 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	**Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
This sampled point is representative of wetland W-WRL-20211208-01. Located in a roadside drainage swale by farm field, 6 flags fully delineated, drains to North via vegetated roadside ditch, disturbances from farming to soil and mowing/farming to veg .

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

Sapling/Shrub Stratum (Plot size: 15' r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		

Herb Stratum (Plot size: 5' r)			
1. *Panicum dichotomiflorum*	70	Yes	FACW
2. *Juncus effusus*	20	Yes	OBL
3. *Typha angustifolia*	5	No	OBL
4. *Apocynum cannabinum*	5	No	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		

Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	25	x 1 =	25
FACW species	70	x 2 =	140
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegetation was present at the time of sampling. Veg disturbed from farming and mowing.

Wetland 10

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/2	100					Loamy/Clayey	
10-18	10YR 3/1	98	10YR 4/6	2	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

Disturbed by past farming activities and roadside drainage ditch maintenance, presumed hydric due to low value/low chroma matrix and prominent redox concentrations in lower layer.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- X Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 14
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple indicators of wetland hydrology indicators were present at the time of sampling. Dry season water table observed. Depth of water table does not meet the criteria for the high water table primary hydrology indicator. Sources of hydrology are precipitation; wetland drains to north via vegetated roadside swale to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 10

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211208-01

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): Concave

Slope (%): 2 | Lat: 40.0817 | Long: -82.73382 | Datum: WGS 84

Soil Map Unit Name: BeB - Bennington 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Point out to wetland 01, about 10' North of boundary along roadisde swale at edge of AG field, soils diturbed by farming, vegetation disturbed by farming and roadside swale maintenance.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Cirsium arvense*	60	Yes	FACU
2. *Glycine max*	10	No	UPL
3. *Juncus effusus*	5	No	OBL
4. *Panicum dichotomiflorum*	15	No	FACW
5. *Apocynum cannabinum*	10	No	FAC
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	15	x 2 =	30
FAC species	10	x 3 =	30
FACU species	60	x 4 =	240
UPL species	10	x 5 =	50
Column Totals:	100 (A)		355 (B)

Prevalence Index = B/A = 3.55

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test < 50% and prevalence index > 3.0. No evidence that disturbances are have dramatically altered natural vegetation present.

Upland 10

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present; shovel refusal at 14" depth due to rock/gravel; no evidence of redox features present in low value/low chroma matrix.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

One secondary hydrology indicator present as sample point in roadside drainage swale.

Wetland 11

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovaton 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211208-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.08151 | Long: -82.73456 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in to PEM wetland located on terrace of perennial stream, possibly abandoned channel. Soils possibly disturbed from past pipeline construction, vegetation managed by pipeline (problematic?). Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Fraxinus pennsylvanica*	3	No	FACW
2. *Cornus alba*	1	No	FACW
3.			
4.			
5.			
	4 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Panicum virgatum*	40	Yes	FAC
2. *Scirpus atrovirens*	20	Yes	OBL
3. *Lysimachia nummularia*	10	No	FACW
4. *Echinochloa crus-galli*	10	No	FACW
5. *Lycopus americanus*	5	No	OBL
6. *Vernonia gigantea*	5	No	FAC
7. *Eleocharis obtusa*	3	No	OBL
8.			
9.			
10.			
	93 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	28	x 1 =	28
FACW species	24	x 2 =	48
FAC species	45	x 3 =	135
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	97 (A)		211 (B)
Prevalence Index = B/A =			2.18

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegetation was present at the time of sampling, hydrophytic vegetation indicator of dominance test > 50%.

Wetland 11

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/2	95	10YR 3/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations
8-17	10YR 3/2	90	10YR 5/8	10	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

Soil profile meets the criteria for having a depleted matrix (F3) and redox dark surface (F6); prior pipeline disturbances not evident.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 6

Water Table Present? Yes X No ___ Depth (inches): 4

Saturation Present? Yes X No ___ Depth (inches): 0

(includes capillary fringe)

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Multiple primary and secondary wetland hydrology indicators were present at the time of sampling. Primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts South Fork Licking River that flows south and east to Buckeye Lake that flows to Licking River, a TNW.

Upland 11

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211208-02

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S15, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): None

Slope (%): 1 | Lat: 40.08153 | Long: -82.73464 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point out to wetland 02 about 10' West of boundary in newfield, pipeline row= distrubed soils and managed vegetation (problematic?). Not a wetland point as hydrophytic vegetation criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rubus occidentalis*	5	Yes	UPL
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Setaria pumila*	20	Yes	FAC
2. *Schedonorus arundinaceus*	20	Yes	FACU
3. *Elymus virginicus*	10	No	FACW
4. *Daucus carota*	25	Yes	UPL
5. *Dipsacus fullonum*	5	No	FACU
6. *Vernonia gigantea*	5	No	FAC
7. *Cirsium arvense*	10	No	FACU
8. *Solidago altissima*	5	No	FACU
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	10	x 2 =	20
FAC species	25	x 3 =	75
FACU species	40	x 4 =	160
UPL species	30	x 5 =	150
Column Totals:	105 (A)		405 (B)
Prevalence Index = B/A =			3.86

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present as dominance test < 50% and prevalence index > 3.0; no evidence of pipeline vegetation management significantly altering species present.

Upland 11

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10YR 4/2	98	10YR 4/4	2	C	PL	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix, high value/low chroma matrix with redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

One primary hydrology indicator present

Wetland 12

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211208-03

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Depression | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.07673 | Long: -82.73749 | Datum: WGS 84

Soil Map Unit Name: AmD2 - Amanda silt loam, 12 to 18 percent slopes, eroded | NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation X, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?**	**Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____		
Wetland Hydrology Present?	Yes X	No ____		

Remarks:
Sample point in to large PEM wetland, encompasses two NWI mapped features, surrounding hillsides and edges of wetland heavily impacted by construction and clearing activities all around, fully delineated.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Salix nigra*	5	Yes	OBL
2. *Cornus alba*	5	Yes	FACW
3. *Rubus occidentalis*	5	Yes	UPL
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Phalaris arundinacea*	10	Yes	FACW
2. *Juncus effusus*	10	Yes	OBL
3. *Scirpus cyperinus*	5	No	OBL
4. *Bidens frondosa*	3	No	FACW
5. *Lysimachia nummularia*	10	Yes	FACW
6.			
7.			
8.			
9.			
10.			
	38 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	28	x 2 =	56
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	5	x 5 =	25
Column Totals:	53 (A)		101 (B)
Prevalence Index = B/A =			1.91

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%; low prevalence of vegetation aereal cover due to recent clearing/construction activities.

Wetland 12

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/1	90	10YR 4/4	10	C	PL	Loamy/Clayey	Distinct redox concentrations
8-16	10YR 2/1	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X No ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicators present as low value/low chroma matrix with required redox concentrations in closed depression subject to ponding. Soil disturbances not significant.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 10
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? Yes X No ___

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

Remarks:

Multiple primary and secondary hydrology indicators present;primary source of hydrology is precipitation runoff into closed depression. No outflow observed from wetland, full boundary delineated, all sides slope upwards.

Upland 12

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211208-03

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S17, T2N, R15W

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): Convex

Slope (%): 10 | Lat: 40.07642 | Long: -82.73713 | Datum: NAD 83

Soil Map Unit Name: AmD2 - Amanda silt loam, 12 to 18 percent slopes, eroded | 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 X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Point out to wetland 03, approximately 10' east of boundary on mostly undisturbed hillside (evidence of construction vehicles/tire ruts present) at higher elevation, looks like former pasture. Not a wetland point as hydrophytic vegetation criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Phalaris arundinacea*	20	Yes	FACW
2. *Cirsium arvense*	15	Yes	FACU
3. *Elymus virginicus*	20	Yes	FACW
4. *Solidago altissima*	5	No	FACU
5. *Galium aparine*	10	No	FACU
6. *Glechoma hederacea*	15	Yes	FACU
7. *Alliaria petiolata*	10	No	FAC
8.			
9.			
10.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	10	x 3 =	30
FACU species	45	x 4 =	180
UPL species	0	x 5 =	0
Column Totals:	95 (A)		290 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present as dominance test = 50% and prevalence index > 3.0; no visual evidence that grazing and adjacent clearing activities have significantly altered natural vegetation.

Upland 12

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					Loamy/Clayey	
9-15	10YR 4/1	90	10YR 3/4	10	C	PL	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as depleted matrix, high value/low chroma matrix with required redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- x Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No x	Depth (inches): 0
Water Table Present?	Yes ___	No x	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No x	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

One primary hydrology indicator present.

Wetland 13

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20211208-04

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.07311 | Long: -82.73729 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in to PFO wetland taken within Oxbow, wetland open to East to South Fork Licking River; disturbed soils due to lots of fill in remnant channel; Sample point meets all wetland criteria

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Salix nigra*	15	Yes	OBL
2. *Populus deltoides*	10	Yes	FAC
3. *Gleditsia triacanthos*	10	Yes	FACU
4. *Juglans nigra*	5	No	FACU
5.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Cornus alba*	15	Yes	FACW
2. *Platanus occidentalis*	10	Yes	FACW
3. *Fraxinus pennsylvanica*	5	No	FACW
4.			
5.			
	30	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Elymus virginicus*	20	Yes	FACW
2. *Verbesina alternifolia*	10	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	30	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 7 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 85.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	15	x 1 =	15
FACW species	60	x 2 =	120
FAC species	10	x 3 =	30
FACU species	15	x 4 =	60
UPL species	0	x 5 =	0
Column Totals:	100 (A)		225 (B)

Prevalence Index = B/A = 2.25

Hydrophytic Vegetation Indicators:

- ____ 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- ____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- ____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%

Wetland 13

SOIL

Sampling Point: VRL-2021120

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/2	95	10YR 3/6	5	C	PL	Sandy	Prominent redox concentrations
12-16	10YR 3/2	100					Sandy	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- X Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as high value/low chroma matrix with redox features in sandy soils. sample point taken away from recent fill dirt areas.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- X Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 10
Water Table Present?	Yes X	No ___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts perennial South Fork Licking River that flows south and west to Buckeye Lake that flows to Licking River, a TNW.

Upland 13

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 12/08/2021

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20211208-04

Investigator(s): Bill Leopold, Cameron Wyse | Section, Township, Range: S17, T2N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): Concave

Slope (%): 0 | Lat: 40.07319 | Long: -82.73742 | Datum: WGS 84

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | NWI classification: R5UBH

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil X, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No X

Are Vegetation X, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to wetland 04 in NHD mapped stream channel, around 50' to the East of wetland boundary, soils disturbed due to past fill and active farming. Not a wetland point as no criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	15	Yes	FACU
2. *Populus deltoides*	5	Yes	FAC
3. *Maclura pomifera*	3	No	FACU
4.			
5.			
	23	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Acer saccharum*	5	Yes	FACU
2.			
3.			
4.			
5.			
	5	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Schedonorus arundinaceus*	40	Yes	FACU
2. *Setaria pumila*	30	Yes	FAC
3. *Trifolium repens*	20	Yes	FACU
4. *Plantago lanceolata*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	95	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	88	x 4 =	352
UPL species	0	x 5 =	0
Column Totals:	123 (A)		457 (B)
Prevalence Index = B/A =			3.72

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present as dominance test < 50% and prevalence index > 3.0; no evidence that farming activities have significantly altered vegetation present.

Upland 13

SOIL

Sampling Point: WRL-202112

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/3	95	10YR 4/6	5	C	M	Sandy	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: Gravel fill

Depth (inches): 6

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Shovel refusal at 6" depth due to gravel; no hydric soil indicators present; NHD/NWI mapped stream channel apparently filled in past leading to disturbed soils.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present.

Wetland 14

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20220323-01-PFO

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Terrace | Local relief (concave, convex, none): concave

Slope (%): 2 | Lat: 40.082102 | Long: -82.728194 | Datum: NAD83

Soil Map Unit Name: Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in PFO portion of Wetland 14, on right descending bank of Stream 1/3, between top-of-bank and toe-of-slope surrounding hillside, open to west along stream. Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	15	Yes	FACU
2. *Gleditsia triacanthos*	10	Yes	FACU
3. *Fraxinus pennsylvanica*	10	Yes	FACW
4. *Ulmus rubra*	5	No	FAC
5.			
	40	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Cornus alba*	10	Yes	FACW
2. *Lindera benzoin*	10	Yes	FACW
3. *Rubus allegheniensis*	5	No	FACU
4. *Rosa multiflora*	3	No	FACU
5. *Rhamnus cathartica*	2	No	FAC
	30	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Scirpus atrovirens*	40	Yes	OBL
2. *Phalaris arundinacea*	20	Yes	FACW
3. *Elymus riparius*	20	Yes	FACW
4. *Verbesina alternifolia*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
	85	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1. *vitis riparia*	5	Yes	FACW
2.			
	5	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 7 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 77.8% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	80	x 2 =	160
FAC species	7	x 3 =	21
FACU species	33	x 4 =	132
UPL species	0	x 5 =	0
Column Totals:	160 (A)		353 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as dominance test > 50%

SOIL

Sampling Point: L-20220323-(

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 3/1	100					Loamy/Clayey	
5-14	10YR 4/1	95	10YR 4/6	5	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- X Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes ___	No X	Depth (inches): ___
Saturation Present? (includes capillary fringe)	Yes ___	No X	Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are overbank flow from perennial Stream 1/3 and precipittaion.

UPL-Wetland 14

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20220323-01

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Hillslope | Local relief (concave, convex, none): convex

Slope (%): 10 | Lat: 40.082474 | Long: -82.728071 | Datum: NAD83

Soil Map Unit Name: Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to PFO wetland 14, about 15' north of boundary on hillside. Not a wetland point as wetland hydrology and hydric soil criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Crataegus crus-galli*	30	Yes	FAC
2. *Acer negundo*	20	Yes	FAC
3. *Fraxinus pennsylvanica*	20	Yes	FACW
4. *Rhamnus cathartica*	10	No	FAC
5. *Prunus serotina*	10	No	FACU
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rhamnus cathartica*	25	Yes	FAC
2. *Lonicera morrowii*	15	Yes	FACU
3. *Lindera benzoin*	10	No	FACW
4. *Rosa multiflora*	5	No	FACU
5.			
	55	=Total Cover	
Herb Stratum (Plot size: 5' r)			
1. *Potentilla indica*	30	Yes	FACU
2. *Cyperus strigosus*	20	Yes	FACW
3. *Poa pratensis*	20	Yes	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	105	x 3 =	315
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	215 (A)		655 (B)

Prevalence Index = B/A = 3.05

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present, dominance test > 50%

SOIL

Sampling Point: WRL-202203

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	7.5YR 4/3	60					Loamy/Clayey	
	7.5YR 5/4	40						dual matrix
4-9	10YR 5/8	70	7.5YR 4/3	20	D	M	Loamy/Clayey	
			10YR 6/8	10	C	M		Faint redox concentrations
9-13	10YR 4/6	90	10YR 4/4	10	D	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present

Wetland 15

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20220323-02-PEM

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.081275 | Long: -82.726405 | Datum: NAD83

Soil Map Unit Name: BeA - Bennington silt loam, 0 to 2 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present? Yes X No ____

Hydric Soil Present? Yes X No ____

Wetland Hydrology Present? Yes X No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:
Sample point in for PEM wetland, Wetland 15, in roadside ditch. Drains to west to culvert leading to wetland w-wrl-20220323-03. Wetland fully delineated by topography. Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Pyrus calleryana*	2	No	UPL
2.			
3.			
4.			
5.			
	2 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Typha angustifolia*	90	Yes	OBL
2. *Scirpus atrovirens*	10	No	OBL
3. *Leersia virginica*	10	No	FACW
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	110 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	100	x 1 =	100
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	2	x 5 =	10
Column Totals:	112 (A)		130 (B)

Prevalence Index = B/A = 1.16

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as rapid test.

SOIL

Sampling Point: L-20220323-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	10YR 4/3	100					Loamy/Clayey	gravelly
2-14	2.5Y 4/2	95	2.5Y 4/4	5	C	PL	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** ___

Remarks:

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Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 2

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary source of hydrology is precipitation.

UPL-Wetland 15

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20220323-02

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): convex

Slope (%): 3 | Lat: 40.081346 | Long: -82.726387 | Datum: NAD 83

Soil Map Unit Name: BeA - Bennington silt loam, 0 to 2 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out of PEM wetland 15 , about 10' north of boundary at top of bank. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rubus occidentalis*	20	Yes	UPL
2. *Elaeagnus umbellata*	15	Yes	UPL
3. *Salix X fragilis*	5	No	FAC
4.			
5.			
	40 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Poa pratensis*	60	Yes	FAC
2. *Solidago canadensis*	25	Yes	FACU
3. *Daucus carota*	5	No	UPL
4. *Dipsacus fullonum*	5	No	FACU
5. *Andropogon virginicus*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	65	x 3 =	195
FACU species	35	x 4 =	140
UPL species	40	x 5 =	200
Column Totals:	140 (A)		535 (B)

Prevalence Index = B/A = 3.82

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test < 50%, prevalence index > 3.0

SOIL

Sampling Point: WRL-202203

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					Loamy/Clayey	
9-15	10YR 5/4	60	10YR 4/2	40	D	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present

Wetland 16

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20220323-03-PEM

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.081304 | Long: -82.727171 | Datum: NAD83

Soil Map Unit Name: BeB - Bennington 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in for PEM wetland, Wetland 16, in roadside ditch. Drains to west to culvert leading to wetland 07. Wetland fully delineated by topography. Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Salix interior*	10	Yes	FACW
2.			
3.			
4.			
5.			
	10 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Typha angustifolia*	80	Yes	OBL
2. *Agrimonia parviflora*	15	No	FACW
3. *Solidago canadensis*	5	No	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	80	x 1 =	80
FACW species	25	x 2 =	50
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	110 (A)		150 (B)

Prevalence Index = B/A = 1.36

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as rapid test.

SOIL

Sampling Point: L-20220323-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 4/2	90	10YR 5/6	10	C	PL	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

Hydric Soil Present? **Yes** X **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 2
Water Table Present?	Yes X	No ___	Depth (inches): 10
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 4

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and inflow from culvert outlet from wetland w-wrl-20220323-02. Drains to culvert to west then to wetland 07.

UPL Wetland 16

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20220323-03

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): convex

Slope (%): 3 | Lat: 40.081386 | Long: -82.727192 | Datum: NAD83

Soil Map Unit Name: BeB - Bennington 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to PEM wetland 16, about 15' north of boundary at top of bank. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rubus occidentalis*	5	Yes	UPL
2. *Pyrus calleryana*	5	Yes	UPL
3.			
4.			
5.			
	10 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Schedonorus arundinaceus*	30	Yes	FACU
2. *Poa pratensis*	30	Yes	FAC
3. *Daucus carota*	20	No	UPL
4. *Cardamine hirsuta*	15	No	FACU
5. *Solidago canadensis*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
	105 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	30	x 3 =	90
FACU species	55	x 4 =	220
UPL species	30	x 5 =	150
Column Totals:	115 (A)		460 (B)
Prevalence Index = B/A =			4.00

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test < 50%, prevalence index > 3.0

SOIL

Sampling Point: WRL-202203

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-9	10YR 4/2	100					Loamy/Clayey	
9-15	10YR 5/4	90	10YR 4/2	10	D	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present

Wetland 17

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: W-WRL-20220323-04-PEM

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Swale | Local relief (concave, convex, none): concave

Slope (%): 1 | Lat: 40.081443 | Long: -82.737018 | Datum: NAD83

Soil Map Unit Name: Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** Yes X No ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:
Sample point in for PEM wetland, Wetland 17 on right descending bank of Stream 06 at upstream end of culvert. Wetland fully delineated. Sample point meets all wetland criteria.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Fraxinus pennsylvanica*	5	Yes	FACW
2. *Robinia pseudoacacia*	2	Yes	FACU
3. *Cornus racemosa*	2	Yes	FAC
4.			
5.			
	9 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Typha angustifolia*	60	Yes	OBL
2. *Phalaris arundinacea*	25	Yes	FACW
3. *Apocynum cannabinum*	10	No	FAC
4. *Leersia virginica*	10	No	FACW
5. *Dipsacus fullonum*	3	No	FACU
6.			
7.			
8.			
9.			
10.			
	108 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	60	x 1 =	60
FACW species	40	x 2 =	80
FAC species	12	x 3 =	36
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	117 (A)		196 (B)

Prevalence Index = B/A = 1.68

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicator present as rapid test.

SOIL

Sampling Point: L-20220323-0

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-3	10YR 4/2	100					Loamy/Clayey	
3-14	2.5Y 4/1	85	10YR 4/6	15	C	PL	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** ___

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Hydric soil indicator present as high value/low chroma matrix with redox concentrations.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): 0
Water Table Present?	Yes X	No ___	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from intermittent stream 6

UPL Wetland 17

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: AEP Innovation 138 kV Line | City/County: Licking | Sampling Date: 3/23/22

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-WRL-20220323-04

Investigator(s): Bill Leopold, Tom Lipp | Section, Township, Range: S14, T3N, R15W

Landform (hillside, terrace, etc.): Plains | Local relief (concave, convex, none): convex

Slope (%): 3 | Lat: 40.081443 | Long: -82.737158 | Datum: NAD 83

Soil Map Unit Name: Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded | 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 ____ significantly 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 showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point out to PEM wetland 17, about 10' west of boundary in old field, in powerline ROW. Not a wetland point as no wetland criteria met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' r)			
1. *Rubus occidentalis*	10	Yes	UPL
2. *Pyrus calleryana*	5	Yes	UPL
3.			
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5' r)			
1. *Schedonorus arundinaceus*	30	Yes	FACU
2. *Setaria pumila*	30	Yes	FAC
3. *Bromus inermis*	20	No	FACU
4. *Dipsacus fullonum*	20	No	FACU
5. *Apocynum cannabinum*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
	105 =Total Cover		
Woody Vine Stratum (Plot size: 30' r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 25.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	70	x 4 =	280
UPL species	15	x 5 =	75
Column Totals:	120 (A)		460 (B)
Prevalence Index = B/A =			3.83

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

____ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation indicators present, dominance test < 50%, prevalence index > 3.0

SOIL

Sampling Point: WRL-202203

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)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	2.5Y 3/2	85	2.5Y 3/1	15	D	M	Loamy/Clayey	no concentrations or sof masses

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** X

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

No hydric soil indicators present

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): 0

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? Yes ___ No X Depth (inches): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology indicators present

Background Information	
Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/7/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 01**
Vegetation Communit(ies):	**Emergent**
HGM Class(es):	**Mineral Soil Flats**

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

Lat/Long or UTM Coordinate:	**40.08707, -82.72762**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S NA, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 01		
Wetland Size (delineated acres):	0.26	Wetland Size (Estimated total acres):	6.77

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

N

Comments, Narrative Discussion, Justification of Category Changes:

On edge of woodlot, mostly disturbed within survey area from construction activities (soils and vegetation), open to west to PFO component and NWI-mapped wetland; highly disturbed due to construction, drains to west into woods; appears to be non-isolated from NWI wetland. Hydrophytic vegetation indicator present as dominance test > 50%; vegetation disturbed from recent woodlot clearing for construction activities on east side of mapped wetland area. Hydric soil indicator present as depleted matrix; soils partially disturbed from construction activities/clearing. Multiple primary and secondary wetland indicators are present; primary source of hydrology is precipitation; wetland extends to NWI-mapped wetland to west that drains to an NHD-mapped stream that flows south to South Fork Licking River that flows south and east to Buckeye Lake that drains east to Licking River, a TNW. ORAM assessment limited to portion of wetland within study area (except estimated total size).

Final score:	37.5	Category:	Modified 2

Wetland ID:	Wetland 01

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 01

Narrative Rating

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

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

Wetland ID:	Wetland 01

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

Wetland ID:	Wetland 01

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 01

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-01

Delineated acres:	0.26
Total acres:	6.77

Metric 1. Wetland Area (size).

3.0 (max 6 pts) | 3.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [x] 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.

8.0 (max 14 pts.) | 11.0 (subtotal)

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

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

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

- [x] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

6.0 (max 30 pts.) | 17.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [x] 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)
- [ ] Recovered (7)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

10.5 (max 20 pts.) | 27.5 (subtotal)

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

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

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [x] 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)
- [x] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

27.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 01

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:
W-WRL-20211207-01

27.5
subtotal this page

0.0 max 10 pts. | **27.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

10.0 max 20pts. | **37.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [x] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

37.5 TOTAL (Max 100 pts)

Modified 2 Category

Wetland ID:	Wetland 01

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3		
	Metric 2. Buffers and surrounding land use	8		
	Metric 3. Hydrology	6		
	Metric 4. Habitat	10.5		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	10		
	TOTAL SCORE	37.5		Category based on score breakpoints **Modified 2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 01

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

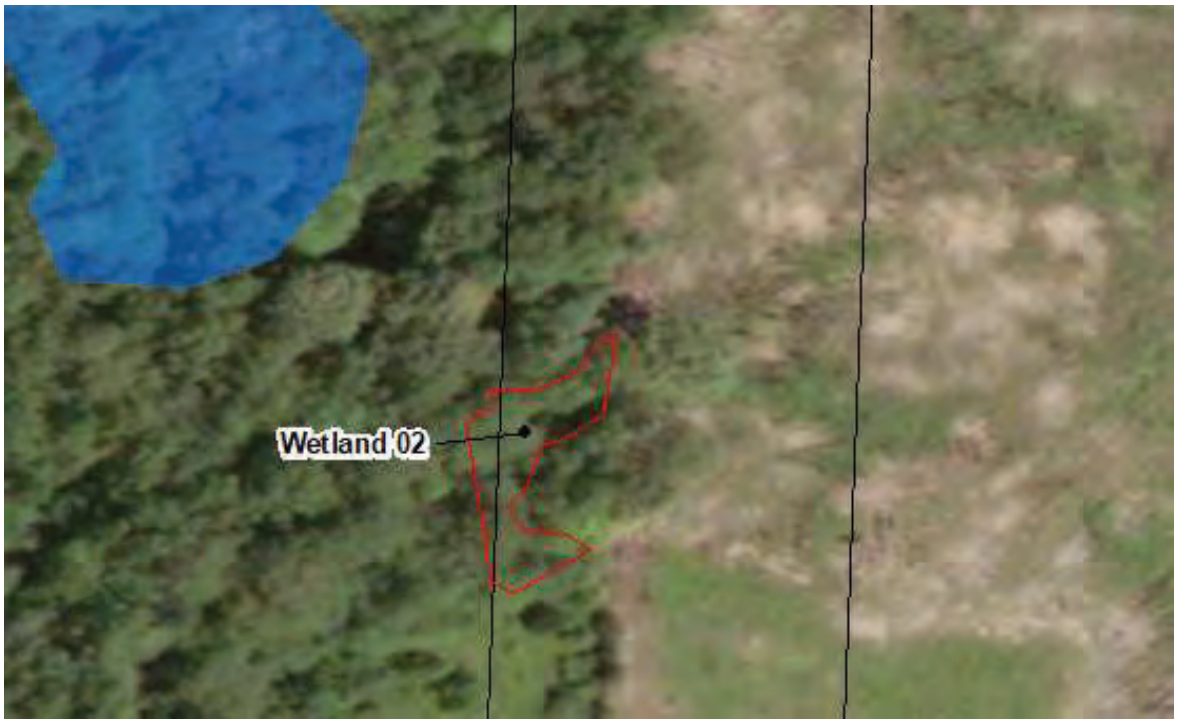
Background Information	
Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/7/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 02**
Vegetation Communit(ies):	**Forested**
HGM Class(es):	**Mineral Soil Flats**
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	

Lat/Long or UTM Coordinate:	**40.08483, -82.7277**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 02		
Wetland Size (delineated acres):	0.15	Wetland Size (Estimated total acres):	6.77

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

N



Comments, Narrative Discussion, Justification of Category Changes:

Sample point within forested area, Open to West to mapped NWI wetland area; completely disturbed to East of point in study area as a filled in depression. Wetland appears to drain to NHD-mapped stream off-site to west. Hydrophytic vegetation indicator present as dominance test > 50%. Vegetation partially disturbed due to clearing from adjacent construction activities. Hydric soil indicators present as low value/low chroma matrix withrequired redox concentrations in pore linings and within closed depression subject to ponding. Soils partly disturbed due to fill from adjacent construction activities. Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. Hydrology partially disturbed due to fill from adjacent construction activity. Wetland extends to NWI-mapped wetland to west that drains to an NHD-mapped stream that flows south to South Fork Licking River that flows south and east to Buckeye Lake that drains east to Licking River, a TNW.

Final score:	42.5	Category:	Modified 2

Wetland ID:	Wetland 02

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 02

Narrative Rating

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

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

Wetland ID:	Wetland 02

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

Wetland ID:	Wetland 02

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 02

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3		
	Metric 2. Buffers and surrounding land use	8		
	Metric 3. Hydrology	12.5		
	Metric 4. Habitat	11		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	8		
	TOTAL SCORE	42.5		Category based on score breakpoints **Modified 2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 02

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-02

Delineated acres:	0.15
Total acres:	6.77

Metric 1. Wetland Area (size).

3.0 (max 6 pts) | 3.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [x] 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.

8.0 (max 14 pts.) | 11.0 (subtotal)

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

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

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

- [x] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

12.5 (max 30 pts.) | 23.5 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

11.0 (max 20 pts.) | 34.5 (subtotal)

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

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

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [x] 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)
- [x] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

34.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 02

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:
W-WRL-20211207-02

34.5
subtotal this page

0.0 max 10 pts. **34.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

8.0 max 20pts. **42.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

42.5 TOTAL (Max 100 pts)

Modified 2 Category

Wetland ID:	Wetland 02

Wetland Categorization Worksheet

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

Final Category

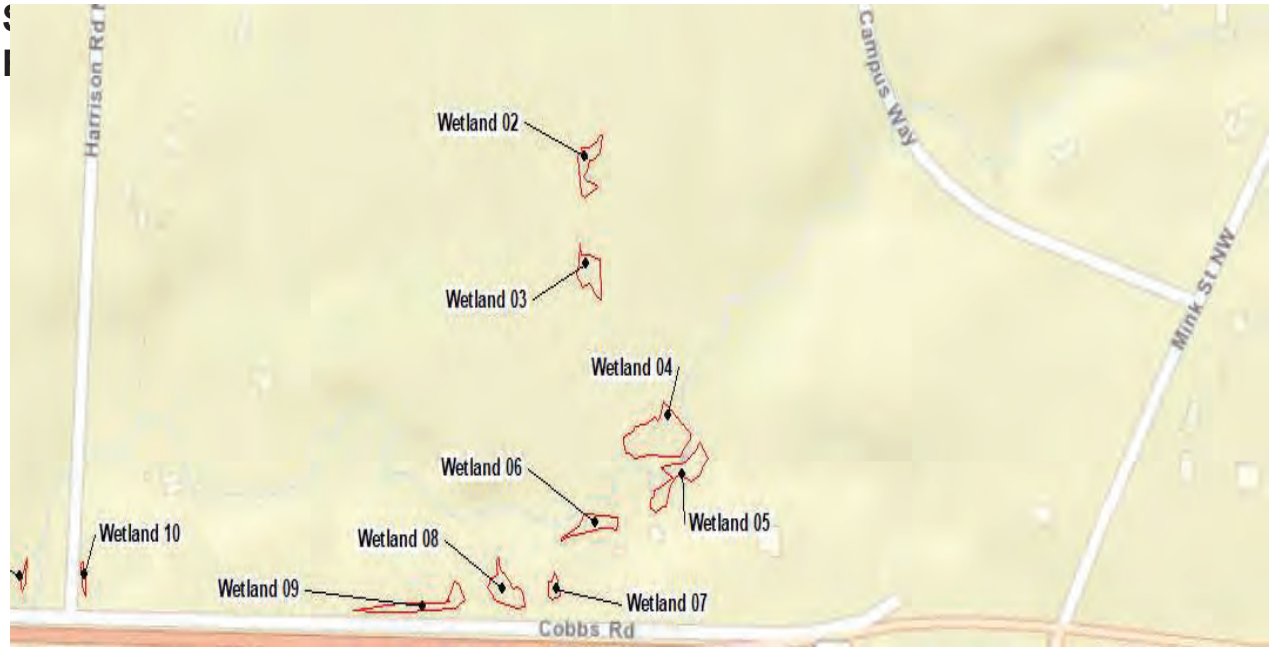
Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/7/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 03**
Vegetation Communit(ies):	**Scrub/Shrub**
HGM Class(es):	**Mineral Soil Flats**

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



Lat/Long or UTM Coordinate:	**40.08398, -82.72768**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 03		
Wetland Size (delineated acres):	0.17	Wetland Size (Estimated total acres):	0.25

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Open to west, disturbed to east by construction and fill (soils); does not extend or appear to drain to new stormwater pond to east. No evident and visible connectivity to any other features. Hydrophytic vegetation indicator present as dominance test > 50%. hydric soil indicator present as depleted matrix, high value/low chroma matrix present; soils in part disturbed from adjacent construction activities and fill. Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. No evident drainage pathway present on-site or from aerial imagery to adjacent features, construction activities and fill to east prevents drainage to east.

Final score:	33.5	Category:	1 or 2 Gray Zone

Wetland ID:	Wetland 03

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 03

Narrative Rating

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

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

Wetland ID:	Wetland 03

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

Wetland ID:	Wetland 03

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 03

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-03

Delineated acres:	0.17
Total acres:	0.25

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 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.

7.0 (max 14 pts.) | 8.0 (subtotal)

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

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

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

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

Metric 3. Hydrology.

10.0 (max 30 pts.) | 18.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

9.5 (max 20 pts.) | 27.5 (subtotal)

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

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

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [x] 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)
- [x] Recovered (6)
- [ ] Recovering (3)
- [x] Recent or no recovery (1)

Check all disturbances observed

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

27.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 03

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:
W-WRL-20211207-03

27.5
subtotal this page

0.0 max 10 pts. **27.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6.0 max 20pts. **33.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [x] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

33.5 **TOTAL (Max 100 pts)**
1 or 2 Gray Zone **Category**

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Wetland ID:	Wetland 03

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1		
	Metric 2. Buffers and surrounding land use	7		
	Metric 3. Hydrology	10		
	Metric 4. Habitat	9.5		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	6		
	TOTAL SCORE	33.5		Category based on score breakpoints **1 or 2 Gray Zone**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 03

Wetland Categorization Worksheet

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

Final Category

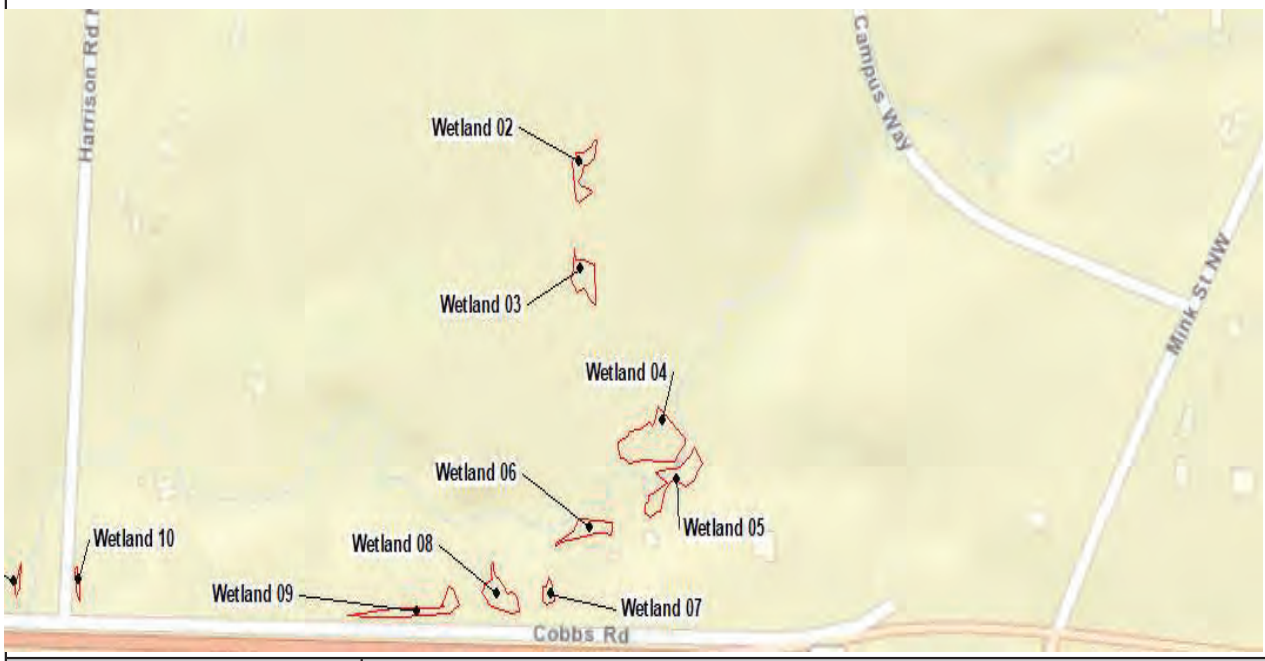
Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/15/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 04**
Vegetation Communit(ies):	**PEM, PFO**
HGM Class(es):	**Mineral Soil Flats**

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



Lat/Long or UTM Coordinate:	**40.08267, -82.72685**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14 NE**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 04		
Wetland Size (delineated acres):	0.50	Wetland Size (Estimated total acres):	0.75

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Wetland is a PEM/PFO wetland complex on right descending bank of South Fork Licking River. Sample point meets all wetland criteria and abuts perennial stream. hytic vegetation indicator present as prevalence index < 3.0. Hydric soil indicator present as depleted matrix, high value/low chroma matrix with redox concentrations. Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts perennial South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	47.5	Category:	2

Wetland ID:	Wetland 04

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 04

Narrative Rating

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

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

Wetland ID:	Wetland 04

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

Wetland ID:	Wetland 04

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 04

Site:	AEP Innovation 138kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-wrl-20211207-04

Delineated acres:	0.50
Total acres:	0.75

Metric 1. Wetland Area (size).

2.0 (max 6 pts) | 2.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

4.0 (max 14 pts.) | 6.0 (subtotal)

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

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

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

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

Metric 3. Hydrology.

15.0 (max 30 pts.) | 21.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

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

Check all disturbances observed

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

35.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 04

Site:	AEP Innovation 138kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-wrl-20211207-04

35.5
subtotal this page

0.0 max 10 pts. | **35.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

12.0 max 20pts. | **47.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [x] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

47.5 TOTAL (Max 100 pts)

2 Category

Wetland ID:	Wetland 04

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2		
	Metric 2. Buffers and surrounding land use	4		
	Metric 3. Hydrology	15		
	Metric 4. Habitat	14.5		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	12		
	TOTAL SCORE	47.5		Category based on score breakpoints **2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 04

Wetland Categorization Worksheet

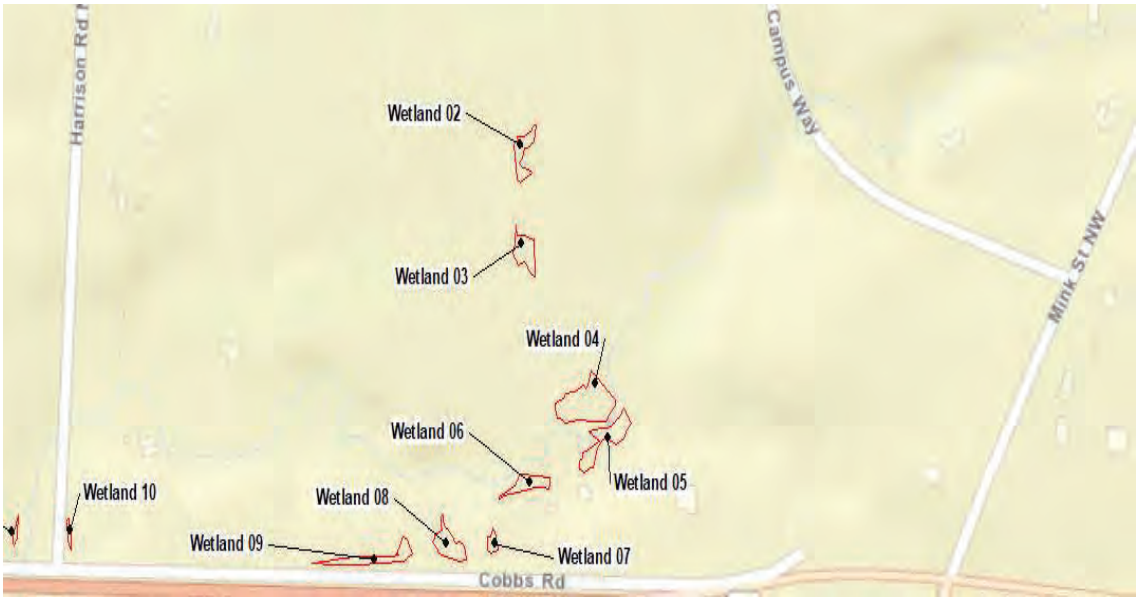
Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	***NO**	Is quantitative rating score *less* than the Category 2 scoring threshold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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/6/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 05**
Vegetation Communit(ies):	**Scrub/Shrub**
HGM Class(es):	**Mineral Soil Flats**
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	



Lat/Long or UTM Coordinate:	**40.08236, -82.72659**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/6/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 05		
Wetland Size (delineated acres):	0.25	Wetland Size (Estimated total acres):	0.29

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Wetland on On Left Descending Ban, of S-01 at crossing, open to east. Boundary delineated by toe of slope and bankfull of S-02, and by Lysimacchia in residential lawn. Wetland abuts South Fork Licking River. Hydrophytic vegetation indicator present as dominance test > 50%. Hydric soil indicator present as depleted matrix, high value/low chroma matrix. Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overbank flow; Wetland abuts South Fork Licking River that flows west, south then east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	45	Category:	2

Wetland ID:	Wetland 05

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 05

Narrative Rating

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

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

Wetland ID:	Wetland 05

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

Wetland ID:	Wetland 05

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 05

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill leopold, Cameron Wyse	Date:	12/6/2021

Field ID:

W-WRL-20211206-02

Delineated acres:	0.25
Total acres:	0.29

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 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.

5.0 (max 14 pts.) | 6.0 (subtotal)

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

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

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

18.0 (max 30 pts.) | 24.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

12.0 (max 20 pts.) | 36.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

36.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 05

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill leopold, Cameron Wyse	Date:	12/6/2021

Field ID:

W-WRL-20211206-02

36.0
subtotal this page

0.0 max 10 pts. | **36.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

9.0 max 20pts. | **45.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [x] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

45.0 TOTAL (Max 100 pts)

2 Category

Wetland ID:	Wetland 05

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1		
	Metric 2. Buffers and surrounding land use	5		
	Metric 3. Hydrology	18		
	Metric 4. Habitat	12		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	9		
	TOTAL SCORE	45		Category based on score breakpoints **2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 05

Wetland Categorization Worksheet

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

Final Category

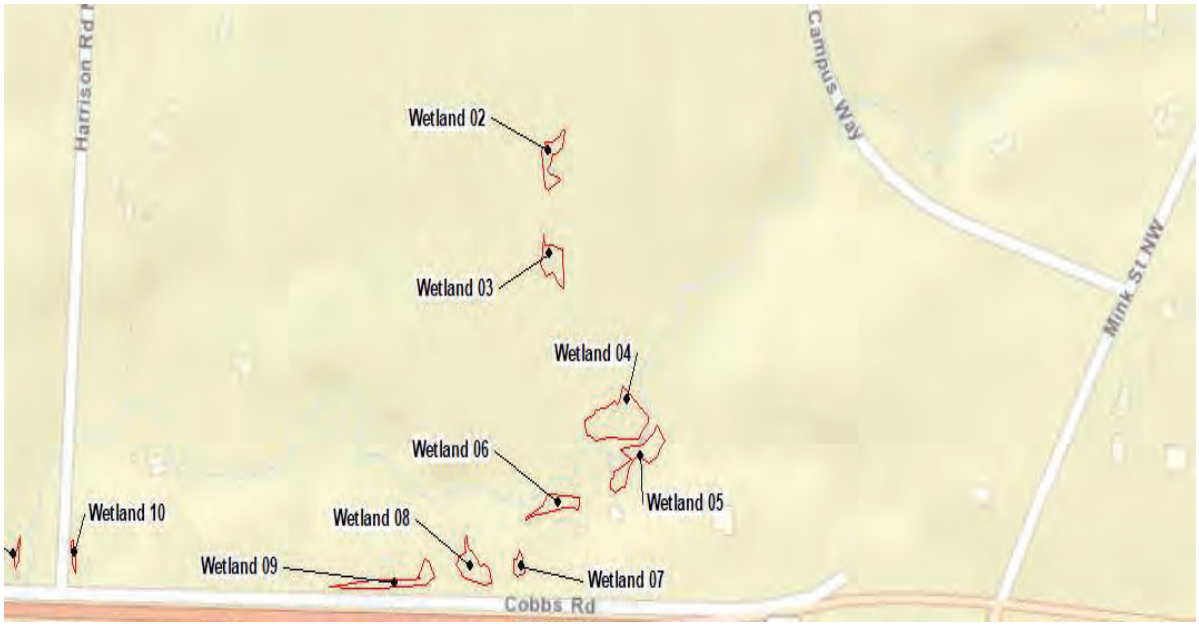
Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/6/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 06**
Vegetation Communit(ies):	**Scrub/Shrub**
HGM Class(es):	**Mineral Soil Flats**

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

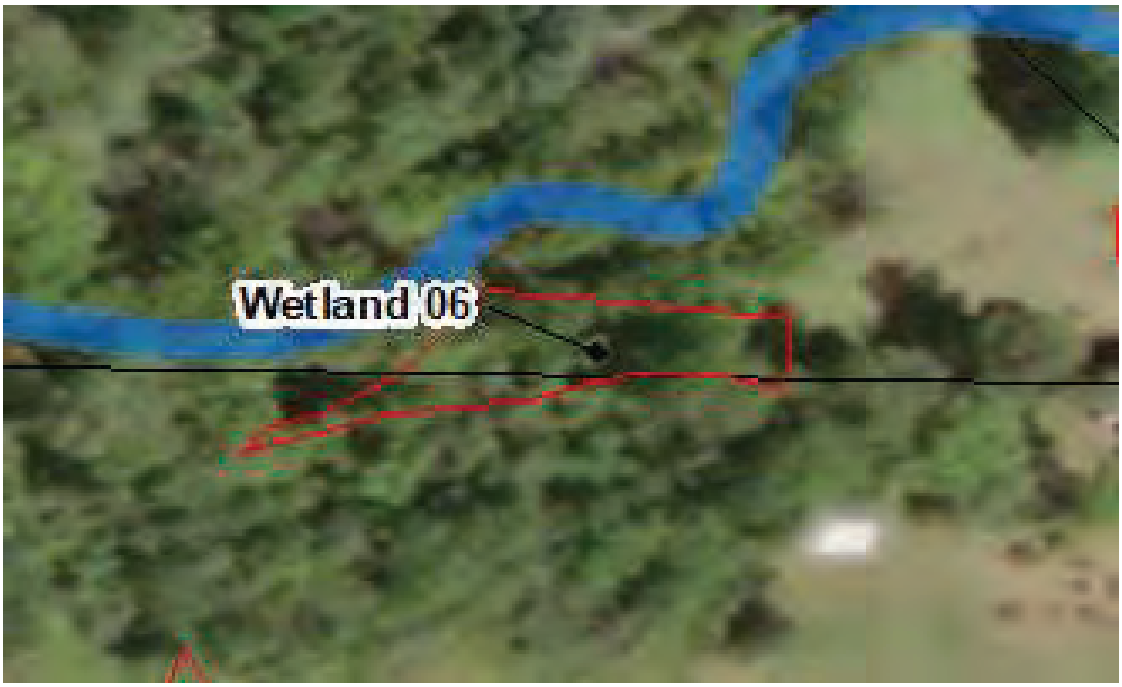


Lat/Long or UTM Coordinate:	**40.08197, -82.72763**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/6/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 06		
Wetland Size (delineated acres):	0.13	Wetland Size (Estimated total acres):	0.22

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

N



Comments, Narrative Discussion, Justification of Category Changes:

PSS on terrace of stream to toe of slope. 10 flags, open to North and West into restricted property, boundary delineated by topography and vegetation. Abuts perennial South Fork Licking River; hydropytic vegetation indicator present as dominance test > 50%; Hydric soil indicator present as low value/low chroma matrix with redox concentrations in pore linings. Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from perennial stream. Wetland abuts South Fork Licking River that flows south and east to Buckeye Lake that drains to Licking River, a TNW.

Final score:	44	Category:	Modified 2

Wetland ID:	Wetland 06

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 06

Narrative Rating

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

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

Wetland ID:	Wetland 06

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

Wetland ID:	Wetland 06

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 06

Site:	AEP Innovation 138 kV line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/6/2021

Field ID:

W-WRL-20211206-01

Delineated acres:	0.13
Total acres:	0.22

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 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.

5.0 (max 14 pts.) | 6.0 (subtotal)

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

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

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

18.0 (max 30 pts.) | 24.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

15.0 (max 20 pts.) | 39.0 (subtotal)

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

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

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

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

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

- [x] 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 removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

39.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 06

Site:	AEP Innovation 138 kV line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/6/2021

Field ID:

W-WRL-20211206-01

39.0
subtotal this page

0.0 max 10 pts. | **39.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5.0 max 20pts. | **44.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [x] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

44.0 TOTAL (Max 100 pts)

Modified 2 Category

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Wetland ID:	Wetland 06

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1		
	Metric 2. Buffers and surrounding land use	5		
	Metric 3. Hydrology	18		
	Metric 4. Habitat	15		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	5		
	TOTAL SCORE	44		Category based on score breakpoints **Modified 2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 06

Wetland Categorization Worksheet

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

Final Category

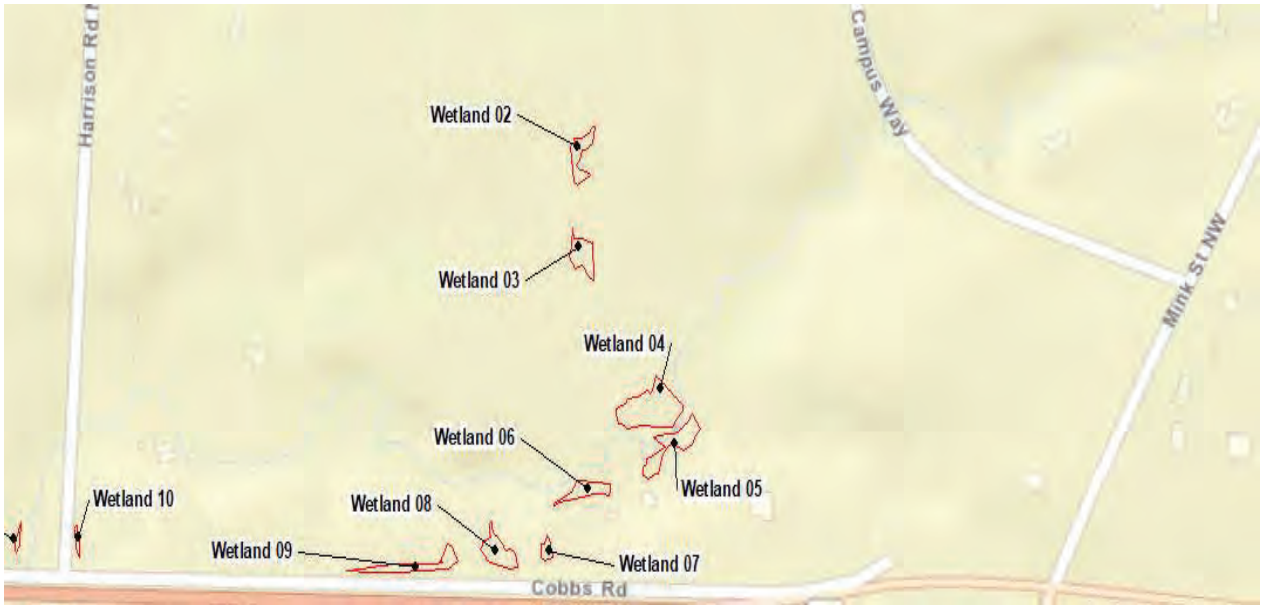
Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/7/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 07**
Vegetation Communit(ies):	**Emergent**
HGM Class(es):	**Mineral Soil Flats**

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

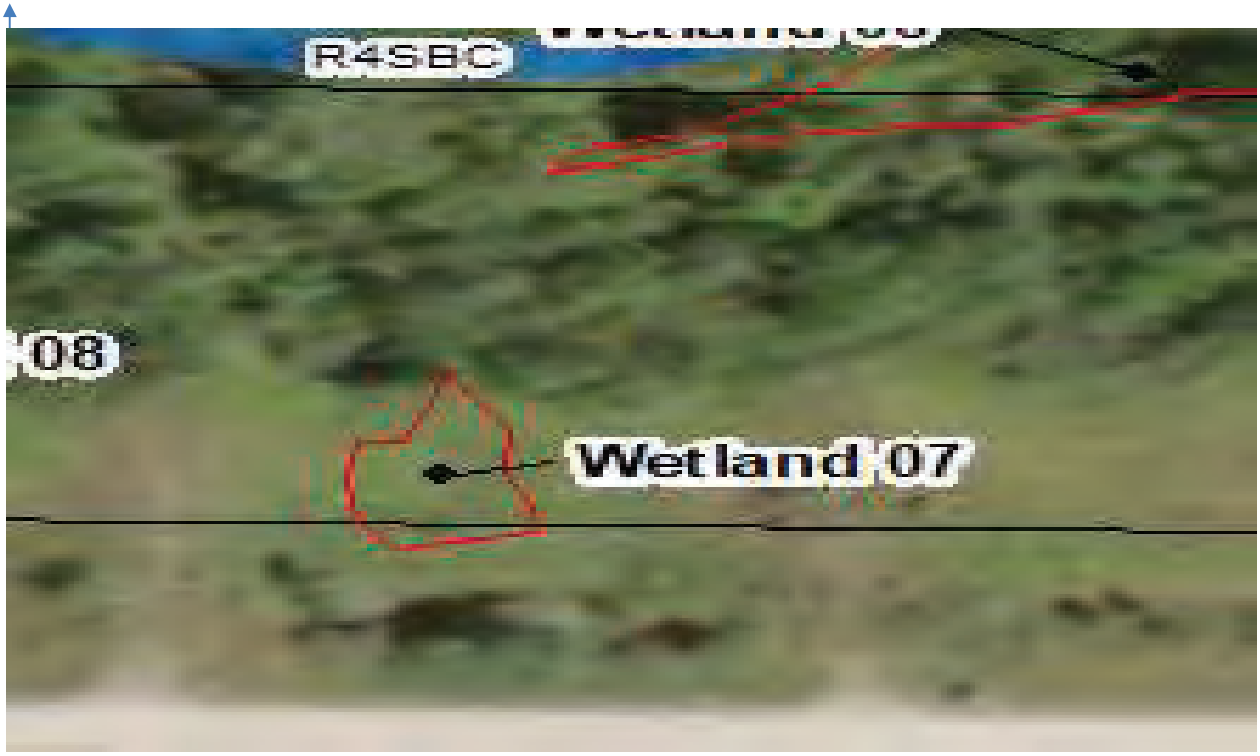


Lat/Long or UTM Coordinate:	**40.08146, -82.72811**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 07		
Wetland Size (delineated acres):	0.05	Wetland Size (Estimated total acres):	0.08

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

N



Comments, Narrative Discussion, Justification of Category Changes:

Fully delineated as approximate wetland, is on restricted property slightly, drains to west via culvert and to North via wet weather conveyance. Soils disturbed by pipeline crossing, veg is also managed (problematic?). All wetland criteria met. Hydrophytic vegetation indicator present as dominance test > 50%. Vegetation maintained by pipeline easement (not problematic). Hydric soil indicator present as depleted matrix with high value/low chroma matrix with redox concentrations present; recovered from past disturbances due to pipeline construction. Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation. Wetland drains partially to north through wet weather conveyance (vegetated swale) to South Fork Licking River, and partially to west through culvert to wetland 05 then north to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	23	Category:	1

Wetland ID:	Wetland 07

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 07

Narrative Rating

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

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

Wetland ID:	Wetland 07

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

Wetland ID:	Wetland 07

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 07

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-05

Delineated acres:	0.05
Total acres:	0.08

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

5.0 (max 14 pts.) | 5.0 (subtotal)

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

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

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

7.0 (max 30 pts.) | 12.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [x] 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)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

9.0 (max 20 pts.) | 21.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

21.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 07

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:
W-WRL-20211207-05

21.0
subtotal this page

0.0 max 10 pts. | **21.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0 max 20pts. | **23.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23.0 TOTAL (Max 100 pts)
1 Category

Wetland ID:	Wetland 07

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0		
	Metric 2. Buffers and surrounding land use	5		
	Metric 3. Hydrology	7		
	Metric 4. Habitat	9		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	2		
	TOTAL SCORE	23		Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 07

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

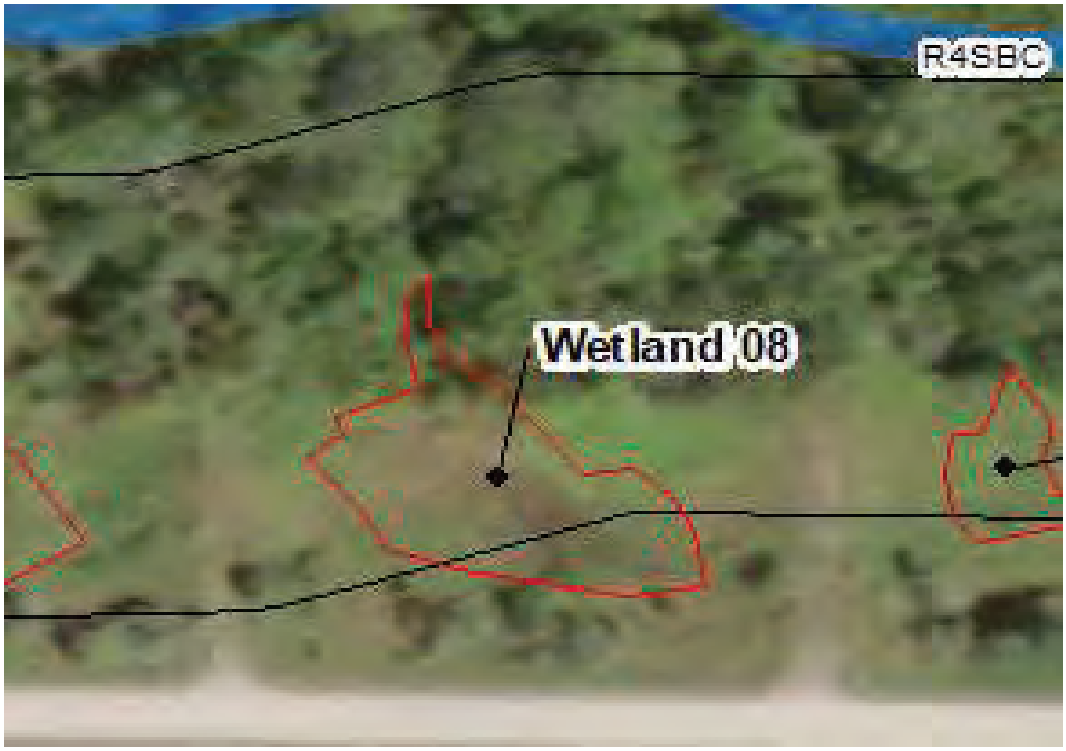
Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/15/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 08**
Vegetation Communit(ies):	**Emergent**
HGM Class(es):	**Mineral Soil Flats**

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

Lat/Long or UTM Coordinate:	**40.08144, -82.7287**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 08		
Wetland Size (delineated acres):	0.19	Wetland Size (Estimated total acres):	0.19

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



Comments, Narrative Discussion, Justification of Category Changes:

Sample point in to PEM wetland between driveways on old terrace of river; pipeline passes through wetland (soils disturbed? And vegetation mangated/problematic?); drains to North to South Fork Licking River. Hydrophytic vegetation indicator present as dominance test > 50%; managed vegetation not problematic. Hydric soil indicators present as depleted matrix and redox depressions, high value/low chroma matrix with required redox concentrations. soils disturbances not a factor. Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overflow from adjacent wetland. Wetland drains to north via intermittent stream to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	23	Category:	1

Wetland ID:	Wetland 08

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 08

Narrative Rating

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

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

Wetland ID:	Wetland 08

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

Wetland ID:	Wetland 08

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 08

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-06

Delineated acres:	0.19
Total acres:	0.19

Metric 1. Wetland Area (size).

1.0 / 1.0 (max 6 pts / subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (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)
- [x] 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.

6.0 / 7.0 (max 14 pts. / subtotal)

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

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

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

- [x] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

9.0 / 16.0 (max 30 pts. / subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7.0 / 23.0 (max 20 pts. / subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

23.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 08

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/7/2021

Field ID:

W-WRL-20211207-06

23.0 subtotal this page

0.0 max 10 pts. **23.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

0.0 max 20pts. **23.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [x] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23.0 **TOTAL (Max 100 pts)**

1 **Category**

Wetland ID:	Wetland 08

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1		
	Metric 2. Buffers and surrounding land use	6		
	Metric 3. Hydrology	9		
	Metric 4. Habitat	7		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	0		
	TOTAL SCORE	23		Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 08

Wetland Categorization Worksheet

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

Final Category

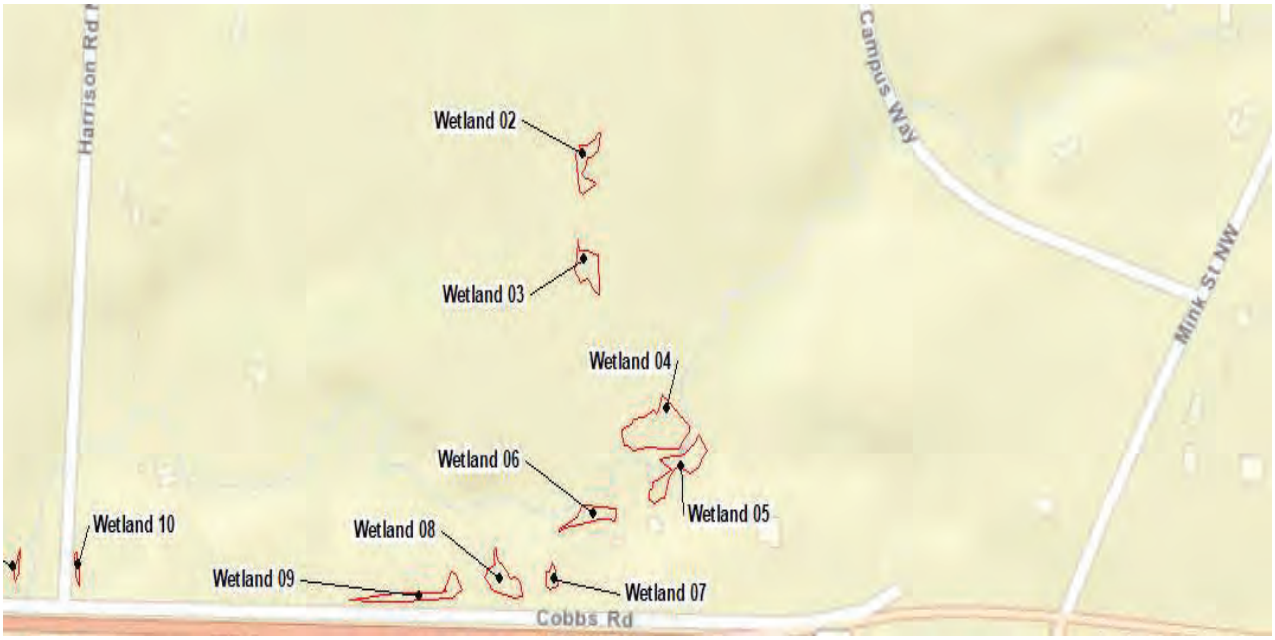
Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/15/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 09**
Vegetation Communit(ies):	**Emergent**
HGM Class(es):	**Mineral Soil Flats**

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

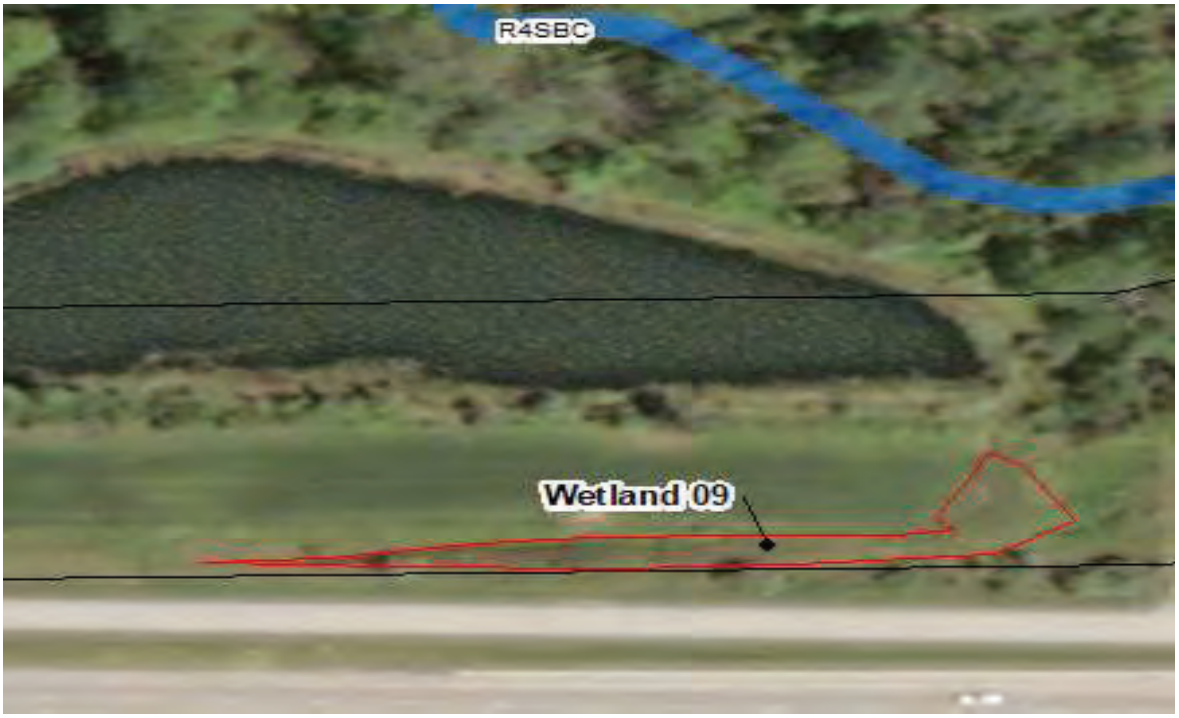


Lat/Long or UTM Coordinate:	**40.08133, -82.72967**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/7/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 09		
Wetland Size (delineated acres):	0.18	Wetland Size (Estimated total acres):	0.18

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

N



Comments, Narrative Discussion, Justification of Category Changes:

Draingae ditch wetland drains across Ag field to Pond 02, disturbed and atypical due to toe of roadway embankment drainage ditch, pipeline crossing and ag field; wetland fully delineated. Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as Rapid Test for hydrophytic vegetation, all plants are FACW or OBL. Hydric soil indicators present as high value/low chroma matrix with required redox concentrations and in depression subject to ponding. Soils not problematic. Multiple primary and secondary hydrology indicators present; primary source of hydrology is precipitation; wetland drains north to Pond 02 via short erosion channel, which drains north to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	15	Category:	1

Wetland ID:	Wetland 09

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 09

Narrative Rating

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

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

Wetland ID:	Wetland 09

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

Wetland ID:	Wetland 09

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 09

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/7/2021

Field ID:

W-WRL-20211207-07

Delineated acres:	0.18
Total acres:	0.18

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 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.

1.0 (max 14 pts.) | 2.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

8.0 (max 30 pts.) | 10.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

6.0 (max 20 pts.) | 16.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

16.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 09

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/7/2021

Field ID:

W-WRL-20211207-07

16.0
subtotal this page

0.0 max 10 pts. | **16.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1.0 max 20pts. | **15.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [x] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

15.0 TOTAL (Max 100 pts)

1 Category

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Wetland ID:	Wetland 09

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 09

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	Bill Leopold, Cameron Wyse
Date:	12/8/2021
Affiliation:	AECOM
Address:	525 Vine St., Ste. 1800, Cincinnati, OH 45202
Phone Number:	513-419-3457
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 10**
Vegetation Communit(ies):	Emergent
HGM Class(es):	Mineral Soil Flats

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

Lat/Long or UTM Coordinate:	40.08153, -82.73383
USGS Quad Name:	Jersey
County:	Licking
Township:	Jersey
Section and Subsection:	S14, T2N, R15W
Hydrologic Unit Code:	050400060402: Headwaters South Fork Licking River
Site Visit:	12/8/2021
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland 10		
Wetland Size (delineated acres):	0.02	Wetland Size (Estimated total acres):	0.02

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

N

Comments, Narrative Discussion, Justification of Category Changes:

This sampled point is representative of wetland W-WRL-20211208-01. Located in a roadside drainage swale by farm field, 6 flags fully delineated, drains to North via vegetated roadside ditch, disturbances from farming to soil and mowing/farming to veg. A preponderance of hydrophytic vegetation was present at the time of sampling. Veg disturbed from farming and mowing. Disturbed by past farming activities and roadside drainage ditch maintenance, presumed hydric due to low value/low chroma matrix and prominent redox concentrations in lower layer. Multiple indicators of wetland hydrology indicators were present at the time of sampling. Dry season water table observed. Depth of water table does not meet the criteria for the high water table primary hydrology indicator. Sources of hydrology are precipitation; wetland drains to north via vegetated roadside swale to South Fork Licking River that flows west, south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	15	Category:	1

Wetland ID:	Wetland 10

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 10

Narrative Rating

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

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

Wetland ID:	Wetland 10

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

Wetland ID:	Wetland 10

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 10

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/8/2021

Field ID:

W-WRL-20211208-01

Delineated acres:	0.02
Total acres:	0.02

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

1.0 (max 14 pts.) | 1.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

7.0 (max 30 pts.) | 8.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3)
- [ ] Seasonally inundated (2)
- [x] 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)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

6.0 (max 20 pts.) | 14.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

14.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 10

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/8/2021

Field ID:

W-WRL-20211208-01

14.0
subtotal this page

0.0 max 10 pts. | **14.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1.0 max 20pts. | **15.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

15.0 TOTAL (Max 100 pts)

1 Category

Wetland ID:	Wetland 10

ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 10

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	Bill Leopold, Cameron Wyse
Date:	12/8/2021
Affiliation:	AECOM
Address:	525 Vine St., Ste. 1800, Cincinnati, OH 45202
Phone Number:	513-419-3457
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 11**
Vegetation Communit(ies):	Emergent
HGM Class(es):	Mineral Soil Flats

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

Lat/Long or UTM Coordinate:	40.08154, -82.73456
USGS Quad Name:	Jersey
County:	Licking
Township:	Jersey
Section and Subsection:	S14, T2N, R15W
Hydrologic Unit Code:	050400060402: Headwaters South Fork Licking River
Site Visit:	12/8/2021
National Wetland Inventory Map:	See Figure 2
Ohio Wetland Inventory Map:	See Figure 2
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 3

Name of Wetland:	Wetland 11		
Wetland Size (delineated acres):	0.02	Wetland Size (Estimated total acres):	0.02

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in to PEM wetland located on terrace of perennial stream, possibly abandoned channel. Soils possibly disturbed from past pipeline construction, vegetation managed by pipeline (problematic?). Sample point meets all wetland criteria. A preponderance of hydrophytic vegetation was present at the time of sampling, hydrophytic vegetation indicator of dominance test > 50%. Soil profile meets the criteria for having a depleted matrix (F3) and redox dark surface (F6); prior pipeline disturbances not evident. Multiple primary and secondary wetland hydrology indicators were present at the time of sampling. Primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts South Fork Licking River that flows south and east to Buckeye Lake that flows to Licking River, a TNW.

Final score:	39	Category:	Modified 2

Wetland ID:	Wetland 11

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 11

Narrative Rating

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

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

Wetland ID:	Wetland 11

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

Wetland ID:	Wetland 11

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 11

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/8/2021

Field ID:

W-WRL-20211208-02

Delineated acres:	0.02
Total acres:	0.02

Metric 1. Wetland Area (size).

0.0 / 0.0 (max 6 pts / subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

5.0 / 5.0 (max 14 pts. / subtotal)

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

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

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

18.0 / 23.0 (max 30 pts. / subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

10.0 / 33.0 (max 20 pts. / subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

33.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 11

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold	Date:	12/8/2021

Field ID:

W-WRL-20211208-02

33.0 subtotal this page

0.0 max 10 pts. **33.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6.0 max 20pts. **39.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

39.0 TOTAL (Max 100 pts)

Modified 2 Category

Wetland ID:	Wetland 11

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0		
	Metric 2. Buffers and surrounding land use	5		
	Metric 3. Hydrology	18		
	Metric 4. Habitat	10		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	6		
	TOTAL SCORE	39		Category based on score breakpoints **Modified 2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 11

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/15/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 12**
Vegetation Communit(ies):	**Emergent**
HGM Class(es):	**Depressional**

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

Lat/Long or UTM Coordinate:	**40.07663, -82.73787**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/8/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 12		
Wetland Size (delineated acres):	2.22	Wetland Size (Estimated total acres):	2.22

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in to large PEM wetland, encompasses two NWI mapped features, surrounding hillsides and edges of wetland heavily impacted by construction and clearing activities all around, potentially isolated, no outflows found, fully delineated within depression, all sides slope upwards. Hydrophytic vegetation indicator present as dominance test > 50%; low prevalence of vegetation aereal cover due to recent clearing/construction activities. Hydric soil indicators present as low value/low chroma matrix with required redox concentrations in closed depression subject to ponding. Soil disturbances not significant. Multiple primary and secondary hydrology indicators present;primary source of hydrology is precipitation runoff into closed depression. No outflow observed from wetland, full boundary delineated, all sides slope upwards.

Final score:	46.5	Category:	2

Wetland ID:	Wetland 12

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 12

Narrative Rating

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

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

Wetland ID:	Wetland 12

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

Wetland ID:	Wetland 12

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 12

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/8/2021

Field ID:

W-WRL-20211208-03

Delineated acres:	2.22
Total acres:	2.22

Metric 1. Wetland Area (size).

2.0 (max 6 pts) | 2.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

2.0 (max 14 pts.) | 4.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

18.0 (max 30 pts.) | 22.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [x] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

12.5 (max 20 pts.) | 34.5 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

34.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 12

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/8/2021

Field ID:
W-WRL-20211208-03

34.5
subtotal this page

0.0 | 34.5 **Metric 5. Special Wetlands.**
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-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Praires (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 5 Qualitative Rating (-10)

12.0 | 46.5 **Metric 6. Plant communities, interspersion, microtopography.**
max 20pts. subtotal

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [x] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [x] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [2] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [0] Standing dead >25cm (10in) dbh
- [3] Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

46.5 **TOTAL (Max 100 pts)**
2 **Category**

Wetland ID:	Wetland 12

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2		
	Metric 2. Buffers and surrounding land use	2		
	Metric 3. Hydrology	18		
	Metric 4. Habitat	12.5		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	12		
	TOTAL SCORE	46.5		Category based on score breakpoints **2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 12

Wetland Categorization Worksheet

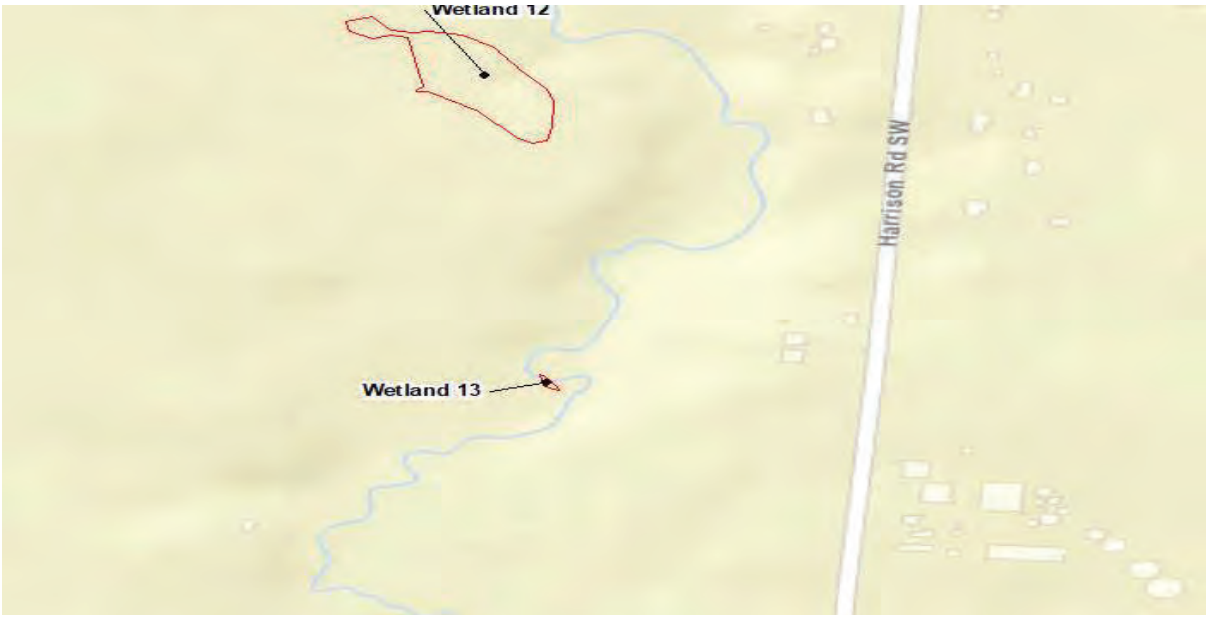
Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	***NO**	Is quantitative rating score *less* than the Category 2 scoring threshold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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**Bill Leopold, Cameron Wyse**
Date:	**12/8/2021**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-419-3457**
e-mail address:	Bill.Leopold@AECOM.com
Name of Wetland:	**Wetland 13**
Vegetation Communit(ies):	**Forested**
HGM Class(es):	**Riverine**
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	



Lat/Long or UTM Coordinate:	**40.073, -82.73726**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14, T2N, R15W**
Hydrologic Unit Code:	**050400060402: Headwaters South Fork Licking River**
Site Visit:	**12/8/2021**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**See Figure 2**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 13		
Wetland Size (delineated acres):	0.03	Wetland Size (Estimated total acres):	0.03

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in to PFO wetland taken within Oxbow, wetland open to East to South Fork Licking River; disturbed soils due to lots of fill in remnant channel; Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as dominance test > 50%. Hydric soil indicator present as high value/low chroma matrix with redox features in sandy soils. sample point taken away from recent fill dirt areas. Multiple primary and secondary hydrology indicators present; primary sources of hydrology are precipitation and overbank flow from perennial stream; wetland abuts perennial South Fork Licking River that flows south and west to Buckeye Lake that flows to Licking River, a TNW.

Final score:	37	Category:	Modified 2

Wetland ID:	Wetland 13

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 13

Narrative Rating

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

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

Wetland ID:	Wetland 13

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

Wetland ID:	Wetland 13

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 13

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/8/2021

Field ID:

W-WRL-20211208-04

Delineated acres:	0.03
Total acres:	0.03

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

2.0 (max 14 pts.) | 2.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

16.0 (max 30 pts.) | 18.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [x] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

11.0 (max 20 pts.) | 29.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

29.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 13

Site:	AEP Innovation 138 kV Line	Rater(s):	Bill Leopold, Cameron Wyse	Date:	12/8/2021

Field ID:

W-WRL-20211208-04

29.0
subtotal this page

0.0 max 10 pts. **29.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

8.0 max 20pts. **37.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [x] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [ ] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [x] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

37.0 TOTAL (Max 100 pts)

Modified 2 Category

Wetland ID:	Wetland 13

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	No	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0		
	Metric 2. Buffers and surrounding land use	2		
	Metric 3. Hydrology	16		
	Metric 4. Habitat	11		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	8		
	TOTAL SCORE	37		Category based on score breakpoints **Modified 2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 13

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**B.Leopold, T. Lipp**
Date:	**3/23/2022**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-651-3440**
e-mail address:	bill.leopold@aecom.com
Name of Wetland:	**Wetland 14**
Vegetation Communit(ies):	**PEM**
HGM Class(es):	**Mineral soil flats**

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

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14 SW**
Hydrologic Unit Code:	**050400060402 Headwaters South Fork Licking River**
Site Visit:	**3/23/2022**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 14		
Wetland Size (delineated acres):	1.01	Wetland Size (Estimated total acres):	1.01

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in for PFO wetland on right descending bank of Stream 1/3, between top-of-bank and toe-of-slope surrounding hillside, open to west along stream. Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as dominance test > 50%. Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses. Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are overbank flow from perennial Stream 1/3 and precipittaion.

Final score:	**57.5**	**Category:**	**2**

Wetland ID:	Wetland 14

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 14

Narrative Rating

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

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

Wetland ID:	Wetland 14

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

Wetland ID:	Wetland 14

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 14

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-01

Delineated acres:	1.01
Total acres:	1.01

Metric 1. Wetland Area (size).

2.0 (max 6 pts) | 2.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

8.0 (max 14 pts.) | 10.0 (subtotal)

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

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

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [x] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

24.0 (max 30 pts.) | 34.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [x] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [ ] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

12.5 (max 20 pts.) | 46.5 (subtotal)

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

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

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [x] 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)
- [x] Recovered (6)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

46.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 14

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-01

46.5
subtotal this page

0.0 max 10 pts. | **46.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

11.0 max 20pts. | **57.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

	Aquatic bed
0	Emergent
2	Shrub
1	Forest
	Mudflats
	Open water
	Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

	High (5)
	Moderately high(4)
x	Moderate (3)
	Moderately low (2)
	Low (1)
	None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

0	Vegetated hummucks/tussucks
2	Coarse woody debris >15cm (6in)
2	Standing dead >25cm (10in) dbh
2	Amphibian breeding pools

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

57.5 **TOTAL (Max 100 pts)**

2 **Category**

Wetland ID:	Wetland 14

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2		
	Metric 2. Buffers and surrounding land use	8		
	Metric 3. Hydrology	24		
	Metric 4. Habitat	12.5		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	11		
	TOTAL SCORE	57.5		Category based on score breakpoints **2**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 14

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	***Category 2**	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**B.Leopold, T. Lipp**
Date:	**3/23/2022**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-651-3440**
e-mail address:	bill.leopold@aecom.com
Name of Wetland:	**Wetland 15**
Vegetation Communit(ies):	**PEM**
HGM Class(es):	**Mineral soil flats**

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

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14 SE**
Hydrologic Unit Code:	**050400060402 Headwaters South Fork Licking River**
Site Visit:	**3/23/2022**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 15		
Wetland Size (delineated acres):	0.01	Wetland Size (Estimated total acres):	0.01

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in for PEM wetland in roadside ditch. Drains to west to culvert leading to wetland w-wrl-20220323-03. Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as rapid test. Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses. Multiple primary and secondary hydrology indicators present. Primary source of hydrology is precipitation.

Final score:	12	Category:	1

Wetland ID:	Wetland 15

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 15

Narrative Rating

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

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

Wetland ID:	Wetland 15

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

Wetland ID:	Wetland 15

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 15

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-02

Delineated acres:	0.01
Total acres:	0.01

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

3.0 (max 14 pts.) | 3.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

6.0 (max 30 pts.) | 9.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7.0 (max 20 pts.) | 16.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

16.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 15

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-02

16.0
subtotal this page

0.0 max 10 pts. | **16.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4.0 max 20pts. | **12.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [x] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

12.0 TOTAL (Max 100 pts)

1 Category

Wetland ID:	Wetland 15

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	**0**		
	Metric 2. Buffers and surrounding land use	**3**		
	Metric 3. Hydrology	**6**		
	Metric 4. Habitat	**7**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**-4**		
	TOTAL SCORE	**12**		Category based on score breakpoints **1**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 15

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**B.Leopold, T. Lipp**
Date:	**3/23/2022**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-651-3440**
e-mail address:	bill.leopold@aecom.com
Name of Wetland:	**Wetland 16**
Vegetation Communit(ies):	**PEM**
HGM Class(es):	**Mineral soil flats**

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

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14 SE**
Hydrologic Unit Code:	**050400060402 Headwaters South Fork Licking River**
Site Visit:	**3/23/2022**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 16		
Wetland Size (delineated acres):	0.05	Wetland Size (Estimated total acres):	0.05

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in for PEM wetland in roadside ditch. Drains to west to culvert leading to wetland 07. Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as rapid test. Hydric soil indicator present as high value/low chroma matrix with redox concentrations and concretions/soft masses. Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and inflow from culvert outlet from wetland w-wrl-20220323-02. Drains to culvert to west then to wetland 07.

Final score:	17	Category:	1

Wetland ID:	Wetland 16

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 16

Narrative Rating

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

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

Wetland ID:	Wetland 16

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

Wetland ID:	Wetland 16

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 16

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-03

Delineated acres:	0.05
Total acres:	0.05

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

3.0 (max 14 pts.) | 3.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

- [ ] VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
- [ ] LOW. Old field (>10 years), shrubland, young second growth forest. (5)
- [x] 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.

10.0 (max 30 pts.) | 13.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7.0 (max 20 pts.) | 20.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

20.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 16

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-03

20.0
subtotal this page

0.0 max 10 pts. **20.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-3.0 max 20pts. **17.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [x] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

17.0 **TOTAL (Max 100 pts)**

1 **Category**

Wetland ID:	Wetland 16

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	**0**		
	Metric 2. Buffers and surrounding land use	**3**		
	Metric 3. Hydrology	**10**		
	Metric 4. Habitat	**7**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**-3**		
	TOTAL SCORE	**17**		Category based on score breakpoints **1**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 16

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

Background Information	
Name:	**B.Leopold, T. Lipp**
Date:	**3/23/2022**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513-651-3440**
e-mail address:	bill.leopold@aecom.com
Name of Wetland:	**Wetland 17**
Vegetation Communit(ies):	**PEM**
HGM Class(es):	**Mineral soil flats**

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

See Figures 1, 2, and 3 of Wetland Delineation and Stream Assessment Report.

Lat/Long or UTM Coordinate:	
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**Jersey**
Section and Subsection:	**S14 SE**
Hydrologic Unit Code:	**050400060402 Headwaters South Fork Licking River**
Site Visit:	**3/23/2022**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	Wetland 17		
Wetland Size (delineated acres):	0.02	Wetland Size (Estimated total acres):	0.02

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

N

Comments, Narrative Discussion, Justification of Category Changes:

Sample point in for PEM wetland on right descending bank of Stream 06 at upstream end of culvert. Wetland fully delineated. Sample point meets all wetland criteria. Hydrophytic vegetation indicator present as rapid test. Hydric soil indicator present as high value/low chroma matrix with redox concentrations. Multiple primary and secondary hydrology indicators present. Primary sources of hydrology are precipitation and overbank flow from intermittent stream 6.

Final score:	20	Category:	1

Wetland ID:	Wetland 17

Scoring Boundary Worksheet

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

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

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

Wetland ID:	Wetland 17

Narrative Rating

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

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

Wetland ID:	Wetland 17

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

Wetland ID:	Wetland 17

Table 1. Characteristic plant species.

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

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

Wetland ID:	Wetland 17

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-04

Delineated acres:	0.02
Total acres:	0.02

Metric 1. Wetland Area (size).

0.0 (max 6 pts) | 0.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

3.0 (max 14 pts.) | 3.0 (subtotal)

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

- [ ] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

13.0 (max 30 pts.) | 16.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7.0 (max 20 pts.) | 23.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

23.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	Wetland 17

Site:	AEP Innovation 138 kV Line	Rater(s):	B.Leopold, T. Lipp	Date:	3/23/2022

Field ID:

W-WRL-20220323-04

23.0
subtotal this page

0.0 max 10 pts. | **23.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-3.0 max 20pts. | **20.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [x] Low (1)
- [ ] None (0)

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

- [x] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

20.0 TOTAL (Max 100 pts)

1 Category

Wetland ID:	Wetland 17

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	**0**		
	Metric 2. Buffers and surrounding land use	**3**		
	Metric 3. Hydrology	**13**		
	Metric 4. Habitat	**7**		
	Metric 5. Special Wetland Communities	**0**		
	Metric 6. Plant communities, interspersion, microtopography	**-3**		
	TOTAL SCORE	**20**		Category based on score breakpoints **1**

Complete Wetland Categorization Worksheet.

Wetland ID:	Wetland 17

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 1 **Date:** March 23, 2022 **Description:** PEM wetland Modified Category 2 Facing North	

Wetland 1 **Date:** March 23, 2022 **Description:** PEM wetland Modified Category 2 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 01 **Date:** March 23, 2022 **Description:** PEM wetland Modified Category 2 Facing South	

Wetland 01 **Date:** March 23, 2022 **Description:** PEM wetland Modified Category 2 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 01 **Date:** December 7, 2021 **Description:** PEM wetland Modified Category 2 Facing Soil	

Wetland 02 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 02 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing East	

Wetland 02 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing South	

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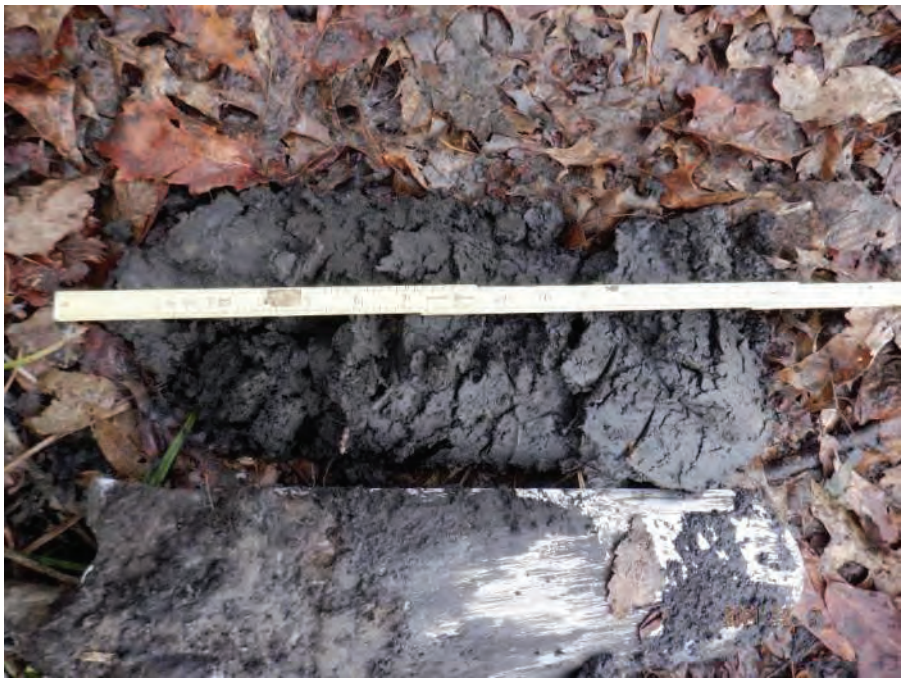
PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 02 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing West	

Wetland 02 **Date:** December 7, 2021 **Description:** PFO wetland Modified Category 2 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 03 **Date:** March 23, 2022 **Description:** PSS wetland Modified Category 2 Facing North	

Wetland 03 **Date:** March 23, 2022 **Description:** PSS wetland Modified Category 2 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 03 **Date:** March 23, 2022 **Description:** PSS wetland Modified Category 2 Facing South	

Wetland 03 **Date:** March 23, 2022 **Description:** PSS wetland Modified Category 2 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 03 **Date:** December 7, 2021 **Description:** PSS wetland Modified Category 2 Facing Soils	

Wetland 04A **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 04A **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing East	

Wetland 04A **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing South	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 04A **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing West	

Wetland 04A **Date:** December 7, 2021 **Description:** PEM wetland Category 2 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 04B **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing North	

Wetland 04B **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 04B **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing South	

Wetland 04B **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 04B **Date:** December 7, 2021 **Description:** PFO wetland Category 2 Facing Soils	

Wetland 05 **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 05 **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing East	

Wetland 05 **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing South	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 05 **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing West	

Wetland 05 **Date:** December 6, 2021 **Description:** PSS wetland Category 2 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 06a **Date:** March 23, 2022 **Description:** PSS wetland Modified Category 2 Facing North	

Wetland 06a **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 6a **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing South	

Wetland 6a **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 6a **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing Soils	

Wetland 6b **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 6b **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing East	

Wetland 6b **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing South	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 6b **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing West	

Wetland 6b **Date:** March 23, 2022 **Description:** PSS wetland Category 2 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 07 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

Wetland 07 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 07 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

Wetland 07 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 07 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing Soils	

Wetland 08 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 08 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

Wetland 08 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 08 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

Wetland 08 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 09 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

Wetland 09 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 09 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

Wetland 09 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 09 **Date:** December 7, 2021 **Description:** PEM wetland Category 1 Facing Soils	

Wetland 10 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 10 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

Wetland 10 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 10 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

Wetland 10 **Date:** December 8, 2021 **Description:** PEM wetland Category 1 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 11 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

Wetland 11 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 11 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

Wetland 11 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 11 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing Soils	

Wetland 12 **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing North	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 12 **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing East	

Wetland 12 **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 12 **Date:** March 23, 2022 **Description:** PEM wetland Category 2 Facing West	

Wetland 12 **Date:** December 8, 2021 **Description:** PEM wetland Category 2 Facing Soils	

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PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 13 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing North	

Wetland 13 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 13 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing South	

Wetland 13 **Date:** March 23, 2022 **Description:** PFO wetland Modified Category 2 Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 13 **Date:** December 8, 2021 **Description:** PFO wetland Modified Category 2 Facing Soils	

Wetland 14 **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 14 **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing East	

Wetland 14 **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 14 **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing West	

Wetland 14 **Date:** March 23, 2022 **Description:** PFO wetland Category 2 Facing Soils	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 15 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

Wetland 15 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 15 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

Wetland 15 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 15 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing Soils	

Wetland 16 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 16 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

Wetland 16 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 16 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

Wetland 16 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing Soils	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 17 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing North	

Wetland 17 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 17 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing South	

Wetland 17 **Date:** March 23, 2022 **Description:** PEM wetland Category 1 Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60664126

Wetland 17

Date:

March 23, 2022

Description:

PEM wetland

Category 1

Facing Soils

APPENDIX B

OEPA STREAM DATA FORMS / DELINEATED

FEATURES PHOTOGRAPHS (STREAMS)

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3): 51

SITE NAME/LOCATION: AEP Innovation 138kV Line

SITE NUMBER: S-WRL-20211206-01 RIVER BASIN: Muskingnum RIVER CODE: _____ DRAINAGE AREA (mi²): 0.01

LENGTH OF STREAM REACH (ft): 100 LAT: 40.08205 LONG: -82.72668 RIVER MILE: 0.0

DATE: 12/06/2021 SCORER: Bill Leopold COMMENTS: intermittent, flowing possibly due to recent heavy rains

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☑ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

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		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	10%
☐	BOULDER (>256 mm) [16 pts]	3%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	12%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	5%	☐	CLAY or HARDPAN [0 pt]	0%
☑	GRAVEL (2-64 mm) [9 pts]	40%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	30%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 8.00%

Substrate Percentage Check: 100%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 15

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 6

HHEI Metric Points Substrate Max = 40: **21** (A + B)

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]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: OHW= 2.0'w x 0.3'd

MAXIMUM POOL DEPTH (centimeters): 11.00

Pool Depth Max = 30: **25**

3. BANK FULL WIDTH (Measured as 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]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☑ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS: BF = 2.7'w x 0.7'd

AVERAGE BANKFULL WIDTH (meters): 0.80

Bankfull Width Max=30: **5**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank)

L	R	
☐	☑	Wide >10m
☑	☐	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ 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
☑ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☑ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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: South Fork Licking River Distance from Evaluated Stream 0

☐ 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: Jersey NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Licking Township/City: Jersey

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 12/05/2021 Quantity: 1"

Photo-documentation Notes: 9248-up, 9249-down, 9250-substrates

Elevated Turbidity? (Y/N): Y Canopy (% open): 20

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) 6.2 Dissolved Oxygen (mg/l) _____ pH (S.U.) 9.0 Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

Overall Stability of BOTH Stream Banks (check one): Stable ☑ Moderately Stable ☐ Unstable ☐

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): _____

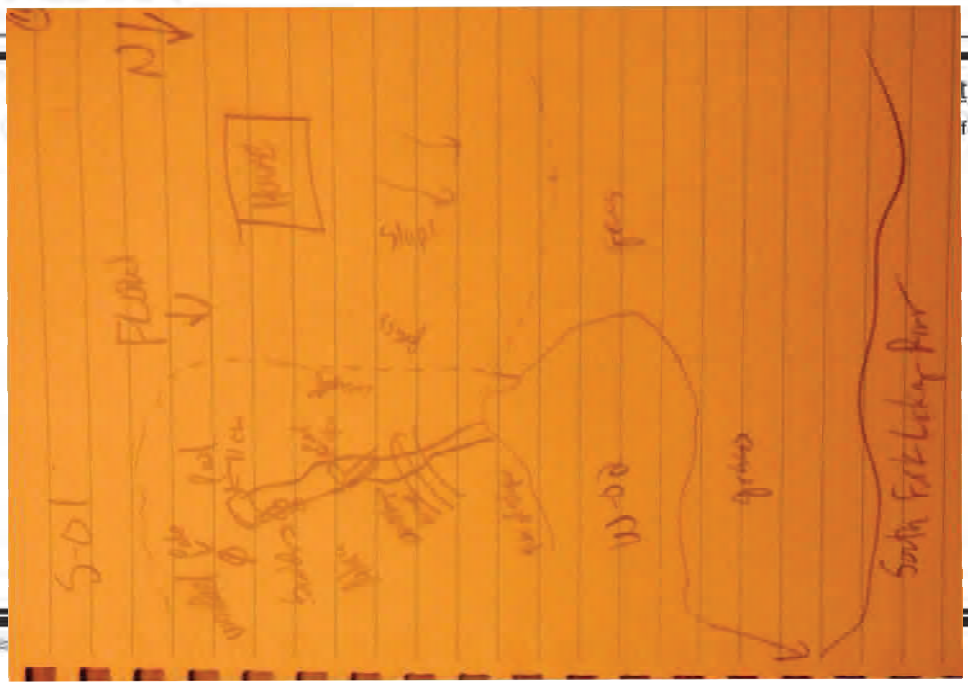
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: none observed

t be completed)

f the stream's location

FLOW



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3): 55

SITE NAME/LOCATION: AEP Innovation 138 kV Line

SITE NUMBER: S-WRL-20211207-02 RIVER BASIN: Muskingnum RIVER CODE: _____ DRAINAGE AREA (mi²): 0.06

LENGTH OF STREAM REACH (ft): 130 LAT: 40.08182 LONG: -82.72887 RIVER MILE: 0.0

DATE: 12/07/2021 SCORER: Bill Leopold COMMENTS: flowing, drains wetland 06 to north to south fork licking river

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☑ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

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		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	5%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	10%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	5%	☑	CLAY or HARDPAN [0 pt]	30%
☑	GRAVEL (2-64 mm) [9 pts]	30%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	20%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 5.00%

Substrate Percentage Check: 100%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 9

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 6

HHEI Metric Points — Substrate Max = 40: 15 (A + B)

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]
- ☐ > 22.5 - 30 cm [30 pts]
- ☑ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: OHW = 1.9'w x 1.0'd

MAXIMUM POOL DEPTH (centimeters): 13.00

Pool Depth Max = 30: 25

3. BANK FULL WIDTH (Measured as 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]
- ☑ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS: BF = 3.7'w x 1.4'd

AVERAGE BANKFULL WIDTH (meters): 1.12

Bankfull Width Max=30: 15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank)

L	R	
☑	☑	Wide >10m
☐	☐	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☑	☑	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ 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
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☑ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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: South Fork Licking River Distance from Evaluated Stream 0

☐ 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: Jersey NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Licking Township/City: Jersey

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 12/05/2021 Quantity: 1in

Photo-documentation Notes: 9364-up, 9365-down, 9366-substrates

Elevated Turbidity? (Y/N): Y Canopy (% open): 60

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) 3.3 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.5 Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

Overall Stability of BOTH Stream Banks (check one): Stable ☑ Moderately Stable ☐ Unstable ☐

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): _____

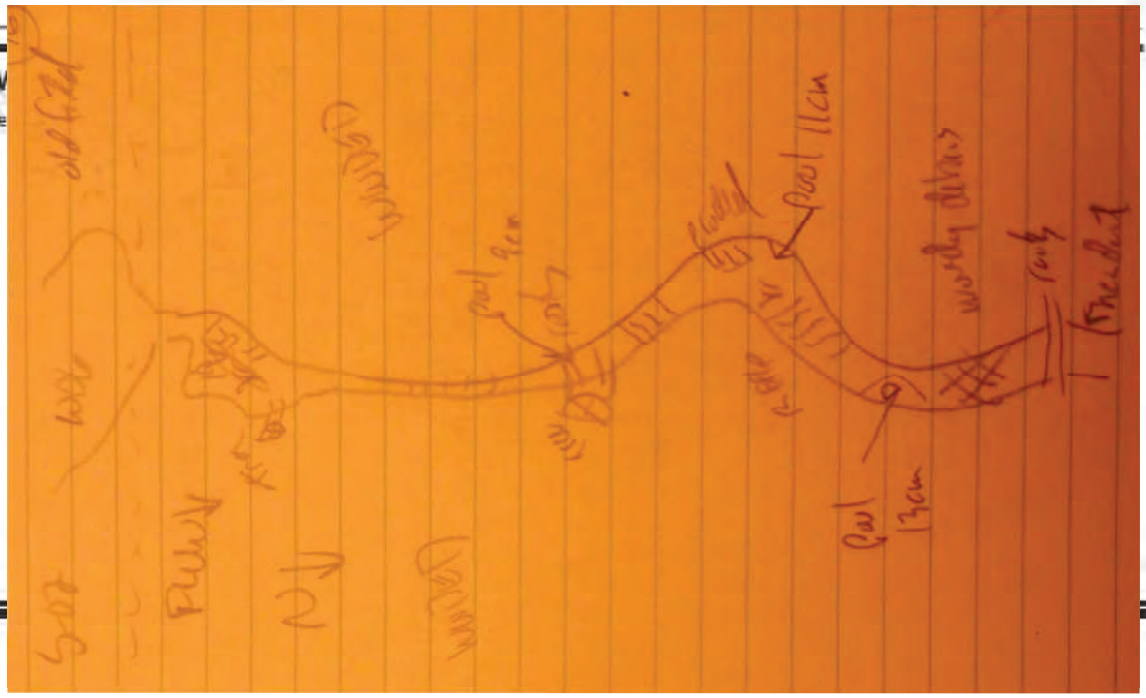
Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: none observed

DRAW

Include

FLOW



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3): 79

SITE NAME/LOCATION: AEP Innovation 138 kV Line

SITE NUMBER: S-WRL-20211208-02 RIVER BASIN: Muskingnum RIVER CODE: _____ DRAINAGE AREA (mi²): 0.48

LENGTH OF STREAM REACH (ft): 200 LAT: 40.08182 LONG: -82.73695 RIVER MILE: 0.2

DATE: 12/08/2021 SCORER: Bill Leopold COMMENTS: flowing, drains south to culvert under SR 161

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☑ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

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		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	20%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	5%	☐	CLAY or HARDPAN [0 pt]	0%
☑	GRAVEL (2-64 mm) [9 pts]	40%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	35%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 5.00%

Substrate Percentage Check: 100%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 15

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4

HHEI Metric Points — Substrate Max = 40: 19 (A + B)

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]
- ☑ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5pts]
- ☐ NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: OHW = 8.5'w x 1.6'd

MAXIMUM POOL DEPTH (centimeters): 25.00

Pool Depth Max = 30: 30

3. BANK FULL WIDTH (Measured as 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]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS: BF = 15.2'w x 2.4'd

AVERAGE BANKFULL WIDTH (meters): 4.60

Bankfull Width Max=30: 30

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream *

RIPARIAN WIDTH (Per Bank)

L	R	
☐	☐	Wide >10m
☑	☑	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☑	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

FLOW REGIME (*At Time of Evaluation*) (Check *ONLY* one box):

- ☑ Stream Flowing
- ☐ Subsurface flow with isolated pools (interstitial)
- ☐ Moist Channel, isolated pools, no flow (intermittent)
- ☐ 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
☐ 0.5	☑ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☑ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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: South Fork Licking River Distance from Evaluated Stream 0.2

☐ 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: Jersey NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Licking Township/City: Jersey

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 12/05/2021 Quantity: 1in

Photo-documentation Notes: 9443-up, 9444-down, 9445-substrates

Elevated Turbidity? (Y/N): N Canopy (% open): 40

Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) 3.8 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.6 Conductivity (umhos/cm) _____

Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

Overall Stability of BOTH Stream Banks (check one): Stable ☐ Moderately Stable ☑ Unstable ☐

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): _____

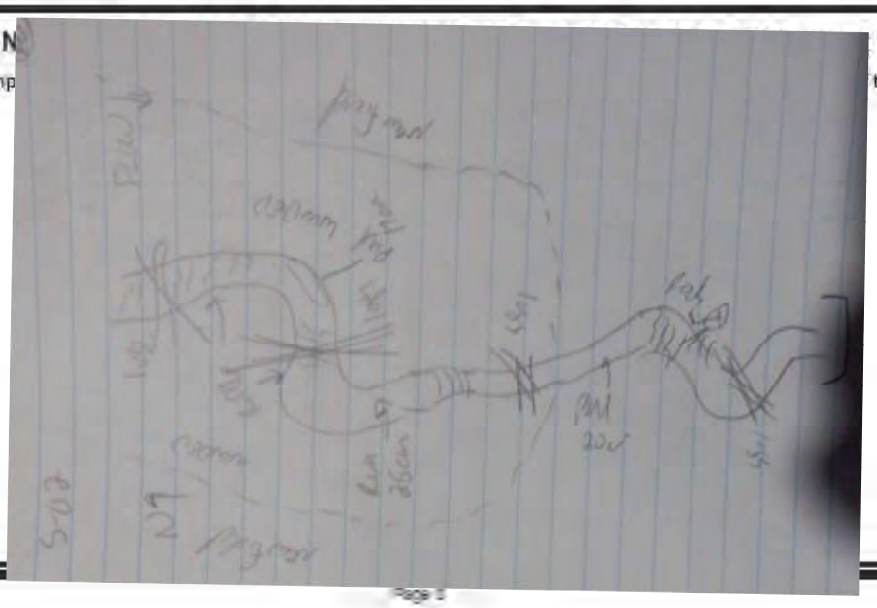
Salamanders Observed? (Y/N) N Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): _____

Comments Regarding Biology: none observed

DRAWIN... be completed)

Include imp... the stream's location



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 1 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Upstream	

Stream 1 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Downstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 1 **Date:** March 23, 2022 **Description:** Perennial South Fork Licking River WWH Substrate	

Stream 2 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Upstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 2 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Downstream	

Stream 2 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Substrate	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 3 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Upstream	

Stream 3 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Downstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 3 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Substrate	

Stream 4 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Upstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 4 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Downstream	

Stream 4 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Substrate	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

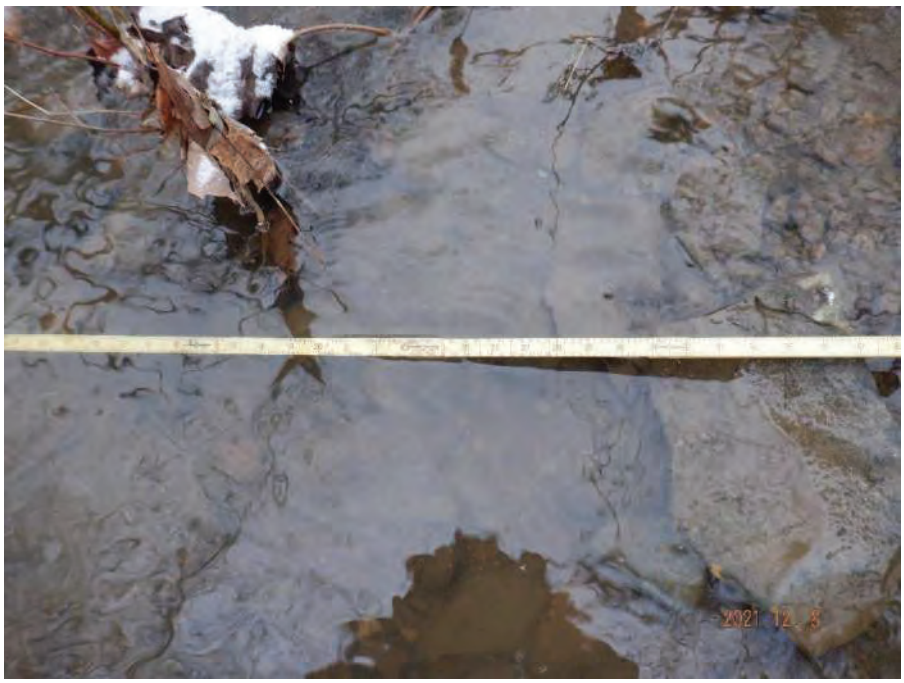
Stream 5 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Upstream	

Stream 5 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Facing Downstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 5 **Date:** December 7, 2021 **Description:** Intermittent UNT to South Fork Licking River Class II PHW Substrate	

Stream 6 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Downstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Stream 6 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Facing Upstream	

Stream 6 **Date:** December 7, 2021 **Description:** Perennial South Fork Licking River WWH Substrate	

APPENDIX C

PONDS AND HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Pond #1 **Date:** December 7, 2021 **Description:** Pond 1 Facing North	

Pond #1 **Date:** December 7, 2021 **Description:** Pond 1 Facing Northeast	

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PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Pond #2 **Date:** December 7, 2021 **Description:** Pond 2 Facing West	

Pond #2 **Date:** December 7, 2021 **Description:** Pond 2 Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Photo (PH-1)	
Date: December 6, 2021	
Habitat Area: Future Proposed Urban Develop. **Description:** Site is existingly old field but will be commercial/industrial development by start of construction. Facing North	

Photo (PH-2)	
Date: December 6, 2021	
Habitat Area: Landscape Area **Description:** Site is existingly old field but will be commercial/industrial development by start of construction. Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Photo (PH-3)	
Date: December 6, 2021 **Habitat Area:** Successional Hardwood Woodlands **Description:** Mixed Hardwood Forest along edge of Commercial/Industrial Complex Facing West	

Photo (PH-4)	
Date: December 7, 2021 **Habitat Area:** Urban (Active Construction) **Description:** Site is under active construction and will be associated with Urbanized area upon construction of the transmission line. Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Photo (PH-5)	
Date: March 23, 2022	
Habitat Area: Old Field **Description:** Old field/mix forbs habitat along edge of residential and road right-of-way. Facing East	

Photo (PH-6)	
Date: March 23, 2022	
Habitat Area: Old Field **Description:** Old field/mix forbs habitat along edge of residential and road right-of-way. <u>Potential Habitat for Northern Harrier</u> Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Photo (PH-7)	
Date: December 8, 2021	
Habitat Area: Agricultural **Description:** Agriclutral field, previously and actively farmed. Facing South	

Photo (PH-8)	
Date: December 8, 2021	
Habitat Area: Urban (Active Construction) **Description:** Currently under active construction for development of commercial/industrial site. Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Pond and Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads	60661692

Photo (PH-9)

Date:

March 23, 2022

Habitat Area:
Old Field

Description:
Old Field and potentially hayfield that is fallow adjacent to existing electrical substation.

Facing South

APPENDIX D

AGENCY COORDINATION

Holmes, Joshua

From: Ohio, FW3 <ohio@fws.gov>
Sent: Thursday, February 10, 2022 2:14 PM
To: Holmes, Joshua
Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate
Subject: [EXTERNAL] AEP, Innovation Extensions 138kV Transmission Line Project, Licking 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

Project Code: 2022-0002500

Dear Mr. Holmes,

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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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 http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, 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

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

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

March 2, 2022

Brian Miller
AECOM
Foster Plaza 6
681 Andersen Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0097; AEP Innovation Extension 138kV Transmission Line

Project: The proposed project consists of the construction of a 2-mile 138kV transmission line between the newly proposed Innovation Station and tie-in to the existing Kirk-Jug 138k/345 kV transmission line.

Location: The proposed project is located in Jersey Township, Licking 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: A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state nature preserves, wildlife areas, parks or forests, national wildlife refuges, or other protected natural areas within the project area. 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.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*Range-wide Indiana Bat Survey Guidelines*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton 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 the 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

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

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat 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 least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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 US Fish & Wildlife Service.

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

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

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

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

APPENDIX E

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

INNOVATION EXTENSION 138KV TRANSMISSION LINE AND PRELIMINARY ACCESS ROADS

LICKING COUNTY, OHIO

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

Prepared for:

American Electric Power Ohio Transmission Company

8600 Smith Mill Road

New Albany, Ohio 43054

Prepared by:

AECOM

525 Vine Street, Suite 1800

Cincinnati, Ohio 45202

Project #: 60661692

May 2022

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1) OVERVIEW MAP
2) USGS TOPOGRAPHICAL MAP
3) KNOWN MINING ACTIVITY MAP
4) KARST GEOLOGY AND SINKHOLES MAP
5) PHOTOGRAPH LOCATION MAP

LIST OF ATTACHMENTS

A) ODNR ENVIRONMENTAL REVIEW - 22-0097; AEP – INNOVATION EXTENSION 138KV TRANSMISSION LINE DATED MARCH 2, 2022
B) USFWS INFORMATION FOR PLANNING AND CONSULTATION (2022-0002500); AEP INNOVATION EXTENSIONS 138KV TRANSMISSION LINE PROJECT DATED FEBRUARY 10, 2022
C) REPRESENTATIVE PHOTOGRAPHS OF HABITAT WITHIN PROJECT SURVEY AREA

1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to construct a new 138 kV transmission line in Licking County, Ohio. The Project consists of constructing approximately 2-miles of a new 138kv transmission line located between the Proposed Innovation Station and tie-in to the Kirk-Jug 138/345kV transmission line. A Study Area composed of all Project components is located on Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on Project Overview Map (Appendix A, Figure 1 – Agency Overview Map).

The Project is designed to be predominately within the former maintained transmission line ROW located mostly within agricultural fields, grassy area, and old fields. AEP Ohio Transco plans to utilize new and existing access roads to the transmission line ROW. The Project is not expected to require substantial clearing of forested habitat, although minor tree trimming along the edge of the Project survey area may occur. AEP Ohio Transco intends for tree clearing activities to occur between October 1st and March 31st to avoid adverse effects to state and/or federally listed bat species.

2.0 METHODS

AECOM reviewed publicly available data to identify underground voids which could be potential hibernation sites for overwintering bats (hibernacula). Typical hibernation sites for the *Myotis* bats native to Ohio include natural karst caves/sinkholes, underground mines with exposed entrances/air vents, and other underground voids which maintain suitable temperatures, humidity, and air circulation throughout the winter months. To identify such features, AECOM reviewed the following desktop resources:

- USGS topographical maps (U.S. Geological Survey, 2019 and USGS 2016)
- Aerial photography (ESRI, 2020)
- USFWS Technical Assistance (Attachment B)
- ODNR Division of Mineral Resources and Geological Survey data for:
    - Known mining activity (ODNR, 2020a)
    - Karst geology and sinkholes (ODNR, 2020b)

AECOM compared the Project survey area and 0.25-mile buffer to the information provided by each of these resources and reviewed them for indications of likely underground voids. Figure 2 – USGS Topographical Map shows the Project and it's 0.25-mile buffer on a USGS background. Figure 3 – Known Mining Activity Map depicts the Project and it's 0.25-mile buffer in relation to known records of mining activity as recorded by the ODNR. Figure 4 – Karst Geology and Sinkholes Map depicts the Project and it's 0.25-mile buffer with known locations of karst geology and sinkholes. Aerial photography is shown as the background in Figure 3 and Figure 4.

3.0 RESULTS

Based on the available desktop resources, no documented underground or surface mines, and no mine entrances/openings are within 0.25-mile of the Project. ODNR mining records indicate that the nearest mining features are gravel/sand pits approximately 5.5-miles away (Figure 3 – Known Mining Activity Map).

Review of the ODNR Karst Interactive Map identified no karst features within 0.25-mile of the Project survey area (Figure 4 – Karst Geology and Sinkholes Map).

4.0 CONCLUSION AND DISCUSSION

AECOM completed the due diligence winter bat habitat desktop assessment in March 2022. As result, no records of underground mines or mine openings were identified within 0.25-mile of the Project. Additionally, no karst features are located within the Project survey area or within a 0.25-mile buffer around it. Project activities are unlikely to significantly affect any potential hibernacula associated with karst features outside of a 0.25-mile buffer of the Project survey area.

The proposed clearing activities for the Project are associated with minor vegetation removal of saplings, shrubs, and/or minor trimming along the edge of the existing transmission line corridor without any trees being removed. Therefore, representative photographs of the habitat within the Project survey area are provided as Attachment C and locations of photographs are displayed on Appendix A, Figure 5: Photograph Location Map.

5.0 LITERATURE CITED

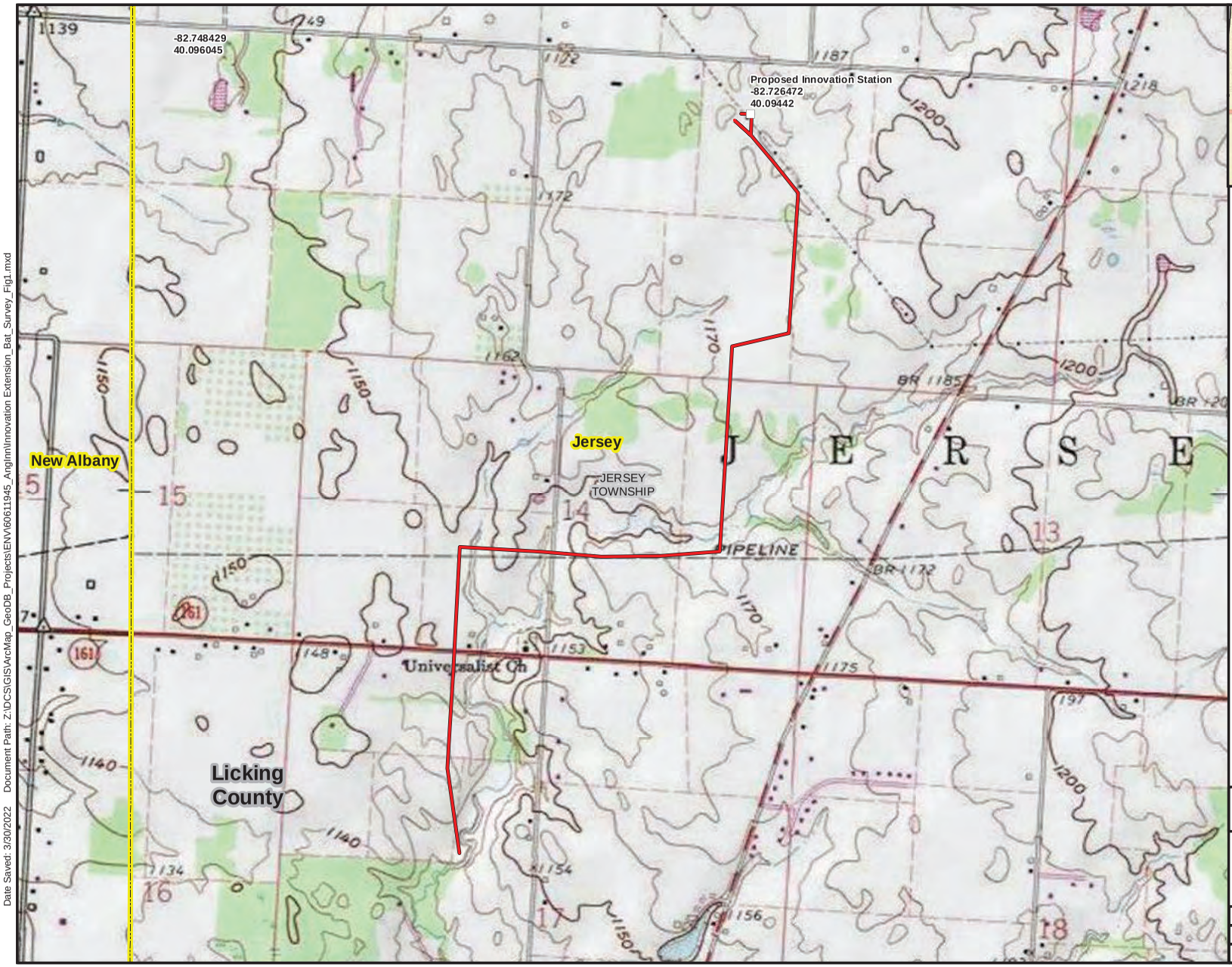
ESRI, 2020. World Imagery obtained from Earthstar Geographics (TerraColor NextGen) imagery.

Ohio Department of Natural Resources. 2020a. Division of Mineral Resources and Geological Survey, Mines of Ohio Interactive Map access at https://gis.ohiodnr.gov/MapViewer/?config=OhioMines on March 28, 2022.

Ohio Department of Natural Resources. 2020b. Division of Geological Survey, Karst Interactive Map access at https://gis.ohiodnr.gov/website/dgs/karst_interactivemap/ on March 28, 2022.

U.S. Geological Survey, 2019. USGS US Topo 7.5-minute maps for Holmesville, OH 2019: USGS - National Geospatial Technical Operations Center (NGTOC).

FIGURES



Legend

- Proposed Innovation Station
- Proposed Innovation Extension 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary

N

0 500 1,000 2,000

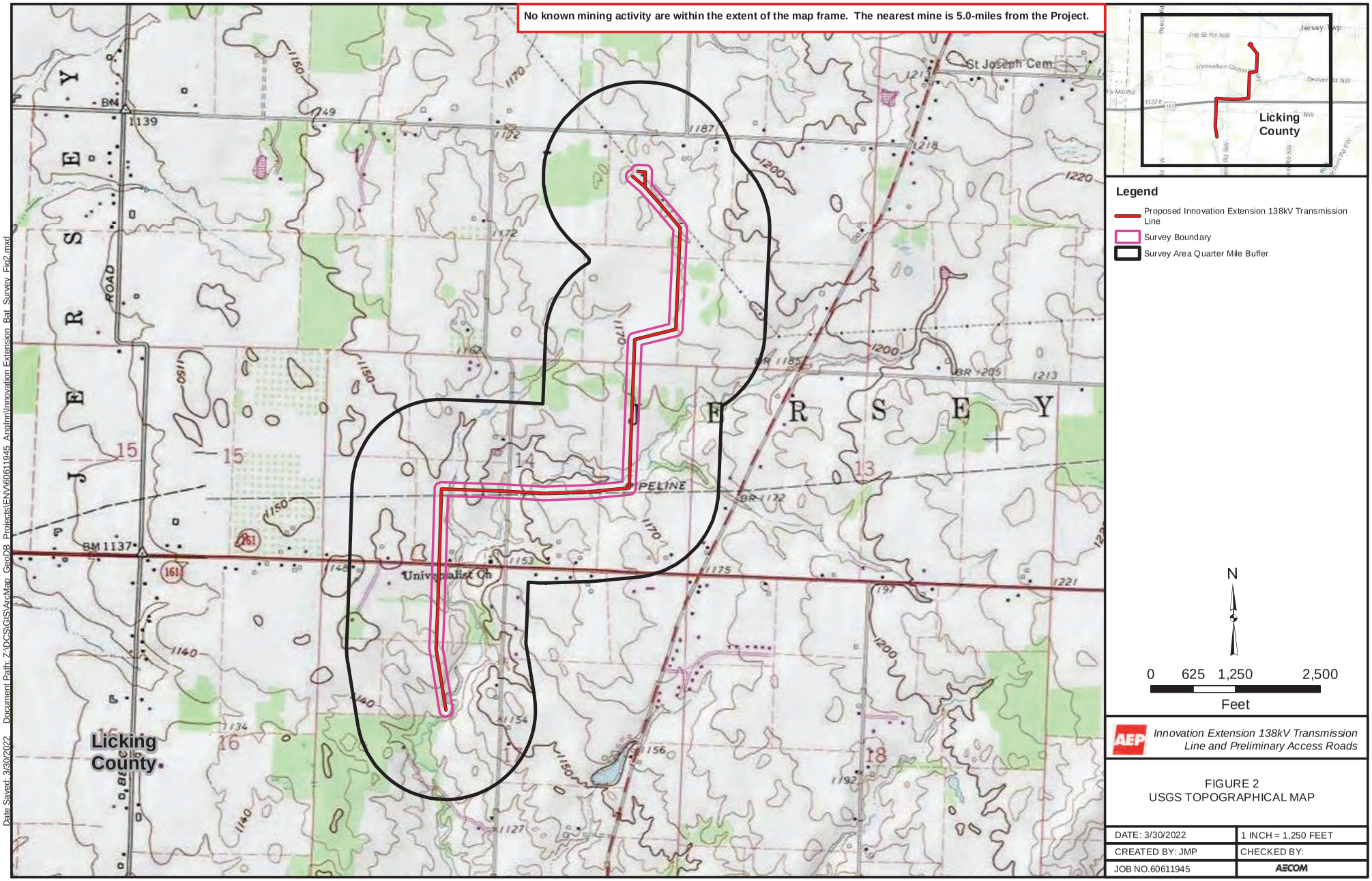
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 1
PROJECT OVERVIEW

DATE: 3/30/2022	1 INCH = 1,000 FEET
CREATED BY: JMP	CHECKED BY:
JOB NO. 60611945	AECOM

Date Saved: 3/30/2022 Document Path: Z:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60611945_AngInnInnovation Extension_Bat_Survey_Fig1.mxd



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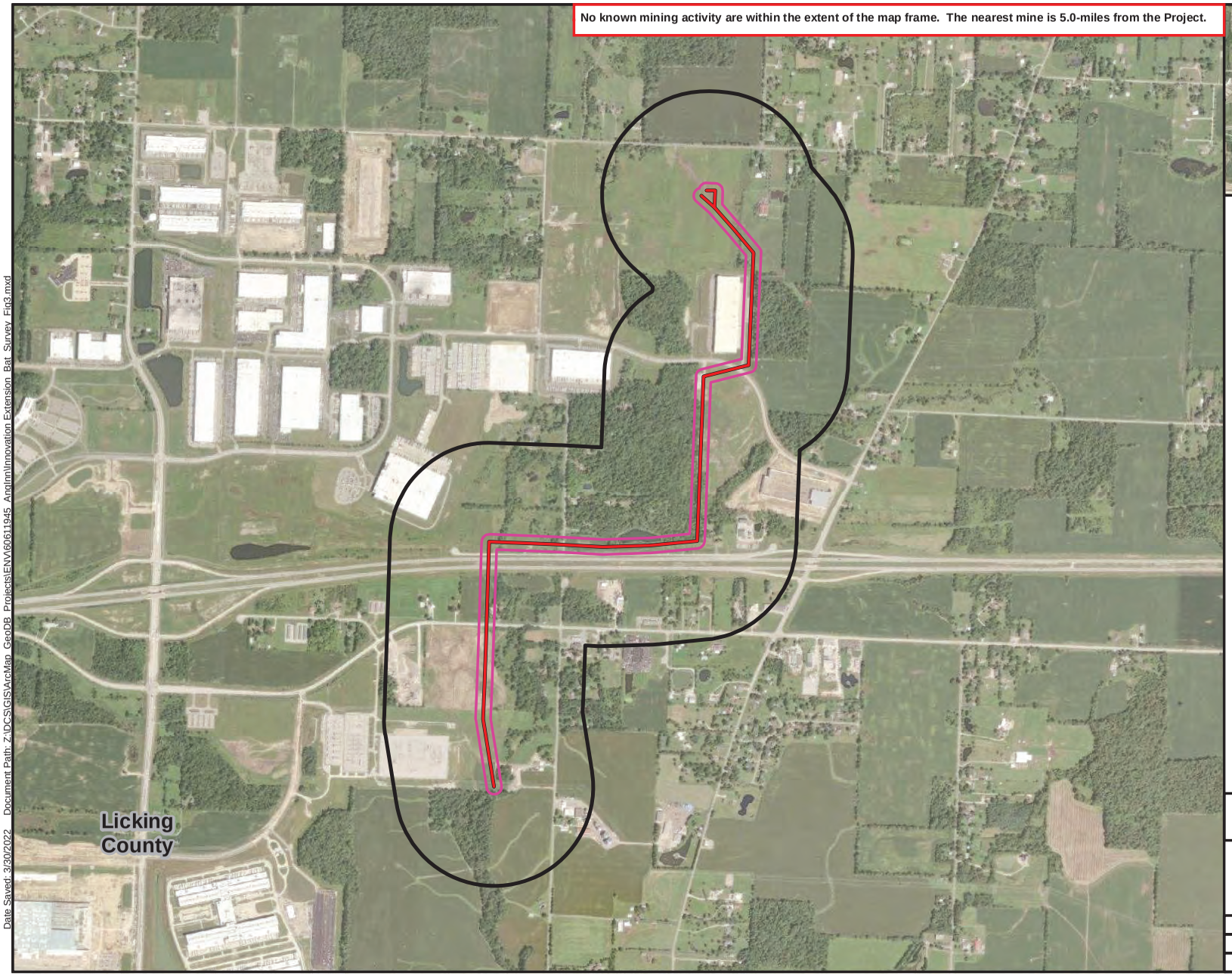


Legend

- Proposed Innovation Extension 138kV Transmission Line
- Survey Boundary
- Survey Area Quarter Mile Buffer

N

0 625 1,250 2,500

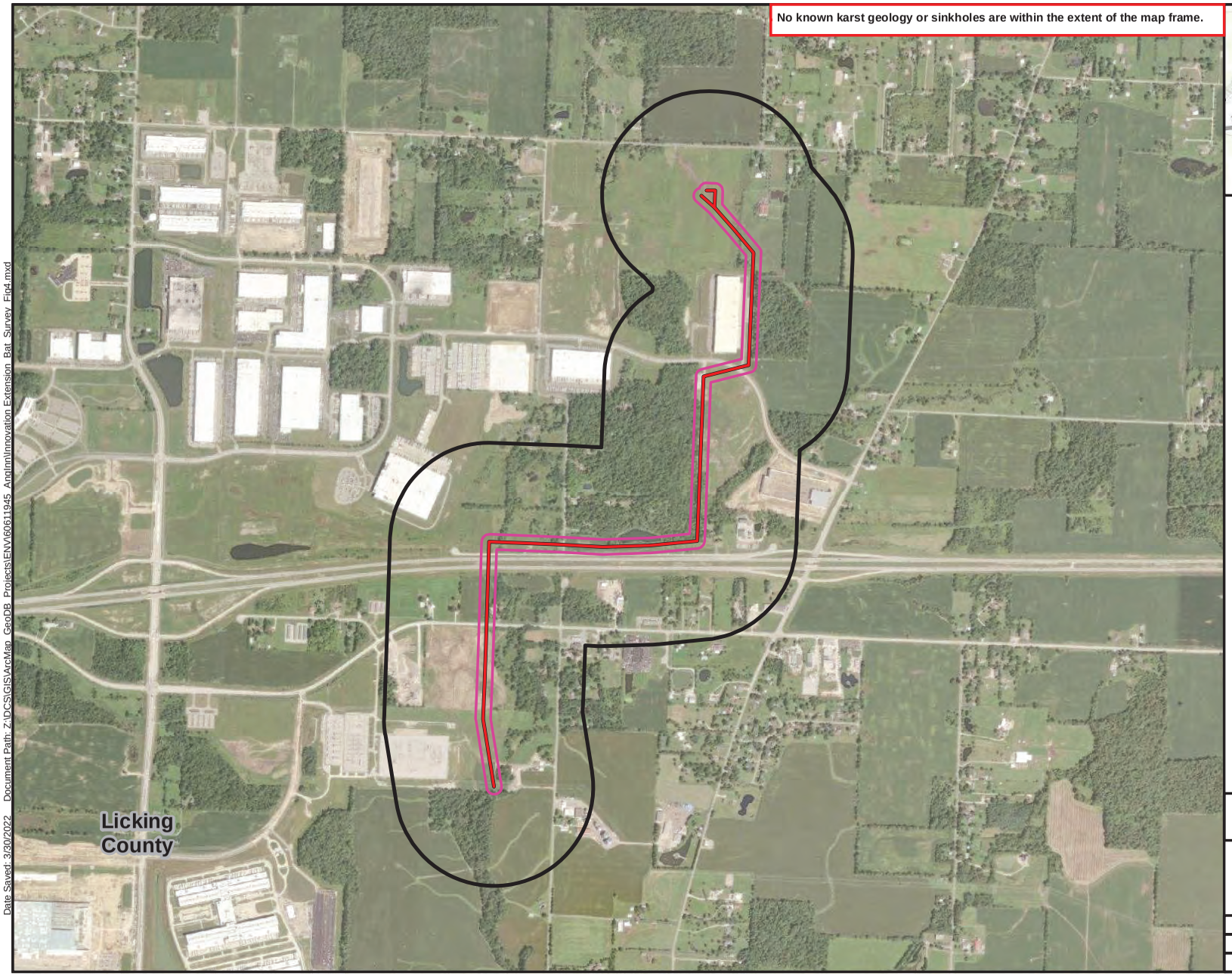
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3
KNOWN MINING ACTIVITY MAP

DATE: 3/30/2022	1 INCH = 1,250 FEET
CREATED BY: JMP	CHECKED BY:
JOB NO. 60611945	AECOM

Date Saved: 3/30/2022 Document Path: Z:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anqinn\Innovation Extension Bat Survey Fig3.mxd



Legend

- Proposed Innovation Extension 138kV Transmission Line
- Survey Boundary
- Survey Area Quarter Mile Buffer

N

0 625 1,250 2,500

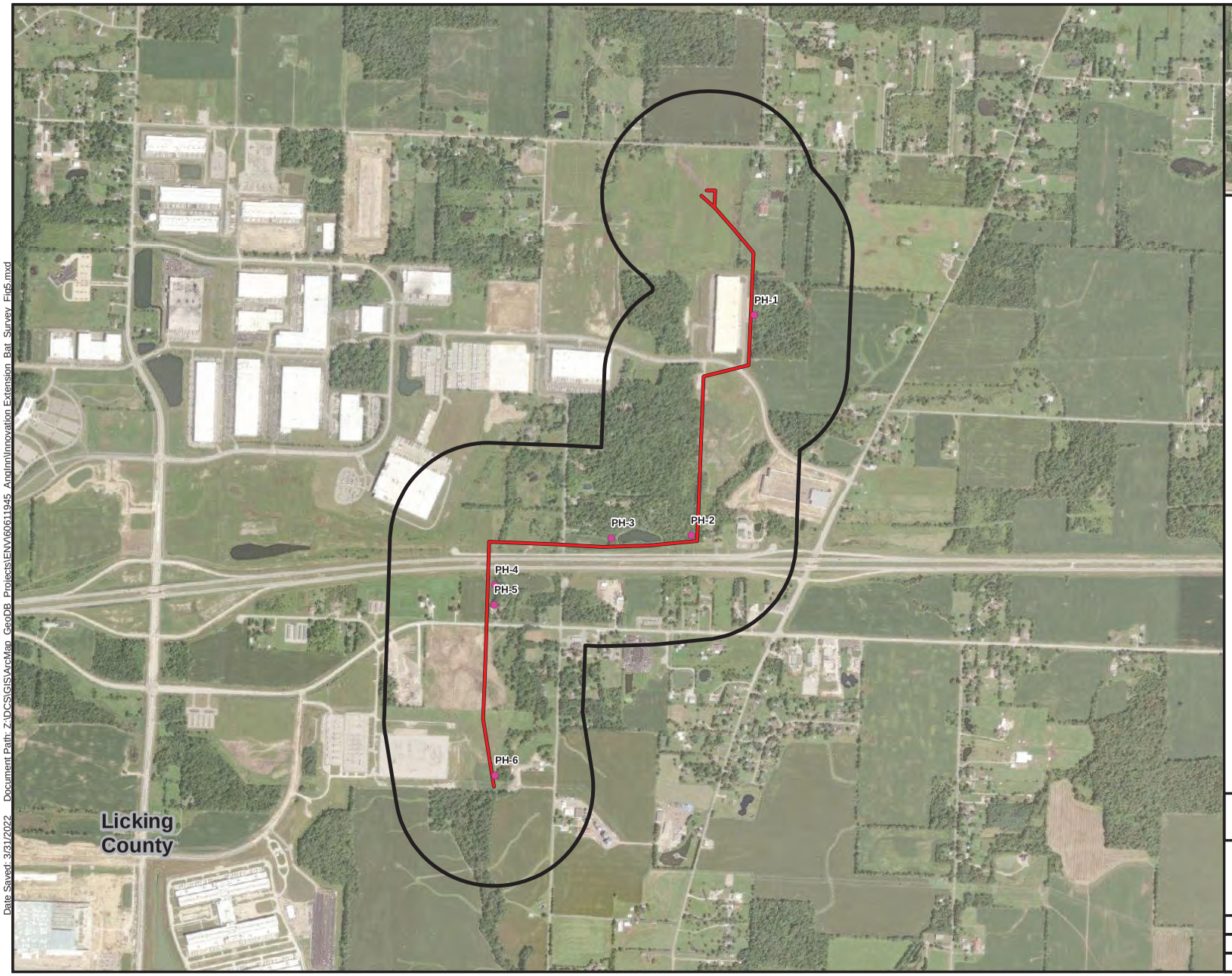
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4
KARST GEOLOGY AND SINKHOLES MAP

DATE: 3/30/2022	1 INCH = 1,250 FEET
CREATED BY: JMP	CHECKED BY:
JOB NO. 60611945	AECOM

Date Saved: 3/30/2022 Document Path: Z:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AnoInnInnovation Extension Bat Survey Fig4.mxd



Legend

- Photo Location
- Proposed Innovation Extension 138kV Transmission Line
- Survey Area Quarter Mile Buffer

N

0 625 1,250 2,500

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5
PHOTOGRAPH LOCATION MAP

DATE: 3/31/2022	1 INCH = 1,250 FEET
CREATED BY: PMH	CHECKED BY:
JOB NO. 60611945	AECOM

Date Saved: 3/31/2022 Document Path: Z:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AnoInnInnovation Extension Bat Survey Fig5.mxd

ATTACHMENT A:

ODNR ENVIRONMENTAL REVIEW - 22-0097; AEP – INNOVATION EXTENSION 138kV TRANSMISSION LINE

DATED MARCH 2, 2022

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

March 2, 2022

Brian Miller
AECOM
Foster Plaza 6
681 Andersen Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0097; AEP Innovation Extension 138kV Transmission Line

Project: The proposed project consists of the construction of a 2-mile 138kV transmission line between the newly proposed Innovation Station and tie-in to the existing Kirk-Jug 138k/345 kV transmission line.

Location: The proposed project is located in Jersey Township, Licking 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: A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state nature preserves, wildlife areas, parks or forests, national wildlife refuges, or other protected natural areas within the project area. 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.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*Range-wide Indiana Bat Survey Guidelines*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton 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 the 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

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

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat 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 least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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 US Fish & Wildlife Service.

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

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

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

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

ATTACHMENT B:

USFWS INFORMATION FOR PLANNING AND CONSULTATION (2022-0002500); AEP INNOVATION EXTENSIONS 138KV TRANSMISSION LINE PROJECT

DATED FEBRUARY 10, 2022

Holmes, Joshua

From: Ohio, FW3 <ohio@fws.gov>
Sent: Thursday, February 10, 2022 2:14 PM
To: Holmes, Joshua
Cc: nathan.reardon@dnr.state.oh.us; Parsons, Kate
Subject: [EXTERNAL] AEP, Innovation Extensions 138kV Transmission Line Project, Licking 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

Project Code: 2022-0002500

Dear Mr. Holmes,

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 ≥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 ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥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 http://www.fws.gov/midwest/endangered/mammals/nleb/index.html), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, 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

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

ATTACHMENT C:

REPRESENTATIVE PHOTOGRAPHS OF HABITAT WITHIN PROJECT SURVEY AREA

AECOM

PHOTOGRAPHIC RECORD
HABITAT

Client Name:	Site Location:	Project No.
AEP	Innovation Extension 138kV 138kV Transmission Line Project	60661692

Photo 1 **Date:** December 06, 2021 **Description:** Mixed Deciduous Forest Facing North	

Photo 2 **Date:** March 23, 2022 **Description:** Mixed Deciduous Forest Facing West	

AECOM

PHOTOGRAPHIC RECORD
HABITAT

Client Name:	Site Location:	Project No.
AEP	Innovation Extension 138kV 138kV Transmission Line Project	60661692

Photo 3	
Date: December 08, 2021	
Description: Mixed Deciduous Forest Facing South	

Photo 4	
Date: March 23, 2022	
Description: Mixed Deciduous Forest Facing South	

AECOM

PHOTOGRAPHIC RECORD
HABITAT

Client Name:	Site Location:	Project No.
AEP	Innovation Extension 138kV 138kV Transmission Line Project	60661692

Photo 5 **Date:** March 23, 2022 **Description:** Mixed Deciduous Forest Facing West	

Photo 6 **Date:** December 08, 2021 **Description:** Mixed Deciduous Forest Facing East	

APPENDIX F

AVAIN HABITAT ASSESSMENT AND ODNR CONCURRENCE

Miller, Brian

To: Miller, Brian
Subject: RE: AEP Innovation Extension Avian Habitat Assessment-ODNR 22-0097

From: Nathan.Reardon@dnr.ohio.gov <Nathan.Reardon@dnr.ohio.gov>
Sent: Tuesday, May 24, 2022 6:52 AM
To: Amy J Toohey <ajtoohey@aep.com>
Cc: amcross_aep.com#EXT#@ohiodas.onmicrosoft.com
Subject: [EXTERNAL] RE: AEP Innovation Extension Avian Habitat Assessment-ODNR 22-0097

This is an **EXTERNAL** email. **STOP**. **THINK** before you CLICK links or OPEN attachments. If suspicious please click the '**Report to Incidents**' button in Outlook or forward to incidents@aep.com from a mobile device.

Amy,

The DOW concurs that no least bittern, upland sandpiper or northern harrier suitable habitat exists within the project area. No further coordination regarding these species is warranted.

Thank you,
Nathan

Nathan Reardon
Compliance Coordinator
ODNR Division of Wildlife
2045 Morse Road
Columbus, OH 43229
Phone: 614-265-6741
Email: nathan.reardon@dnr.ohio.gov

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Please consider the environment before printing this email.

From: Amy J Toohey <ajtoohey@aep.com>
Sent: Tuesday, May 3, 2022 3:48 PM
To: Reardon, Nathan <Nathan.Reardon@dnr.ohio.gov>

Cc: Alicia M Cross <amcross@aep.com>
Subject: AEP Innovation Extension Avian Habitat Assessment-ODNR 22-0097

Greetings:

AEP is constructing a new 138kV transmission line from the new Innovation Station south to the vicinity of AEP Babbitt Station (south of Dublin-Granville Road and east of Beech Road) Licking County (Jersey Township), Ohio. The project will result in the installation of new poles, temporary access roads and work pads to connect Innovation Station to the existing transmission line south of Babbitt Station. It should be noted that the project is also part of the Ohio Power Siting Board oversight and the ODNR review is part of the OPSB documentation. In the past the OPSB has required ODNR confirmation that habitat did not exist.

The subject project was reviewed for suitable habitat by AECOM for the species listed in the 3/2/2022 ODNR review- least bittern (Ixobrychus exilis), northern harrier (circus hudsonis) and upland sandpiper (Bartramia longicauda). The habitat assessment report and KMZ of the project area is attached for your review and concurrence. As a result of the survey of the habitat and inconsideration of existing protocol it was determined that the area did not contain suitable habitat for the three species listed above. It should be noted that the area is has active construction in the area and the area mapping may not be up to date to reflect all of the construction activity in the New Albany/Licking County area.

Please advise if you have any questions or concerns. Following your review of the report we look forward to your response and concurrence with the report's findings.

Thank you
Amy

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Avian Habitat Assessment

Innovation Extension 138kV Transmission Line Project
Licking County, Ohio

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Project Number: 60661692

May 2022

Prepared by:

Hannah Apatang
Ecologist III
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Cincinnati, OH 45202
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1. Introduction

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to construct a new 138kV transmission line as part of the Innovation Extension 138kV Transmission Line Project (Project) in Licking County, Ohio (Figure 1). The Project consists of constructing approximately 2-miles of a new 138kV transmission line located between the Proposed Innovation Station and tie-in to the Kirk-Jug 138/345kV transmission line, as well as associated preliminary access roads connecting to the transmission line right-of-way (ROW), herein referred to as the Project Study Area. Initial coordination with the Ohio Department of Natural Resources (ODNR) dated March 2, 2022 (Appendix A), indicated that the Project is within the range of several state-listed avian species, including least bittern (*Ixobrychus exilis*; state threatened), northern harrier (*Circus hudsonius*; state endangered), and upland sandpiper (*Bartramia longicauda*; state endangered). Therefore, AEP Ohio Transco retained AECOM Technical Services, Inc. (AECOM) to conduct a habitat assessment for these avian species by performing a desktop analysis, supplemented by data collected during field surveys.

This habitat assessment provides background information for each of the state-listed avian species and an assessment of the nesting habitat within the Project Study Area based on literature review, a desktop review and conducted field surveys.

2. Methodology

2.1 Literature Review

During the desktop analysis, AECOM reviewed information included within the ODNR coordination letter (Appendix A) regarding least bittern, northern harrier, and upland sandpiper and completed a literature review that encompassed the life history and ecology of each species and documented occurrences nearby the Project Study Area. A desktop analysis of potential nesting habitat using Google Earth aerial photography and National Land Cover Classification data was also conducted. Where applicable, the adjacent habitats were considered when evaluating potential nesting habitat.

2.2 Desktop and Field Assessment

In August and December 2021 and March to April 2022, AECOM ecologists conducted field surveys of the Project Study Area. During the field surveys, AECOM conducted wetland delineations, stream assessments, and general habitat surveys. During the surveys, land cover types observed were assigned a general classification based upon the principal land characteristics and vegetation cover. Data collected during these field surveys is discussed below.

3. Results

3.1 Literature Review

3.1.1 Least Bittern Life History and Ecology

Least bittern is the smallest member of the heron family and has a striking contrasting color pattern. Their crown, back and tail are vivid greenish-black, while their neck, sides and underparts are brown and white. Among the most inconspicuous of the marsh birds, they can be difficult to observe. Due to its secretive nature, it is less often seen

than heard from the interior of dense marshes of cattail and other vegetation (Bent, 1963). They forage by stalking along open-water and grasping emergent vegetation with their long toes and curved claws (Poole et al., 2020).

Least bittern breeds from southeastern Canada through the United States and Mexico, to Costa Rica and the Greater Antilles. The northern populations overwinter in the southernmost United States and to Panama (Rodewald et al., 2016 and Terres, 1991). Migrants leave breeding grounds late August through September and return in early April to late May, depending on latitude (Bent 1926, Palmer 1949).

In Ohio, least bittern was among the common marsh birds in the early 1900's (Peterjohn, 2001; Rodewald et al.,2016). Wetland loss has likely played the greatest role in least bittern's decline (Hicks, 1935; Trautman, 1940; Peterjohn, 2001). The species prefers emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water (ODNR, 2022). In parts of its Midwest range, least bittern is often found in wetlands 1 to 12 acres in size, suggesting that it may be area sensitive (Poole et al., 2020). Nest sites observed in New York had a mean distance to open water of approximately 11 feet and water levels at nest sites ranged from 0 to 1.9 feet with a mean depth of 1.1 feet (n=33; Poole et al. 2009).

3.1.2 Northern Harrier Life History and Ecology

Northern harrier is a slender, long-tailed species, with large wings, a curved ruff of feathers around its face and a white rump patch. The adult male is pale gray in color, while the female and juvenile birds are mostly brown. Prey species of northern harrier consist of small mammals, especially voles, songbirds, snakes, frogs, and insects (ODNR DOW, 2018). This species hunts over these habitats, as well as agricultural fields, by gliding approximately 5 to 8 feet above the vegetation (ODNR, 2018 and Bent, 1963). Northern harriers may forage along roadsides in open areas, but largely avoid urban areas (Smith et al., 2020).

Northern harrier occurs throughout North America either as a breeding or non-breeding resident (Terres, 1991). This species breeds throughout Canada and Alaska, as well as California eastward including northern Texas into Ohio and the New England states (Rodewald et al., 2016). Northern harrier occupies its breeding grounds between March and April and migrates in a southerly direction in late August into September (Terres, 1991 and Bent, 1963).

In Ohio, the northern harrier breeding population has continued to decline, likely correlating with the decline of wetland areas and grassland habitats (Peterjohn, 2001). The nesting period in Ohio is April 15 to July 31 (ODNR DOW, 2017). Northern Harriers often nest in loose colonies, where the female builds a nest on the ground in open areas lacking trees (Smith et al. 2020). Breeding territories vary from 2 to 272 acres in size and nests are typically at least 100 meters apart (ODNR DOW, 2017). Rodewald et al. (2016) reported that research in Illinois indicated that northern harriers required at least 136 acres of habitat to breed. However, in Ohio the ODNR has provided guidance that open grasslands and wet meadow marshes of approximately 2 acres should be considered as nesting habitat.

3.1.3 Upland Sandpiper Life History and Ecology

A completely terrestrial, obligate grassland species, upland sandpiper is often recognized as an indicator of tallgrass prairie health. It has monotypic plumage, a thin neck of medium length, and medium-long legs that create a lanky, slightly ungainly appearance (Houston et al., 2020). Preferring to forage in habitats with shorter vegetation that those used for nesting, upland sandpiper's main food source is low-flying insects and other invertebrates (Rodewald et al., 2016).

The upland Sandpiper breeds throughout North American grasslands and is considered an obligate grassland species. The species' core breeding range includes the central United States and is sparsely distributed west to Alaska and Oregon and east to the New England states and southeastern Canada (Rodewald et al.,2016 and

Terres,1991). This species winters from southern Brazil to Argentina and Chile, South America (Terres, 1991). Spring migration occurs during late March through April while fall migration occurs between late July to late August (Swanson,1996).

In Ohio, upland sandpiper has continued to decline with the decline of grassland habitats. Rodewald et al. (2016) reported that the majority of breeding pairs in Ohio were associated with grassy fields at smaller airports. This species requires large tracts of habitat approximately 20 acres in size (ODNR, 2015). While Swanson (1996) reported that the United States trend of breeding upland sandpipers was increasing (+142, probability (p) = ≤0.01), the Ohio trend was decreasing (-81, p = ≤0.01). The nesting period for Ohio is April 15 to July 31 (ODNR, 2022). The grassland habitats used by upland sandpipers vary widely and can include both exotic and native grasses in dry grasslands. Upland sandpiper can be associated with, and at times, even prefer shorter grass/forb structures, therefore, areas that are grazed, hayed, or mowed are used by upland sandpipers (ODNR, 2015). Upland sandpiper generally nests in large tracts of habitat with a minimum of 20 acres and vegetation between 6 to 14 inches in height and forages in areas less than 4 inches in height (Swanson,1996).

3.2 Desktop and Field Assessment

AECOM completed field surveys within the Project Study Area on in August and December 2021 and March and April 2022. Vegetative communities within the Project Study Area were assigned based on National Land Cover Classification data and verified during field surveys. A summary of the vegetative communities and descriptions identified within the Project Study Area are provided below, in Table 1, and illustrated on Figure 2. Representative photographs of the vegetative communities collected during field surveys, are included in Appendix B. The acreages shown in Table 2 include the entire Project Study Area that encompasses all anticipated work limits. Based on the nature of the Project, some of these areas may not be impacted by the Project construction activities.

TABLE 1: Vegetative Communities within the Innovation Extension 138 kV Transmission Line Project Study Area

Vegetative Community	Description	Approximate Acreage Within the Project Study Area	Approximate Percentage within the Project Study Area
Agricultural	Agricultural lands being utilized for row-crop production and associated activities, typically devoid of vegetation outside of the target crop and opportunistic/invasive species.	6.1	7.8%
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project Study Area and adjacent areas are frequently mowed grasses and forbs.	10.3	13.1%
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey corridor of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study corridors and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	16.2	20.6%

Vegetative Community	Description	Approximate Acreage Within the Project Study Area	Approximate Percentage within the Project Study Area
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with a few woody species, to a community dominated by forest herbs and woody species.	2.1	2.7%
Successional Hardwood Woodlands	Successional mixed hardwood woodlands are present along the Project study area. Woody species dominating these areas ranged between 2-6" DBH and included red elm (*Ulmus rubra*), white ash (*Fraxinus americana*), black maple (*Acer negundo*), black cherry (*Prunus serotina*), and quaking aspen (*Populus tremuloides*). The dominant shrub-layer species included Morrow's honeysuckle (*Lonicera morrowii*), black cherry (*Prunus serotina*), multiflora rose (*Rosa multiflora*) and blackberry (*Rubus occidentalis*).	11.2	14.3%
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey corridor for the Project.	7.2	9.2%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings, and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	25.5	32.4%
	Total	**78.6**	**100%**

3.2.1 Occurrences Within or Nearby the Project Area

Coordination with the ODNR indicated that the Project is within the range of the state-threatened least bittern (Appendix A). During the first Ohio Breeding Bird Atlas (OBBA; 1982-1987), least bitterns were recorded in 27 blocks (or survey units), predominantly within marshes bordering western Lake Erie and Sandusky Bay within Ottawa county. The second OBBA (2006-2011) recorded the species in 76 blocks, none of which were recorded within Licking County or any bordering county. The second atlas effort did record confirmed breeding evidence in the western part of Franklin and Delaware Counties, neighboring counties to Licking County (Rodewald et al., 2016). No records of non-breeding or breeding least bittern exist within or adjacent to the Project Study Area.

Coordination with the ODNR indicated that the Project is within the range of the state-endangered northern harrier (Appendix A). The first OBBA recorded northern harriers in a total of 35 priority blocks statewide, while the second OBBA recorded northern harriers in 31 priority blocks. The Prairie Peninsula physiographic region, which covers more than half of Licking County, had an occupancy decline of 60% between atlas survey efforts. The second atlas effort (2006-2011) did record possible nesting northern harriers within Muskingum and Coshocton County, neighboring counties of Licking County. Review of the Ohio Breeding Bird Atlas I and II both indicated that Licking County had no possible, probable, or confirmed nesting records during either of the atlas survey efforts (1982-1987;2006-2011). Northern harrier remains a very rare breeder in Ohio, as Peterjohn and Rice (1991) estimated approximately 25 pairs nested annually within Ohio during the efforts of the first OBBA (Rodewald, et al. 2016).

Coordination with the ODNR indicated that the Project is within the range of the state-endangered upland sandpiper (Appendix A). Upland sandpipers were recorded within 37 blocks during the first OBBA survey efforts (1982-1987) and 29 blocks, across 20 counties, during the second atlas efforts (2006-2011). Franklin County, a bordering county to Licking County, did have recorded confirmed nesting records in the western portion of the county. Review of the second OBBA indicated that Licking County had no possible, probable, or confirmed nesting records through either

survey efforts (Rodewald et al., 2016). No records of non-breeding or breeding Upland sandpiper exist within or adjacent to the Project Study Area.

4. Conclusions

4.1 Least Bittern Conclusion

AECOM would not anticipate effects to least bittern habitat or species due to the absence of nesting habitat. Least bittern habitat is described as extensive (1 to 12 acres in size (Poole et al., 2020)), undisturbed emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation interspersed with clumps of woody vegetation and open water (ODNR, 2022). Most of the wetlands identified within the Project Study Area are less than 1.0-acre in size (Figure 3). Larger wetlands, greater than 1.0-acre in size, would include Wetland 12 (2.2-acres) and the wetlands surrounding Stream 1: Wetland 04a and Wetland 04b, Wetland 05, Wetland 06a and Wetland 06b, and Wetland 14 (totaling 2.3-acres). Due to being enclosed by dense forested habitat and lacking open water, the wetland complex surrounding Stream 1 is not considered habitat. Wetland 12 is located within a highly disturbed area (urban land classification type) that is impacted by surrounding construction and clearing activities (not associated with the Project) and is therefore not considered suitable. Both wetlands lack dense emergent vegetation and/or open water. Additionally, both mentioned wetlands do not have any proposed impacts, and thus will not be affected by construction activities associated with this Project. .

4.2 Northern Harrier Conclusion

AECOM would not anticipate effects to northern habitat or species due to the absence of nesting habitat. ODNR has provided guidance that open grasslands and wet meadow marshes of at minimum of approximately 2 acres should be considered as nesting habitat. While a fairly considerable percent of the Project Study Area is classified as old field habitat, the largest patches of this habitat are fragmented and surrounded by human disturbances (i.e., urban land and public roadways; Figure 2). The fragmentation of habitat severely affects the habitat suitability of northern harrier, as the patches may be too small, isolated, and/or too influenced by edge effects to maintain a viable population (Johnson,2001). Furthermore, the Project Study Area is within a reasonably heavily populated area and influenced by Columbus suburban neighborhoods. .

4.3 Upland Sandpiper Conclusion

AECOM would not anticipate effects to upland sandpiper habitat or species due to absence of nesting habitat. The ODNR states that upland sandpiper nesting habitat is considered to be large areas (at minimum of 20-acres in size (ODNR, 2015)) of dry grasslands, pastures, hayfields, and airport infields, and generally occupying habitats with shorter vegetative height. While some areas observed within the Project Study Area were classified as old field habitat, the areas were less than 20-acres in size and lacked continuity with the landscape to provide nesting opportunities for this species (Figure 2). .

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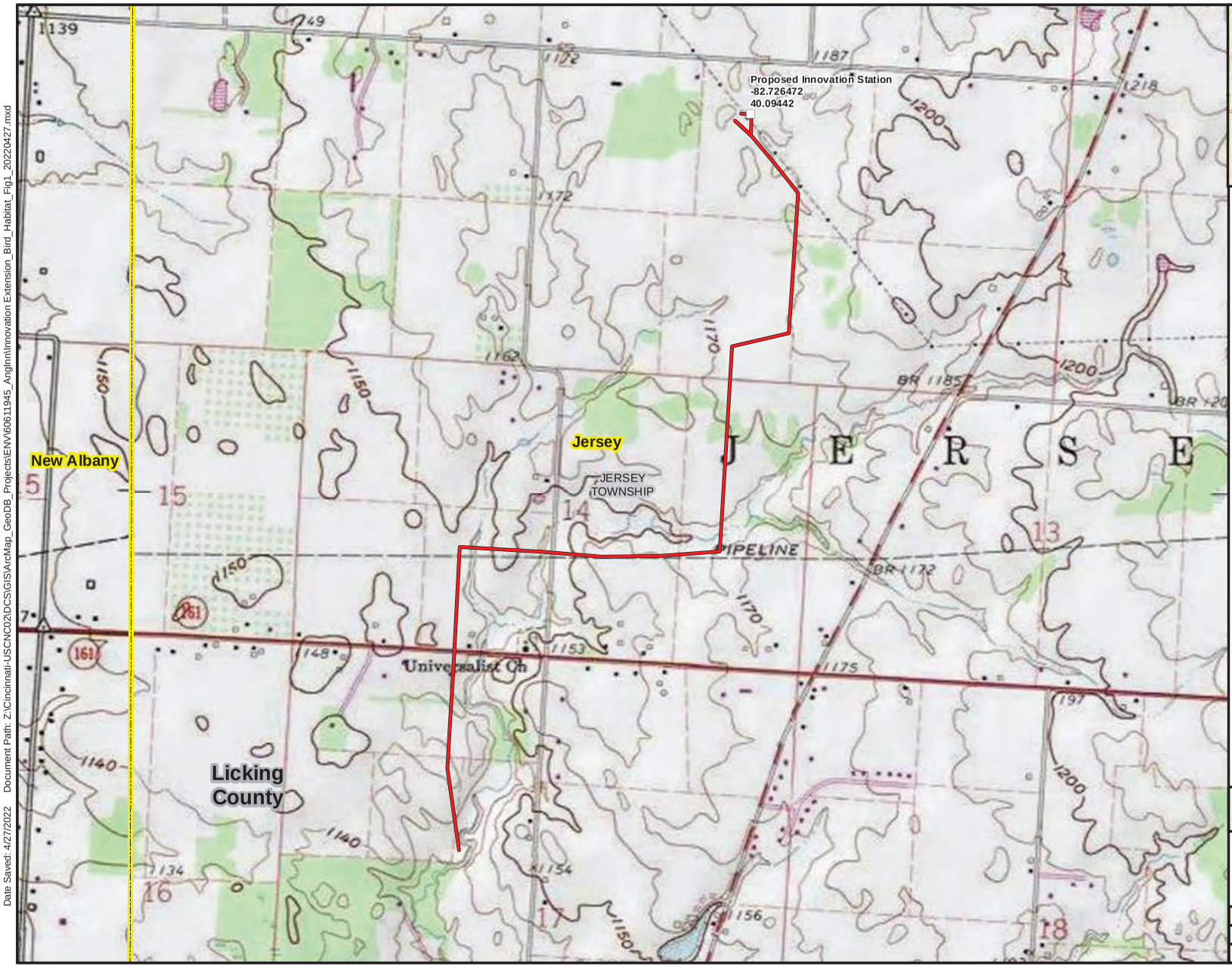
Figures



Legend

- Proposed Innovation Station
- Proposed Innovation Extension 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary

N

0 500 1,000 2,000

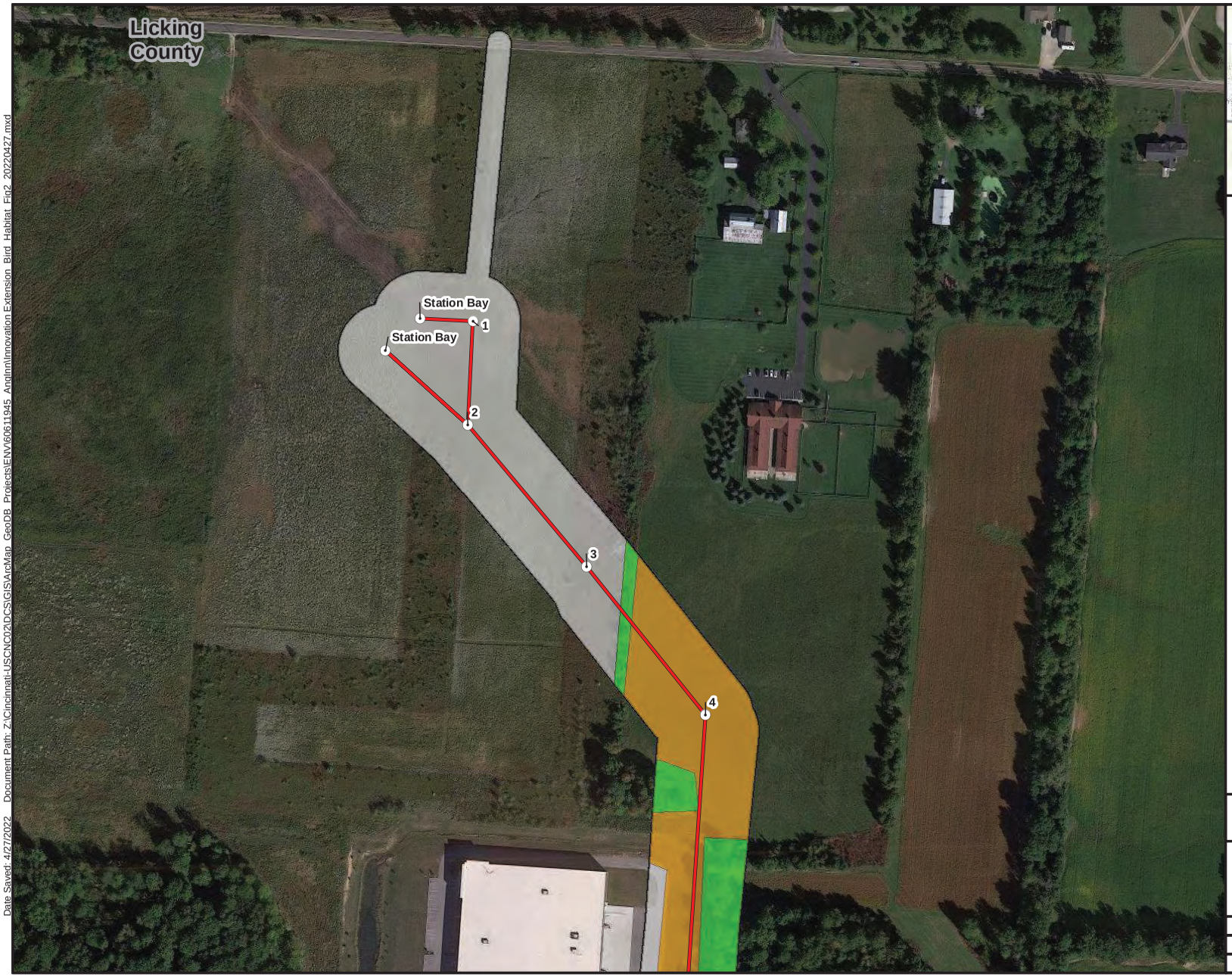
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 1
PROJECT OVERVIEW

DATE: 4/27/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60611945_AnglnnInnovation Extension_Bird_Habitat_Fig1_20220427.mxd



Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line

Vegetation Community Type

- Forested
- Landscaped Areas
- Urban
- Project Survey Corridor

N

0 100 200 400

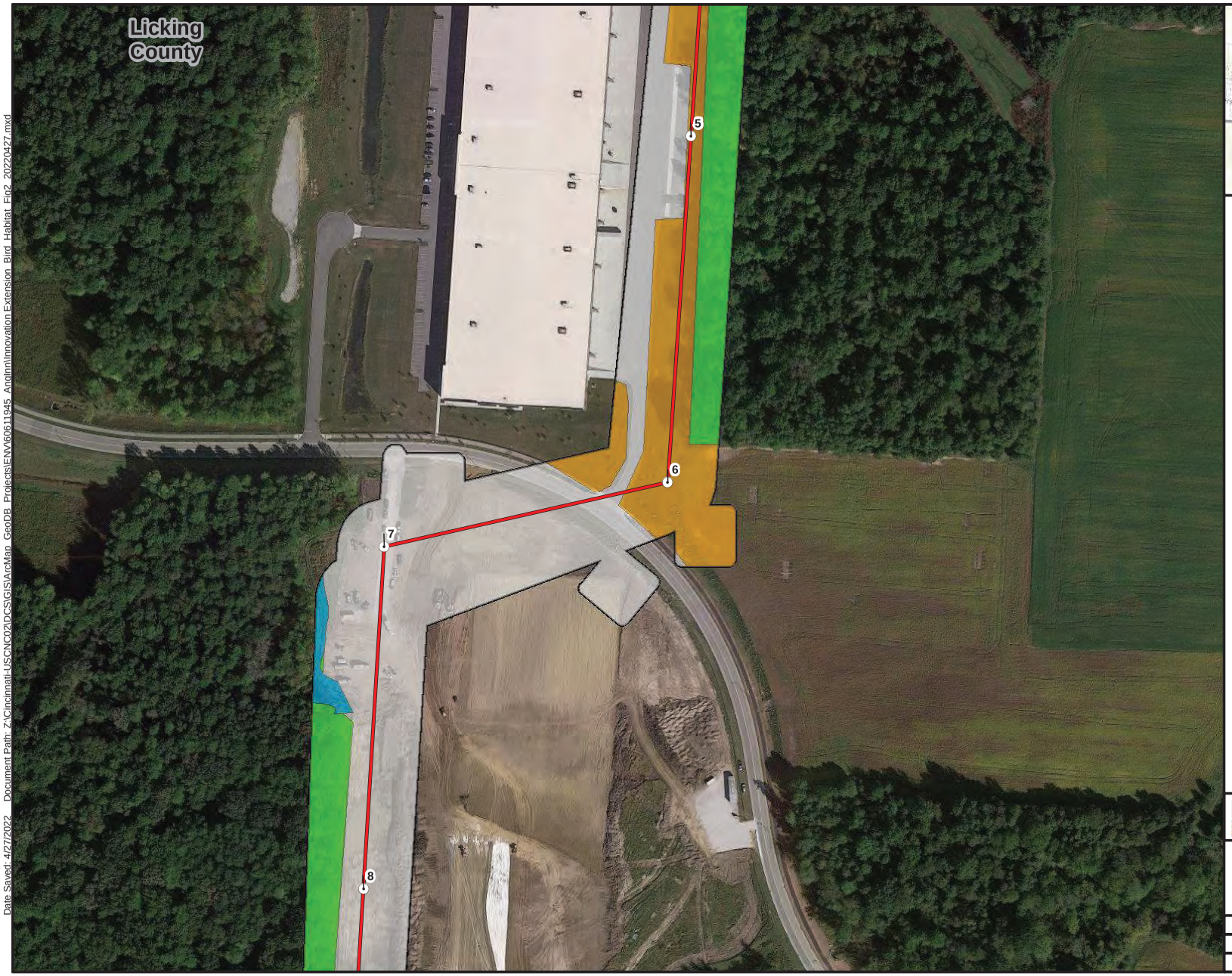
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2A
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anol\nn\Innovation Extension Bird Habitat Fig2 20220427.mxd



Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line

Vegetation Community Type

- Forested
- Landscaped Areas
- Stream/Wetlands/Ponds
- Urban
- Project Survey Corridor

N

0 100 200 400

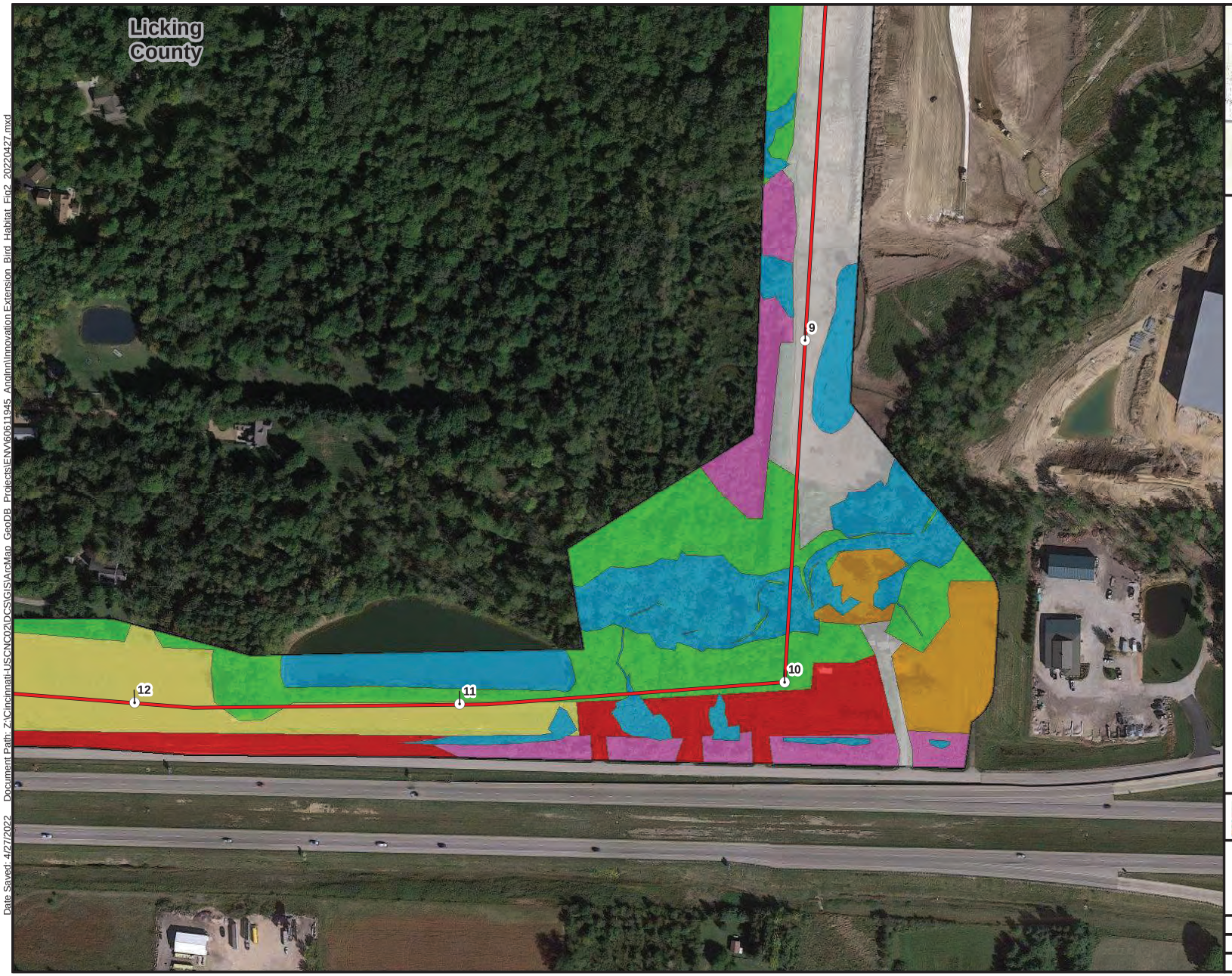
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2B
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\nn\Innovation Extension Bird Habitat Fig2 20220427.mxd



Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Scrub-Shrub
- Stream/Wetlands/Ponds
- Urban
- Project Survey Corridor

N

0 100 200 400

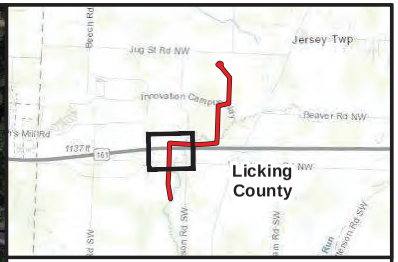
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2C
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AndInn\Innovation Extension Bird Habitat Fig2 20220427.mxd



Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban
- Project Survey Corridor

N

0 100 200 400

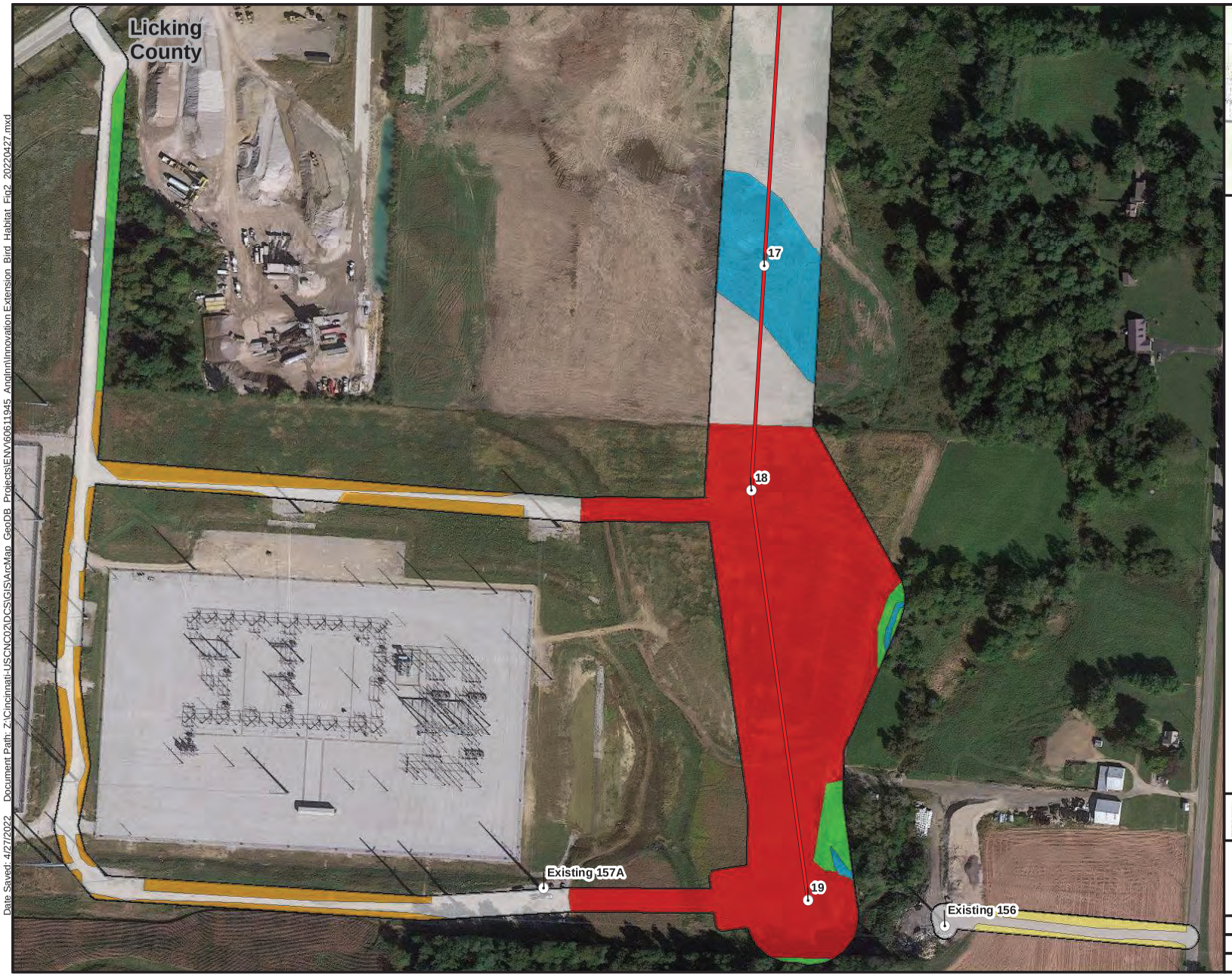
Feet

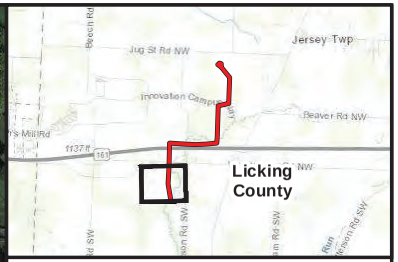
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2D
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AndInn\Innovation Extension Bird Habitat Fig2 20220427.mxd





Legend

- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban
- Project Survey Corridor

N

0 100 200 400

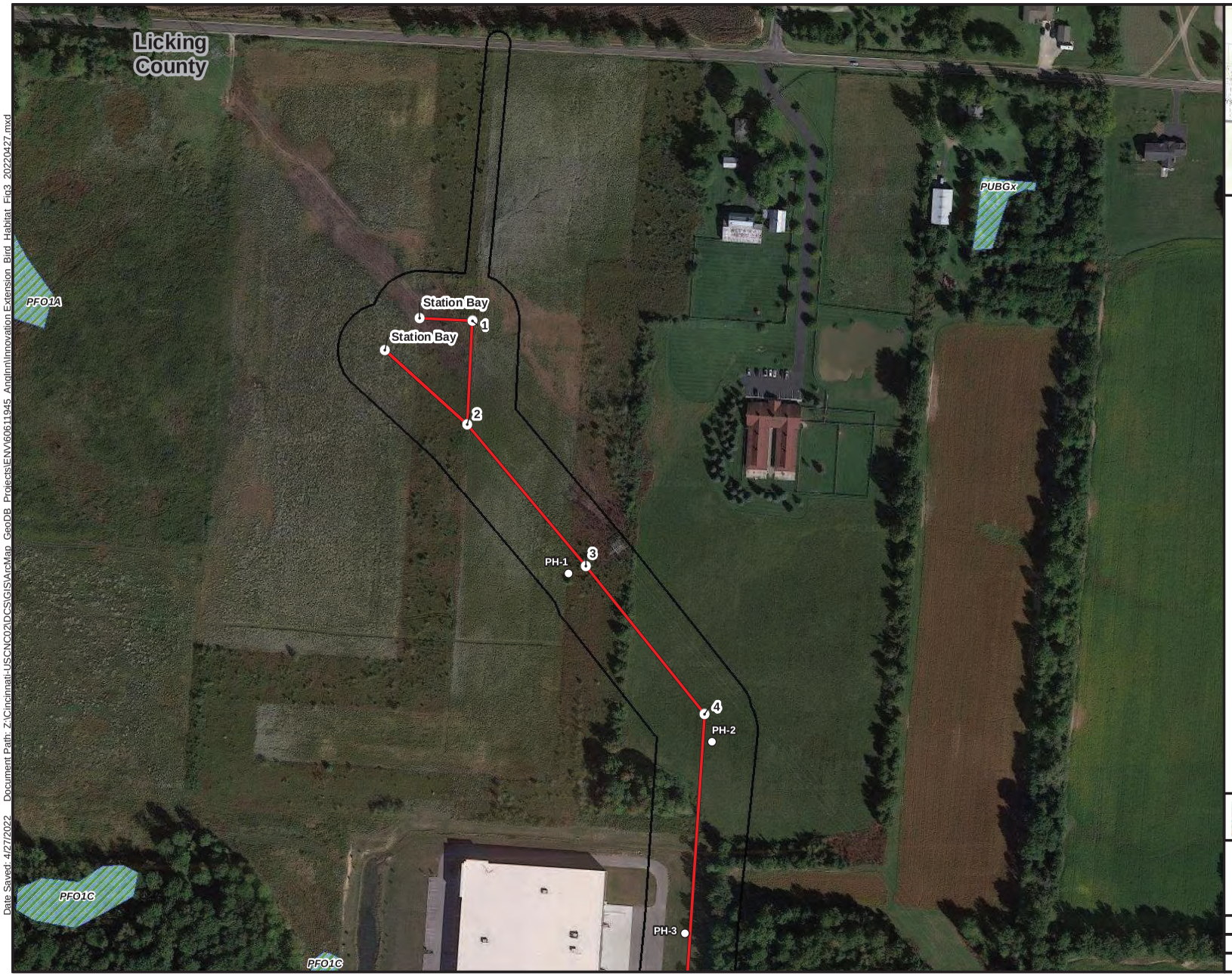
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2E
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Bird Habitat Fig2 20220427.mxd



Legend

- Photograph Location
- Proposed Structure Locations
- Proposed Innovation Extension 138kV Transmission Line
- NWI Wetland (USFWS)
- Project Survey Corridor

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3A
PROJECT FINDINGS MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Bird Habitat Fig3 20220427.mxd

Legend

- Photograph Location
- Proposed Structure Locations
- NHD Stream (USGS)
- Proposed Innovation Extension 138kV Transmission Line
- Delineated PEM Wetland
- NWI Wetland (USFWS)
- Project Survey Corridor

N

0 100 200 400

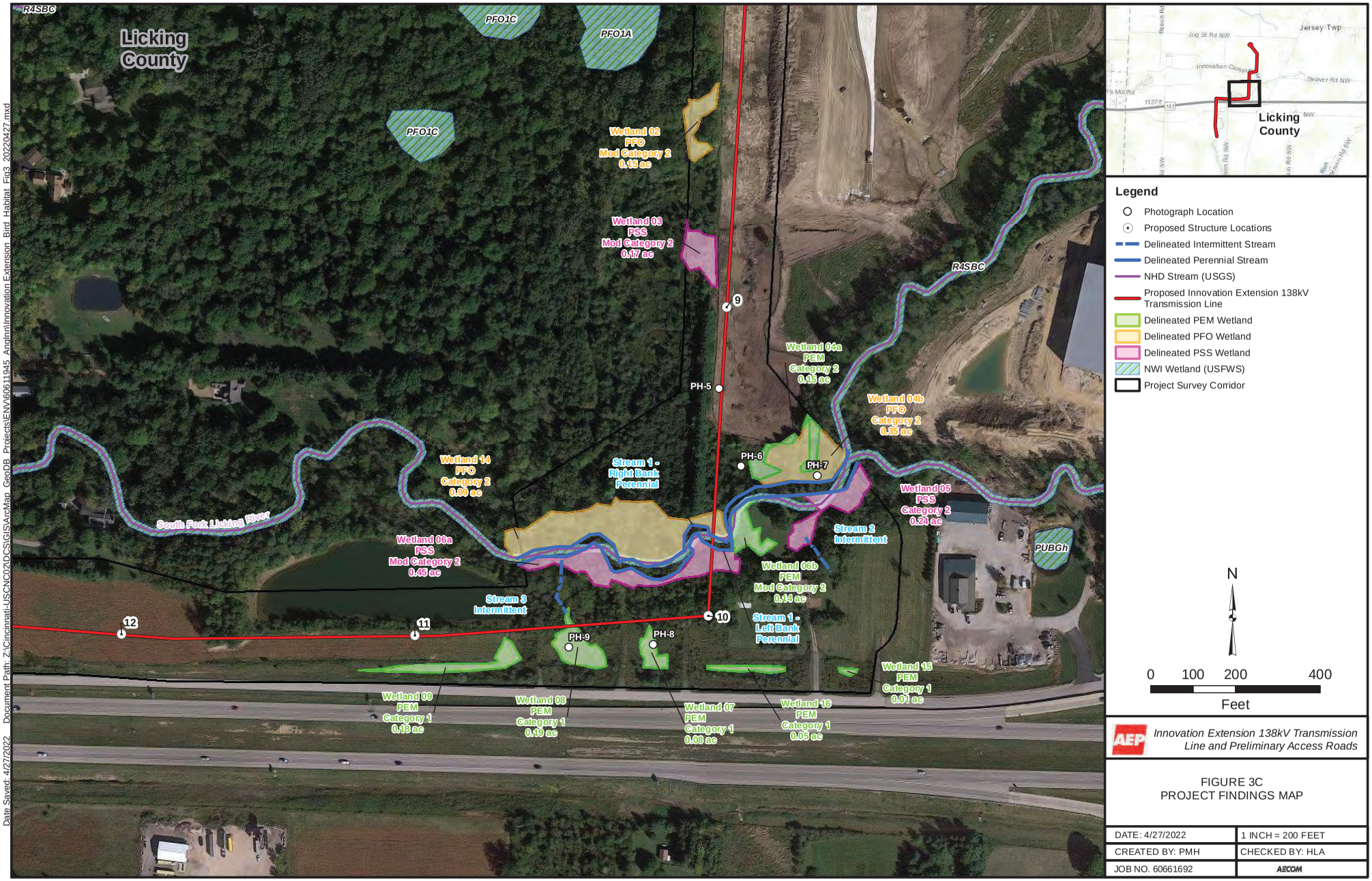
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3B
PROJECT FINDINGS MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Bird Habitat Fig3 20220427.mxd



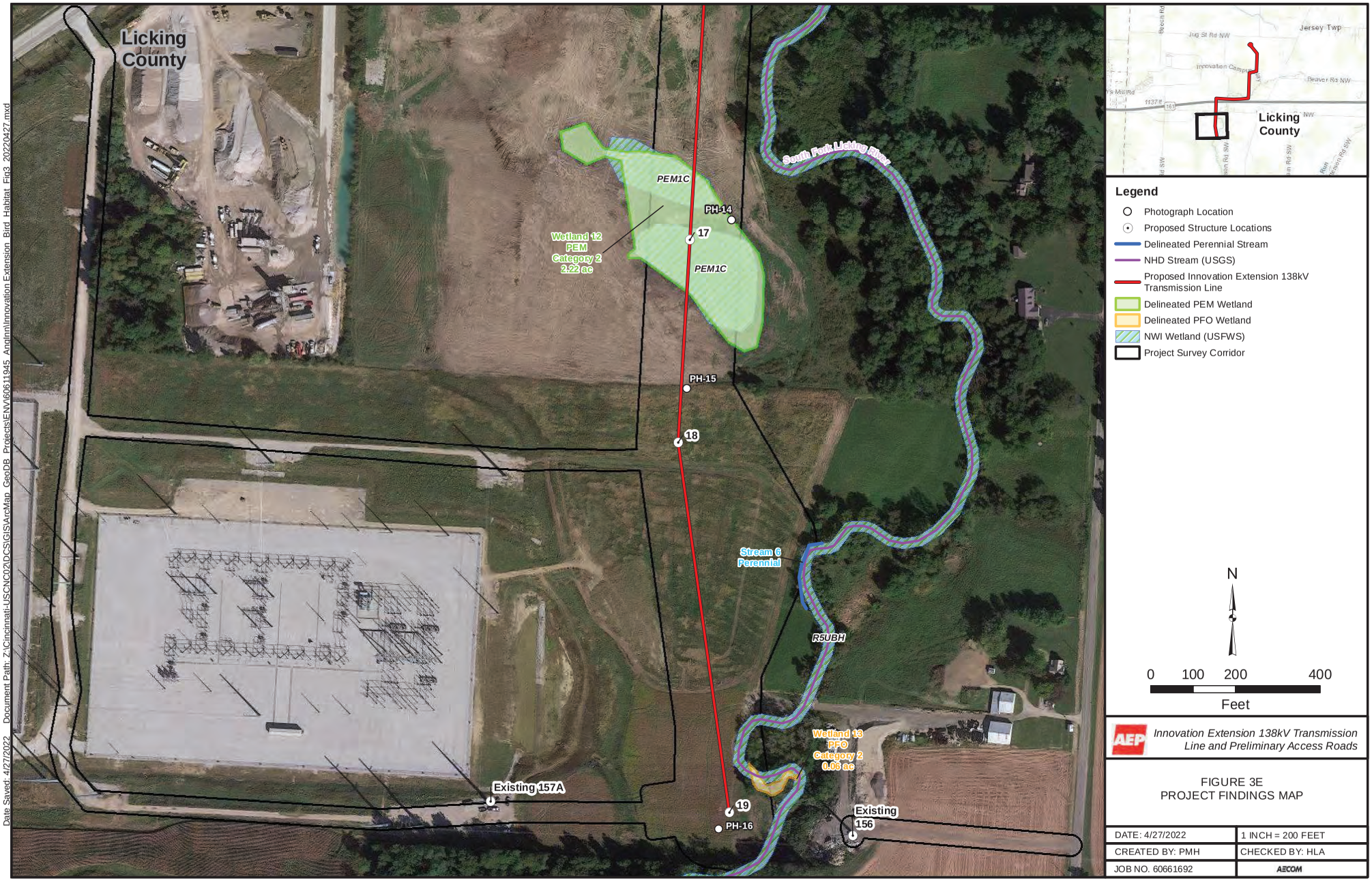
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3C
PROJECT FINDINGS MAP

DATE: 4/27/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60661692	AECOM

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anp\Inn\Innovation Extension Bird Habitat Fig3 20220427.mxd

Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AnoInn\Innovation Extension Bird Habitat Fig3 20220427.mxd



Date Saved: 4/27/2022 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Bird Habitat Fig3 20220427.mxd

APPENDIX A

Ohio Department of Natural Resources Coordination

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

March 2, 2022

Brian Miller
AECOM
Foster Plaza 6
681 Andersen Drive, Suite 120
Pittsburgh, Pennsylvania 15220, USA

Re: 22-0097; AEP Innovation Extension 138kV Transmission Line

Project: The proposed project consists of the construction of a 2-mile 138kV transmission line between the newly proposed Innovation Station and tie-in to the existing Kirk-Jug 138k/345 kV transmission line.

Location: The proposed project is located in Jersey Township, Licking 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: A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state nature preserves, wildlife areas, parks or forests, national wildlife refuges, or other protected natural areas within the project area. 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.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

In addition, 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 bat species 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. The DOW recommends tree 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*Range-wide Indiana Bat Survey Guidelines*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Erin Hazelton 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 the 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 fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

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

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat 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 least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with dense, tall growths of aquatic or semiaquatic vegetation (particularly cattail, sedge, rushes, arrowheads, or sawgrass) interspersed with clumps of woody vegetation and open water. Nests are made from dried vegetation suspended .5 to 2.5 feet above the water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonis*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, 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 US Fish & Wildlife Service.

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

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

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

ODNR appreciates the opportunity to provide these comments. Please contact Mike Pettegrew at mike.pettegrew@dnr.ohio.gov if you have questions about these comments or need additional information.

Mike Pettegrew
Environmental Services Administrator

APPENDIX B

Photographic Log

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 1
Date: December 6, 2021
Description: Future Proposed Urban Development Site is existing old field, but will be commercial/industrial development by the start of this Project's construction Near Proposed Structure 3 Facing North

PHOTO LOCATION 1
Date: December 6, 2021
Description: Future Proposed Urban Development Site is existing old field but will be commercial/industrial development by the start of this Project's construction. Near Proposed Structure 3 Facing South

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 2	
Date: December 6, 2021	
Description: Landscaped Area Near Proposed Structure 4 Facing South	

PHOTO LOCATION 3	
Date: December 6, 2021	
Description: Urban development and landscaped area, bordered by forested habitat to the east Between Proposed Structures 4 - 5 Facing South	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 4	
Date: April 20, 2022	
Description: Existing construction actitives (not associated with the Innovation Ext 138kV Transmission Line Project). Near Proposed Structure 6 Facing North	

PHOTO LOCATION 5	
Date: December 7, 2021	
Description: Urban development and west side of Pond 1 Between Proposed Structures 9 - 10 Facing North	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 5	
Date: December 7, 2021 **Description:** Urban development with forested habitat in background Between Proposed Structures 9 - 10 Facing South	

PHOTO LOCATION 6	
Date: December 7, 2021 **Description:** View of Wetland 04a (PEM component) and 04b (PSS component) Between Proposed Structures 9 - 10 Facing East	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 7	
Date: December 7, 2021 **Description:** View of Wetland 04a (PEM component) and 04b (PSS component) Between Proposed Structures 9 - 10 Facing North	

PHOTO LOCATION 8	
Date: December 7, 2021 **Description:** Old field habitat borded by forested habitat to the north and scrub-shrub and road way to the south Between Proposed Structures 10 - 11 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 8	
Date: December 7, 2021	
Description: View of Wetland 07 (PEM) and surrounding old field habitat, bordered by forested habitat to the north Between Proposed Structures 10 - 11 Facing West	

PHOTO LOCATION 9	
Date: December 7, 2021	
Description: View of Wetland 08 bordered by forested habitat to the north and scrub-shrub and roadway to the south Between Proposed Structures 10 - 11 Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 9	
Date: December 7, 2021	
Description: View of Wetland 08 bordered by forested habitat to the north and scrub-shrub and roadway to the south Between Proposed Structures 10 - 11 Facing West	

PHOTO LOCATION 10	
Date: December 8, 2021	
Description: View of Wetland 11, surrounded by old field habitat. Forest habitat is present to the north; roadway is present to the south. Between Proposed Structures 12 - 13 Facing East	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 10
Date: December 8, 2021
Description: View of Wetland 11, surrounded by old field habitat Forest habitat is present to the north; roadway is present to the south. Between Proposed Structures 12 - 13 Facing West

PHOTO LOCATION 11
Date: December 8, 2021
Description: Old Field habitat with roadway present to south Near Proposed Structure 14 Facing North

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 11	
Date: April 20, 2022	
Description: Old Field habitat with roadway present to south Near Proposed Structure 14 Facing East	

PHOTO LOCATION 12	
Date: December 8, 2021	
Description: Agricultural area bordered by landscaped area and roadway in background Near Proposed Structure 15 Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 12	
Date: December 8, 2021	
Description: Agricultural area Near Proposed Structure 15 Facing South	

PHOTO LOCATION 13	
Date: December 8, 2021	
Description: Urban area with roadway in the background Near Proposed Structure 16 Facing North	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 13	
Date: December 8, 2021	
Description: Urban area with Wetland 12 in the background Near Proposed Structure 16 Facing South	

PHOTO LOCATION 14	
Date: December 8, 2021	
Description: Wetland 12 Surrounded by urban area that is heavily impacted by surrounding construction and clearing activities (not associated with Innovation Ext 138kV Transmission Line Project) Near Proposed Structure 17 Facing North	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 14	
Date: December 8, 2021	
Description: Wetland 12 Surrounded by urban area that is heavily impacted by surrounding construction and clearing activities (not associated with Innovation Ext 138kV Transmission Line Project) Near Proposed Structure 17 Facing West	

PHOTO LOCATION 15	
Date: December 8, 2021	
Description: Wetland 12 in background, surrounded by urban land Between Proposed Structures 17 - 18 Facing North	

PHOTOGRAPHIC RECORD FOR AVIAN HABITAT ASSESSMENT REPORT

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project	60661692

PHOTO LOCATION 15	
Date: March 23, 2022	
Description: Old field habitat; Potentially fallow hayfield. Adjacent to existing electrical substation and between Proposed Structures 17 - 18 Facing South	

PHOTO LOCATION 16	
Date: December 8, 2021	
Description: Southern most section of Project Near Proposed Structure 19 Facing North	

INNOVATION EXTENSION 138KV TRANSMISSION LINE PROJECT AND PRELIMINARY ACCESS ROADS

LICKING COUNTY, OHIO

ADDENDUM ECOLOGICAL REPORT

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Prepared by:

525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60661692

May 2022

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Number

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Number

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APPENDIX B Habitat Photographic Record

1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to construct a new 138 kV transmission line as part of the Innovation Extension 138kV Transmission Line and Preliminary Access Roads (Project) in Licking County, Ohio. The Project consists of constructing approximately 2-miles of a new 138kv transmission line located between the Proposed Innovation Station and tie-in to the Kirk-Jug 138/345kV transmission line as well as associated preliminary access roads connecting to the transmission line right-of-way (ROW). Initial delineations of the proposed route and preliminary access roads were completed December 6 thru 8, 2021 and re-verified on March 23, 2022. The results of the original delineation were included within the *Innovation Extension 138kV Transmission Line Project and Preliminary Access Roads, Wetland Delineation and Stream Assessment Report* dated April 2022), refer herein as Original Report. Since the original wetland delineation and stream assessment, AEP Ohio Transco identified additional access roads and workspaces that extend outside of the Original Report Study Area. The Addendum Study Area associated with this Report for the Project is located on Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

The purpose of the field survey was to assess the presence of wetlands and other "waters of the United States" (WOTUS) that occur along the proposed Project alignment. Secondarily, land uses were also recorded to classify and characterize potential habitat for rare, threatened, and endangered species. This report will be used to assist AEP Ohio Transco's efforts to identify potential WOTUS and rare, threatened, and endangered species habitat present along the proposed Project alignment to avoid or minimize impacts during construction activities

2.0 METHODOLOGY

A comprehensive methodology of the field surveys and data reviews completed for this report are included within the April 2021- Original Report and a brief summary of the delineation and agency coordination methodology has been provided below.

The field survey was conducted over a 50-foot corridor centered along preliminary proposed access roads and 50-foot buffer of extra workspaces, composing a Project Addendum Survey Area of approximately 6.89 acres. Delineations were conducted in accordance with the procedures outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory, 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010). In addition, any wetlands were classified using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM). 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 (Rankin, 2006) and in the OEPA's Field Methods for Evaluating Primary Headwater Streams in Ohio (OEPA, 2020).

Initial coordination from the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received in March and February 2022, respectively. AECOM supplemented the original agency coordination with inquires to the USFWS Information for Planning and Consultation (IPaC) online tool and reviewed the county list of rare, threatened, and endangered species from the ODNR website. Base on review of the online resources and the Addendum Study Areas abutting the previous review areas, no further threatened and/or endangered species coordination was warranted, and the original assessment completed in the April 2021 – Original Report does not need revised and/or edited.

3.0 RESULTS

On April 20 and May 11, 2022, AECOM ecologists walked the Addendum Study Area to conduct the wetland delineation, stream assessment and habitat survey. A reverification of features and survey of additional route adjustments were completed on March 23, 2022. Within the Addendum Study Area, no wetlands, streams, and/or ponds were identified. One upland point was taken to characterize the study area. The locations and approximate extent of the wetlands and streams identified within the Project Addendum Study Area and April 2022 – Original Report are shown on **Figure 3**. Completed USACE data forms and photographs of the Addendum Survey Area are provided as **Appendix A and Appendix B**. Data forms, photographs, tables, and additional information on all other previously delineated features are contained within the April 2022 – Original Report.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

Soils in delineated wetlands were observed and documented as part of the delineation methodology. According to the USDA/NRCS Web Soil Survey, seven soil series are mapped within the Project Addendum Study Area (USDA NRCS 2021a and 2021b). Of these, two soil map units are identified as hydric, comprising approximately 32.7% of the mapped unit areas. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Project survey area. Soil map units located in the Project survey area and vicinity are shown on **Figure 2**.

TABLE 1 – SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT ADDENDUM SURVEY AREA

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Amanda	AmD2	Amanda silt loam, 12 to 18 percent slopes, eroded	Knolls on till plains, valleys on till plains	No	N/A
Bennington	BeB	Bennington silt loam, 2 to 6 percent slopes	Drainageways, depressions	No	Condit 3% Pewamo, low carbonate till 3%
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Drainageways, depressions	No	Condit 4% Marengo 3%
Centerburg	Cen1C2	Centerburg silt loam, 6 to 12 percent slopes, eroded	End moraines, ground moraines	No	Condit 4%
Condit	Cn	Condit silt loam, 0 to 1 percent slopes	End moraines, ground moraines	Yes	Condit 90% Pewamo 3% Condit, fine-loamy 3%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Condit 9% Pewamo, low carbonate till 85%
Shoals	Sh	Shoals silt loam, 0 to 2 percent slopes, occasionally flooded	Flood plains	No	Sloan 8%

NA = Not Applicable or Not Available

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project Addendum Study Area does not contain any NWI mapped wetlands. The locations and approximate extent of NWI mapped wetlands identified within the Project Addendum Study Area and April 2022 – Original Report are shown on **Figure 2**.

3.1.3 DELINEATED WETLANDS

During the field survey, no wetlands were identified within the Addendum Study Area. However, one upland sample point was collected to represent the upland characteristics and included as **Appendix A**.

3.1.4 STREAM DELINEATION

During the field survey, no streams were identified within the Addendum Study Area.

3.2 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2** and no regulated FEMA 100-year floodplains and/or floodways are located within the Project area.

TABLE 2- SUMMARY OF WATERSHED 401 WQC ELIGIBILITY WITHIN THE PROJECT ADDENDUM SURVEY AREA

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050400060402	Headwaters South Fork Licking River	Eligible	0
050400060401	Headwaters Blacklick Creek	Possibly Eligible	0
		Total	**0**

3.3 PONDS

No ponds were observed within the Addendum Study Area.

3.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT ADDENDUM SURVEY AREA

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of woody and herbaceous lands, as described in **Table 3**, below, are present within the Project Addendum Study Area, including old field, scrub-shrub, agricultural land, pasture/hay fields, residential landscaped areas, stream/wetland areas, and urban areas. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**.

TABLE 3- VEGETATIVE COMMUNITIES WITHIN THE PROJECT ADDENDUM SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Addendum Study Area	Approximate Percentage Within the Addendum Study Area
Agricultural	Agricultural lands being utilized for row-crop production and associated activities, typically devoid of vegetation outside of the target crop and opportunistic/invasive species.	1.22	17.6
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey corridor and adjacent areas are frequently mowed grasses and forbs.	1.23	17.8
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey corridor of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study areas and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	1.63	23.7
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings, and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	2.81	40.9
Totals:		**6.89**	**100%**

3.5 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

Correspondence for state and federal listed species were completed as part of the original project and included within the April 2022 – Original Report. AECOM reviewed these previous correspondences with the USFWS and ODNR responses to identify the potential presence of listed species and/or their critical habitat within the new work areas associated with the Addendum Study Area. Based on the due-diligence review, the Addendum Study Areas presents potentially suitable summer habitat for the four bats were identified in the Project survey area and one of the four listed bat species, northern long-eared bat, was identified by the ODNR as a known presence within the Project survey area. Therefore, the ODNR recommends tree clearing activities to occur between October 1 and March 31. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, little brown bat, and the tricolored bat between June 1 and August 15 to confirm presence/absence. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. Therefore, limited tree clearing activities could be permitted upon completion and coordination of results of emergent and/or roost tree surveys with the ODNR. Regarding potential hibernaculum(a) within the Project area, a desktop hibernaculum(a) review was completed in accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) and no known karst, mines, and/or caves were identified within 0.25 miles of the Project survey area during the desktop analysis and no caves or mines were identified during the ecological survey.

The DOW also recommended that a desktop habitat assessment be conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the Project area. Within the April 2022-Original Report-Appendix E, AECOM identified that closest mine and/or karst feature was 5.5 miles from the Project area. As the Addendum Study Areas are adjacent to the original assessment, no caves and/or mines that could provide potential hibernaculum(a) are identified within 0.25-mile of the Project Addendum Study Area. Therefore, no further coordination is warranted with the DOW regarding potential hibernaculum.

The DOW noted that the Project is within the range of the northern harrier, least bittern and upland sand piper. Based on the habitat present within the Project area, the ODNR concurred in the original ecological report that no habitat is present for the listed avian species. As the addendum areas are associated with open agricultural fields, no suitable habitat for these species were observed.

Due to the absence of in-stream work proposed, the Project is not likely to impact either lake chubsucker or fawnsfoot. Furthermore, one reptile, eastern massasauga, was identified by the ODNR as being within range of the Project. However, the ODNR committed that due to the location, the type of habitat presents within the project area, and the type of work proposed, this project is not likely to impact this species.

A complete list of the listed species within the Project Addendum Study Area is provided within the April 2022 – Original Report.

3.6 SUMMARY

The ecological survey of the Project Addendum Study Area identified no wetlands, streams, and/or ponds. Results of the previously delineated wetlands, streams, and ponds are included within the April 2022-Original Report. Regarding state and/or federal listed threatened or endangered species, the original coordination with the ODNR and USFWS as indicated within the April 2022-Original Repot. Regarding the Addendum Study Area, four bat species would have potential summer habitat within the Project area and it is recommended to clear trees between October 1st and March 31st. If trees require to be cleared outside of the restriction, summer mist nest surveys between June 1 and August 15 to confirm presence/absence within the Project area. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. Therefore, limited tree clearing activities could be permitted upon completion and coordination of results of emergent and/or roost tree surveys with the ODNR. No habitats for the other six listed species were identified within the Project survey area or will be avoided by construction activities.

The information contained in this wetland delineation report is for Addendum survey area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

4.0 REFERENCES

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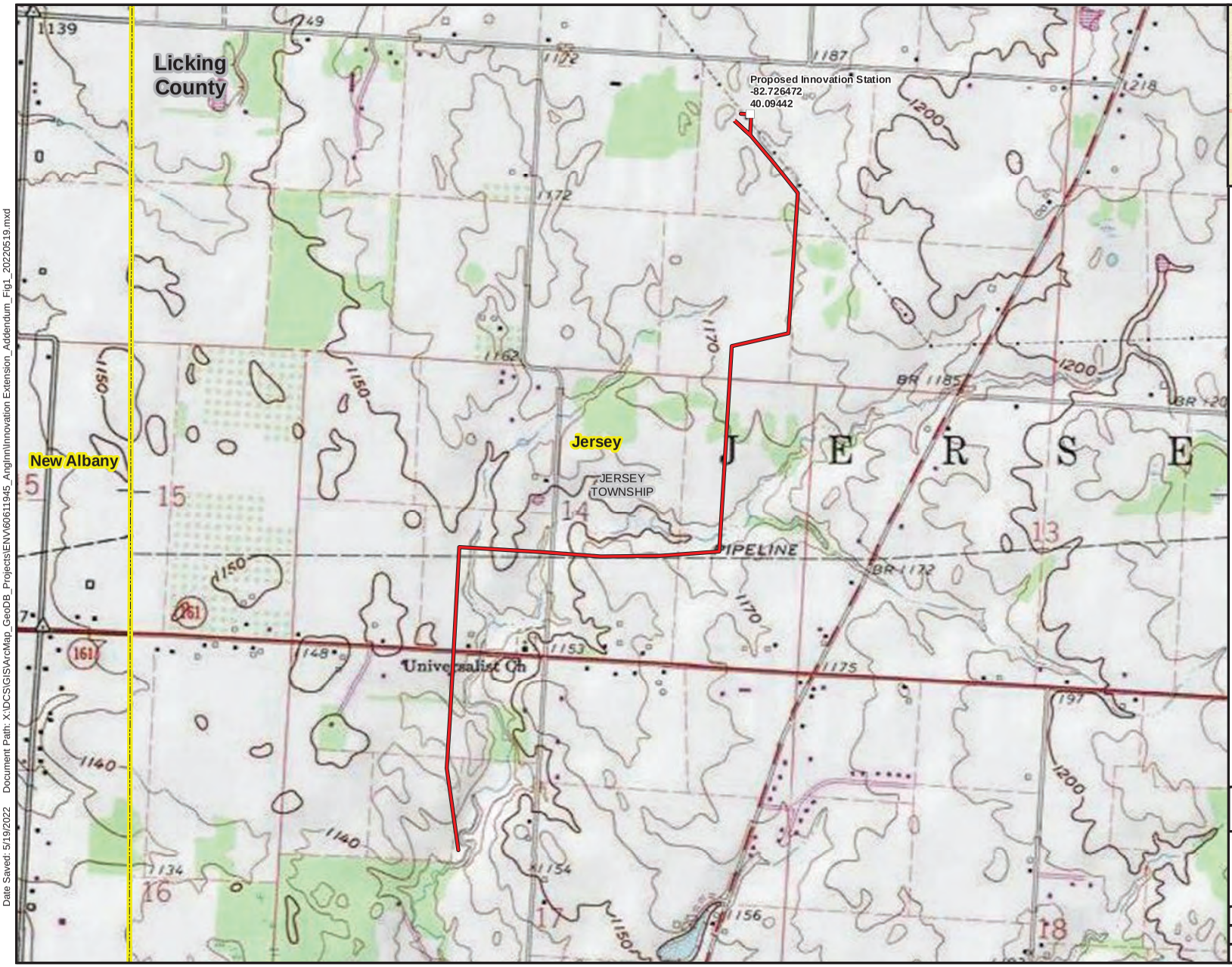

Legend

- Proposed Innovation Station
- Proposed Innovation Extension 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary

N

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Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 1
PROJECT OVERVIEW

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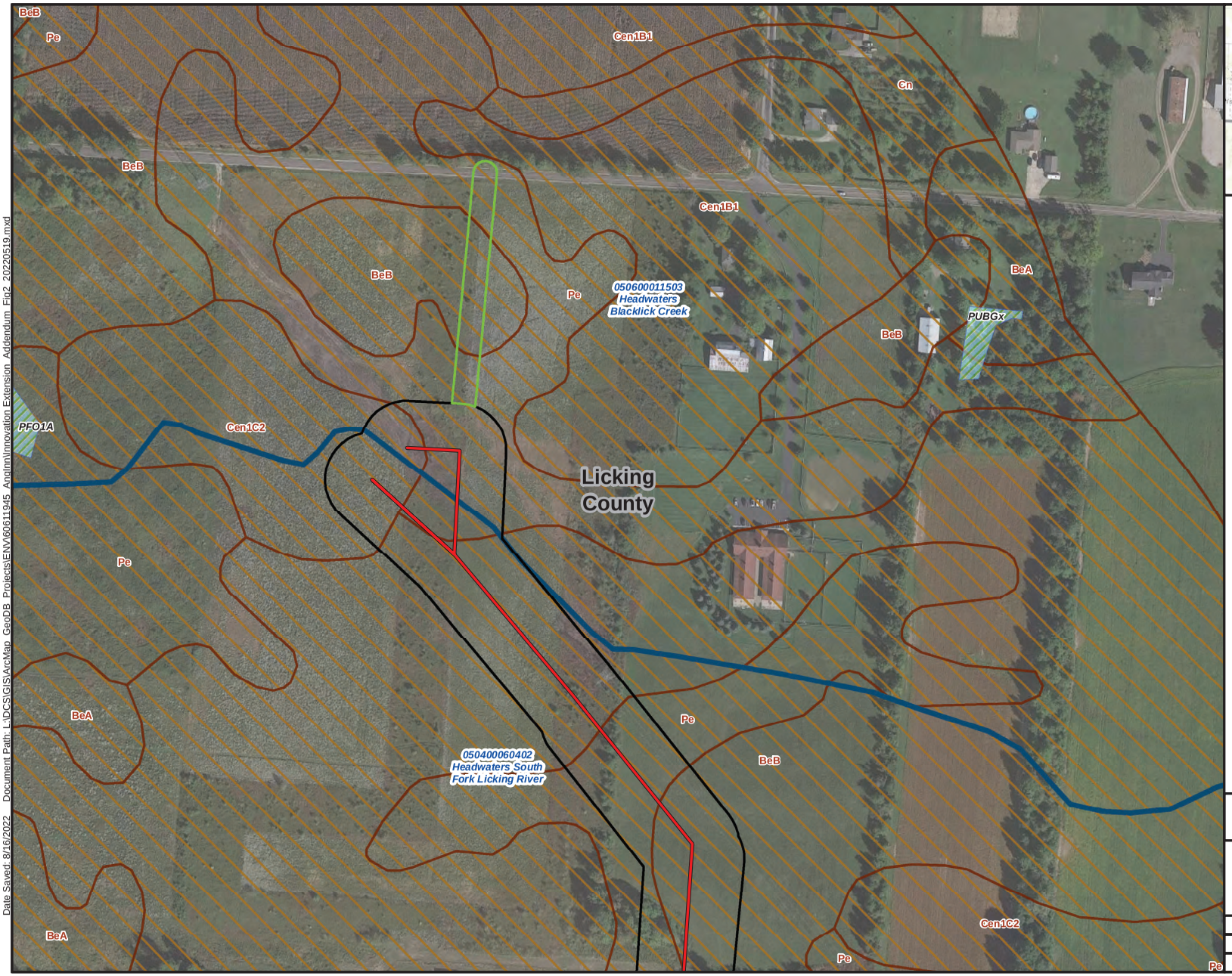

Legend

- Proposed Innovation Extension 138kV Transmission Line
- AECOM Addendum Study
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2A
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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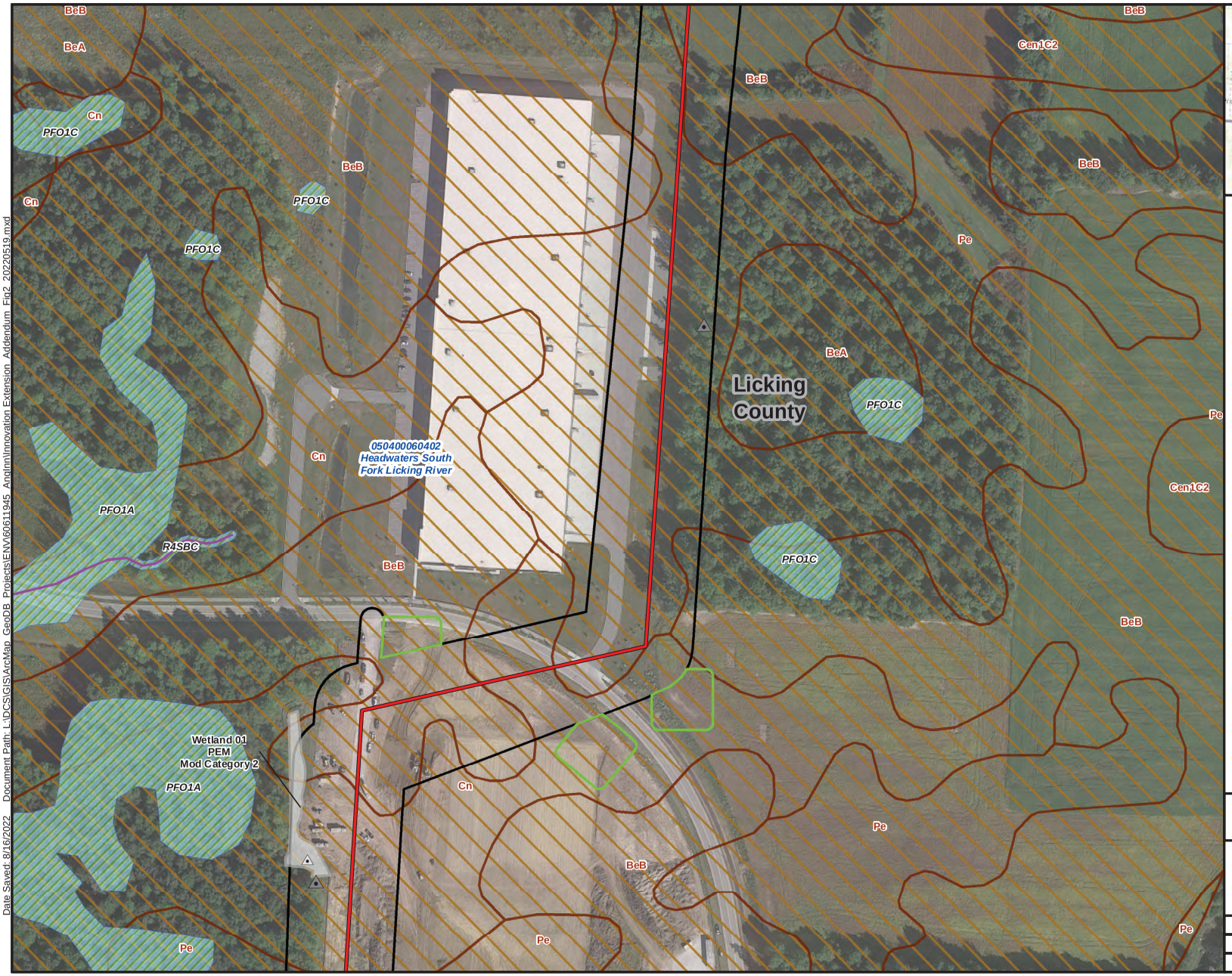

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- Delineated PEM Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes

N

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Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2B
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Pond
- Delineated Intermittent Stream
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PFO Wetland
- Delineated PSS Wetland
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2C
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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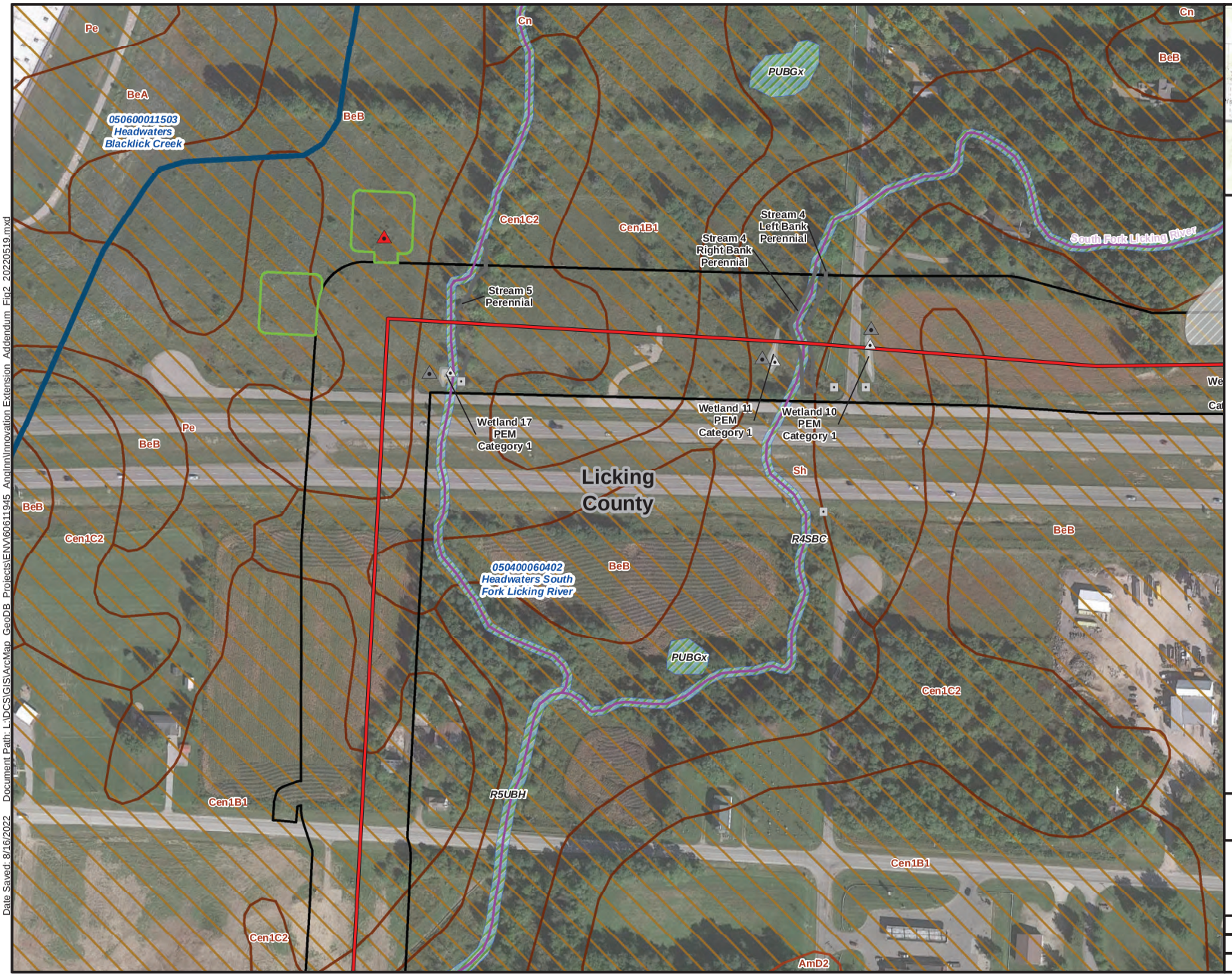

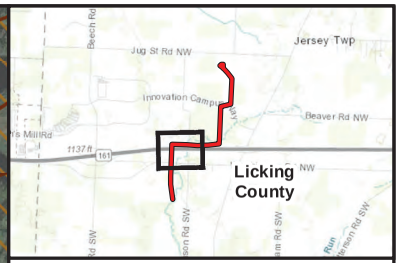

Legend

- Culvert
- Wetland Data Point
- Upland Data Point
- Addendum Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Pond
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- AmD2 -Amanda silt loam, 12 to 18 percent slopes, eroded
- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Cn - Condit silt loam, 0 to 1 percent slopes
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2D
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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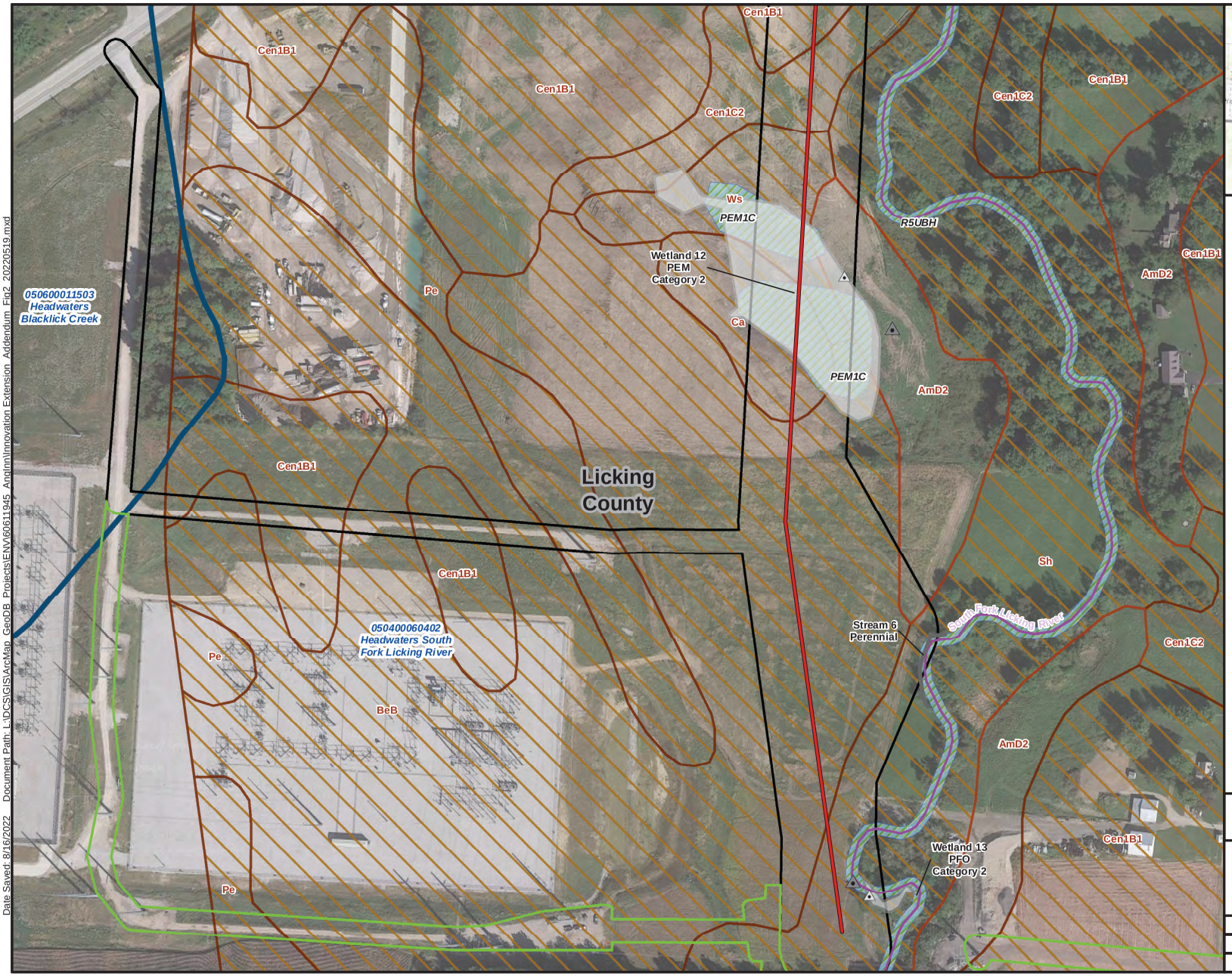

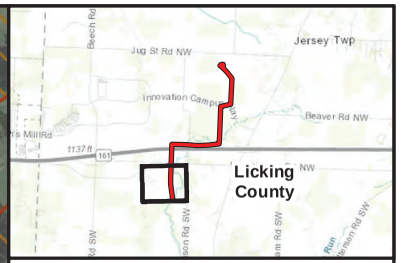

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PFO Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- AmD2 -Amanda silt loam, 12 to 18 percent slopes, eroded
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Ca - Carlisle Muck
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded
- Ws - Westland silt clay loam

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2E
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

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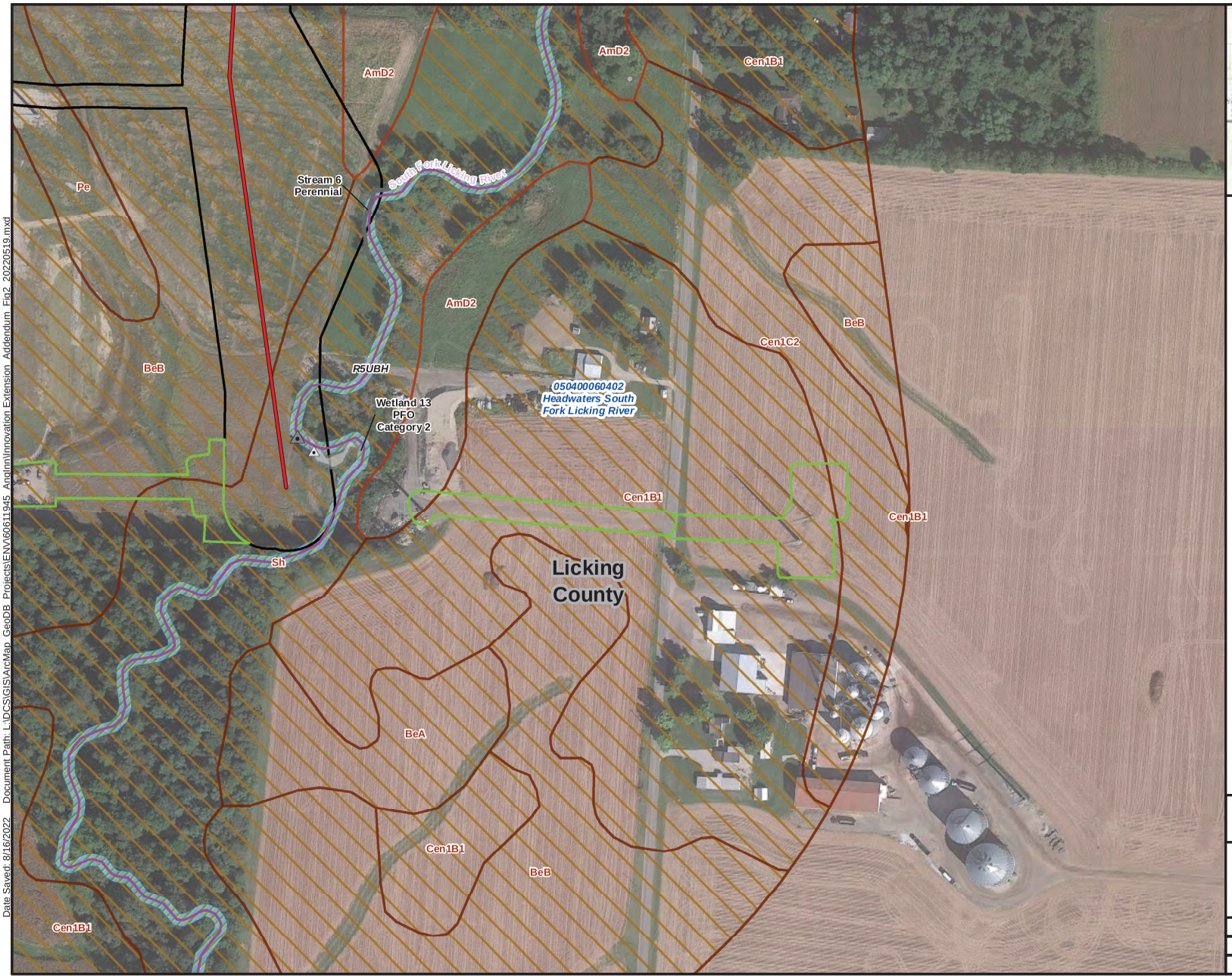

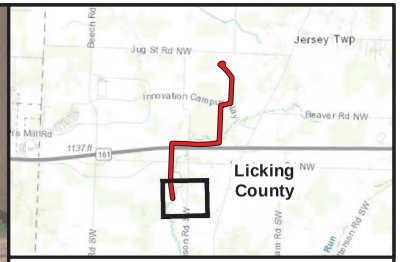

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PFO Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

- AmD2 -Amanda silt loam, 12 to 18 percent slopes, eroded
- BeA - Bennington silt loam, 0 to 2 percent slopes
- BeB - Bennington silt loam, 2 to 6 percent slopes
- Cen1B1 - Centerburg silt loam, 2 to 6 percent slopes
- Cen1C2 - Centerburg silt loam, 6 to 12 percent slopes, eroded
- Pe - Pewamo silty clay loam, low carbonate til, 0 to 2 percent slopes
- Sh - Shoals silt loam, 0 to 2 percent slopes, occasionally flooded

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 2F
SOIL MAP UNIT AND
NATIONAL WETLAND INVENTORY MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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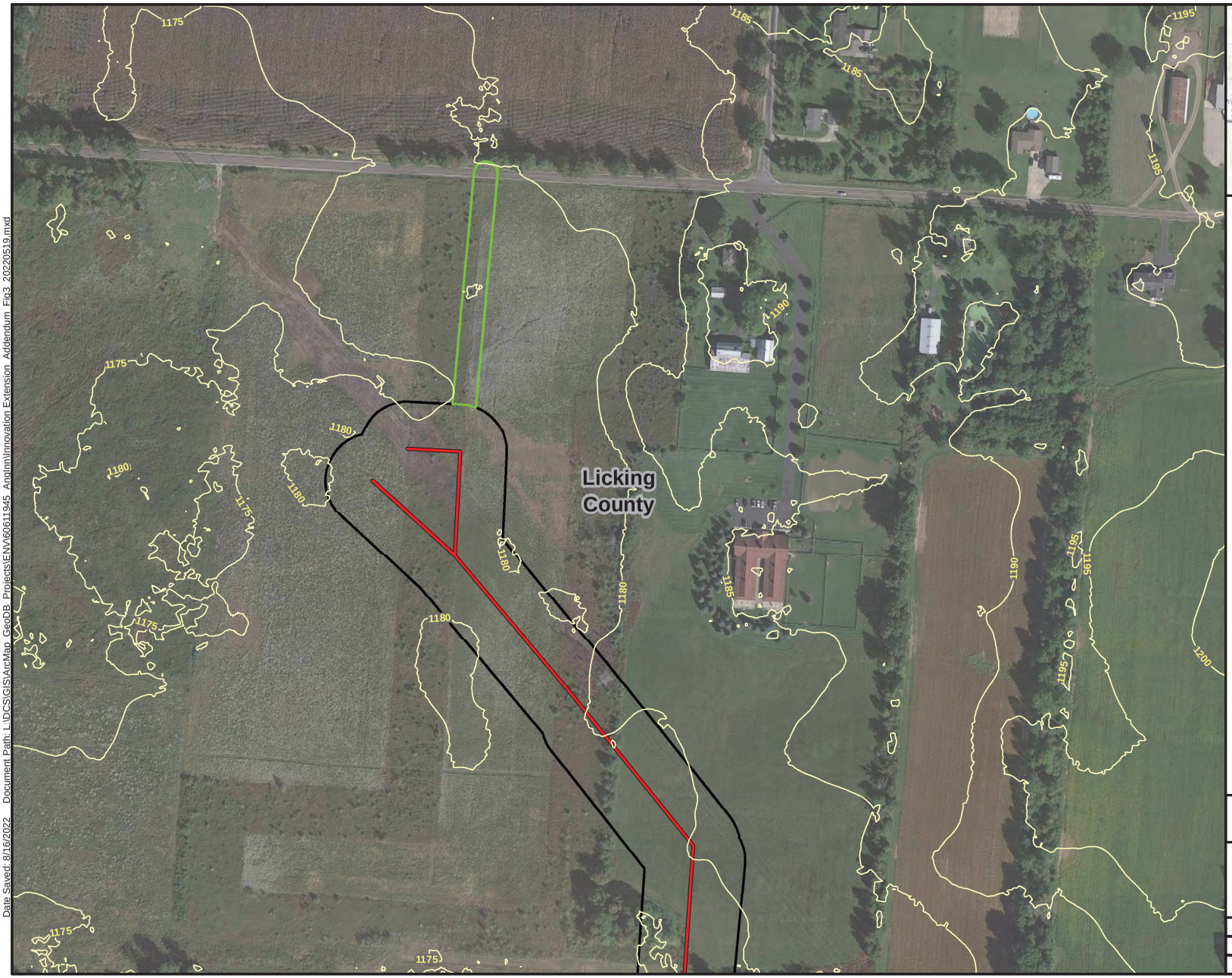


Legend

- Proposed Innovation Extension 138kV Transmission Line
- AECOM Addendum Study
- AECOM Original Study Area
- County

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3A
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 8/16/2022 Document Path: L:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60611945_AnqInn\Innovation Extension_Addendum_Fig3_20220519.mxd

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- Delineated PEM Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- County

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3B
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 8/16/2022 Document Path: L:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Addendum Fig3 20220519.mxd

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Intermittent Stream
- Delineated Perennial Stream
- Delineated Pond
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PFO Wetland
- Delineated PSS Wetland
- AECOM Original Study Area
- County

N

0 100 200 400

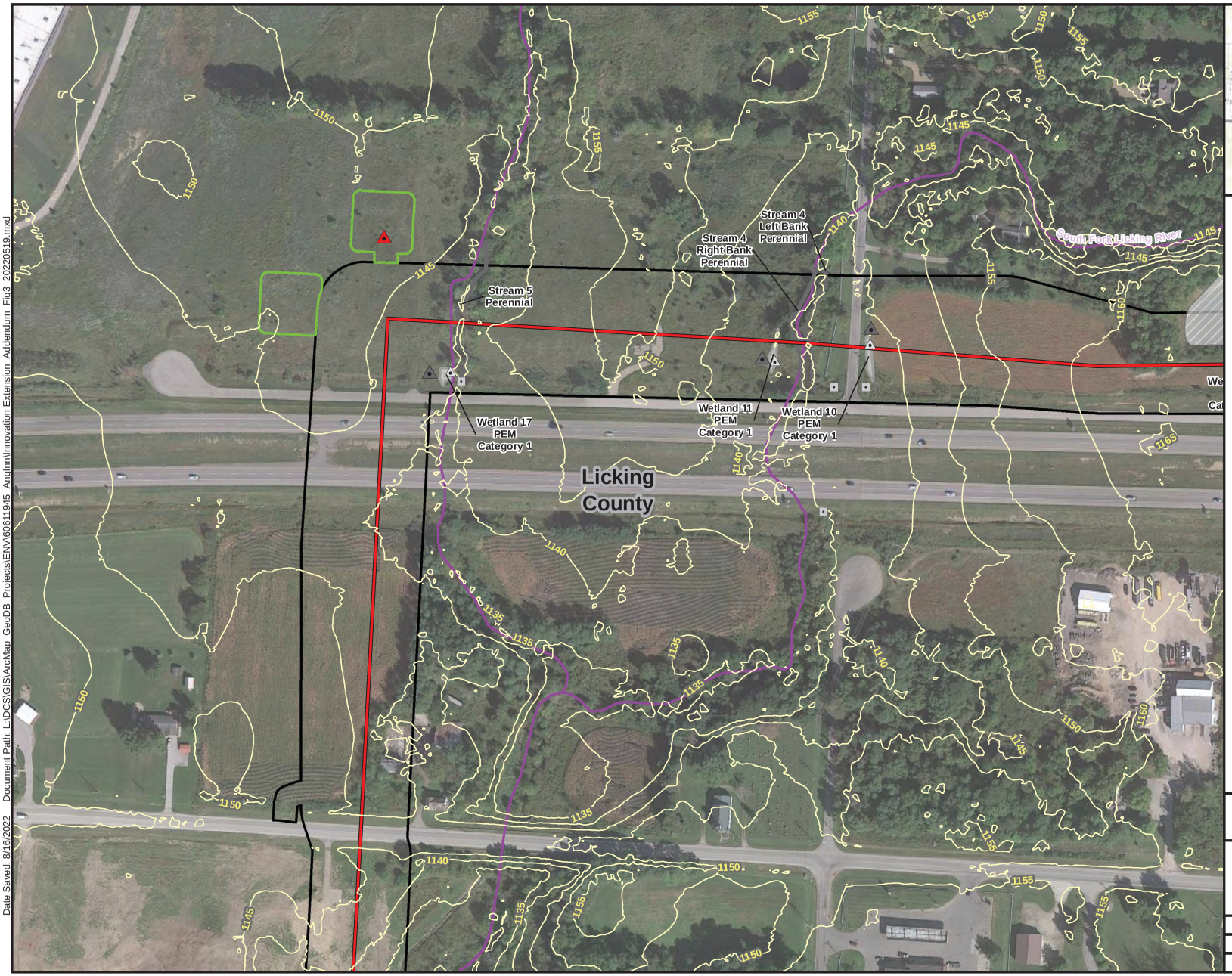
Feet

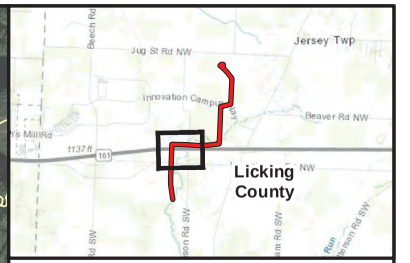
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3C
WETLAND DELINEATION AND STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 8/16/2022 Document Path: L:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60611945_AndInn\Innovation Extension_Addendum_Fig3_20220519.mxd





Legend

- Culvert
- Wetland Data Point
- Upland Data Point
- Addendum Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- Delineated Pond
- NHD Stream (USGS)
- Delineated PEM Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- County

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3D
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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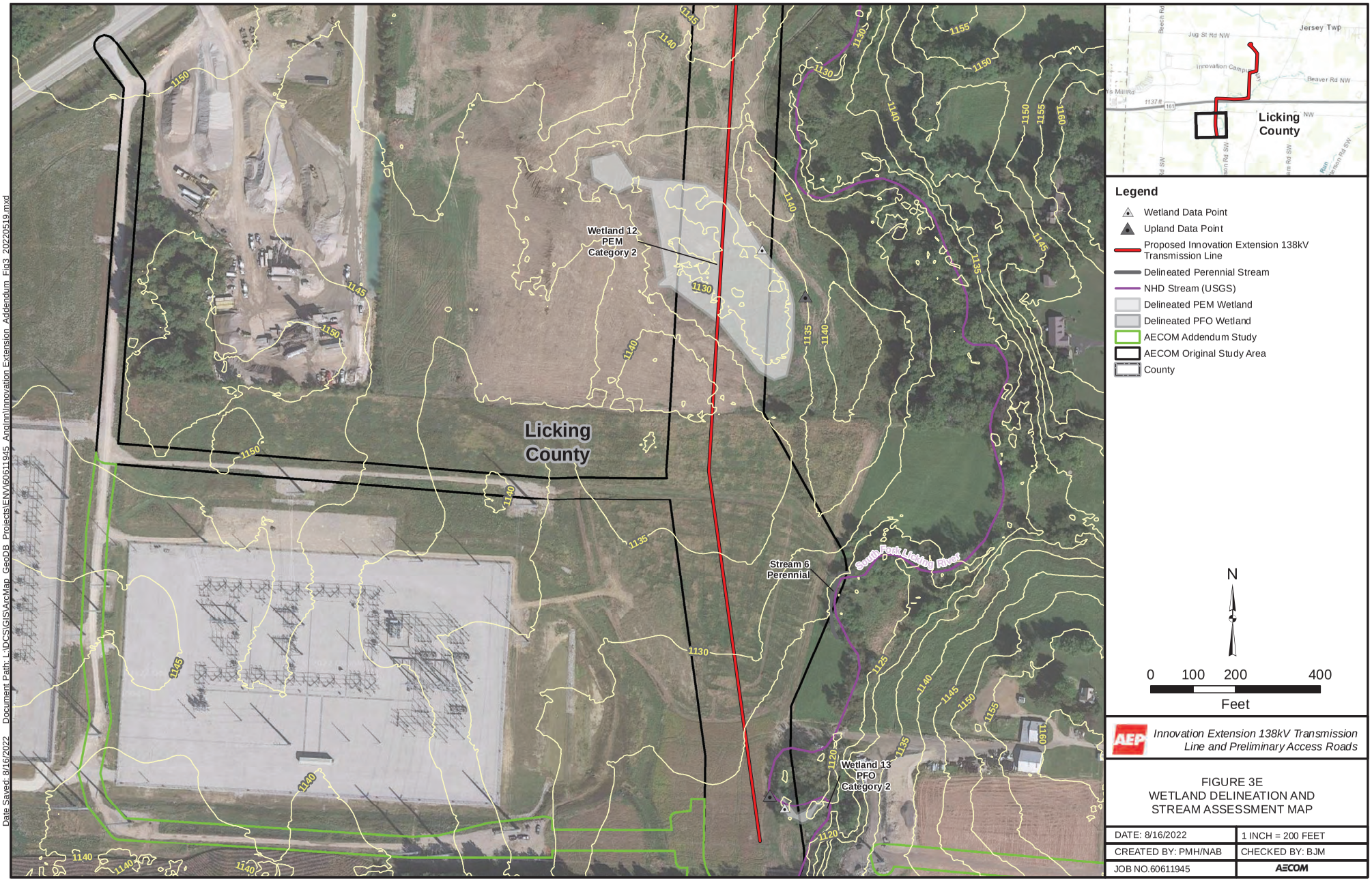

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3E
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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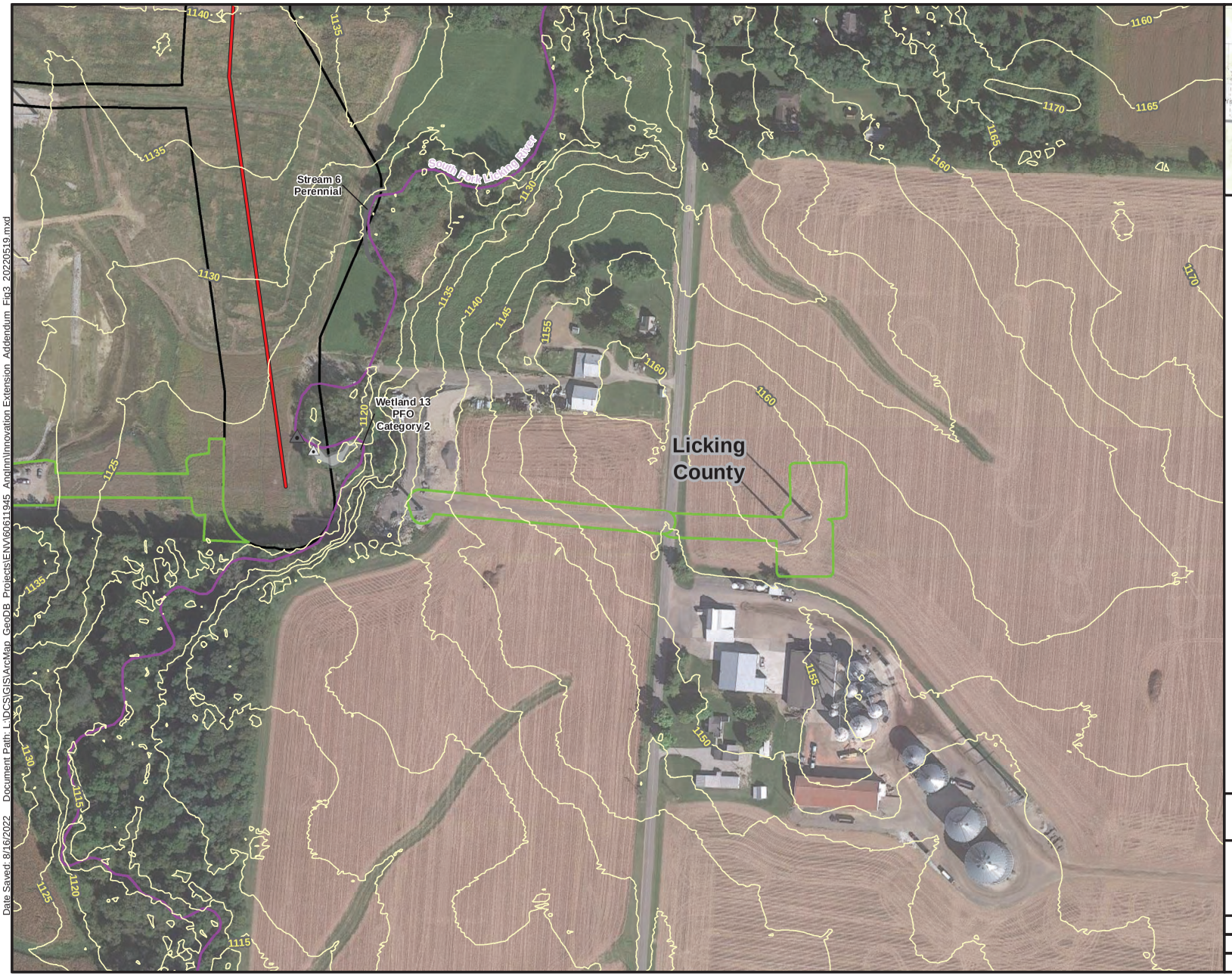

Legend

- Wetland Data Point
- Upland Data Point
- Proposed Innovation Extension 138kV Transmission Line
- Delineated Perennial Stream
- NHD Stream (USGS)
- Delineated PFO Wetland
- AECOM Addendum Study
- AECOM Original Study Area
- County

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 3F
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

DATE: 8/16/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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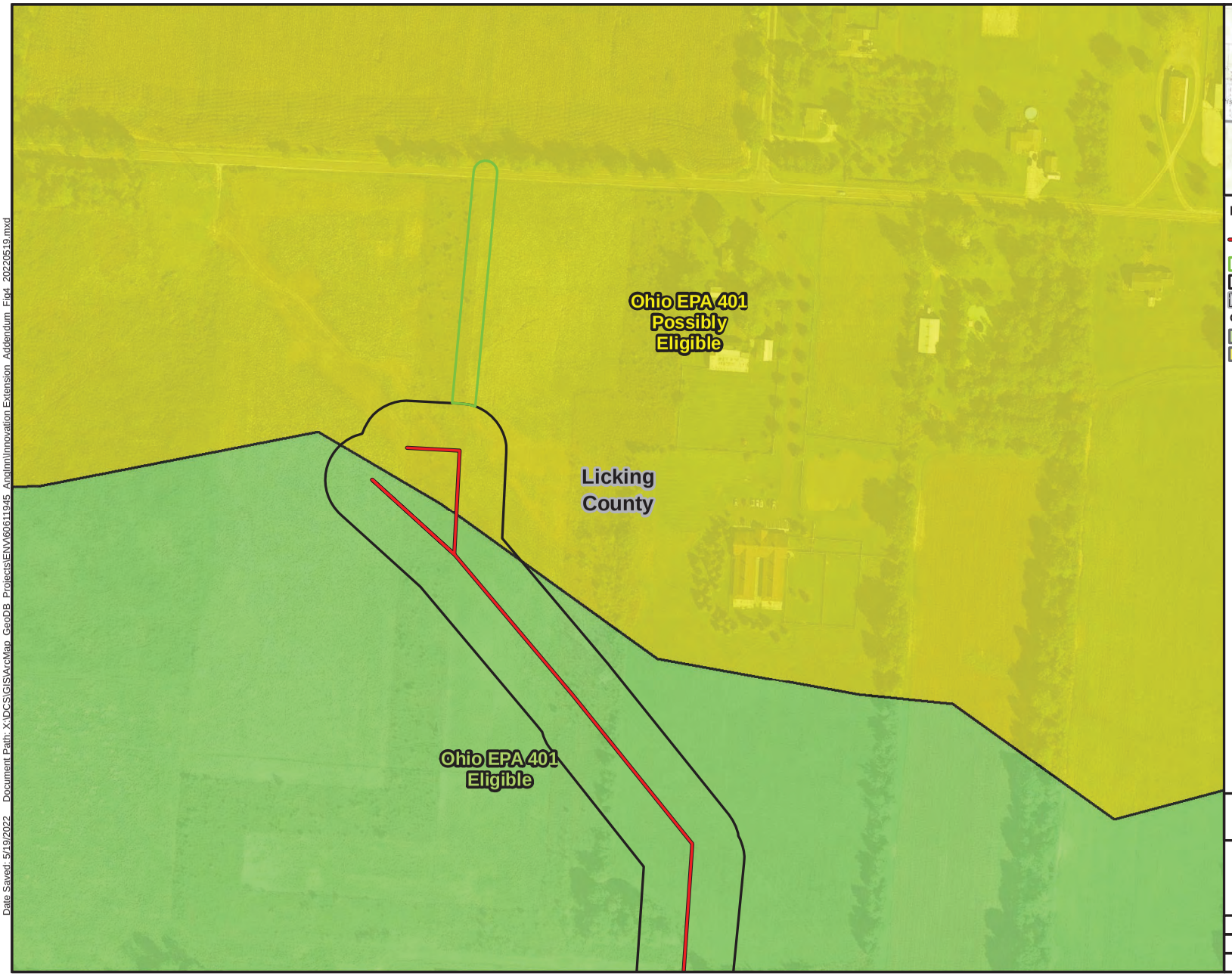


Legend

- Proposed Innovation Extension 138kV Transmission Line
- AECOM Addendum Study
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible
- Possibly Eligible

N

0 100 200 400

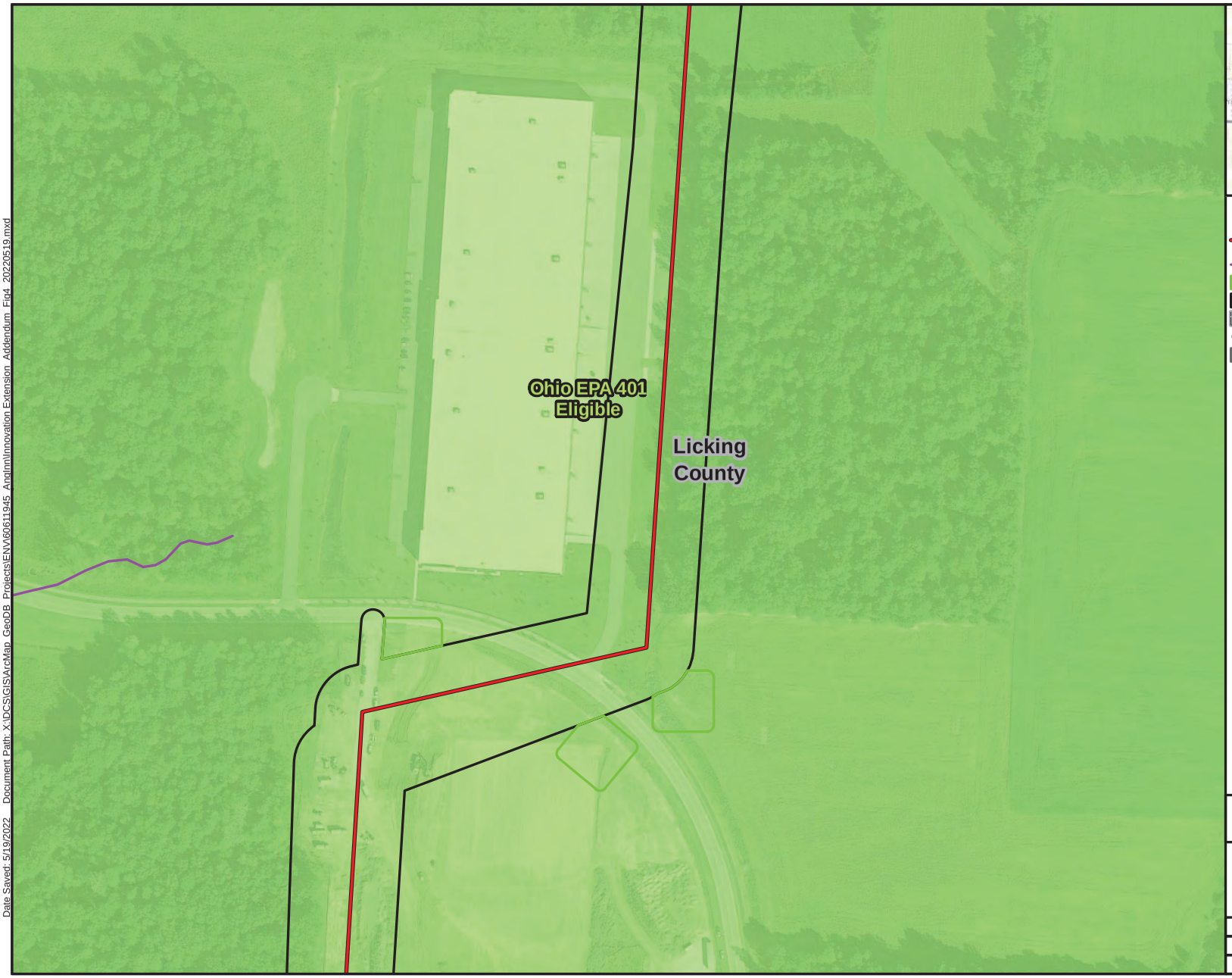
Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4A
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AnqInn\Innovation Extension Addendum Fig4 20220519.mxd



Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible

N

0 100 200 400

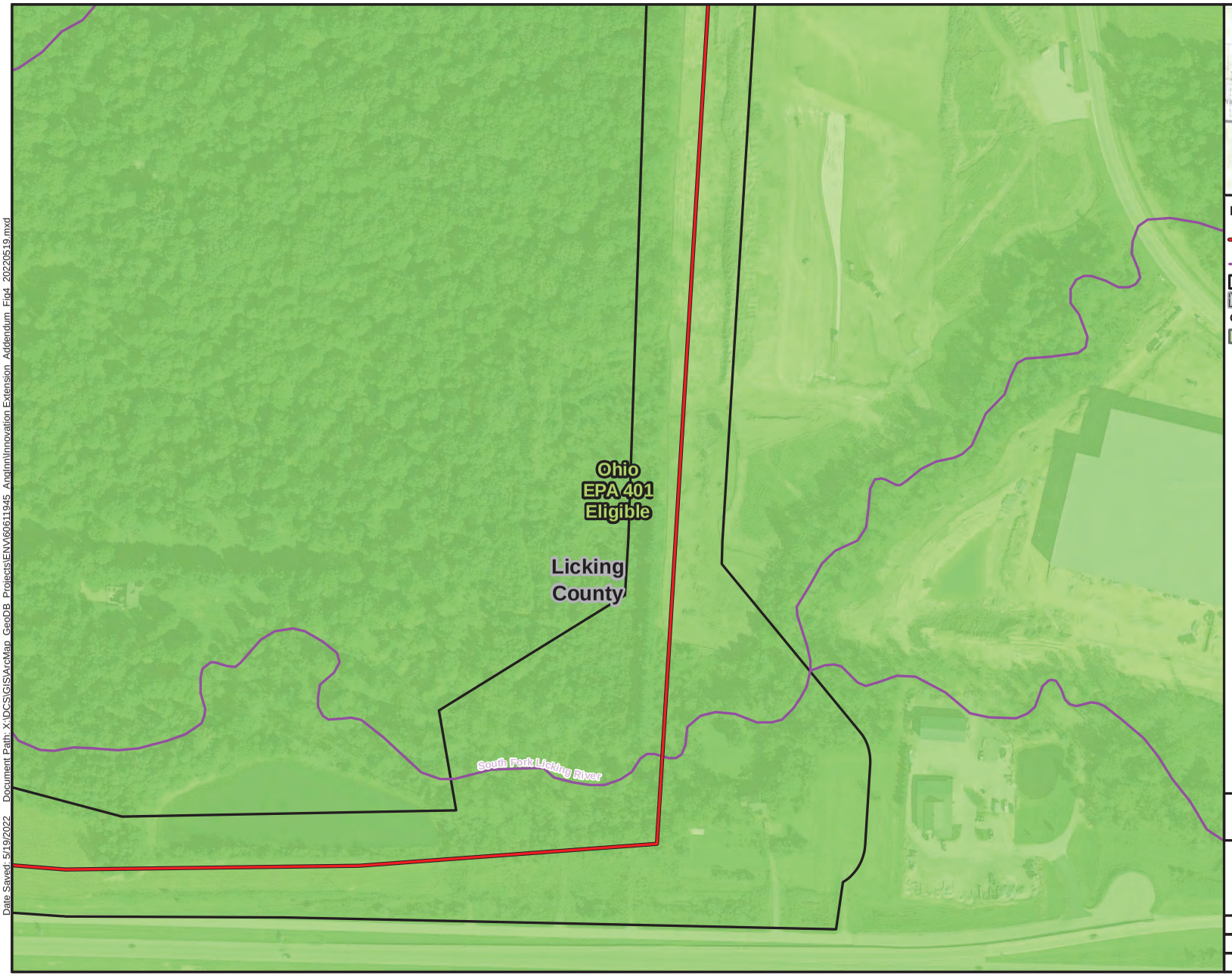
Feet

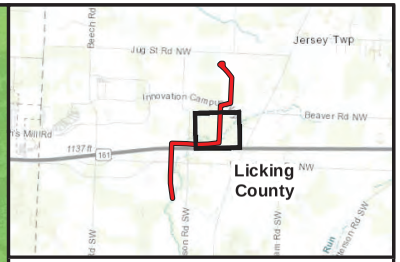
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4B
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anqlnn\Innovation Extension Addendum Fig4 20220519.mxd





Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4C
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
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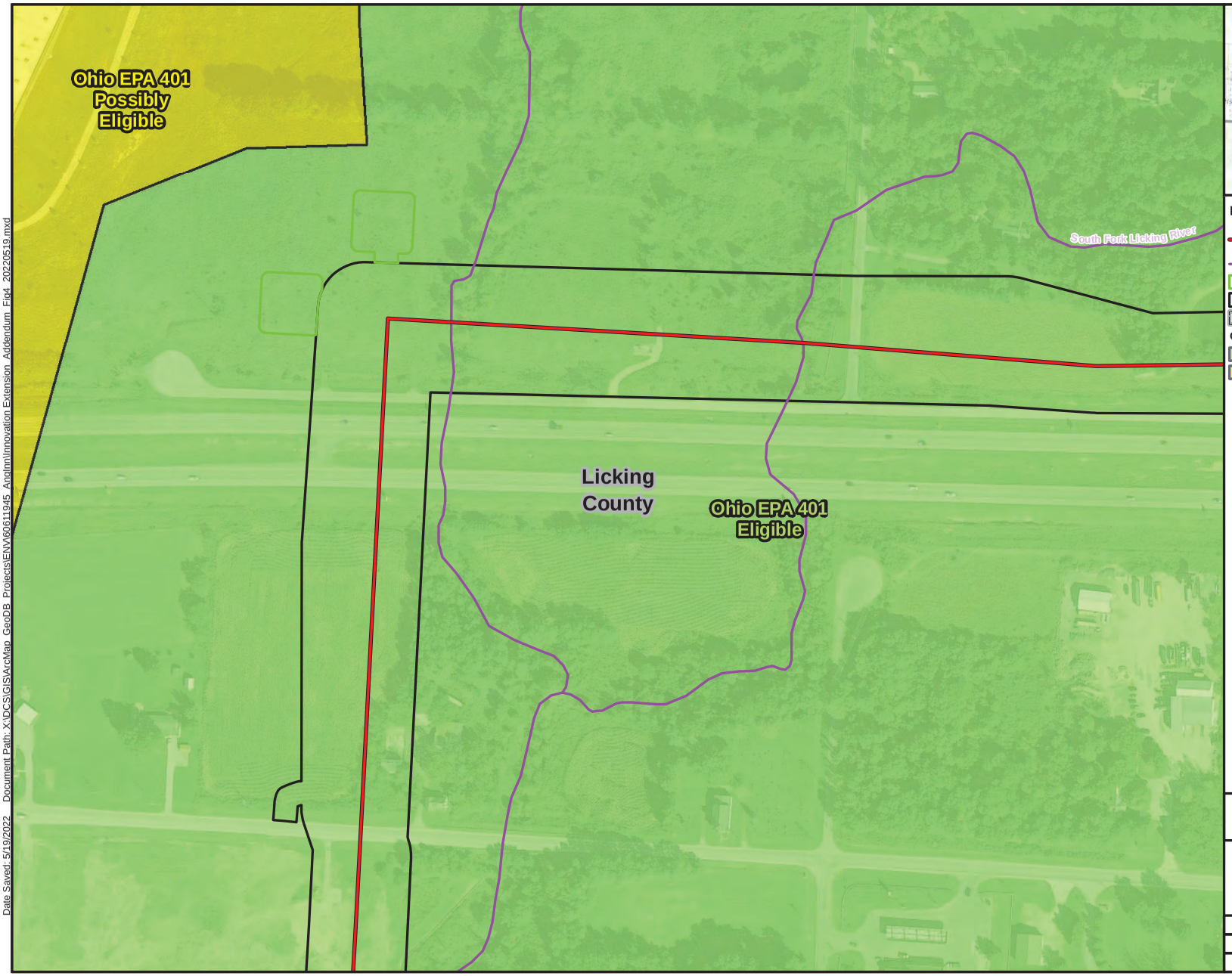

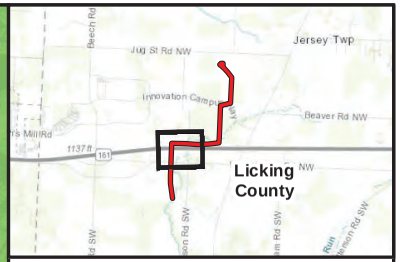

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible
- Possibly Eligible

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4D
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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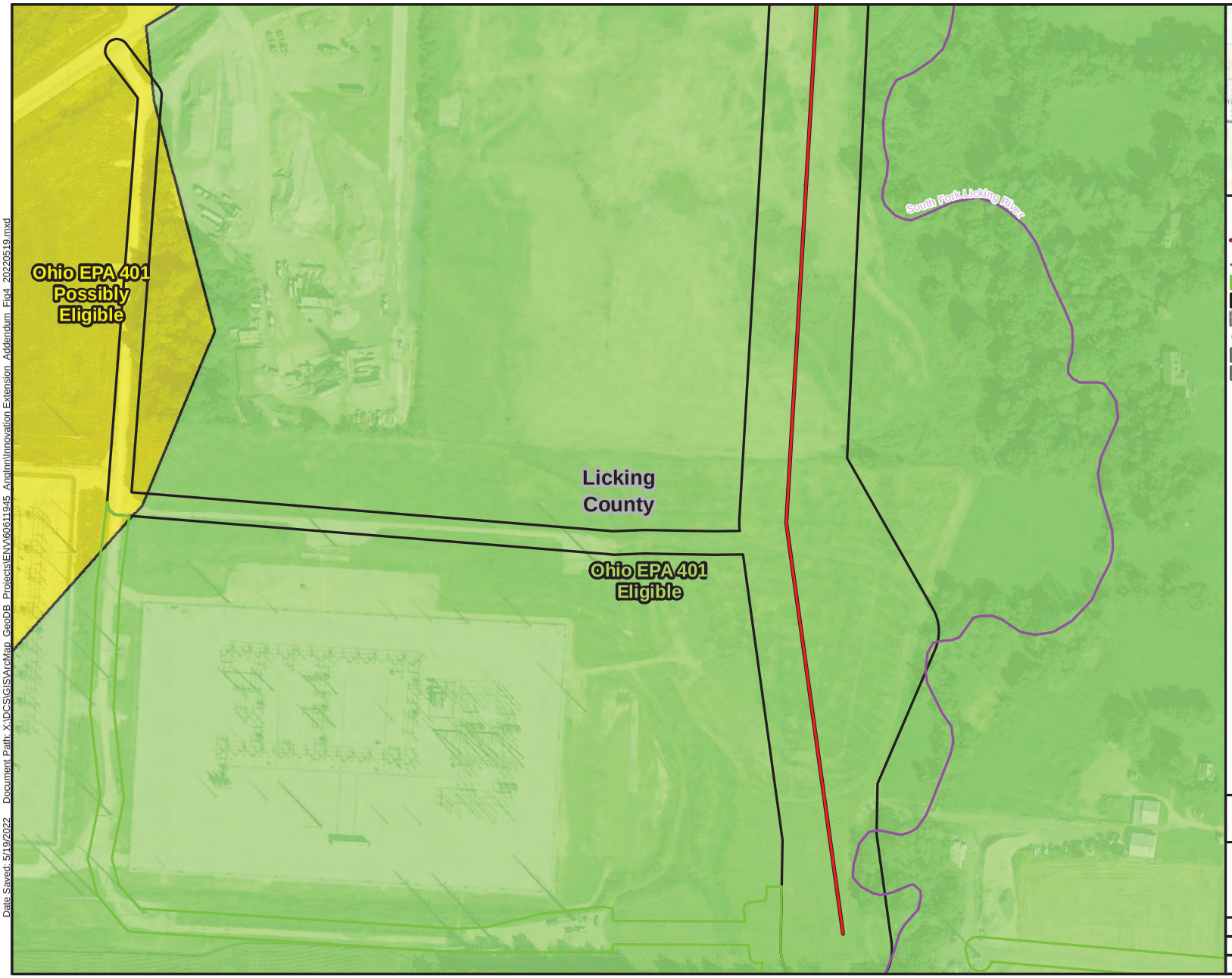

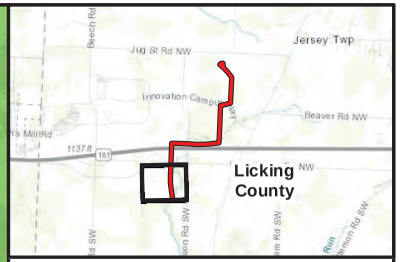

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible
- Possibly Eligible

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4E
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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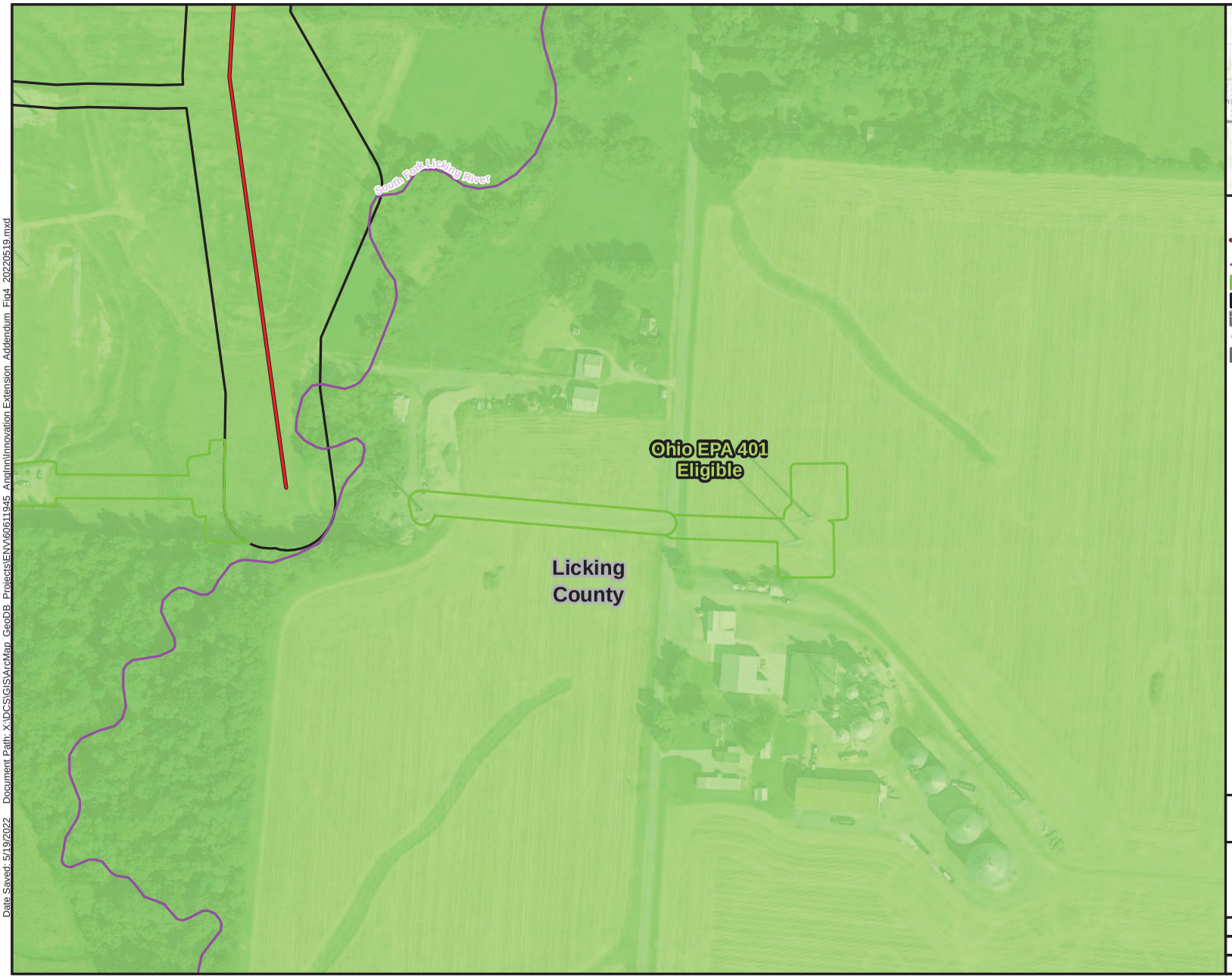

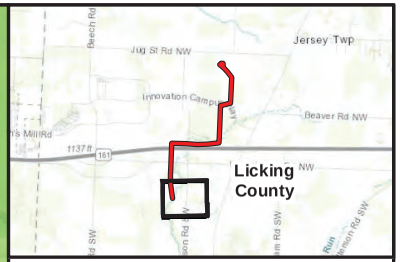

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

OEPA Stream Eligibility:

- Eligible

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 4F
STREAM ELIGIBILITY MAP

DATE: 5/19/2022	1 INCH = 200 FEET
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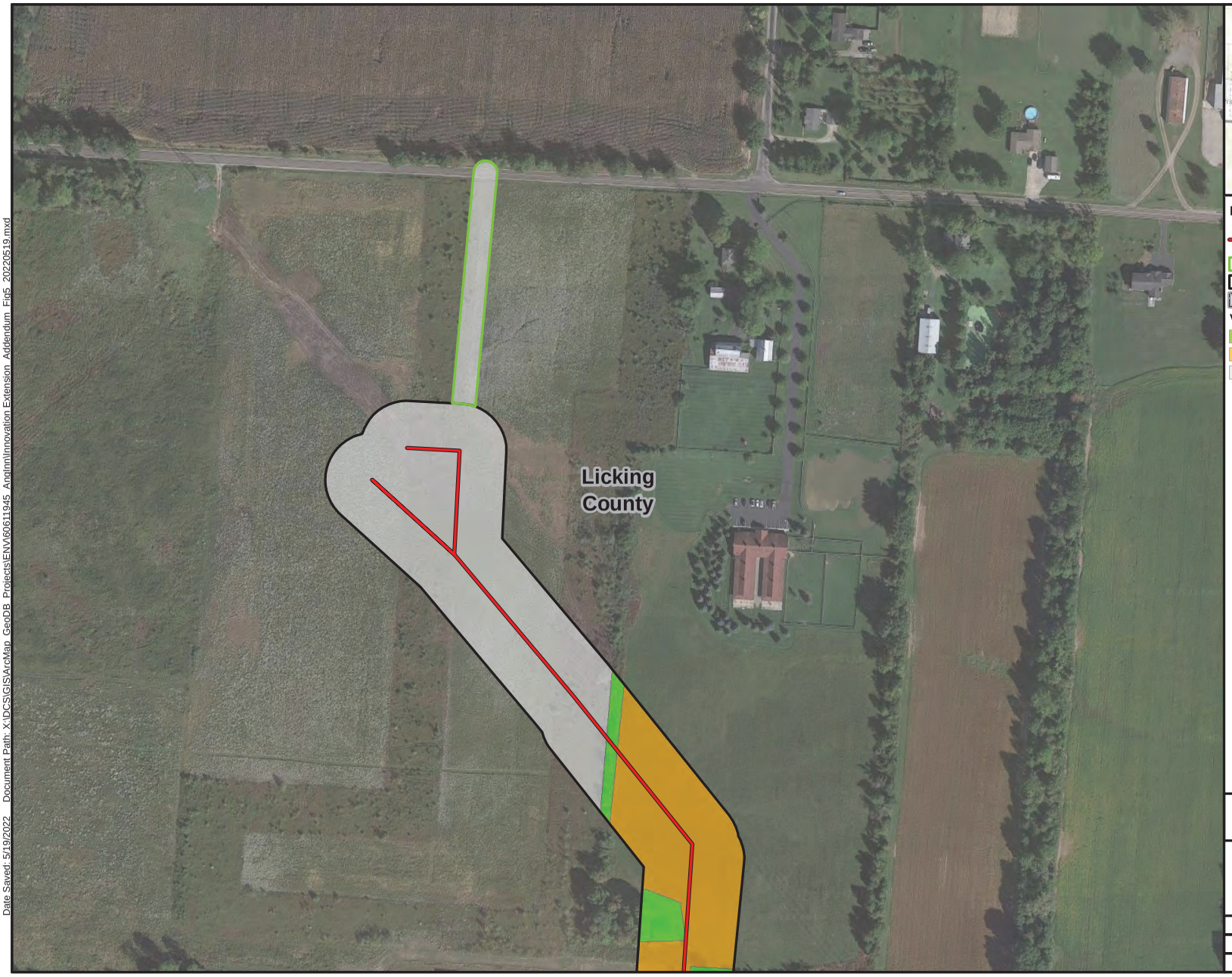
Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anqlnn\Innovation Extension Addendum Fig4 20220519.mxd



Legend

- Proposed Innovation Extension 138kV Transmission Line
- AECOM Addendum Study
- AECOM Original Study Area
- County

Vegetation Community Type

- Forested
- Landscaped Areas
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5A
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anq\Inn\Innovation Extension Addendum Fig5 20220519.mxd

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

Vegetation Community Type

- Forested
- Landscaped Areas
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5B
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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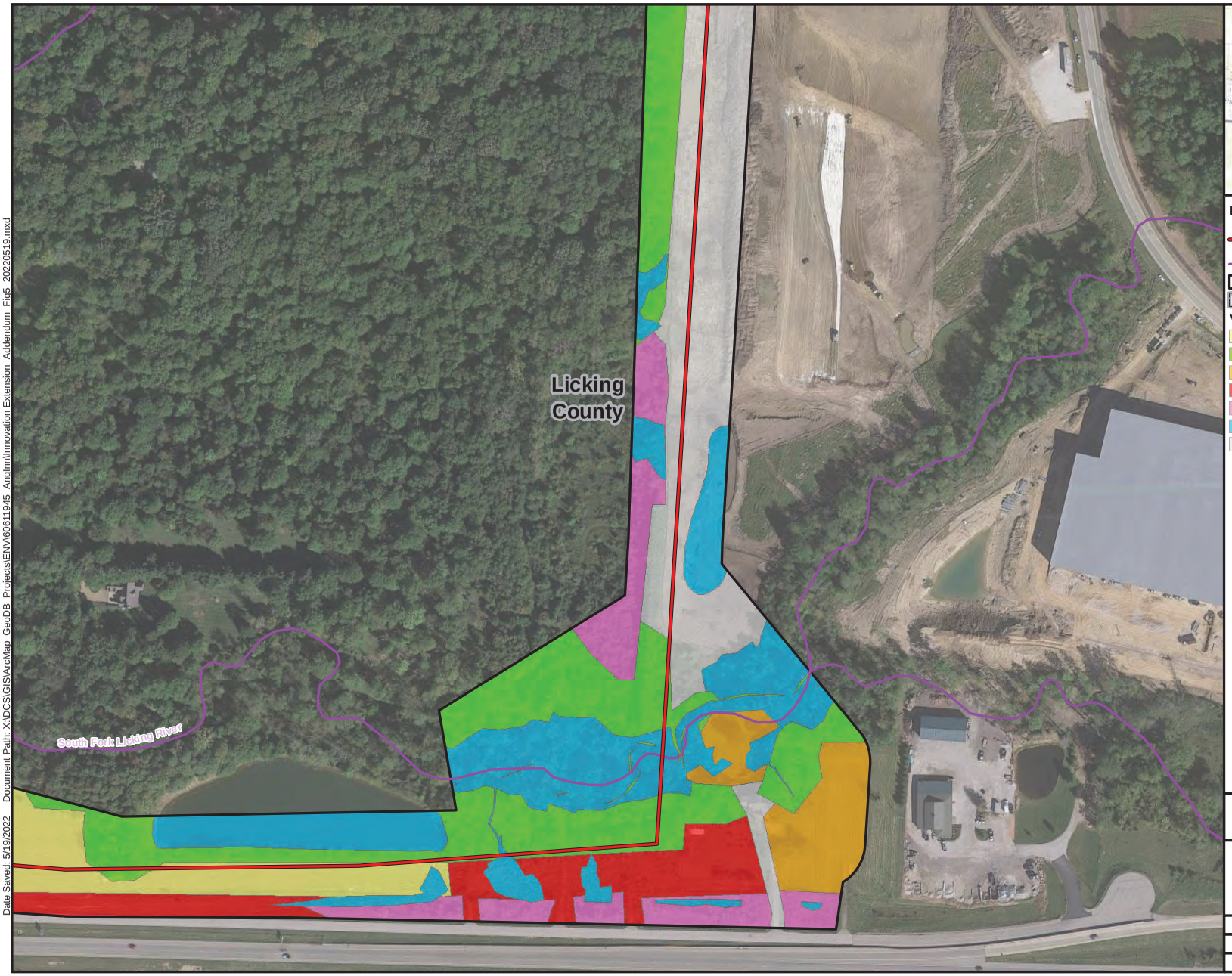

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Original Study Area
- County

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Scrub-Shrub
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5C
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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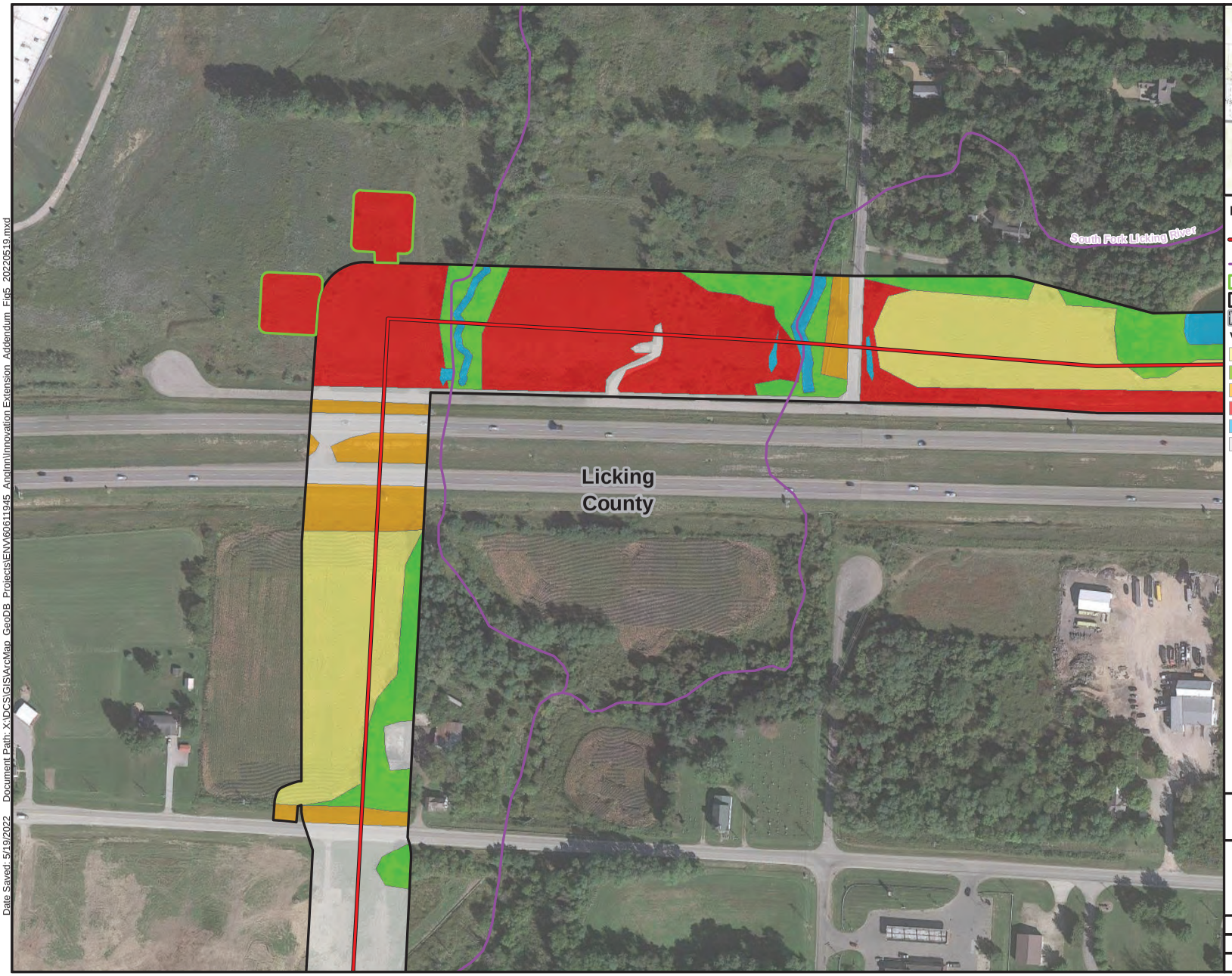


Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

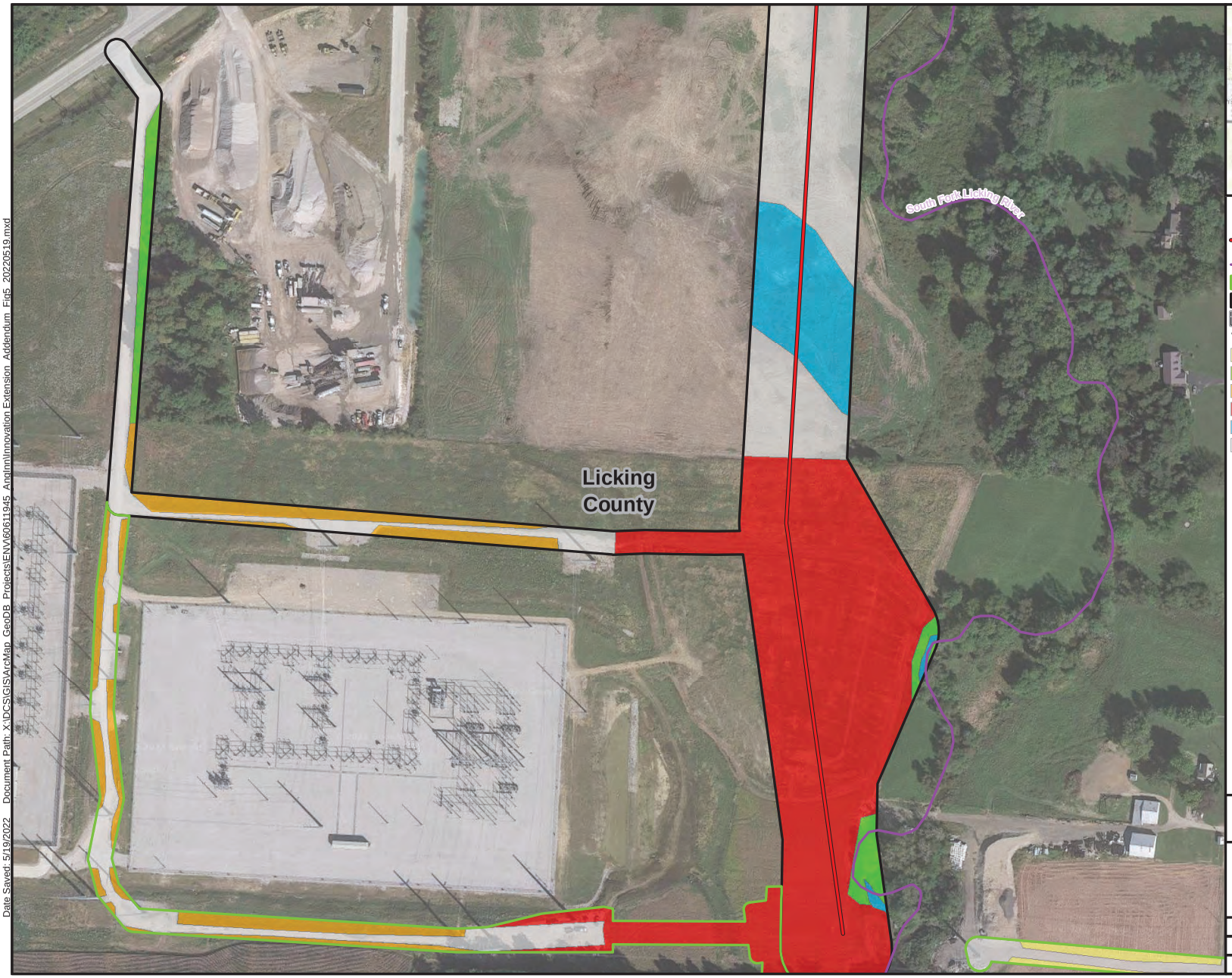
Feet

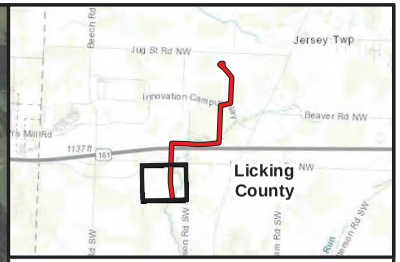
Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5D
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 Anqlnn\Innovation Extension Addendum Fig5 20220519.mxd





Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

Vegetation Community Type

- Agricultural
- Forested
- Landscaped Areas
- Old Field
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5E
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

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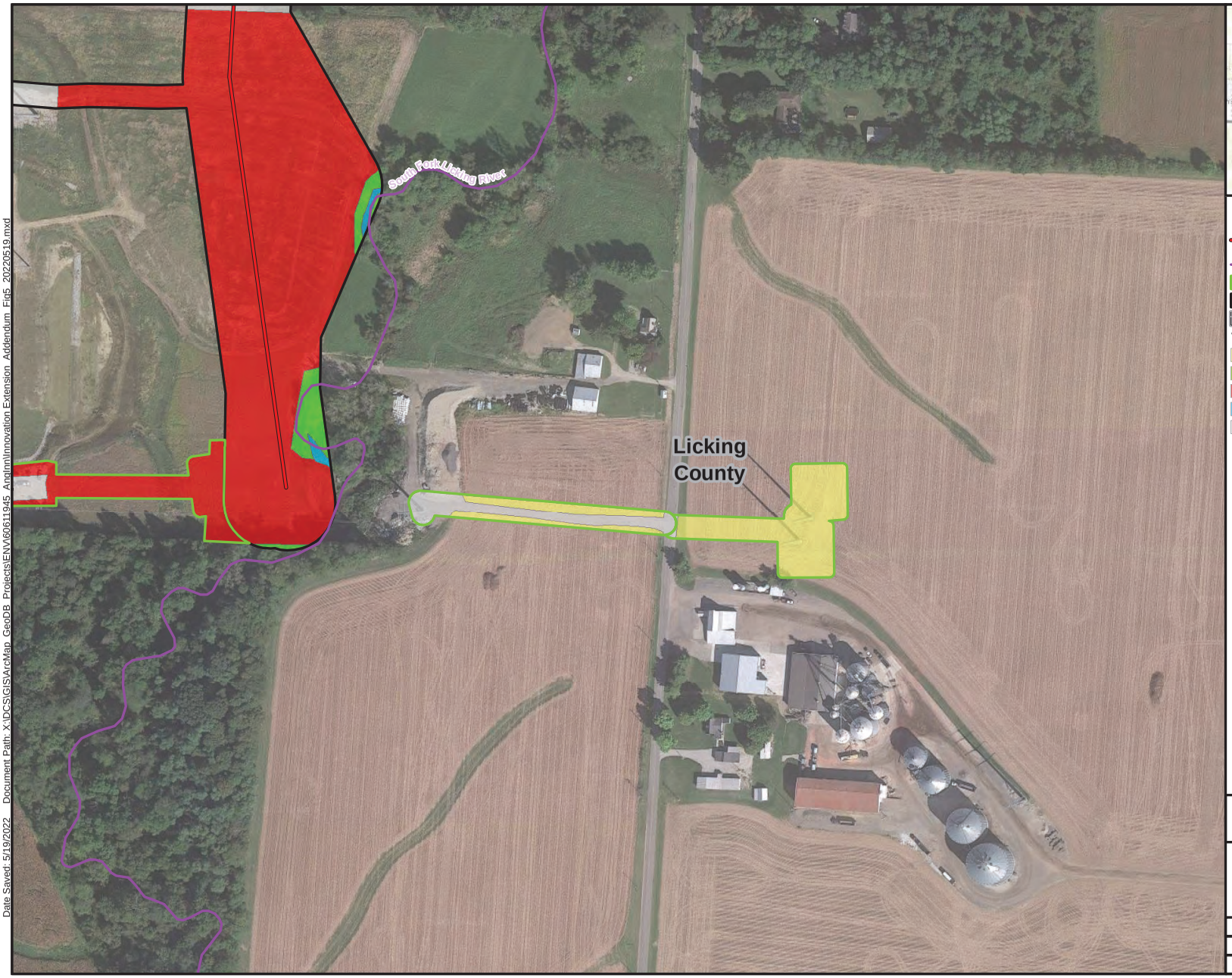

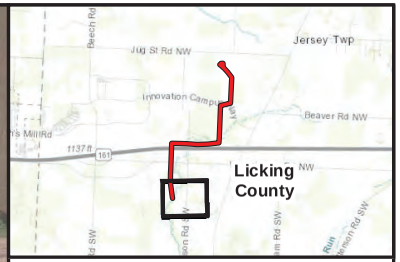

Legend

- Proposed Innovation Extension 138kV Transmission Line
- NHD Stream (USGS)
- AECOM Addendum Study
- AECOM Original Study Area
- County

Vegetation Community Type

- Agricultural
- Forested
- Old Field
- Stream/Wetlands/Ponds
- Urban

N

0 100 200 400

Feet

Innovation Extension 138kV Transmission Line and Preliminary Access Roads

FIGURE 5F
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 5/19/2022	1 INCH = 200 FEET
CREATED BY: PMH/NAB	CHECKED BY: BJM
JOB NO.60611945	AECOM

Date Saved: 5/19/2022 Document Path: X:\DCS\GIS\ArcMap GeoDB Projects\ENV\60611945 AnqInn\Innovation Extension Addendum Fig5 20220519.mxd

APPENDIX A

U.S. ARMY CORPS OF ENGINEERS DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Innovation T Line | City/County: Licking | Sampling Date: 4/20/2022

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-JMH-20220420-1

Investigator(s): JMH | Section, Township, Range: S14, T2N, R15W

Landform (hillside, terrace, etc.): hillside | Local relief (concave, convex, none): none

Slope (%): 3 | Lat: 40.08222° | Long: -82.73752° | Datum: NAD 84

Soil Map Unit Name: Bennington silt loam, 2 to 6 percent slopes | NWI classification: N/A

Are climatic / hydrologic condidions on the site typical for this time of year? 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 problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x	No ____	Is the Sampled Area		
Hydric Soil Present?	Yes ____	No x	within a Wetland?	Yes ____	No x
Wetland Hydrology Present?	Yes ____	No x			

Remarks:
This sample point is located in a fallow field.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. *Rubus allegheniensis*	20	yes	FACU
2.			
3.			
4.			
5.			
	20	=Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. *Andropogon virginicus*	35	yes	FACU
2. *Solidago canadensis*	30	yes	FACU
3. *Apocynum cannabinum*	20	yes	FACU
4. *Scirpus atrovirens*	10	no	OBL
5. *Onoclea sensibilis*	5	no	FACW
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15' radius)			
1.			
2.			
	0	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	5	x 2 =	10
FAC species	0	x 3 =	0
FACU species	105	x 4 =	420
UPL species	0	x 5 =	0
Column Totals:	120 (A)		440 (B)

Prevalence Index = B/A = 3.67

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0*
___ 4 - Morphological Adaptations* (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation* (Explain)

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

Hydrophytic Vegetation Present? Yes x No ____

Remarks: (Include photo numbers here or on a separate sheet.)
A preponderance of hydrophytic vegetation is not present.

SOIL

Sampling Point: UPL-JMH-20220420-1

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)	%	Type*	Loc*	Texture	Remarks
0-20	10YR 5/4	100					SiL	

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. *Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils*:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ___ **No** x

Remarks:
The soil profile does not meet the criteria for any hydric soil indicators.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): ___

Water Table Present? Yes ___ No x Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No x Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** x

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

Remarks:
No primary and/or secondary wetland hydrology indicators were present at the time of sampling.

APPENDIX B

HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads Addendum Survey Area	60661692

Upland #1 **Date:** April 20, 2022 **Description:** UPL-001 Facing North	

Upland #1 **Date:** April 20, 2022 **Description:** UPL-001 Facing South	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Innovation Ext 138kV Transmission Line Project and Preliminary Access Roads Addendum Survey Area	60661692

Extension #1

Date:

May 11, 2022

Description:

Addendum Extension Area

Facing East

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

8/31/2022 5:09:23 PM

in

Case No(s). 22-0781-EL-BLN

Summary: Correspondence Letter of Notification, Innovation Extension electronically filed by Hector Garcia-Santana on behalf of AEP Ohio Transmission Company