

Letter of Notification Hedding Road Switch and West Mount Vernon-North Waldo 138 kV Relocation Project



An **AEP** Company

BOUNDLESS ENERGY™

PUCO Case No. 23-0570-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.

June 1, 2023

Letter of Notification for Hedding Road Switch & West Mount Vernon-North Waldo 138 kV Relocation

Letter of Notification

**AEP Ohio Transmission Company, Inc.
Hedding Road Switch and West Mount Vernon-North Waldo 138 kV Transmission Line Relocation Project**

4906-6-05

AEP Ohio Transmission Company, Inc. (the “Company”) provides the following information to the Ohio Power Siting Board (“OPSB”) pursuant to Ohio Administrative Code Section 4906-6-05.

4906-6-05(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 proposes to construct the Hedding Road Switch and West Mount Vernon-North Waldo 138 kV Relocation Project (the “Project”) located in South Bloomfield Township, Morrow County, Ohio. The Project involves replacing the inoperable Hedding Road Switch and adjusting approximately 0.2 mile of the existing West Mount Vernon – North Waldo 138 kV line to accommodate the new location of the Hedding Road Switch. Additionally, the replacement of Hedding Road Switch will involve replacing one pole along the Hedding Road – Morrow Co-op 138 kV line, which will be an asset of Ohio Power Company and will be filed separately with the OPSB (OPSB Case No. 23-0569-EL-BNR). The location of the Project is shown on Figure 1 and Figure 2 in Appendix A.

The Project meets the requirements for a LON because it is within the types of projects defined by items (1)(b) and 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:*
 - (b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.*

The Project has been assigned PUCO Case No. 23-0570-EL-BLN.

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B(2) Statement of Need

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

The Project involves installing a new 138 kV three-way phase-over-phase switch on the West Mount Vernon-North Waldo 138 kV line (specifically, the Larue – West Mount Vernon 138 kV circuit) to replace Hedding Road Switch. Hedding Road Switch serves Consolidated Electric Cooperative's Bloomfield Substation and failed in 2018. The switch is currently inoperable due to multiple faults to ground and contains burnt contacts.

The new switch will have motor operators, auto-sectionalizing functionality, and SCADA, so that customers in the area can be automatically restored after a fault on the 138 kV circuit. The Hedding Road – Morrow Co-op 138 kV Line must also be shifted to reconnect to the switch but will be filed separately with OPSB.

The Project did not need to go through the PJM process, because the Project does not change transmission system ratings, impedances, or topology. The Project was not listed in the Company's 2023 LTFR document because the Project had not been identified separately as one to be constructed in 2023.

B(3) Project Location

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

The location of the Project in relation to existing transmission line and proposed relocation is shown in Figure 1 of 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 existing Hedding Road Switch, which serves the adjacent Consolidated Electric Cooperative's substation, is located on property owned by Morrow Electric Co-op. Inc. (Consolidated Electric Cooperative). The proposed switch location shifts approximately 125 feet to the southeast and remains on Morrow Electric Co-op. Inc. property. This minimal shift of the switch location allows the Company to minimize the outage required during construction and avoids impacts to wetlands, streams, and cultural resources. Other locations would require additional right-of-way (ROW) on properties other than those of the customer or longer outages potentially compromising the electric reliability of customers. Therefore, no other alternatives were considered for the Project. Additionally, this Project is the most appropriate solution for meeting the Company's and Consolidated Electric Cooperative's needs in the area.

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B(5) Public Information Program

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

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

B(6) Construction Schedule

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

Construction of the Project is planned to begin in September 2023, and the anticipated in-service date will be in October 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 in Appendix A provides the proposed Project area on a map of 1:24,000-scale (1 inch equals 2,000 feet), showing the Project on the United States Geological Survey (USGS) 7.5-minute topographic map of the Chesterville, Ohio quadrangle. Figure 2 in Appendix A shows the Project Area on recent aerial photography, dated 2018, as provided by ESRI World Imagery at a scale of 1:6,000 scale (1 inch equals 500 feet).

To visit the Project site from Columbus, Ohio, take I-71 North for approximately 31.5 miles to Exit 140. Turn left onto OH-61 North and continue for approximately 1.9 miles. Turn right onto OH-229. After 0.8 mile, OH-229 goes through the town of Marengo. Turn left onto South Main Street to continue on OH-229. After 0.2 mile, turn right to continue to follow OH-229 (East Noble Street). Continue 8.4 miles before turning left onto Hedding Road. After approximately 0.7 mile, the driveway to the existing Hedding Road Switch will be on the left at the approximate address of 1826 County Road 194 (Hedding Road), Fredericktown, OH 43019 at latitude 40.411064, longitude -82.651414.

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B(8) Property Agreements

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

The Project is located on three parcels, all of which have existing ROW associated with the existing West Mount Vernon-North Waldo alignment. Supplemental easements for the relocated centerline and an exclusive rights easement for the Hedding Road Switch were acquired for the Project. No other property easements, options, or land use agreements are necessary to construct the Project or operate the switch and relocated transmission line.

A list of properties required for the Project is provided in the table below.

Property Parcel Number	Agreement Type	Easement/ Option Obtained (Yes/No)
N35-002-00-314-05	Existing ROW	Yes
N35-002-00-314-04	Supplemental Easement and Exclusive Rights Easement Switch Pad	Yes
N35-002-00-314-03	Supplemental Easement	Yes

B(9) Technical Features

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

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

Line Asset Name: West Mount Vernon-North Waldo
Voltage: 138 kV
Conductors: (3) 1033.5 KCM ACSR 54/7 Curlew (Same conductor type as existing)
Static Wire: (1) 0.646 OPGW 48 count (existing centerline and relocation);
(1) 7#8 Alumoweld (into expanded distribution station)
Insulators: Polymer
ROW Width: 100 feet

Asset Name: Hedding Road Switch
Structure Type: (1) Custom dead-end, galvanized steel pole structure

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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 \$421,000 using a Class 3 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in AEP Ohio Transmission Company Inc.'s FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Economic Impacts

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

B(10)(a) 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.

Aerial photography of the Project vicinity is provided as Figure 2 in Appendix A. The Project is located in South Bloomfield Township, Morrow County, Ohio. Land use in the Project area is rural including existing ROW, agriculture, and scattered residences. The closest residence is approximately 150 feet to the south of the existing West Mount Vernon-North Waldo 138 kV transmission line.

B(10)(b) Agricultural Land Information

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

No agricultural land is located within the Project footprint. The Morrow County Auditor reviewed the project parcels versus their list of registered as Agricultural District Land on April 19, 2023. None of the Project Area properties were identified as an Agricultural District Land parcel.

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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.

The Company’s consultant completed a Phase I Cultural Resource Management Investigation of the Project Area. No further investigation was recommended by the Company’s consultant to the Ohio Historic Preservation Office (“SHPO”). The SHPO agreed that the Project will not impact any cultural resources eligible for listing on the NRHP and no additional coordination is necessary prior to construction. A copy of the October 17, 2022, concurrence letter from SHPO is provided in Appendix B.

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 OHCD000006 if ground disturbance exceeds one acre. The Company will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan (“SWPPP”) to minimize erosion control sediment to protect surface water quality during storm events.

One stream and three wetlands were delineated within the Project area. However, none of these features are located in the proposed work areas (see Appendix C). Therefore, the Project will not require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers or a Section 401 Water Quality Certification from the OEPA.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map number **39083C0150D**). Based on this mapping, no mapped FEMA floodplains are located in the Project Area. Therefore, no floodplain permit will be required for this Project.

There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

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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.

As part of the ecological study completed for the Project, a coordination letter was submitted to the USFWS Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The October 12, 2022 response letter from the USFWS (see Appendix B) identified the Indiana bat and northern long-eared bat as occurring within the Project area. In accordance with current Ohio Department of Natural Resources (“ODNR”) Division of Wildlife (“DOW”) /USFWS Joint Guidance for at Surveys and tree clearing, no known karst, mines and/or caves were identified within 0.25 miles of the project survey area. The USFWS recommend that if no caves or abandoned mines are present and trees ≥ 3 inches cannot be avoided, trees should be removed between October 1 and March 31 to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months. If seasonal tree cutting is not possible, the USFWS recommended a presence/absence survey be conducted between June 1 and August 15.

A coordination letter was submitted to the Ohio Department of Natural Resources (“ODNR”) Division of Wildlife (“DOW”) Ohio Natural Heritage Program (“ONHP”) and the ODNR - Office of Real Estate in October 2022, seeking an environmental review of the proposed Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR’s DOW/OHNP and the ODNR – Office of Real Estate was received on November 9, 2022 (see Appendix B).

According to the ODNR-DOW, the Project is within the range of the Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. The ODNR recommends cutting between October 1 and March 31, if necessary. No winter hibernacula were observed within the Project Area and no potential hibernaculum were identified within 0.25 mile of the Project Area based on review of karst and mining GIS data as well as topographic quadrangle maps and aerial photography. Minimal tree clearing, if any, is expected to occur between October 1 and March 31.

The ODNR-DOW indicated that the Project is within the range of the Iowa darter, a state threatened fish, and the lake chubsucker, a state threatened fish. Due to no in-water work and no perennial streams, this species is not anticipated to be impacted by the Project.

The ODNR-DOW also indicated that the Project is within the range of the northern harrier, 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. If this type of habitat will be impacted, ODNR-DOW stated that construction should be avoided during the nesting period between April 15 and July 31. No suitable nesting habitat was observed within the Project area based on the ecological survey. No impacts to this species are anticipated.

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B(10)(f) Areas of Ecological Concern

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

The ODNR-DOW response indicated that unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, or other protected natural areas were not identified within the Project Area (see Appendix B).

FEMA Flood Insurance Rate Maps were consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number **39083C0150D**). Based on these maps, no mapped FEMA floodplains are located in the Project area.

Wetland and stream delineation field surveys were completed within the Project area by the Company's consultant in October 2022. One stream and three wetlands were delineated within the Project area. However, none of these features are located in the proposed work areas (see Figure 2 in Appendix C).

B(10)(g) Unusual Conditions




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

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

Appendix A Project Maps



Legend:

-  Project Area
-  Existing Transmission Line (138 kV)
-  Existing Substation

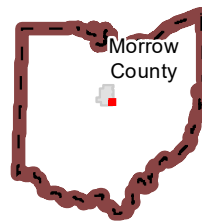
Data Sources: AEP, USGS 7.5' Topographic Quadrangle (Chesterville, Ohio)

Ohio State Plane North NAD 1983



May 26, 2023

PROJECT LOCATION



MORROW COUNTY, OHIO

**FIGURE 1
TOPOGRAPHIC OVERVIEW**



Hedding Road Switch and West Mount Vernon-North Waldo 138 kV Transmission Line Relocation Project

0 1,000 2,000 3,000



Feet



Legend:

- Proposed Transmission Line Relocation
- Proposed Hedding Road Switch
- Existing Hedding Road Switch
- ▲ Existing Substation
- Existing 138 kV Transmission Line
- Parcel Boundary
- Proposed Transmission Line (Filed Separately)

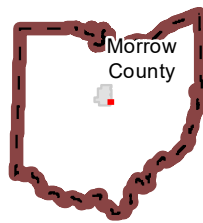
Data Sources: AEP,
ESRI World Imagery

Ohio State Plane North
NAD 1983



May 26, 2023

PROJECT LOCATION



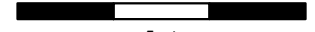
MORROW COUNTY, OHIO

**FIGURE 2
PROJECT AERIAL MAP**



Hedding Road Switch and
West Mount Vernon-North
Waldo 138 kV Transmission
Line Relocation Project

0 250 500 750



Feet

Appendix B Agency Coordination



In reply, refer to
2016-MLT-36315

October 17, 2022

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

RE: Hedding Road Switch Replacement, Radial Feed Replacement, and West Mount Vernon-North Waldo 138kV Tie-in Projects, South Bloomfield Township, Morrow County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received October 12, 2022 regarding the proposed Hedding Road Switch Replacement, Radial Feed Replacement, and West Mount Vernon-North Waldo 138kV Tie-in Projects, South Bloomfield Township, Morrow 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 letter report *Phase I Cultural Resource Management Investigations for the Hedding Road Switch Replacement, Radial Feed Replacement, and West Mount Vernon-North Waldo 138kV Tie-in Projects, South Bloomfield Township, Morrow County, Ohio* by Ryan J. Weller and Scott McIntosh (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. One (1) previously identified archaeological sites is located within the project area, Ohio Archaeological Inventory (OAI) #33MW0227. The site was not re-identified during survey and was originally recommended not eligible for listing in the National Register of Historic Places (NRHP). No new archaeological sites were identified during survey. Our office agrees no additional archaeology survey is needed. One (1) previously identified Ohio Historic Inventory (OHI) structure is located in the Area of Potential Effects (APE), MRW0026418. The structure was previously recommended not eligible for listing in the NRHP. Our office continues to agree with this recommendation.

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

Sincerely,

A handwritten signature in black ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1095306

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994



October 12, 2022

Project Code: 2023-0001339

Dear Mr. Miller:

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.

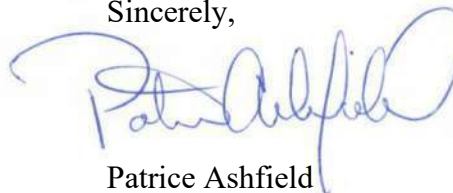
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing 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
Eileen Wyza, ODNR-DOW



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

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

November 9, 2022

Joshua Holmes
AECOM
Foster Plaza 6
681 Anderson Drive, Suite 120
Pittsburgh, Pennsylvania 15220

Re: 22-0992; AEP Hedding Switch Install Projects

Project: The proposed project involves the replacement of the existing Hedding Switch and 0.10-mile of the Hedding Road – Morrow Co-Op 138kV transmission line as well as transmission line activities along the 0.50-mile of the existing West Mount Vernon -North Waldo 138kV transmission line.

Location: The proposed project is located in South Bloomfield Township, Morrow 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. 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 entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state

endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

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 & NORTHERN LONG-EARED 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 Eileen Wyza 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 Iowa darter (*Etheostoma exile*), a state endangered fish, and 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 these or other aquatic 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, the 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.

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 C Ecological Report

HEDDING SWITCH INSTALL PROJECTS

MORROW COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:

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Project #: 60693885

November 2022

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APPENDIX A	U.S Army Corps of Engineers Wetland Determination Data Forms / OEPA Wetland ORAM Forms / Delineated Features Photographs (combined per wetland and shown in numerical order)
APPENDIX B	OEPA Stream Data Form / Delineated Feature Photographs (Stream)
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APPENDIX E	Desktop Assessment for Winter Bat Habitat

1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing replacement of the existing Hedding Station Switch, replacement of associated structures including access to Structure 61 to 65 along the existing West Mount Vernon – North Waldo 138kV transmission line in Morrow County, Ohio. The Hedding Switch Install Projects are composed of three components including, Hedding Switch Replacement and Removal Project, Hedding Road – Morrow Co-OP 138kV Line Install and Removal Project, and West Mount Vernon – North Waldo Tie-In Project, referred herein as “Projects”. These Projects consist of the replacement of the existing Hedding Switch and 0.10-mile of the Hedding Road – Morrow Co-Op 138kV transmission line, as well as transmission line activities along the 0.50-mile of the existing West Mount Vernon – North Waldo 138kV transmission line between Structures 61 and 65 to tie-in the new Hedding Switch. The Survey Area associated with this Report for the Project is located on Chesterville, 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. Secondly, 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 0.5-mile survey area consisting of a 50-foot buffer on each side of the existing West Mount Vernon – North Waldo 138kV transmission line between Structures 61 and 65, and a 0.45-mile transmission line alternative, composing a Project survey area of approximately 10.35 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 ArcGIS Field Maps 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 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual*: (USACE, 2012) and *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 (OEPA, 2017). 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, 2005).

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 on November 9, 2022 and October 12, 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 E**. 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 October 10th, 2022, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, AECOM delineated three wetlands and one stream. 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, five soil map units are mapped within the Project survey area (USDA NRCS 2021a and 2021b). Of these, one soil map unit is identified as hydric, comprising approximately 3.6% of the mapped unit areas. The additional four soil map units contain hydric inclusions. **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 (%)
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Ground moraines, end moraines	Yes*	Condit 4% Marengo 3%
	Cen1C1	Centerburg silt loam, 6 to 12 percent slopes	Ground moraines, end moraines	Yes*	Condit 4%
Amanda	AdD2	Amanda silt loam, 12 to 18 percent slopes, eroded	Ground moraines, end moraines	Yes*	Condit 3%
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Ground moraines, end moraines	Yes*	Pewamo, low carbonate till 3% Condit 5%
Condit	Co	Condit silt loam, 0 to 1 percent slopes	Ground moraines, end moraines	Yes	Condit 90% Pewamo 3% Condit, fine-loamy 3%

NA = Not Applicable or Not Available; Yes* = Hydric inclusion present

3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area contains one 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	N/A	The mapped NWI stream was not identified and confirmed as not occurring as mapped during the field survey.

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified three wetlands (two PEM and one PEM/PSS complex) within the Project survey area. Of these wetlands, all three were assigned ORAM Category 1. No Category 2 or Category 3 wetlands were identified within the Project survey area.

AECOM has given two of the three wetlands within the Project survey area a provisional determination of jurisdictional (non-isolated, i.e., WOTUS) and one has been assessed as isolated (not a 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**.

TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROJECT SURVEY 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)
W-MRK-001	40.41074	-82.6514	Yes	PEM	0.05	12	1	Structure 62 (Existing)	None	None	N/A	0.000	0.000
	40.41049	-82.6515		PSS	0.06				None	None	N/A	0.000	0.000
W-MRK-002	40.41157	-82.6548	No	PEM	0.58	24	1	Structure 64 (Existing)	None	None	N/A	0.095	0.000
W-MRK-003	40.4123	-82.657	No	PEM	0.52	24	1	Structure 65 (Existing)	Structure 65	Structure 65	N/A	0.089	<0.001
Total:					1.21							0.184	<0.001

3.2 STREAM DELINEATION

During the field survey, AECOM delineated one stream (ephemeral) within the Project survey area. The ephemeral stream (S-MRK-001) was assessed using the HHEI evaluation form and was classified as a Modified Class 1 PHW stream.

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 one watershed, designated by 401 WQC eligibility, as listed in **Table 5**. This watershed is listed as “possibly eligible”. OEPA stream eligibility mapping for the Project vicinity, is provided on **Figure 4**.

3.3 FEMA 100 YEAR FLOODPLAINS

According to the FEMA Map (39117C300E), one mapped FEMA floodway associated with Mile Run is listed as Zone A (No Base Flood Elevations). The extent of FEMA regulated floodplains and floodways are displayed on **Figure 2** and **3**.

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)
S-MRK-001	40.412111	-82.656156	Ephemeral	UNT to Mile Run	112	2.5	2.0	HHEI	13	Modified Class I PHW	Possibly Eligible	No	0	0
Total:					112									0

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

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050400030202	Mile Run-Kokosing River	Possibly Eligible	1
Total			1

3.4 PONDS

No ponds were delineated within the survey area.

3.5 UPLAND DRAINAGE FEATURES WITHIN THE PROJECT SURVEY AREA

No upland drainage features were identified with the Project Survey area.

3.6 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 scrub-shrub, agricultural row-crop, stream/wetland areas, woodlands, old field, urban, pasture/hay fields, and maintained 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
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 corridors and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	6.1	59%
Pasture/Hay Fields	Cattle and/or horse pasture, and hay fields, dominated by seasonally mowed and grazed areas of grasses and forbs.	1.91	19%
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	1.15	11%
Landscaped Area	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.	0.83	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.	0.36	3%
Totals:		10.35	100%

3.7 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 Project 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 (<i>Myotis sodalis</i>)	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 (<i>Carya</i> spp.), oak (<i>Quercus</i> spp.), ash (<i>Fraxinus</i> spp.), birch (<i>Betula</i> spp.), and elm (<i>Ulmus</i> 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.	<p><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.</p> <p><u>Hibernaculum(a)</u> No – Mine openings and/or known caves were not located within 0.25 miles of Project area based off desktop review. See Appendix E.</p> <p>Furthermore, field evaluations did not identify any hibernaculum(a) portal(s) within the Project vicinity.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting to occur between October 1 and March 31, if tree clearing cannot be avoided. If seasonal tree clearing cannot be completed, USFWS/DOW recommends a mist net or acoustic survey to be conducted between June 1 and August 15, prior to any cutting. If no tree removal is proposed, the Project is not likely to impact this species.</p> <p>In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within Appendix D), a desktop assessment for features potentially suitable as bat hibernacula was conducted and portal searches within 0.25 miles of the Project area with no features identified as potentially suitable for hibernating bats (See Appendix E).</p>	<p><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.</p> <p><u>Hibernaculum(a)</u> No, potential hibernaculum(a) is not present within the Project area</p>
Northern Long-eared Bat (<i>Myotis septentrionalis</i>)	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 another 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.	<p><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.</p> <p><u>Hibernaculum(a)</u> No – Mine openings and/or known caves were not located within 0.25 miles of Project area based off desktop review. See Appendix E.</p> <p>Furthermore, field evaluations did not identify any hibernaculum(a) portal(s) within the Project vicinity.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting to occur between October 1 and March 31, if tree clearing cannot be avoided. If seasonal tree clearing cannot be completed, USFWS/DOW recommends a mist net or acoustic survey to be conducted between June 1 and August 15, prior to any cutting. If no tree removal is proposed, the Project is not likely to impact this species.</p> <p>In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within Appendix D), a desktop assessment for features potentially suitable as bat hibernacula was conducted and portal searches within 0.25 miles of the Project area with no features identified as potentially suitable for hibernating bats (See Appendix E).</p>	<p><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.</p> <p><u>Hibernaculum(a)</u> No, potential hibernaculum(a) is not present within the Project area</p>

**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 (<i>Myotis lucifugus</i>)	Endangered	NA	The little brown bat shares similar habitat requirements as other <i>Myotis</i> 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.	<p><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.</p> <p><u>Hibernaculum(a)</u> No – Mine openings and/or known caves were not located within 0.25 miles of Project area based off desktop review. See Appendix E.</p> <p>Furthermore, field evaluations did not identify any hibernaculum(a) portal(s) within the Project vicinity.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>Based on ODNR’s Morrow County List, this species is likely within the Project area and upon receipt ODNR DOW will likely comment the following.</p> <p>If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting to occur between October 1 and March 31, if tree clearing cannot be avoided. If seasonal tree clearing cannot be completed, USFWS/DOW recommends a mist net or acoustic survey to be conducted between June 1 and August 15, prior to any cutting. If no tree removal is proposed, the Project is not likely to impact this species.</p> <p>In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within Appendix D), a desktop assessment for features potentially suitable as bat hibernacula was conducted and portal searches within 0.25 miles of the Project area with no features identified as potentially suitable for hibernating bats (See Appendix E).</p>	<p><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.</p> <p><u>Hibernaculum(a)</u> No, potential hibernaculum(a) is not present within the Project area</p>
Tricolored bat (<i>Perimyotis subflavus</i>)	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.	<p><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.</p> <p><u>Hibernaculum(a)</u> No – Mine openings and/or known caves were not located within 0.25 miles of Project area based off desktop review. See Appendix E.</p> <p>Furthermore, field evaluations did not identify any hibernaculum(a) portal(s) within the Project vicinity.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>Based on ODNR’s Morrow County List, this species is likely within the Project area and upon receipt ODNR DOW will likely comment the following.</p> <p>If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting to occur between October 1 and March 31, if tree clearing cannot be avoided. If seasonal tree clearing cannot be completed, USFWS/DOW recommends a mist net or acoustic survey to be conducted between June 1 and August 15, prior to any cutting. If no tree removal is proposed, the Project is not likely to impact this species.</p> <p>In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within Appendix D), a desktop assessment for features potentially suitable as bat hibernacula was conducted and portal searches within 0.25 miles of the Project area with no features identified as potentially suitable for hibernating bats (See Appendix E).</p>	<p><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.</p> <p><u>Hibernaculum(a)</u> No, potential hibernaculum(a) is not present within the Project area</p>
Fish							
Iowa darter (<i>Etheostoma exile</i>)	Endangered	None	This species is found in low gradient streams, in pools of moderate size rivers, in deep pools and shallow lakes, in areas of swift current at the top or bottom end of a riffle where there are many very large boulders or flat slabs of rock.	No	March 15 to June 30	The ODNR DOW recommended that no in-water work from March 15 to June 30 to reduce impacts to this species. If no in-water work is proposed in a perennial stream, this Project is not likely to impact the species.	No perennial streams were observed; therefore, no impact

**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
Lake chubsucker (<i>Erimyzon sucetta</i>)	Threatened	None	This species is found mainly in lakes, ponds, swamps, and streams.	No	March 15 to June 30	The ODNR DOW recommended that no in-water work from March 15 to June 30 to reduce impacts to this species. If no in-water work is proposed in a perennial stream, this Project is not likely to impact the species	No perennial streams were observed; therefore, no impact
Birds							
Northern harrier (Circus hudsonius)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	No	March 15 to June 30	DNR 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.	No potentially suitable habitat was observed within the Project survey area (Figure 5)..

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 November 9, 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 seven state-listed species within range of the Project survey area, including:

- Four mammals: Indiana bat, northern long-eared bat, little brown bat and tricolored bat;
- Two fish: Iowa darter and lake chubsucker, and
- One bird: northern harrier.

Potentially suitable summer habitat for the four bats were identified in the Project survey area and one of the four listed bat species, Indiana 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 northern long-eared 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.

Due to the absence of in-stream work proposed, the Project is not likely to impact the Iowa darter, or the lake chubsucker.

The ODNR noted that the Project is within the range of the northern harrier however, AECOM ecologist and approved avian specialist concluded an absence of this species habitat within the Project survey area. Open grasslands and wet meadow marshes of at minimum of approximately two acres are considered as

nesting habitat for the Northern Harrier and the Project survey area contains less than two acres of open grassland and wet meadow and is comprised of mostly old field habitat. As a result, an absence of potential nesting habitat for this bird species was identified within the Project survey area; therefore, the Project is not likely to impact these species.

USFWS Coordination –

Coordination with the USFWS was 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 October 12, 2022 and identified both Indiana bat and northern long-eared bat as occurring within the Project area. The USFWS recommend that if no caves or abandoned mines are present and trees ≥ 3 inches cannot be avoided, trees should be removed between October 1 and March 31 to avoid adverse effects to Indiana bats and northern long-eared bats during the brood-rearing months. If seasonal tree cutting is not possible, the USFWS recommended a presence/absence survey be conducted between June 1 and August 15.

4.0 SUMMARY

The ecological survey of the Project survey area identified a total of three wetlands and one stream. The wetlands within the Project survey area included two PEM wetlands and one PEM/PFO complex and all three wetlands were identified as category 1 wetlands. Wetland W-MRK-001 was provisionally determined to be isolated. Furthermore, one ephemeral stream was identified within the Project survey area and the HHEI assessment conducted on the delineated stream classified it as a Class I PHW stream. AECOM has preliminary determined that the assessed streams and two wetlands (W-MRK-002 and W-MRK-003) within the Project survey area appear to be jurisdictional (i.e., WOTUS).

Of the seven 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 potential hibernacula was identified within 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 1 to March 31. If seasonal tree clearing cannot be completed, further coordination may be required.

The information contained in this wetland delineation report is for a 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.

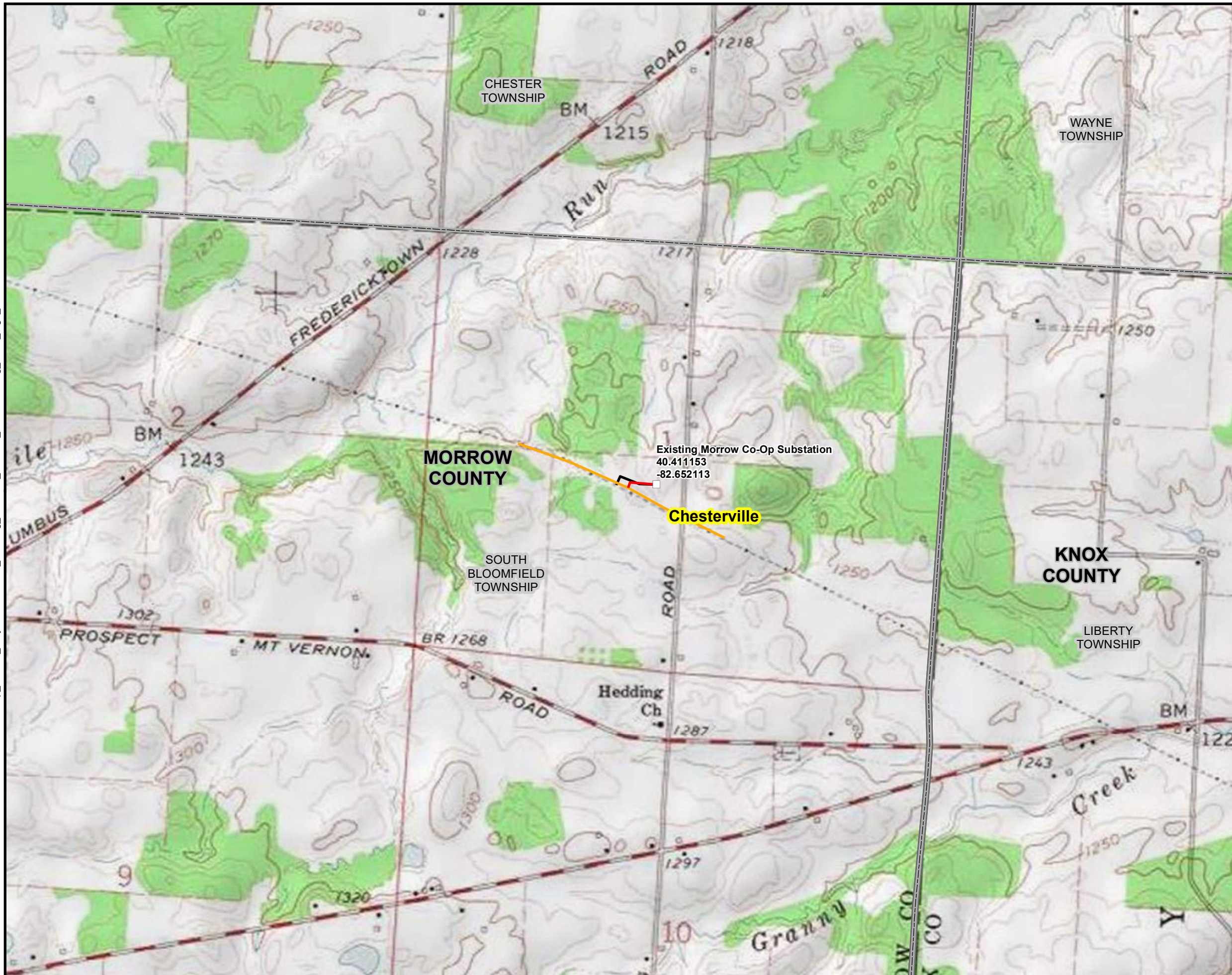
The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due 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.

5.0 REFERENCES

- Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.
- Environmental Laboratory. 1987. *U.S. Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station: Vicksburg, Mississippi.
- Federal Emergency Management Agency (FEMA). 2009. National Flood Hazard Layer, Morrow County, Ohio. <https://msc.fema.gov/portal> Published June 2, 2009.
- Kollmorgen Corporation. 2010. Munsell Soil Color Charts. Baltimore, Maryland.
- Mack, John J. 2001. *Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms*. OEPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.
- Ohio Department of Transportation. 2014. Roadway Ditch Characterization Flowchart. From: Ecological Manual, April 2014. Office of Environmental Services.
- Ohio Division of Wildlife (ODOW) and U.S. Fish and Wildlife Service (USFWS) (OH-Field Office) Joint Guidance for Bat Surveys and Tree Clearing. Published May 2022.
- Ohio Environmental Protection Agency (OEPA). 2017. Section 401 Water Quality Certification for the 2017 Nationwide Permits. Appendix D Stream Eligibility Determination Process. Effective March 17, 2017. Ohio Environmental Protection Agency, Division of Surface Water, 401 Water Quality Certification and Isolated Wetland Permitting Section, Columbus, Ohio.
- OEPA. 2017. 401 Water Quality Certification for the Nationwide Permits Stream Eligibility Web Map (2017 Reissuance). <https://data-oepa.opendata.arcgis.com/datasets/401-water-quality-certification-for-nationwide-permits>
- OEPA, 2020. *Field Methods for Evaluating Primary Headwater Streams in Ohio*. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. May 2020. 130 pp.
- Rankin, Edward T. 1989. *The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application*. Ohio EPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.
- Rankin, Edward T. 2006. *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI)*. OEPA Ecological Assessment Section, Division of Surface Water, Columbus, Ohio.
- U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter No. 05-05: Guidance on Ordinary High Water Mark Identification.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, J. F. Berkowitz, and C. V. Noble. ERDC/EL TR-10-16. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers. 2020. *National Wetland Plant List*, version 3.5. Engineer Research and Development Center. Cold Regions Research and Engineering Laboratory, Hanover, NH. http://wetland_plants.usace.army.mil/

- U.S. Department of Agriculture, Natural Resources Conservation Service. 2021a. National Hydric Soils List. <http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/>. Accessed September, 2022.
- U.S. Department of Agriculture, Natural Resources Conservation Service. 2021b. Web Soil Survey (GIS Shapefile). <http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm>. Accessed September, 2022.
- U.S. Fish and Wildlife Service. 2022. National Wetlands Inventory Geodatabase for Ohio. Available online at <http://www.fws.gov/wetlands/Data/Mapper.html>. Accessed September, 2022.
- U.S. Geological Survey. 2016. National Hydrography Dataset, Ohio Statewide Geodatabase. Published August 2016. Earth Science Information Center, USGS, Reston, VA.



Legend

- Station
- Proposed Morrow Co-Op 138kV Transmission Line
- West Mount Vernon-North Waldo Tie-In
- Existing Morrow Co-Op 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

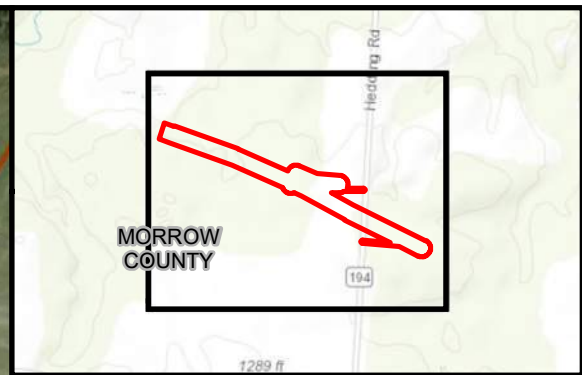
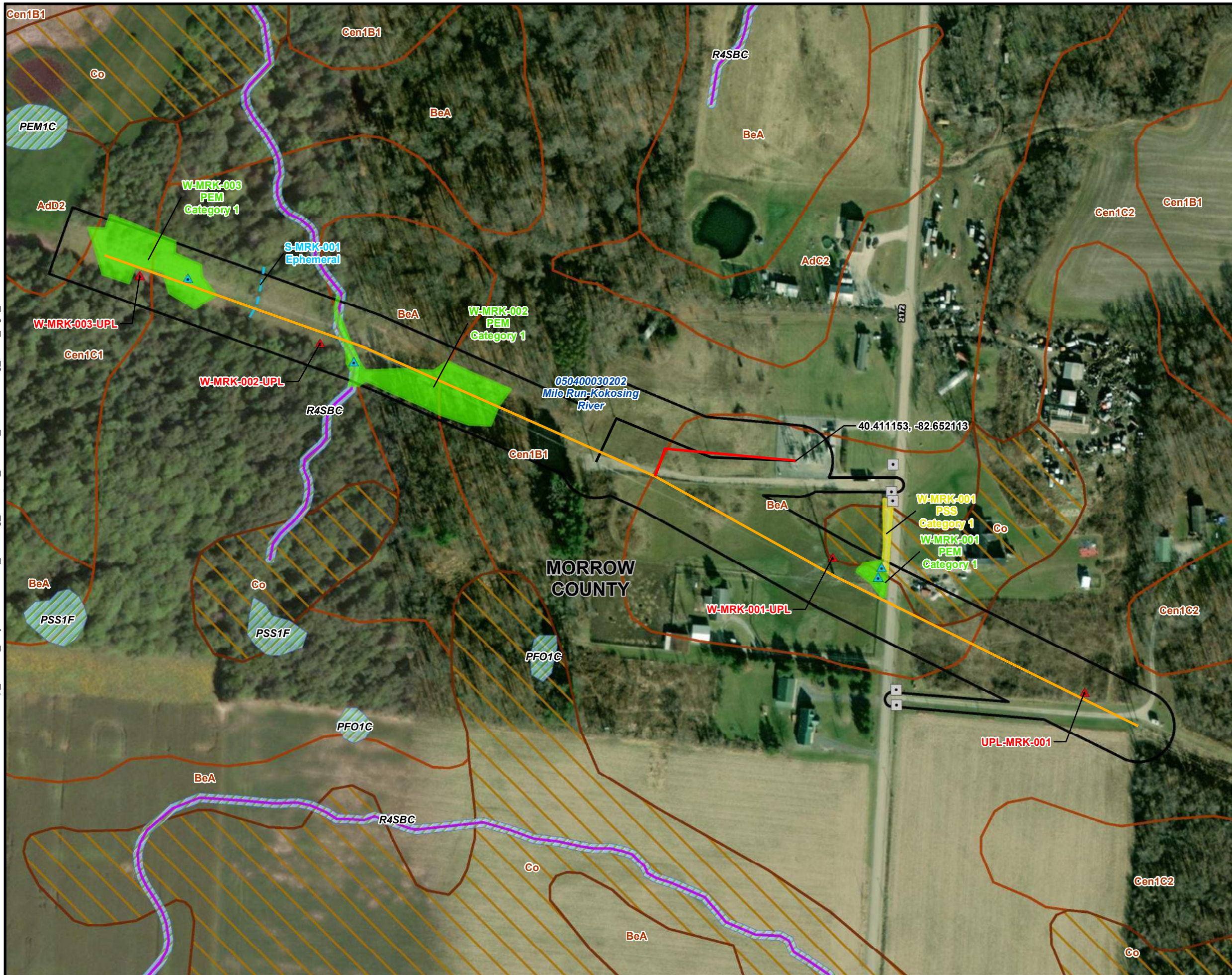
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Feet

*West Mount Vernon – North Waldo Tie In,
Hedding Switch Replacement and Removal,
and Hedding Road – Morrow Co-Op
138kV Line Install/Removal Projects*

FIGURE 1 PROJECT OVERVIEW	
DATE: 10/18/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY:
JOB NO. 60693885	AECOM

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Legend

- ◻ Culvert
- ▲ Upland Data Point
- ▲ Wetland Data Point
- Proposed Morrow Co-Op 138kV Line
- West Mount Vernon-North Waldo Tie-In
- Existing Morrow Co-Op 138kV Line
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PSS Wetland
- ▭ Project Survey Area
- ▨ NWI Wetland (USFWS)
- ▭ HUC 12 (USGS)
- ▭ County Boundary
- ▭ SSURGO Soil Map Unit (NRCS)
- ▭ Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

AdC2—Amanda silt loam, 6 to 12 percent slopes, eroded

AdD2—Amanda silt loam, 12 to 18 percent slopes, eroded

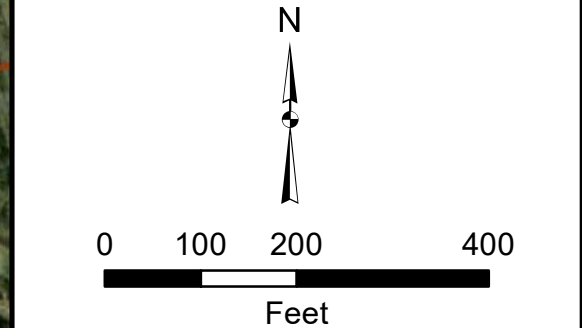
BeA—Bennington silt loam, 0 to 2 percent slopes

Cen1B1—Centerburg silt loam, 2 to 6 percent slopes

Cen1C1—Centerburg silt loam, 6 to 12 percent slopes

Cen1C2—Centerburg silt loam, 6 to 12 percent slopes, eroded

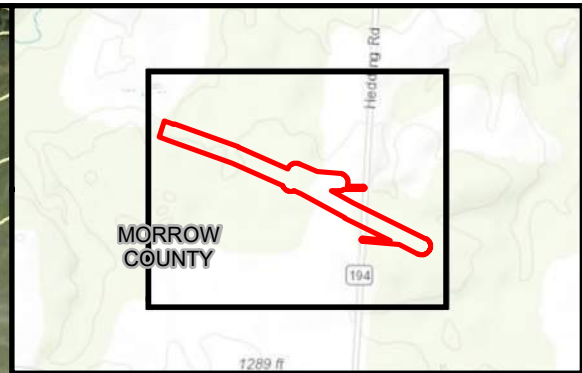
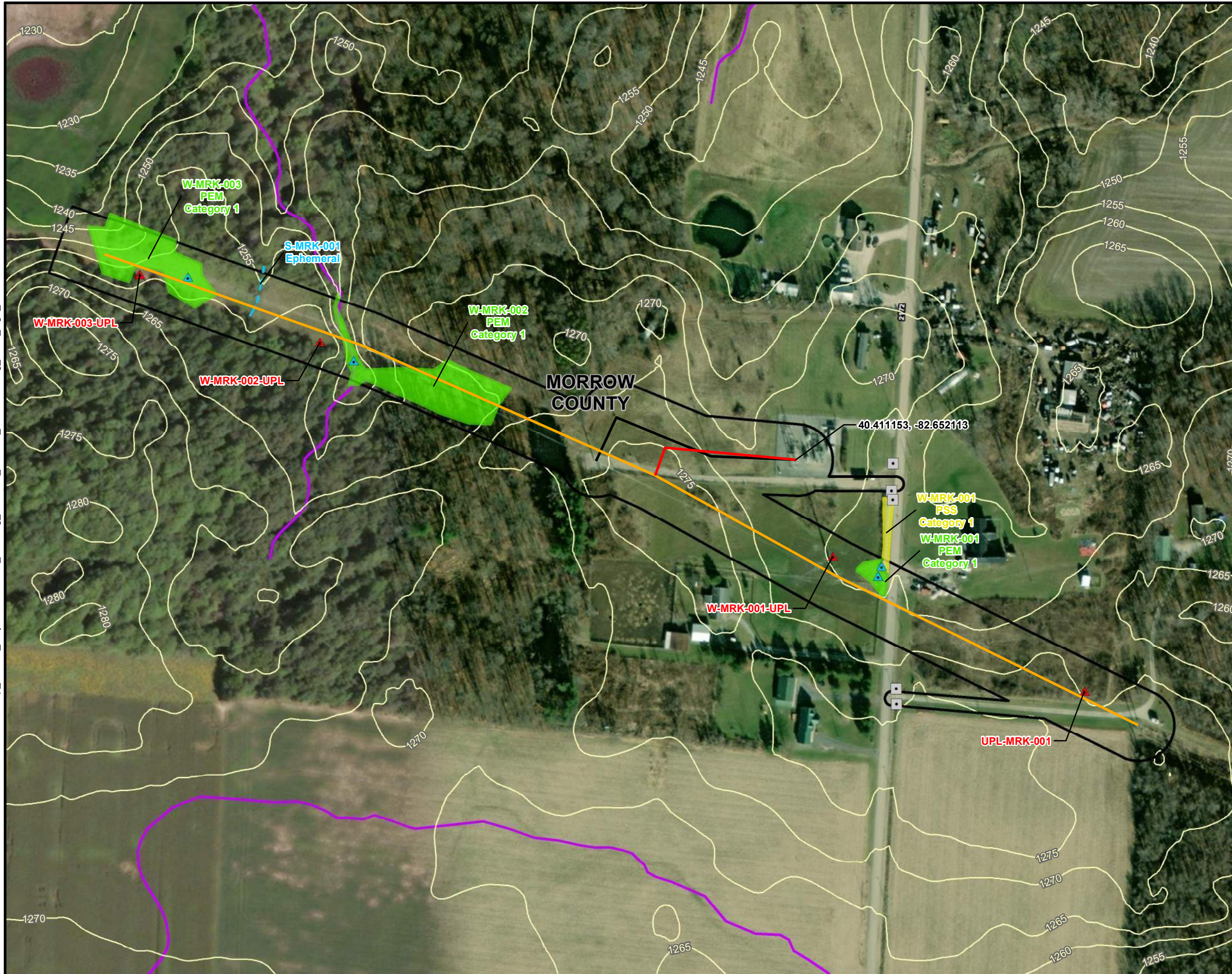
Co—Condit silt loam, 0 to 1 percent slopes



West Mount Vernon – North Waldo Tie In, Hedding Switch Replacement and Removal, and Hedding Road – Morrow Co-Op 138kV Line Install/Removal Projects

FIGURE 2 SOIL MAP AND NATIONAL WETLAND INVENTORY MAP	
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CREATED BY: PMH	CHECKED BY:
JOB NO. 60693885	AECOM

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Legend

- ◻ Culvert
- ▲ Upland Data Point
- ▲ Wetland Data Point
- Proposed Morrow Co-Op 138kV Line
- West Mount Vernon-North Waldo Tie-In
- Existing Morrow Co-Op 138kV Line
- Contour (5-Ft)
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Delineated PEM Wetland
- Delineated PSS Wetland
- ◻ Project Survey Area
- ◻ County Boundary

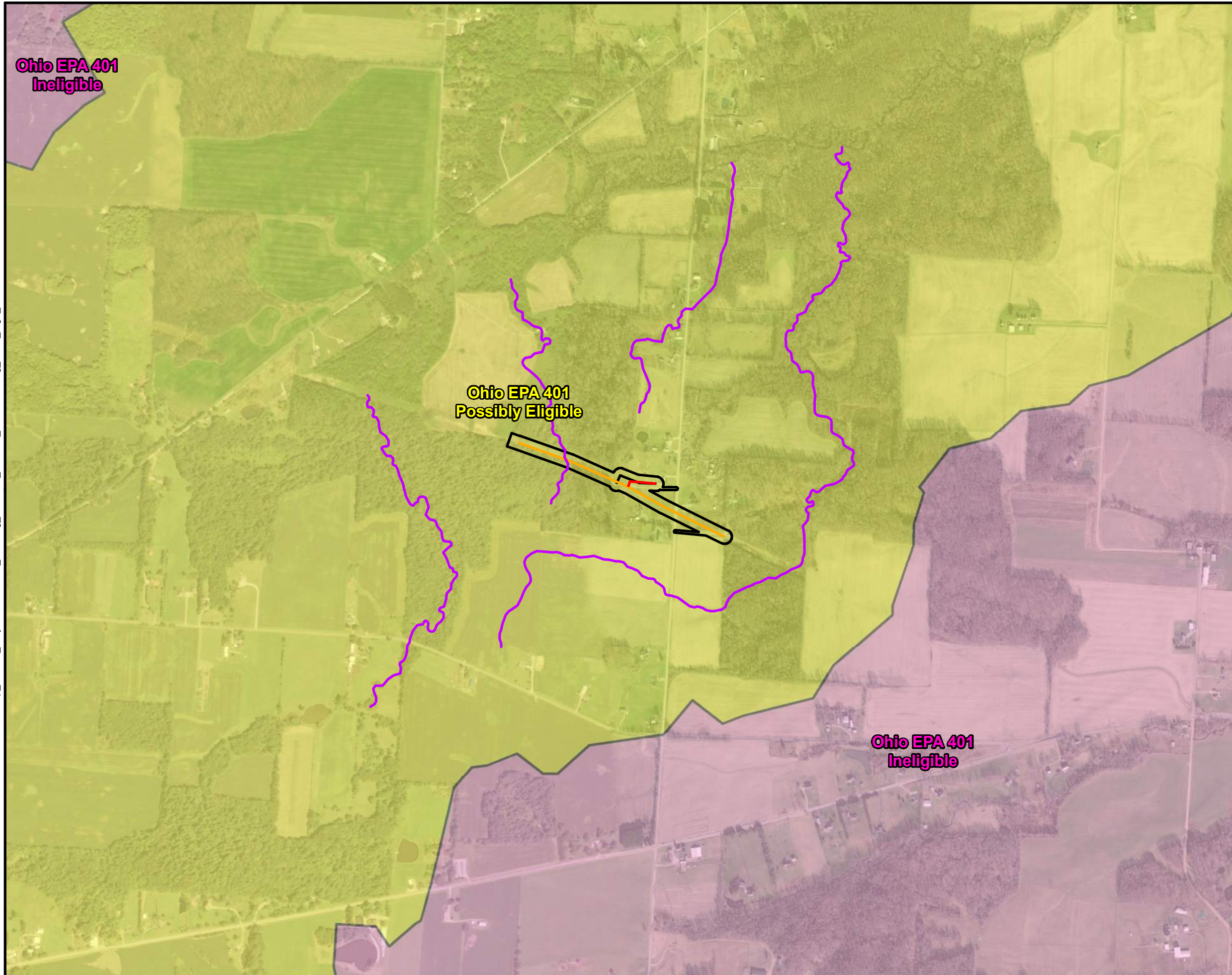
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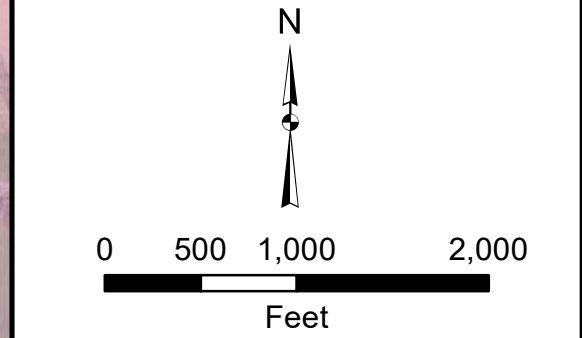
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West Mount Vernon – North Waldo Tie In,
Hedding Switch Replacement and Removal,
and Hedding Road – Morrow Co-Op
138kV Line Install/Removal Projects

FIGURE 3 WETLAND DELINEATION AND STREAM ASSESSMENT MAP	
DATE: 10/18/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY:
JOB NO. 60693885	AECOM



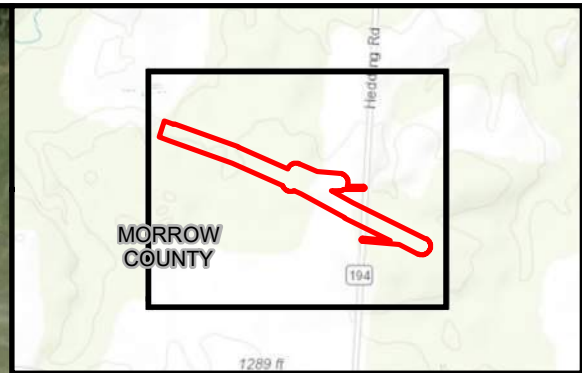
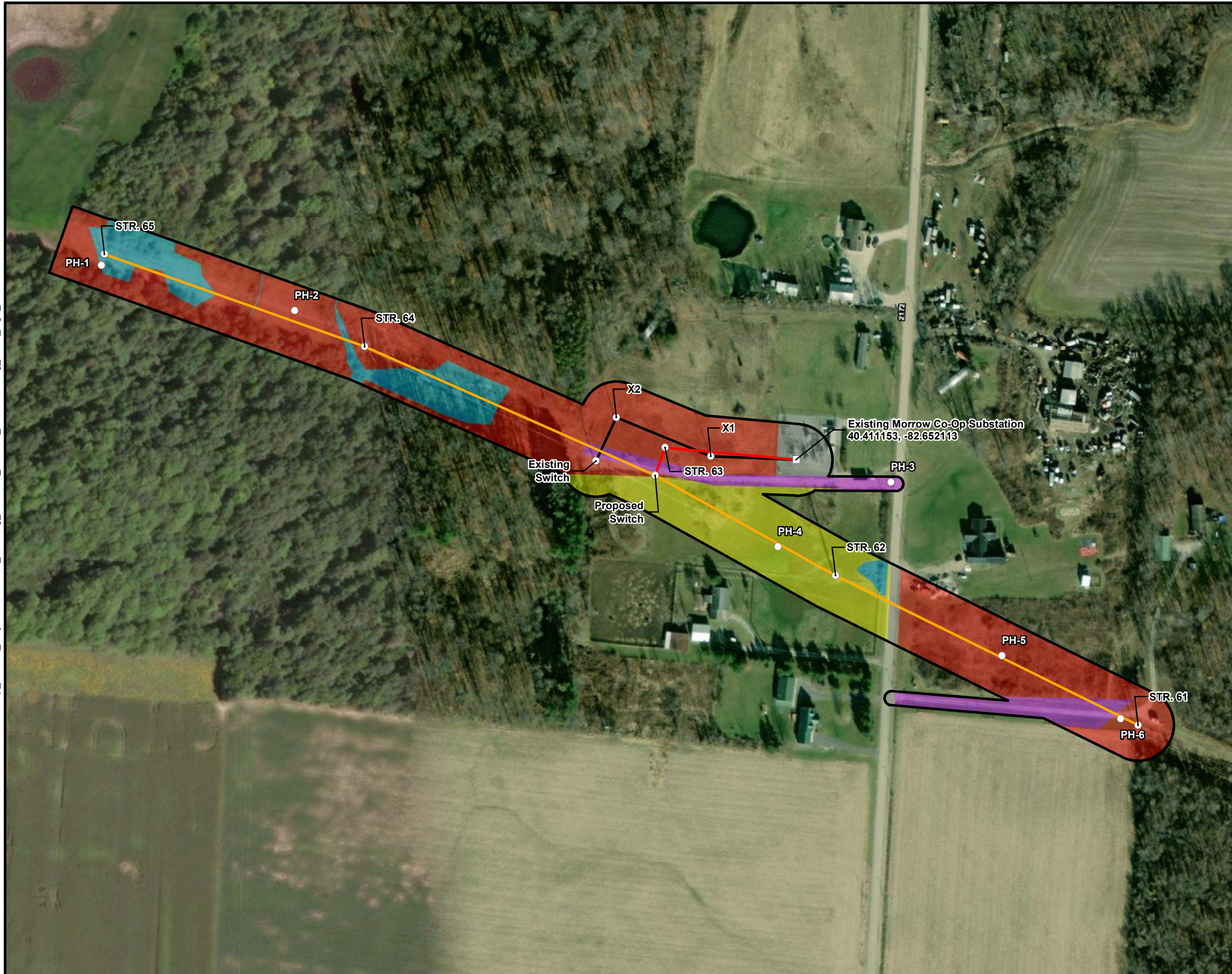
- Legend**
- Proposed Morrow Co-Op 138kV Transmission Line
 - West Mount Vernon-North Waldo Tie-In
 - Existing Morrow Co-Op 138kV Transmission Line
 - NHD Stream (USGS)
 - Project Survey Area
- OEPA Stream Eligibility:**
- Ineligible
 - Possibly Eligible



West Mount Vernon – North Waldo Tie In,
Hedding Switch Replacement and Removal,
and Hedding Road – Morrow Co-Op
138kV Line Install/Removal Projects

FIGURE 4
STREAM ELIGIBILITY MAP

DATE: 10/18/2022	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY:
JOB NO. 60693885	AECOM



Legend

- Station
- Structures
- Photo Location
- Proposed Morrow Co-Op 138kV Line
- West Mount Vernon-North Waldo Tie-In
- Existing Morrow Co-Op 138kV Line
- ▭ Project Survey Area

Vegetative Community Type

- Landscaped Area
- Old Field
- Pasture/Hay Fields
- Streams/Wetlands
- Urban

N

0 100 200 400

Feet

West Mount Vernon – North Waldo Tie In,
Hedding Switch Replacement and Removal,
and Hedding Road – Morrow Co-Op
138kV Line Install/Removal Projects

FIGURE 5 VEGETATIVE COMMUNITIES ASSESSMENT MAP	
DATE: 10/18/2022	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY:
JOB NO. 60693885	AECOM

APPENDIX A

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

OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-001-PEM
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W

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

Slope (%): 2 Lat: 40.410485 Long: -82.6515 Datum: NAD83

Soil Map Unit Name: Bennington silt loam, 0-2 percent slopes 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
---	--

Remarks:

This PEM section of a PEM/PSS wetland complex begins in a small depression within the existing transmission line right-of-way. Surface runoff drains to the depression and flows into a roadside ditch that directs water away from the area.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 3 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				
1.	_____	_____	_____	_____	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> 50 </u> x 1 = <u> 50 </u> FACW species <u> 55 </u> x 2 = <u> 110 </u> FAC species <u> 25 </u> x 3 = <u> 75 </u> FACU species <u> 15 </u> x 4 = <u> 60 </u> UPL species <u> 0 </u> x 5 = <u> 0 </u> Column Totals: <u> 145 </u> (A) <u> 295 </u> (B) Prevalence Index = B/A = <u> 2.03 </u>
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
=Total Cover					
Herb Stratum	(Plot size: <u>5'</u> radius)				
1.	<u><i>Typha angustifolia</i></u>	50	Yes	OBL	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> X </u> 2 - Dominance Test is >50% <u> X </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	<u><i>Apocynum cannabinum</i></u>	25	Yes	FAC	
3.	<u><i>Carex vulpinoidea</i></u>	25	Yes	FACW	
4.	<u><i>Agrimonia parviflora</i></u>	15	No	FACW	
5.	<u><i>Euthamia graminifolia</i></u>	15	No	FACW	
6.	<u><i>Symphotrichum pilosum</i></u>	15	No	FACU	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
145 =Total Cover					
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>
2.	_____	_____	_____	_____	
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: MRK-001- PI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/2	80	10YR 3/6	20	C	PL/M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Remarks:
10% oxidized rhizospheres

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The source of hydrology is surface runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-001- PSS
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W

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

Slope (%): 2 Lat: 40.410541 Long: -82.651473 Datum: NAD83

Soil Map Unit Name: Condit silt loam, 0-2 percent slopes 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>x</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
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Remarks:

This PSS section of a PEM/PSS wetland complex begins in a small depression within the existing transmission line right-of-way. Surface runoff drains to the depression and flows into a roadside ditch that directs water away from the area.

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)																				
1.	<u>Cornus amomum</u>	100	Yes	FACW	Prevalence Index worksheet: <table style="width: 100%; border: none;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td>x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>200</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>100</u>	x 2 = <u>200</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>100</u> (A)	<u>200</u> (B)																				
Prevalence Index = B/A = <u>2.00</u>																					
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		100 =Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> radius)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
		=Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> radius)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
2.	_____	_____	_____	_____																	
		=Total Cover																			

Remarks: (Include photo numbers here or on a separate sheet.)

SOIL

Sampling Point: -MRK-001- P:

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-18	10YR 3/2	80	10YR 3/6	20	C	PL/M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input checked="" type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input type="checkbox"/> No <input type="checkbox"/>
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Remarks:
10% oxidized rhizospheres

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input checked="" type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The source of hydrology is surface runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-001-UPL
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none) Convex
 Slope (%): 2 Lat: 40.4106 Long: -82.651839 Datum: NAD83
 Soil Map Unit Name: Condit silt loam, 0-1 percent slopes 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 x, Soil , 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 <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point for W-MRK-001. Upland data was collected within the existing transmission line right-of-way in an active horse pasture.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 1 </u> (A) Total Number of Dominant Species Across All Strata: <u> 2 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 50.0% </u> (A/B)
2.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
3.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
4.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
5.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u> </u> =Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				
1.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> 0 </u> x 1 = <u> 0 </u> FACW species <u> 10 </u> x 2 = <u> 20 </u> FAC species <u> 50 </u> x 3 = <u> 150 </u> FACU species <u> 75 </u> x 4 = <u> 300 </u> UPL species <u> 0 </u> x 5 = <u> 0 </u> Column Totals: <u> 135 </u> (A) <u> 470 </u> (B) Prevalence Index = B/A = <u> 3.48 </u>
2.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
3.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
4.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
5.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u> </u> =Total Cover			
Herb Stratum	(Plot size: <u>5'</u> radius)				
1.	<u><i>Phleum pratense</i></u>	<u>50</u>	<u>Yes</u>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	<u><i>Poa pratensis</i></u>	<u>50</u>	<u>Yes</u>	<u>FAC</u>	
3.	<u><i>Persicaria pensylvanica</i></u>	<u>10</u>	<u>No</u>	<u>FACW</u>	
4.	<u><i>Trifolium repens</i></u>	<u>25</u>	<u>No</u>	<u>FACU</u>	
5.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
6.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
7.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
8.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
9.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
10.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u>135</u> =Total Cover			
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				
1.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
2.	<u> </u>	<u> </u>	<u> </u>	<u> </u>	
		<u> </u> =Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.) Vegetation is heavily browsed by livestock.					

SOIL

Sampling Point: -MRK-001-UI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-12	10YR 5/3	100					Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: 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 Soils³:

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

³Indicators 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:
Shovel refusal at 12 inches due to rock.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)		Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)	
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)		
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)		

Field Observations:

Surface Water Present? Yes ___ No x Depth (inches): _____
 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 source of hydrology was observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-002-PEM
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Swale Local relief (concave, convex, none) Concave
 Slope (%): 2 Lat: 40.411719 Long: -82.655445 Datum: NAD83
 Soil Map Unit Name: Bennington silt loam, 0-2 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This PEM wetland is located in a swale that crosses the existing transmission line right-of-way (ROW). Water is draining to the swale from a stream located outside of the study area and a depression collecting surface runoff in the ROW.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover					Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>115</u></td> <td>x 1 = <u>115</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>5</u></td> <td>x 3 = <u>15</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>130</u> (A)</td> <td><u>150</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>1.15</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>115</u>	x 1 = <u>115</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>5</u>	x 3 = <u>15</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>130</u> (A)	<u>150</u> (B)	Prevalence Index = B/A = <u>1.15</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>115</u>	x 1 = <u>115</u>																				
FACW species <u>10</u>	x 2 = <u>20</u>																				
FAC species <u>5</u>	x 3 = <u>15</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>130</u> (A)	<u>150</u> (B)																				
Prevalence Index = B/A = <u>1.15</u>																					
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover																					
Herb Stratum	(Plot size: <u>5'</u> radius)																				
1.	<u>Leersia oryzoides</u>	75	Yes	OBL	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
2.	<u>Panicum sagittata</u>	25	No	OBL																	
3.	<u>Eupatorium perfoliatum</u>	10	No	OBL																	
4.	<u>Phalaris arundinacea</u>	10	No	FACW																	
5.	<u>Rumex crispus</u>	5	No	FAC																	
6.	<u>Epilobium coloratum</u>	5	No	OBL																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
130 =Total Cover																					
Woody Vine Stratum	(Plot size: <u>30'</u> radius)																				
1.	_____	_____	_____	_____	Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
2.	_____	_____	_____	_____																	
=Total Cover																					
Remarks: (Include photo numbers here or on a separate sheet.)																					

SOIL

Sampling Point: MRK-002- Pt

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 3/2	95	10YR 3/6	5	C	PL	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- 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 Soils³:

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

³Indicators 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:
Hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators:

- | | | |
|--|--|--|
| <u>Primary Indicators (minimum of one is required; check all that apply)</u> | | <u>Secondary Indicators (minimum of two required)</u> |
| <input type="checkbox"/> Surface Water (A1) | <input type="checkbox"/> Water-Stained Leaves (B9) | <input type="checkbox"/> Surface Soil Cracks (B6) |
| <input type="checkbox"/> High Water Table (A2) | <input type="checkbox"/> Aquatic Fauna (B13) | <input type="checkbox"/> Drainage Patterns (B10) |
| <input type="checkbox"/> Saturation (A3) | <input type="checkbox"/> True Aquatic Plants (B14) | <input type="checkbox"/> Dry-Season Water Table (C2) |
| <input checked="" type="checkbox"/> Water Marks (B1) | <input type="checkbox"/> Hydrogen Sulfide Odor (C1) | <input type="checkbox"/> Crayfish Burrows (C8) |
| <input type="checkbox"/> Sediment Deposits (B2) | <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) | <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) |
| <input type="checkbox"/> Drift Deposits (B3) | <input type="checkbox"/> Presence of Reduced Iron (C4) | <input type="checkbox"/> Stunted or Stressed Plants (D1) |
| <input type="checkbox"/> Algal Mat or Crust (B4) | <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) | <input checked="" type="checkbox"/> Geomorphic Position (D2) |
| <input type="checkbox"/> Iron Deposits (B5) | <input type="checkbox"/> Thin Muck Surface (C7) | <input checked="" type="checkbox"/> FAC-Neutral Test (D5) |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9) | |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) | <input type="checkbox"/> Other (Explain in Remarks) | |

Field Observations:

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

Wetland Hydrology Present? Yes No

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

Remarks:
The source of hydrology is stream flow and surface runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-002-UPL
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none) Convex
 Slope (%): 2 Lat: 40.411825 Long: -82.655698 Datum: NAD83
 Soil Map Unit Name: Centerburg silt loam, 2-6 percent slopes 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 <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point for W-MRK-002. Upland data was collected within the existing pipeline right-of-way which is surrounded by forest land.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 30 </u></td> <td>x 2 = <u> 60 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 100 </u></td> <td>x 4 = <u> 400 </u></td> </tr> <tr> <td>UPL species <u> 20 </u></td> <td>x 5 = <u> 100 </u></td> </tr> <tr> <td>Column Totals: <u> 150 </u> (A)</td> <td><u> 560 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u> 3.73 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 30 </u>	x 2 = <u> 60 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 100 </u>	x 4 = <u> 400 </u>	UPL species <u> 20 </u>	x 5 = <u> 100 </u>	Column Totals: <u> 150 </u> (A)	<u> 560 </u> (B)	Prevalence Index = B/A = <u> 3.73 </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																				
FACW species <u> 30 </u>	x 2 = <u> 60 </u>																				
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																				
FACU species <u> 100 </u>	x 4 = <u> 400 </u>																				
UPL species <u> 20 </u>	x 5 = <u> 100 </u>																				
Column Totals: <u> 150 </u> (A)	<u> 560 </u> (B)																				
Prevalence Index = B/A = <u> 3.73 </u>																					
1.	_____	_____	_____	_____																	
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u>Solidago canadensis</u>	80	Yes	FACU																	
2.	<u>Daucus carota</u>	20	No	UPL																	
3.	<u>Dichanthelium clandestinum</u>	20	No	FACW																	
4.	<u>Phalaris arundinacea</u>	10	No	FACW																	
5.	<u>Trifolium repens</u>	10	No	FACU																	
6.	<u>Glechoma hederacea</u>	10	No	FACU																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
		150 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
1.	_____	_____	_____	_____																	
2.	_____	_____	_____	_____																	
		=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.)																					

SOIL

Sampling Point: -MRK-002-UI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/3	95	10YR 5/6	5	C	M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> ? Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators 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 <u>X</u>
---	--

Remarks:
No hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No source of hydrology was observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-003-PEM
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none) Concave
 Slope (%): 2 Lat: 40.4122 Long: -82.656694 Datum: NAD83
 Soil Map Unit Name: Centerburg silt loam, 2-6 percent slopes 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 <u>X</u> No <u> </u> Hydric Soil Present? Yes <u>X</u> No <u> </u> Wetland Hydrology Present? Yes <u>X</u> No <u> </u>	Is the Sampled Area within a Wetland? Yes <u>X</u> No <u> </u>
Remarks: This PEM wetland is located in a hillside depression within the existing transmission line right-of-way. Water from hillside spring seeps and surface runoff drain down the slope to the north and outside of the current study area.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 3 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 50 </u></td> <td>x 1 = <u> 50 </u></td> </tr> <tr> <td>FACW species <u> 75 </u></td> <td>x 2 = <u> 150 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 10 </u></td> <td>x 4 = <u> 40 </u></td> </tr> <tr> <td>UPL species <u> 0 </u></td> <td>x 5 = <u> 0 </u></td> </tr> <tr> <td>Column Totals: <u> 135 </u> (A)</td> <td><u> 240 </u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u> 1.78 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 50 </u>	x 1 = <u> 50 </u>	FACW species <u> 75 </u>	x 2 = <u> 150 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 10 </u>	x 4 = <u> 40 </u>	UPL species <u> 0 </u>	x 5 = <u> 0 </u>	Column Totals: <u> 135 </u> (A)	<u> 240 </u> (B)	Prevalence Index = B/A = <u> 1.78 </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> 50 </u>	x 1 = <u> 50 </u>																				
FACW species <u> 75 </u>	x 2 = <u> 150 </u>																				
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																				
FACU species <u> 10 </u>	x 4 = <u> 40 </u>																				
UPL species <u> 0 </u>	x 5 = <u> 0 </u>																				
Column Totals: <u> 135 </u> (A)	<u> 240 </u> (B)																				
Prevalence Index = B/A = <u> 1.78 </u>																					
1.	_____	_____	_____	_____																	
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover																					
Herb Stratum	(Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> X </u> 2 - Dominance Test is >50% <u> X </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u><i>Eupatorium perfoliatum</i></u>	50	Yes	OBL																	
2.	<u><i>Phalaris arundinacea</i></u>	25	Yes	FACW																	
3.	<u><i>Dichanthelium clandestinum</i></u>	25	Yes	FACW																	
4.	<u><i>Verbena hastata</i></u>	15	No	FACW																	
5.	<u><i>Solidago canadensis</i></u>	10	No	FACU																	
6.	<u><i>Agrimonia parviflora</i></u>	10	No	FACW																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
135 =Total Cover																					
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u>																
1.	_____	_____	_____	_____																	
2.	_____	_____	_____	_____																	
=Total Cover																					
Remarks: (Include photo numbers here or on a separate sheet.)																					

SOIL

Sampling Point: -MRK-003-PE

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/2	80	10YR 5/8	20	C	PL/M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input checked="" type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if observed): Type: _____ Depth (inches): _____	Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____
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Remarks:
Hydric soil indicators present.

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> True Aquatic Plants (B14) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input checked="" type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Gauge or Well Data (D9) <input type="checkbox"/> Other (Explain in Remarks)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
The source of hydrology is hillside spring seeps and surface runoff.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: W-MRK-003-UPL
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none) Convex
 Slope (%): 2 Lat: 40.412214 Long: -82.657056 Datum: NAD83
 Soil Map Unit Name: Centerburg silt loam, 6-12 percent slopes 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 <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point for W-MRK-003. Upland data was collected within the existing transmission line right-of-way which is surrounded by forest land and agriculture.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 1 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B)
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
		=Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u> 0 </u> x 1 = <u> 0 </u> FACW species <u> 30 </u> x 2 = <u> 60 </u> FAC species <u> 0 </u> x 3 = <u> 0 </u> FACU species <u> 85 </u> x 4 = <u> 340 </u> UPL species <u> 20 </u> x 5 = <u> 100 </u> Column Totals: <u> 135 </u> (A) <u> 500 </u> (B) Prevalence Index = B/A = <u> 3.70 </u>
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
3.	_____	_____	_____	_____	
4.	_____	_____	_____	_____	
5.	_____	_____	_____	_____	
		=Total Cover			
Herb Stratum	(Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	<u>Solidago canadensis</u>	75	Yes	FACU	
2.	<u>Phalaris arundinacea</u>	20	No	FACW	
3.	<u>Daucus carota</u>	20	No	UPL	
4.	<u>Agrimonia parviflora</u>	10	No	FACW	
5.	<u>Symphotrichum pilosum</u>	10	No	FACU	
6.	_____	_____	_____	_____	
7.	_____	_____	_____	_____	
8.	_____	_____	_____	_____	
9.	_____	_____	_____	_____	
10.	_____	_____	_____	_____	
		135 =Total Cover			
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>
1.	_____	_____	_____	_____	
2.	_____	_____	_____	_____	
		=Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)					

SOIL

Sampling Point: -MRK-003-UI

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 4/3	90	10YR 5/6	10	C	M	Loamy/Clayey	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: <input type="checkbox"/> Histosol (A1) <input type="checkbox"/> Histic Epipedon (A2) <input type="checkbox"/> Black Histic (A3) <input type="checkbox"/> Hydrogen Sulfide (A4) <input type="checkbox"/> Stratified Layers (A5) <input type="checkbox"/> 2 cm Muck (A10) <input type="checkbox"/> Depleted Below Dark Surface (A11) <input type="checkbox"/> Thick Dark Surface (A12) <input type="checkbox"/> Sandy Mucky Mineral (S1) <input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Sandy Gleyed Matrix (S4) <input type="checkbox"/> Sandy Redox (S5) <input type="checkbox"/> Stripped Matrix (S6) <input type="checkbox"/> Dark Surface (S7) <input type="checkbox"/> Loamy Mucky Mineral (F1) <input type="checkbox"/> Loamy Gleyed Matrix (F2) <input type="checkbox"/> Depleted Matrix (F3) <input type="checkbox"/> Redox Dark Surface (F6) <input type="checkbox"/> Depleted Dark Surface (F7) <input type="checkbox"/> ? Redox Depressions (F8)	Indicators for Problematic Hydric Soils³: <input type="checkbox"/> Coast Prairie Redox (A16) <input type="checkbox"/> Iron-Manganese Masses (F12) <input type="checkbox"/> Red Parent Material (F21) <input type="checkbox"/> Very Shallow Dark Surface (F22) <input type="checkbox"/> Other (Explain in Remarks)
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³Indicators 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 <u>X</u>
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Remarks:
25% mixed rock within the soil profile.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)			Secondary Indicators (minimum of two required)		
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)			
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)			
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)			
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)			
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)			
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)			
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)			
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)			
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)				
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)				

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
No source of hydrology was observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Hedding Switch Install Projects City/County: Morrow Sampling Date: 10-10-22
 Applicant/Owner: AEP State: OH Sampling Point: UPL-MRK-001
 Investigator(s): MRK, RBL Section, Township, Range: S1 T6N R15W
 Landform (hillside, terrace, etc.): Hillside Local relief (concave, convex, none): Convex
 Slope (%): 2 Lat: 40.409825 Long: -82.649945 Datum: NAD83
 Soil Map Unit Name: Centerburg silt loam, 2-6 percent slopes 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 <u> </u> No <u>X</u> Hydric Soil Present? Yes <u> </u> No <u>X</u> Wetland Hydrology Present? Yes <u> </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u> </u> No <u>X</u>
Remarks: Upland data point collected within the existing transmission line right-of-way. The surrounding habitat is fallow field.	

VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30'</u> radius)	Absolute % Cover	Dominant Species?	Indicator Status																	
1.	_____	_____	_____	_____	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u> 0 </u> (A) Total Number of Dominant Species Across All Strata: <u> 3 </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u> 0.0% </u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u>15'</u> radius)				Prevalence Index worksheet: <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species <u> 0 </u></td> <td>x 1 = <u> 0 </u></td> </tr> <tr> <td>FACW species <u> 15 </u></td> <td>x 2 = <u> 30 </u></td> </tr> <tr> <td>FAC species <u> 0 </u></td> <td>x 3 = <u> 0 </u></td> </tr> <tr> <td>FACU species <u> 120 </u></td> <td>x 4 = <u> 480 </u></td> </tr> <tr> <td>UPL species <u> 5 </u></td> <td>x 5 = <u> 25 </u></td> </tr> <tr> <td>Column Totals: <u> 140 </u> (A)</td> <td><u> 535 </u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u> 3.82 </u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u> 0 </u>	x 1 = <u> 0 </u>	FACW species <u> 15 </u>	x 2 = <u> 30 </u>	FAC species <u> 0 </u>	x 3 = <u> 0 </u>	FACU species <u> 120 </u>	x 4 = <u> 480 </u>	UPL species <u> 5 </u>	x 5 = <u> 25 </u>	Column Totals: <u> 140 </u> (A)	<u> 535 </u> (B)	Prevalence Index = B/A = <u> 3.82 </u>	
Total % Cover of:	Multiply by:																				
OBL species <u> 0 </u>	x 1 = <u> 0 </u>																				
FACW species <u> 15 </u>	x 2 = <u> 30 </u>																				
FAC species <u> 0 </u>	x 3 = <u> 0 </u>																				
FACU species <u> 120 </u>	x 4 = <u> 480 </u>																				
UPL species <u> 5 </u>	x 5 = <u> 25 </u>																				
Column Totals: <u> 140 </u> (A)	<u> 535 </u> (B)																				
Prevalence Index = B/A = <u> 3.82 </u>																					
1.	<u><i>Rubus allegheniensis</i></u>	20	Yes	FACU																	
2.	<u><i>Elaeagnus umbellata</i></u>	5	Yes	UPL																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
=Total Cover																					
Herb Stratum	(Plot size: <u>5'</u> radius)				Hydrophytic Vegetation Indicators: <u> </u> 1 - Rapid Test for Hydrophytic Vegetation <u> </u> 2 - Dominance Test is >50% <u> </u> 3 - Prevalence Index is ≤3.0 ¹ <u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <u> </u> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1.	<u><i>Solidago canadensis</i></u>	90	Yes	FACU																	
2.	<u><i>Agrimonia parviflora</i></u>	10	No	FACW																	
3.	<u><i>Dipsacus fullonum</i></u>	10	No	FACU																	
4.	<u><i>Symphotrichum novae-angliae</i></u>	5	No	FACW																	
5.	_____	_____	_____	_____																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
=Total Cover																					
Woody Vine Stratum	(Plot size: <u>30'</u> radius)				Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>																
1.	_____	_____	_____	_____																	
2.	_____	_____	_____	_____																	
=Total Cover																					
Remarks: (Include photo numbers here or on a separate sheet.)																					

SOIL

Sampling Point: JPL-MRK-00

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0-16	10YR 5/3	100					Sandy	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:			Indicators for Problematic Hydric Soils ³ :		
<input type="checkbox"/> Histosol (A1)	<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input type="checkbox"/> Coast Prairie Redox (A16)			
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Iron-Manganese Masses (F12)			
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Red Parent Material (F21)			
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> Dark Surface (S7)	<input type="checkbox"/> Very Shallow Dark Surface (F22)			
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)	<input type="checkbox"/> Other (Explain in Remarks)			
<input type="checkbox"/> 2 cm Muck (A10)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)				
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> Depleted Matrix (F3)				
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Redox Dark Surface (F6)				
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Dark Surface (F7)				
<input type="checkbox"/> 5 cm Mucky Peat or Peat (S3)	<input type="checkbox"/> Redox Depressions (F8)				

³Indicators 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 <u>X</u>
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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 indicators present.

HYDROLOGY

Wetland Hydrology Indicators:		
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)	
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> True Aquatic Plants (B14)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Gauge or Well Data (D9)	
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)	

Field Observations: Surface Water Present? Yes _____ No <u>x</u> Depth (inches): _____ Water Table Present? Yes _____ No <u>x</u> Depth (inches): _____ Saturation Present? Yes _____ No <u>x</u> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes _____ No <u>X</u>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No source of hydrology was observed.

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet

Ohio EPA, Division of Surface Water Final:
February 1, 2001

Instructions

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

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

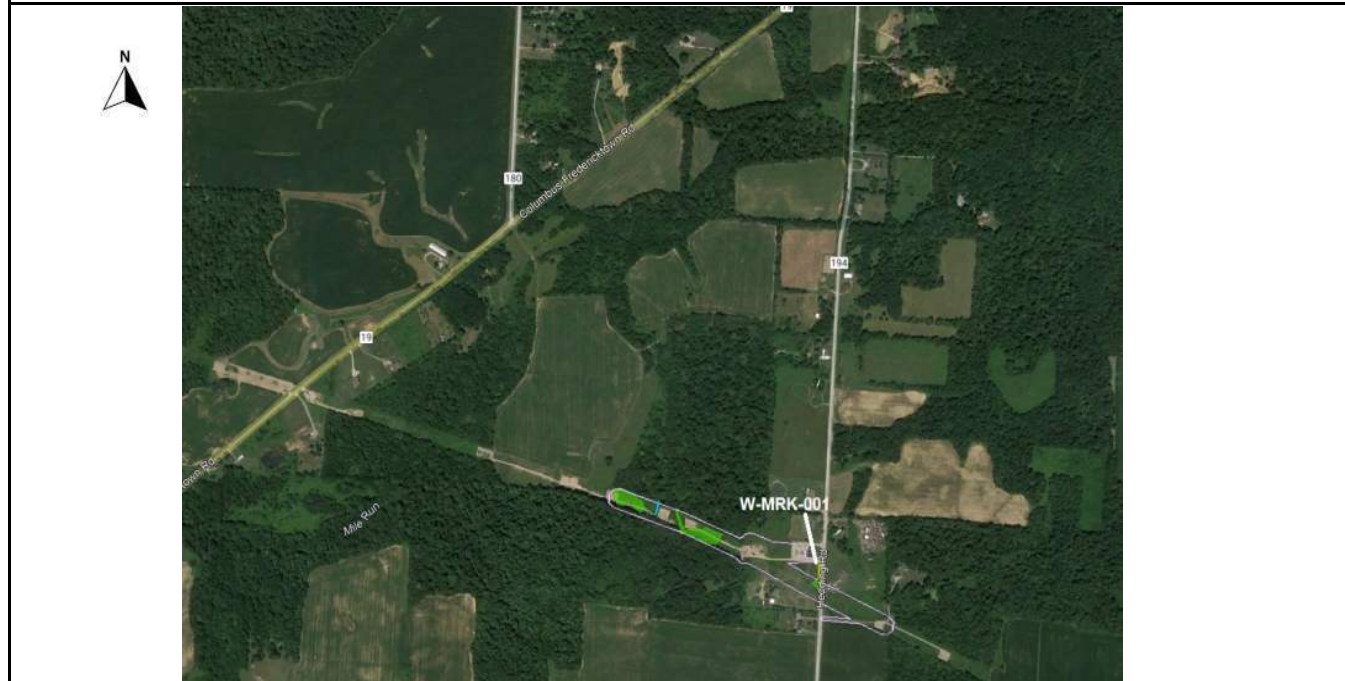
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual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

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

Background Information

Name:	MRK, RBL
Date:	10/10/2022
Affiliation:	AECOM
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220
Phone Number:	814-516-1130
e-mail address:	Matt.Kline@Aecom.com
Name of Wetland:	W-MRK-001 PEM/PSS
Vegetation Communit(ies):	PEM/PSS
HGM Class(es):	DEPRESSIONAL

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



Lat/Long or UTM Coordinate:	40.410735, -82.65143
USGS Quad Name:	Chesterville
County:	Morrow
Township:	South Bloomfield Township
Section and Subsection:	S1 T6N R15W
Hydrologic Unit Code:	50400030202 - Mile Run-Kokosing River
Site Visit:	10/10/2022
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:	W-MRK-001 PEM/PSS		
Wetland Size (delineated acres):	0.11	Wetland Size (Estimated total acres):	0.11

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



Comments, Narrative Discussion, Justification of Category Changes:

This PEM/PSS wetland complex begins in a small depression within the existing transmission line right-of-way. Surface runoff drains to the depression and flows into a roadside ditch that directs water away from the area.

Final score:	12	Category:	1
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Wetland ID:	W-MRK-001 PEM/PSS
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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:	W-MRK-001 PEM/PSS
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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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES 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 <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	*NO Go to Question 7
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:	W-MRK-001 PEM/PSS
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<p>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?</p>	<p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p>	<p>*NO Go to Question 9a</p>
<p>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?</p>	<p>YES Go to Question 9b</p>	<p>*NO Go to Question 10</p>
<p>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?</p>	<p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p>	<p>*NO Go to Question 9c</p>
<p>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.</p>	<p>YES Go to Question 9d</p>	<p>*NO Go to Question 10</p>
<p>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?</p>	<p>YES Wetland is a Category 3 wetland Go to Question 10</p>	<p>NO Go to Question 9e</p>
<p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p>	<p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p>	<p>NO Go to Question 10</p>
<p>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.</p>	<p>YES Wetland is a Category 3 wetland. Go to Question 11</p>	<p>*NO Go to Question 11</p>
<p>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.).</p>	<p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p>	<p>*NO Complete Quantitative Rating</p>

Wetland ID: W-MRK-001 PEM/PSS

Table 1. Characteristic plant species.

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

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

Wetland ID: W-MRK-001 PEM/PSS

Site: Hedding Switch Install Projects **Rater(s):** MRK, RBL **Date:** 10/10/2022

1.0 **1.0**
max 6 pts subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

Field ID:

W-MRK-001 PEM/PSS

Delineated acres:	0.11
Total acres:	0.11

1.0 **2.0**
max 14 pts subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

5.0 **7.0**
max 30 pts subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

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

3.0 **10.0**
max 20 pts subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

10.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-MRK-001 PEM/PSS

Site: Hedding Switch Install Projects **Rater(s):** MRK, RBL **Date:** 10/10/2022

10.0
subtotal this page

Field ID:
W-MRK-001 PEM/PSS

0.0 **10.0**
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0 **12.0**
max 20pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1 Emergent
- 1 Shrub
- Forest
- Mudflats
- Open water
- Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummocks/tussocks
- 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 generally w/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:	W-MRK-001 PEM/PSS
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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	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	2	
	TOTAL SCORE	12	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID: **W-MRK-001 PEM/PSS**

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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES 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 <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	*YES 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES 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	
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End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization
	<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <p>Background Information Scoring</p> <p>Boundary Worksheet Narrative Rating</p> <p>Field Form Quantitative Rating</p> <p>ORAM Summary Worksheet</p> <p>Wetland Categorization Worksheet</p> </div> <div style="width: 25%; text-align: right; vertical-align: top;"> <p>Ohio EPA, Division of Surface Water Final: February 1, 2001</p> </div> </div>

Instructions

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

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

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

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

Background Information

Name:	MRK, RBL
Date:	10/10/2022
Affiliation:	AECOM
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220
Phone Number:	814-516-1130
e-mail address:	Matt.Kline@aecom.com
Name of Wetland:	W-MRK-002 PEM
Vegetation Communit(ies):	PEM
HGM Class(es):	DEPRESSIONAL

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



Lat/Long or UTM Coordinate:	40.411574, -82.65480
USGS Quad Name:	Chesterville
County:	Morrow
Township:	South Bloomfield Township
Section and Subsection:	S1 T6N R15W
Hydrologic Unit Code:	50400030202 - Mile Run-Kokosing River
Site Visit:	10/10/2022
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:	W-MRK-002 PEM		
Wetland Size (delineated acres):	0.58	Wetland Size (Estimated total acres):	0.58

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



Comments, Narrative Discussion, Justification of Category Changes:

This PEM wetland is located in a swale that crosses the existing transmission line ROW. Water is draining to the swale from a stream located outside of the study area and a depression collecting surface runoff in the ROW.

Final score:	24	Category:	1
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Wetland ID:	W-MRK-002 PEM
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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: W-MRK-002 PEM

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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES 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 <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	*NO Go to Question 7
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 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: W-MRK-002 PEM

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:	W-MRK-002 PEM
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Table 1. Characteristic plant species.				
invasive/exotic spp	fen species	bog species	oak opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinaratum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Wetland ID: W-MRK-002 PEM

Site: Hedding Switch **Rater(s):** MRK, RBL **Date:** 10/10/2022

2.0 **2.0**

max 6 pts subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

Field ID:

W-MRK-002 PEM

Delineated acres:	0.58
Total acres:	0.58

6.0 **8.0**

max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.0 **18.0**

max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input
- point source (nonstormwater)
- filling/grading
- road bed/RR track
- dredging
- Other:

7.0 **25.0**

max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

25.0

subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-MRK-002 PEM

Site: Hedding Switch **Rater(s):** MRK, RBL **Date:** 10/10/2022

25.0
subtotal this page

Field ID:
W-MRK-002 PEM

0.0 **25.0**
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1.0 **24.0**
max 20pts. subtotal

Metric 6. Plant communities, interspersions, 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) Interspersions.

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 hummocks/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 generally w/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

24.0 **TOTAL (Max 100 pts)**
1 **Category**

Wetland ID:	W-MRK-002 PEM
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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	6		
	Metric 3. Hydrology	10		
	Metric 4. Habitat	7		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersed, microtopography	-1		
	TOTAL SCORE	24		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-MRK-002 PEM
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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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES 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 <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	*YES 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 within 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES 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
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End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization
	<div style="display: flex; justify-content: space-between;"> <div style="width: 70%;"> <p>Background Information Scoring</p> <p>Boundary Worksheet Narrative Rating</p> <p>Field Form Quantitative Rating</p> <p>ORAM Summary Worksheet</p> <p>Wetland Categorization Worksheet</p> </div> <div style="width: 25%; text-align: right;"> <p>Ohio EPA, Division of Surface Water Final: February 1, 2001</p> </div> </div>

Instructions

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

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

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

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

Background Information

Name:	MRK, RBL
Date:	10/10/2022
Affiliation:	AECOM
Address:	Foster Plaza 6, 681 Anderson Drive, Suite 120, Pittsburgh, PA 15220
Phone Number:	814-516-1130
e-mail address:	Matt.Kline@aecom.com
Name of Wetland:	W-MRK-003 PEM
Vegetation Communit(ies):	PEM
HGM Class(es):	DEPRESSIONAL

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



Lat/Long or UTM Coordinate:	40.411574, -82.65480
USGS Quad Name:	Chesterville
County:	Morrow
Township:	South Bloomfield
Section and Subsection:	Si T6N R15W
Hydrologic Unit Code:	50400030202 - Mile Run-Kokosing River
Site Visit:	10/10/2022
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:	W-MRK-003 PEM		
Wetland Size (delineated acres):	0.58	Wetland Size (Estimated total acres):	0.58

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



Comments, Narrative Discussion, Justification of Category Changes:

This PEM wetland is located in a hillside depression within the existing transmission line ROW. Water from the hillside spring seeps and surface runoff drain down the slope to the north and outside of the current study area.

Final score:	24	Category:	1
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Wetland ID:	W-MRK-003 PEM
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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: W-MRK-003 PEM

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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES 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 <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	*NO Go to Question 7
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 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: W-MRK-003 PEM

<p>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?</p>	<p>YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a</p>	<p>*NO Go to Question 9a</p>
<p>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?</p>	<p>YES Go to Question 9b</p>	<p>*NO Go to Question 10</p>
<p>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?</p>	<p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p>	<p>*NO Go to Question 9c</p>
<p>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.</p>	<p>YES Go to Question 9d</p>	<p>*NO Go to Question 10</p>
<p>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?</p>	<p>YES Wetland is a Category 3 wetland Go to Question 10</p>	<p>NO Go to Question 9e</p>
<p>9e Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?</p>	<p>YES Wetland should be evaluated for possible Category 3 status Go to Question 10</p>	<p>NO Go to Question 10</p>
<p>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.</p>	<p>YES Wetland is a Category 3 wetland. Go to Question 11</p>	<p>*NO Go to Question 11</p>
<p>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.).</p>	<p>YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating</p>	<p>*NO Complete Quantitative Rating</p>

Wetland ID:	W-MRK-003 PEM
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Table 1. Characteristic plant species.				
invasive/exotic spp	fen species	bog species	oak opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinaratum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Wetland ID: W-MRK-003 PEM

Site: Hedding Switch **Rater(s):** MRK, RBL **Date:** 10/10/2022

Field ID:

W-MRK-003 PEM

2.0 **2.0**
max 6 pts subtotal

Metric 1. Wetland Area (size).

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

Delineated acres:	0.58
Total acres:	0.58

6.0 **8.0**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

10.0 **18.0**
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select one.

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- ditch
- tile
- dike
- weir
- stormwater input
- point source (nonstormwater)
- filling/grading
- road bed/RR track
- dredging
- Other:

7.0 **25.0**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

25.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-MRK-003 PEM

Site: Hedding Switch Rater(s): MRK, RBL Date: 10/10/2022

25.0 subtotal this page

Field ID: W-MRK-003 PEM

0.0 25.0 max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-1.0 24.0 max 20pts. subtotal

Metric 6. Plant communities, interspersions, 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) 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 hummocks/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 generally w/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

24.0 TOTAL (Max 100 pts) 1 Category

Wetland ID:	W-MRK-003 PEM
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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	6		
	Metric 3. Hydrology	10		
	Metric 4. Habitat	7		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersions, microtopography	-1		
	TOTAL SCORE	24		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-MRK-003 PEM
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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 <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES 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 <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	*YES 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 within 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 <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES 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
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End of Ohio Rapid Assessment Method for Wetlands.

Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-001
Date: October 10, 2022
Description: PEM Category I Facing North



W-MRK-001
Date: October 10, 2022
Description: PEM Category I Facing West



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-001
Date: October 10, 2022
Description: PEM Category I Facing South



W-MRK-001
Date: October 10, 2022
Description: PEM Category I Facing East



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-001
Date: October 10, 2022
Description: PEM Category I Facing Soil



W-MRK-001
Date: October 10, 2022
Description: PSS Category I Facing North



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-001
Date: October 10, 2022
Description: PSS Category I Facing West



W-MRK-001
Date: October 10, 2022
Description: PSS Category I Facing South



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-001
Date: October 10, 2022
Description: PSS Category I Facing East



W-MRK-001
Date: October 10, 2022
Description: PSS Category I Facing Soil



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No. 60693885
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W-MRK-002
Date: October 10, 2022
Description: PEM Category I Facing North



W-MRK-002
Date: October 10, 2022
Description: PEM Category I Facing West



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No. 60693885
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W-MRK-002
Date: October 10, 2022
Description: PEM Category I Facing South



W-MRK-002
Date: October 10, 2022
Description: PEM Category I Facing East



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-002
Date: October 10, 2022
Description: PEM Category I Facing Soil



W-MRK-003
Date: October 10, 2022
Description: PEM Category I Facing North

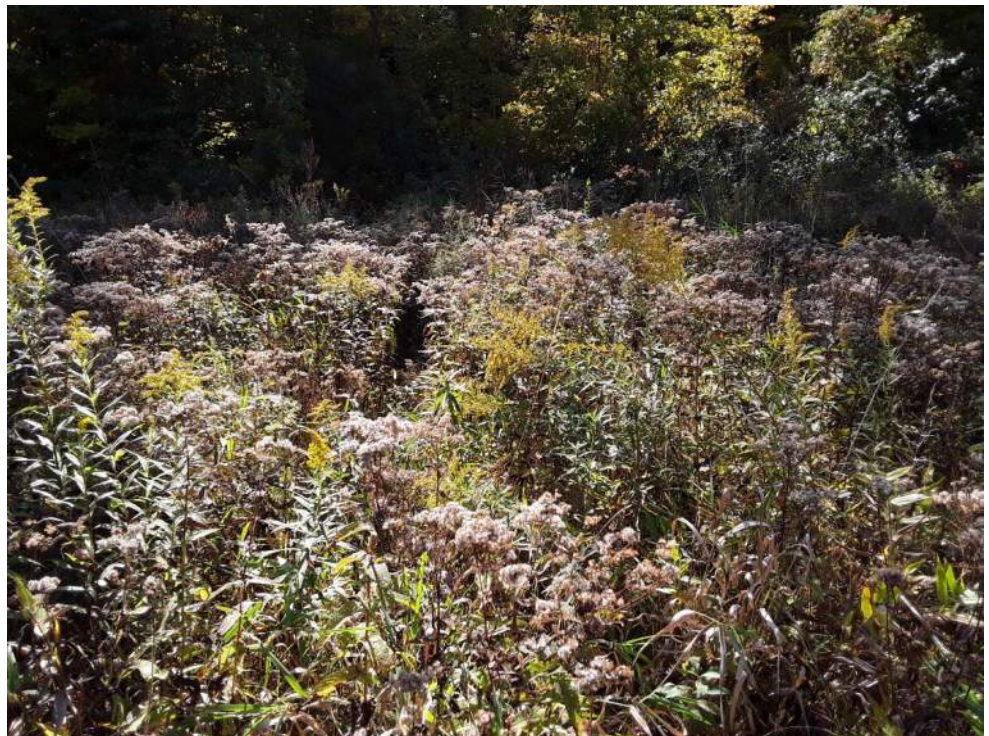


Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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W-MRK-003
Date: October 10, 2022
Description: PEM Category I Facing West



W-MRK-003
Date: October 10, 2022
Description: UPL Category I Facing South



Client Name:

AEP

Site Location:

Hedding Switch Install Projects

Project No.

60693885

W-MRK-003

Date:

October 10, 2022

Description:

PEM

Category I

Facing East



W-MRK-003

Date:

October 10, 2022

Description:

PEM

Category I

Facing Soil



APPENDIX B
OEPA STREAM DATA FORM
DELINEATED FEATURE PHOTOGRAPHS (STREAM)



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3)

13

SITE NAME/LOCATION Hedding Switch Install Projects
 SITE NUMBER S-MRK-001 RIVER BASIN Muskingum River RIVER CODE N/A DRAINAGE AREA (mi²) 0.001
 LENGTH OF STREAM REACH (ft) 112 LAT 40.41211 LONG -82.65615 RIVER MILE 2.0
 DATE 10/10/22 SCORER MRK, RBL COMMENTS Stream bank stability is stable, only minor erosion

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
surface water channel begins in ROW and drains north to a forested area

<p>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</p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td>0%</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td>30%</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (>256 mm) [16 pts]</td> <td>0%</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>0%</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>15%</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>30%</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>15%</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> SAND (<2 mm) [6 pts]</td> <td>10%</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>0%</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 15.00% (A) 3 (B) 5 Substrate Percentage Check 100%</p> <p>SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: 5</p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	30%	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	0%	<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	15%	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	30%	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	15%	<input type="checkbox"/> MUCK [0 pts]	0%	<input type="checkbox"/> SAND (<2 mm) [6 pts]	10%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%	<p>HHEI Metric Points Substrate Max = 40</p> <p>8</p> <p>A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> Bldr Slabs [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	30%																											
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	0%																											
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<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	15%	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	30%																											
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	15%	<input type="checkbox"/> MUCK [0 pts]	0%																											
<input type="checkbox"/> SAND (<2 mm) [6 pts]	10%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%																											
<p>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):</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> > 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 22.5 - 30 cm [30 pts]</td> <td><input type="checkbox"/> < 5 cm [5pts]</td> </tr> <tr> <td><input type="checkbox"/> > 10 - 22.5 cm [25 pts]</td> <td><input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS <u>No flow</u> MAXIMUM POOL DEPTH (centimeters): 0.00</p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p>Pool Depth Max = 30</p> <p>0</p>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																													
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5pts]																													
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input checked="" type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																													
<p>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> > 4.0 meters (> 13') [30 pts]</td> <td><input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]</td> <td><input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS <u>BF = 2.5 ft; OHWM = 2.0 ft</u> AVERAGE BANKFULL WIDTH (meters) 0.76</p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p>Bankfull Width Max=30</p> <p>5</p>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																													
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input checked="" type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																													
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																														

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)		FLOODPLAIN QUALITY (Most Predominant per Bank)	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

COMMENTS _____

FLOW REGIME (At Time of Evaluation) (Check ONLY one box):

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (ephemeral)

COMMENTS _____

SINUOSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input checked="" type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

<input type="checkbox"/> Flat (0.5 ft/100 ft)	<input checked="" type="checkbox"/> Flat to Moderate	<input type="checkbox"/> Moderate (2 ft/100 ft)	<input type="checkbox"/> Moderate to Severe	<input type="checkbox"/> 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: Mile Run Distance from Evaluated Stream 2.00
 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: Chesterville NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____
County: Morrow Township/City: South Bloomfield Township

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 10/08/22 Quantity: 0.10
Photo-documentation Notes: _____
Elevated Turbidity? (Y/N): N Canopy (% open): 85
Were samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): _____
Field Measures: Temp (°C) _____ Dissolved Oxygen (mg/l) _____ pH (S.U.) _____ Conductivity (umhos/cm) _____
Is the sampling reach representative of the stream (Y/N) Y If not, explain: _____

Additional comments/description of pollution impacts: _____

Overall Stability of BOTH Stream Banks (check one): Stable Moderately Stable Unstable

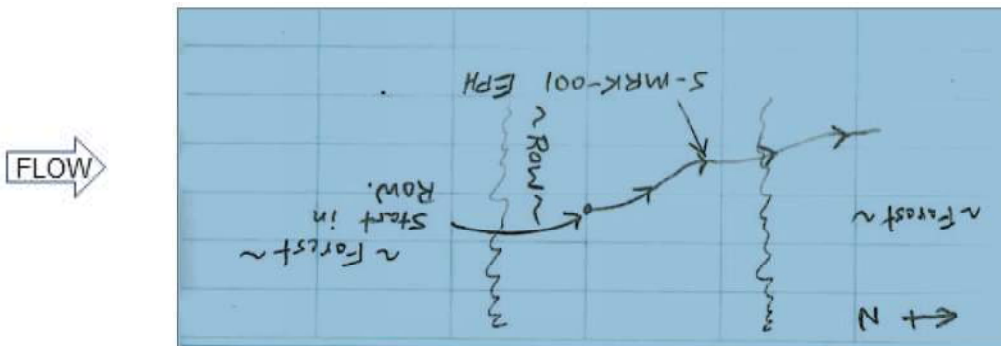
BIOLOGICAL OBSERVATIONS

(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: _____

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location



Client Name: AEP	Site Location: Hedding Switch Projects	Project No.: 60693885
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S-MRK-001
Date: October 10, 2022
Description: Ephemeral UNT to Mile Run Modified Class I PHW Facing Upstream



S-MRK-001
Date: October 10, 2022
Description: Ephemeral UNT to Mile Run Modified Class I PHW Facing Downstream



Client Name: AEP	Site Location: Hedding Switch Projects	Project No. 60693885
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S-MRK-001
Date: October 10, 2022
Description: Ephemeral UNT to Mile Run Modified Class I PHW Facing Substrate



APPENDIX C
HABITAT PHOTOGRAPHIC RECORD

Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
----------------------------	--	---------------------------------

Photo Location 1	
Date: October 10, 2022	
Description: PEM Wetland Facing East	

Photo Location 2	
Date: October 10, 2022	
Description: Old Field Facing West	

Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
----------------------------	--	---------------------------------

Photo Location 3

Date:
October 10, 2022

Description:
Urban Area
Existing Morrow Co-Op Substation
Facing West



Photo Location 4

Date:
October 10, 2022

Description:
Pasture/Hay Field
Facing North



Client Name: AEP	Site Location: Hedding Switch Install Projects	Project No.: 60693885
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Photo Location 5	
Date: October 10, 2022	
Description: Old Field Facing East	

Photo Location 6	
Date: October 10, 2022	
Description: Landscaped Area Facing West	

APPENDIX D
AGENCY COORDINATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / FAX (614) 416-8994



October 12, 2022

Project Code: 2023-0001339

Dear Mr. Miller:

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.

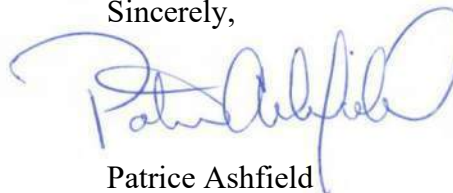
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing 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
Eileen Wyza, ODNR-DOW



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

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

November 9, 2022

Joshua Holmes
AECOM
Foster Plaza 6
681 Anderson Drive, Suite 120
Pittsburgh, Pennsylvania 15220

Re: 22-0992; AEP Hedding Switch Install Projects

Project: The proposed project involves the replacement of the existing Hedding Switch and 0.10-mile of the Hedding Road – Morrow Co-Op 138kV transmission line as well as transmission line activities along the 0.50-mile of the existing West Mount Vernon -North Waldo 138kV transmission line.

Location: The proposed project is located in South Bloomfield Township, Morrow 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. 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 entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state

endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "[OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING](#)". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

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 & NORTHERN LONG-EARED 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 Eileen Wyza 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 Iowa darter (*Etheostoma exile*), a state endangered fish, and 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 these or other aquatic 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, the 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.

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



American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054;
ajtoohey@aep.com

October 7, 2022

Attention: Mr. John Kessler
Ohio Department of Natural Resources
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

Via email: environmentalreviewrequest@dnr.state.oh.us; NHDRequest@dnr.state.oh.us

Reference: Hedding Switch Install Projects, Marrow County, Ohio

- Hedding Switch Replacement and Removal Project
- Hedding Road – Morrow Co-Op 138kV Line Install and Removal Project
- West Mount Vernon – North Waldo Tie-In Project

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) is requesting an Environmental Review and Natural Heritage Database Request for the proposed Hedding Switch Install Projects located in Marrow County, Ohio. The Hedding Switch Install Projects are composed of three components including, Hedding Switch Replacement and Removal Project, Hedding Road – Morrow Co-OP 138kV Line Install and Removal Project, and West Mount Vernon – North Waldo Tie-In Project, referred herein as "Projects". These Projects consist of the replacement of the existing Hedding Switch and 0.10-mile of the Hedding Road – Morrow Co-Op 138kV transmission line as well as transmission line activities along the 0.50-mile of the existing West Mount Vernon – North Waldo 138kV transmission line between Structures 61 and 65 to tie-in the new Hedding Switch. The Projects are located on Chesterville, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on the Project Topographic Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify abandoned underground mines within 0.25-mile of the Projects. The data sources utilized include USGS topographical maps, aerial photography, and ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figure 1 and 2. Based on the available desktop resources, there are no underground and historic surface mines as well as karst features located within 0.25-mile of these Projects. Therefore, potential hibernacula are not anticipated to occur within range of the Projects.

Please provide us with the results of the ODNR's environmental review, including results of the ODNR Natural Heritage Database search, at your earliest convenience. If you have questions or need additional information regarding the Project, please contact me at the phone number or email below. Thank you for your assistance with this request.

BOUNDLESS ENERGY™

Sincerely,



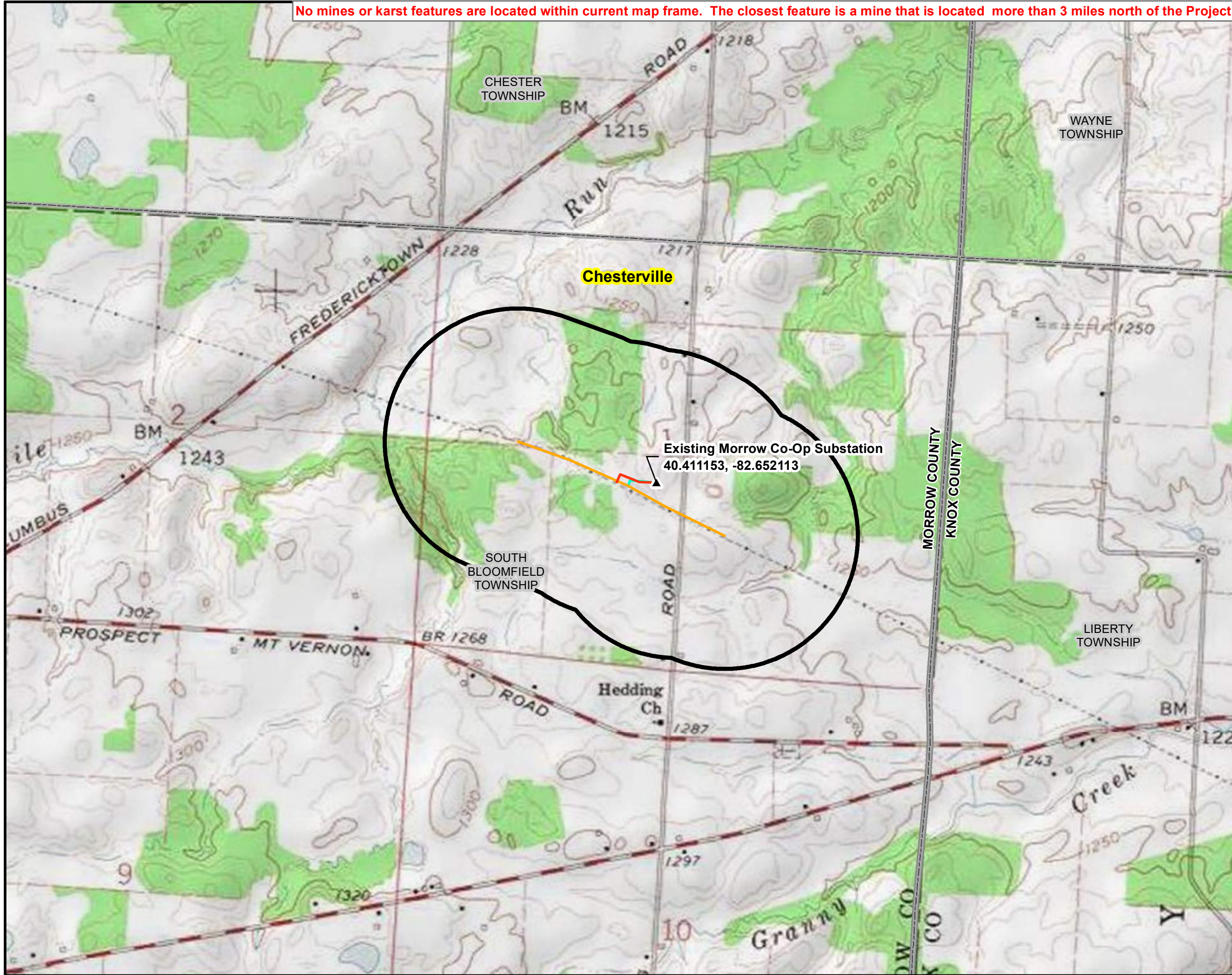
Brian Miller
Project Manager VIII
Phone: (412-667-9172); brian.miller@aecom.com

CC: Amy J. Toohey
Environmental Specialist-Consultant
Phone: (614-565-1480); ajtoohey@aep.com

Attachments: Figure 1 – Topographic Project Overview;
Figure 2 – Aerial Project Overview;
Natural Heritage Data Request Form;
Electronic Shapefiles(.shp)

BOUNDLESS ENERGY™

No mines or karst features are located within current map frame. The closest feature is a mine that is located more than 3 miles north of the Project.



Legend

- ▲ Existing Station
- ▭ Project Quarter Mile Boundary
- Existing Morrow Co-Op 138kV Line
- Proposed Morrow Co-Op 138kV Line
- West Mount Vernon-North Waldo Tie-In
- ▭ Ohio USGS 7.5' Topographic Quadrangle
- ▭ Township Boundary
- ▭ County Boundary

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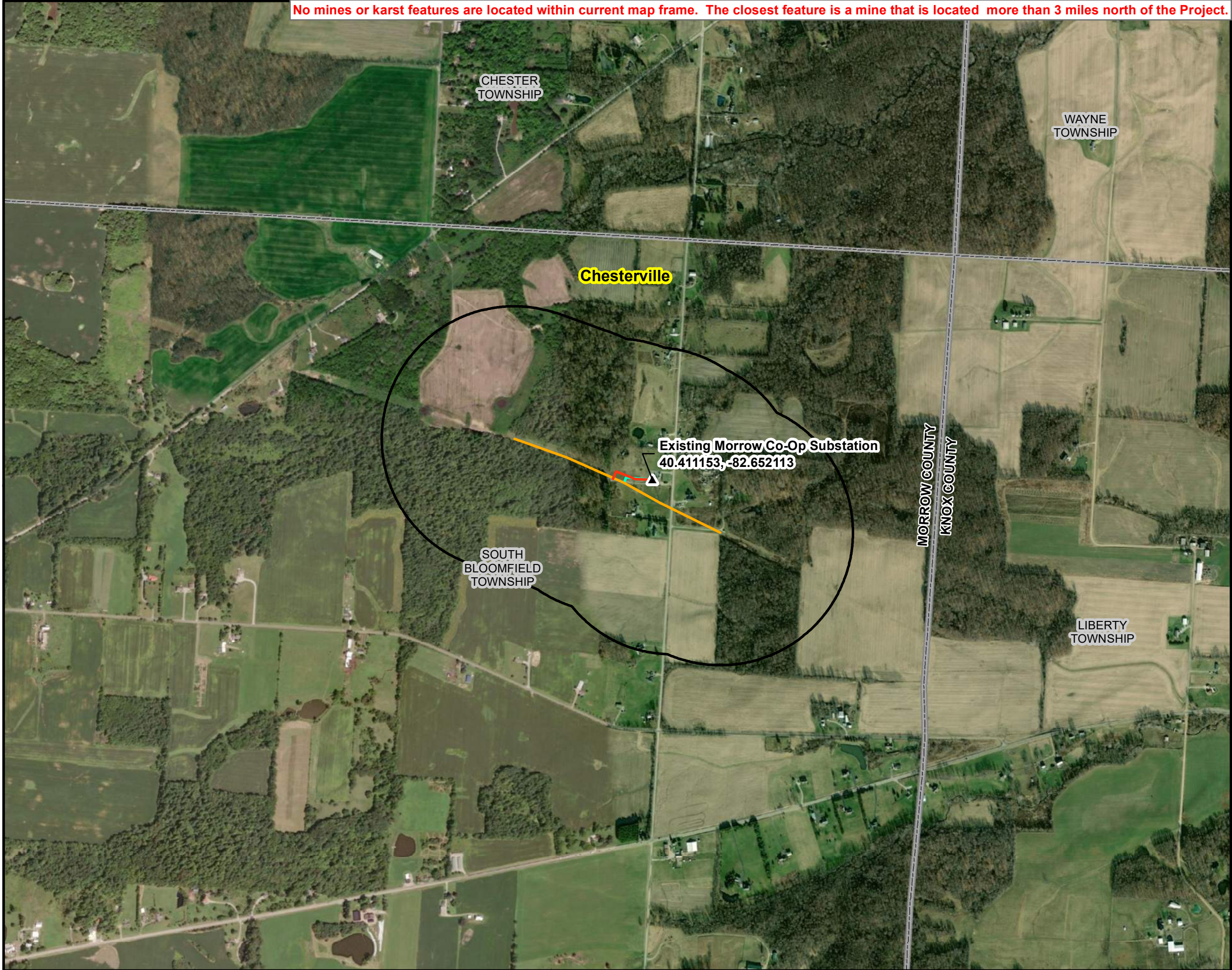


FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 10/7/2022	1 INCH = 1,000 FEET
CREATED BY: JRS	CHECKED BY: JH
JOB NO.: 60693885	AECOM

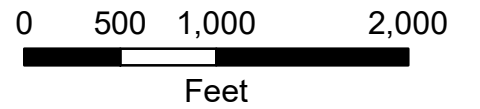
Date Saved: 10/7/2022
Document Path: L:\DCS\GIS\ArcMap_GeoDB_Projects\ENVAEP_Hedding_Station2_MXD\0_Agency\Hedding_Fig1_ProjectOverview.mxd

No mines or karst features are located within current map frame. The closest feature is a mine that is located more than 3 miles north of the Project.



Legend

- ▲ Existing Station
- ▭ Project Quarter Mile Boundary
- Existing Morrow Co-Op 138kV Line
- Proposed Morrow Co-Op 138kV Line
- West Mount Vernon-North Waldo Tie-In
- ▭ Ohio USGS 7.5' Topographic Quadrangle
- ▭ Township Boundary
- ▭ County Boundary



Hedding Switch
Install Projects

FIGURE 2
AERIAL PROJECT OVERVIEW

DATE: 10/7/2022	1 INCH = 1,000 FEET
CREATED BY: JRS	CHECKED BY: JH
JOB NO.: 60693885	AECOM

**This foregoing document was electronically filed with the Public Utilities
Commission of Ohio Docketing Information System on**

6/1/2023 3:53:23 PM

in

Case No(s). 23-0570-EL-BLN

Summary: Letter of Notification Hedding Road Switch and West Mount Vernon-
North Waldo 138 kV Relocation Project electronically filed by Hector Garcia-
Santana on behalf of AEP Ohio Transmission Company, Inc..