# Construction Notice for the Vassell 345 kV Station Upgrades Project



An AEP Company

BOUNDLESS ENERGY"

PUCO Case No. 25-0664-EL-BNR

Submitted to: The Ohio Power Siting Board Pursuant to Ohio Administrative Code Section 4906-6-05

Submitted by: AEP Transmission Company, Inc.

June 23, 2025

# CONSTRUCTION NOTICE FOR VASSELL 345 KV STATION UPGRADES PROJECT

# CONSTRUCTION NOTICE AEP Ohio Transmission Company, Inc. Vassell 345 kV Station Upgrades Project

# 4906-6-05 Accelerated Application Requirements

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

# 4906-6-05(B) General Information

# **B(1)** Project Description

The 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 Construction Notice.

The Company proposes the Vassell 345 kV Station Upgrades Project (the "Project"), in the city of Sunbury and Berkshire Township within Delaware County, Ohio. The Project involves expanding the existing 13.42-acre station by 0.04 acres and upgrading the fencing to accommodate additional 345 kV facilities. The location of the Project is shown in **Figure 1 and 2 in Appendix A**.

The Project meets the requirements for a Construction Notice ("CN") as defined by Item 4 of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

- (4) Constructing additions to existing electric power transmission stations or converting distribution stations to transmission stations where:
  - (a) There is twenty percent or less expansion of the fenced area.

The Project has been assigned Case No. 25-0664-EL-BNR.

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# B(2) Statement of Need

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

The Project is required to address baseline overload issues identified per PJM's 2023 analysis. The New Albany area continues to experience some of the fastest-growing demand within the AEP system. This robust economic development activity is leading to a consistent influx of new customer interconnection requests. The approximate load demand is expected to exceed 2,500 MW by the end of 2027 and is projected to continue growing in the following years. Due to this anticipated customer load, several 345 kV and 138 kV circuits in the area, as well as the 765-138 kV step-down transformer at Maliszweski Station, are expected to exceed their thermal loading capabilities during an outage of the existing 765-345 kV transformer at Vassell Station.

The baseline violations listed above were included in PJM's 2023 RTEP Window #2 to solicit proposal to address the issues identified in the area. After evaluation of the different proposals that were submitted during the window, PJM selected the installation of a second 765-345 kV transformer bank at the Vassell 765 kV yard as the baseline solution to address expected overloads on 765kV, 345kV and 138kV facilities in Central Ohio. The new transformer bank installation will require relocation of the existing 345 kV tie line between the 765 kV and 345 kV yards, as well as installing a new 345 kV tie-line between the yards (Case No. 25-0663-EL-BLN). In addition, the fence will also be upgraded to bring the Vassell 345 kV Station up to current resiliency, safety, operational performance, and reliability standards. The overall project will be a robust solution that will address the identified issues and continue fostering economic development in the area.

Failure to implement the proposed Project in the specified period of time will likely result in PJM implementing operational controls which may include preemptive shedding of a significant amount of load served from the area's transmission and distribution network in order to alleviate the thermal issues associated with the scenario identified above. Although load shedding is an approved PJM operational procedure to control thermal overloads, load shedding is not acceptable from the Company's perspective and directly impacts both large commercial and residential customers in the area. The proposed solution for this baseline identified need is necessary for the Company to continue to provide safe, reliable service to its customers.

In addition, failure to proceed with the proposed projects will jeopardize the ability to meet various customer load expectations (both existing and new customers) and could adversely affect their

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plans in the New Albany area. Furthermore, not advancing this project would negatively impact economic development in the region.

The Project was presented and reviewed with stakeholders between February 2022 and April 2023 in PJM TEAC meetings and subsequently selected as the solution by the PJM Board in the fall of 2024. The Project can be referenced under PJM number of B3852.1.

# B(3) Project Location

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

The location of the Project in relation to existing and proposed transmission lines and the existing Vassell 345 kV Substation is shown on **Figure 1**, in **Appendix A**. **Figure 2**, in **Appendix A**, identifies the Project components on a 2023 aerial photograph.

# **B(4)** Alternatives Considered

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

The Project is entirely located on existing Company property and will result in minimal land impacts in the Project area. The Project will not require impacts to any delineated wetland or streams and requires no tree clearing. Thus, the location of the Project minimizes impacts to the surrounding community and the environment, while optimizing engineering and constructability factors.

### **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 Project will be located entirely within Company owned property, with no additional property owners or tenants affected. The Company maintains a website (<u>http://aeptransmission.com/ohio/)</u> on which an electronic copy of this CN is available. An electronic copy of the CN will be served to the public library in each political subdivision affected by this Project.

# **B(6)** Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed inservice date of the project.

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Construction of the Project is planned to begin in September 2025 with an anticipated in-service date of April 2026.

# B(7) Area Map

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

**Figure 1, in Appendix A**, identifies the location of the Project area on a 2021 United States Geological Survey 1:24,000 Sunbury quadrangle topographic map. **Appendix A, Figure 2** identifies the Project components on a 2023 aerial photograph.

# **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 entire Project is located within existing Company property (Parcel No. 41741401002001).

# **B(9)** Technical Features

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

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

The equipment and facilities to be installed for the Project are anticipated to include the following:

- 7 345 kV circuit breakers
- 1 (1 unit per phase, 3 phases) 765/345 kV transformer
- 2 765 kV circuit breakers
- 1-34.5 kV grounding transformer
- 1 16x18ft DICM expansion

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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.

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

# i) Calculated Electric and Magnetic Field Levels

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

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

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

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

### B(9)(b)(ii)(c) Project Cost

### The estimated capital cost of the project.

The cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately \$16.5 million using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the AEP Ohio Transmission Company Inc.'s FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

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# B(10) Social and Economic Impacts

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

# B(10)(a) Land Use

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

The Project is located in the city of Sunbury and Berkshire Township within Delaware County, Ohio. Land use immediately surrounding the Project is predominantly industrial or agricultural, as classified by the Delaware County Auditor. No occupied residences, schools, parks, churches, cemeteries, wildlife management areas, or nature preserves are located within 1,000 feet of the Project. Additionally, no tree clearing is required for the Project.

# B(10)(b) Agricultural Land Information

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

No properties registered as agricultural district land are located in the Project area based on coordination with the Delaware County Auditor's Office on May 21, 2025. The Project occupies approximately 0.04 acres, all of which has historically existed as vacant industrial land surrounding the existing Vassell 345 kV Station.

### 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 Archaeological and Phase I History/Architectural survey for the Project in May 2025. The Company is recommending to SHPO that the Project would have no adverse effect on historic properties and no further cultural resource work would be necessary. The SHPO response will be submitted to OPSB once received.

### 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.

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A summary of anticipated permits and authorizations for the Project is provided in **Table 1**, below. There are no other known local, state, or federal requirements that must be met prior to commencement of the Project.

Permit/Authorization/Coordination	Agency	Date		
Storm Water Pollution Prevention Plan	Ohio Environmental Protection Agency	Expected August 2025		
Notice Criteria	Federal Aviation Administration	Consultation in progress		
Road Use Maintenance Agreement	Delaware County	3/3/2025		
Archaeology/Architectural	Ohio Historic Preservation Office	Consultation in progress		
Threatened and Endangered Species	United States Fish and Wildlife Service	Consultation complete 4/15/2023		
Threatened and Endangered Species	Ohio Department of Natural Resources	Consultation complete 5/15/2023		

Table 1 –	Anticipated	Permits
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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.

On April 13, 2023, coordination letters were submitted to the United State Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review of the Project for potential impacts to state and/or federally protected species. USFWS and ODNR provided responses on April 14, 2023 and May 15, 2023, respectively. Copies of the agencies' responses are presented in **Appendix C**.

**Table 3**, in **Appendix D** lists the federal and state threatened or endangered species in the Project area.

Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated. No tree clearing is anticipated for the Project. Therefore, no seasonal clearing restrictions for state and federally protected bat species are required during construction.

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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.

Wetland and stream delineation surveys were conducted by the Company's consultant for an approximately 130-acre survey area in April 2023, which encompasses the Project in addition to a larger area (**Appendix D**). The ecological survey identified a total of nine wetlands and one stream; however, none of these resources will be impacted by the proposed station expansion and upgrades.

Based on a review of the Protected Areas Database of the United States as well as the Conservation Easement Database, there are no state or national parks, forests, wildlife areas or mapped conservation easements in the vicinity of the Project.

# B(10)(g) Unusual Conditions

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

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

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Appendix A Project Maps





Appendix B Long Term Forecast Report and PJM Solution

Process Stage: Recommended Solution - Second Read

Criteria: Summer/Winter Generator Deliverability, N-1-1

Assumption Reference: 2023 RTEP assumptions

Model Used for Analysis: 2028 RTEP cases

Proposal Window Exclusion: None

### Problem Statement:

Cluster 3: 2023W2-GD-S186, 2023W2-GD-S141, 2023W2-N2-WT1, 2023W2-N2-ST4, 2023W2-N2-ST2, 2023W2-N1-ST15, 2023W2-N2-ST1, 2023W2-N2-ST30, 2023W2-N2-ST31, 2023W2-N2-WT4, 2023W2-N2-ST7, 2023W2-N2-ST28, 2023W2-N2-ST39, 2023W2-N2-ST37, 2023W2-N2-ST48, 2023W2-N2-ST46

In 2028 RTEP summer case, the Genoa - Westar 138 kV line is overloaded in generator deliverability test for N-2 outages; and in 2028 RTEP summer and winter cases, the Genoa - Westar 138 kV line is overloaded in N-1-1 test for multiple contingency pairs

Cluster 5: 2023W2-N2-ST6, 2023W2-N2-ST5, 2023W2-N1-ST14, 2023W2-GD-S165, 2023W2-N1-ST13, 2023W2-N2-ST3, 2023W2-GD-S135, 2023W2-N2-ST32, 2023W2-N2-ST43, 2023W2-N2-ST22, 2023W2-N2-ST44, 2023W2-N2-ST40, 2023W2-N2-WT5, 2023W2-N2-ST8, 2023W2-N2-WT3, 2023W2-N2-ST17, 2023W2-N2-ST49, 2023W2-N2-ST18, 2023W2-N2-ST13, 2023W2-N2-ST25, 2023W2-N2-ST47, 2023W2-N2-ST24

In 2028 RTEP summer case, the Maliszewski - Polaris 138 kV line is overloaded in generator deliverability test and basecase analysis test for N-2 outages; and in 2028 RTEP summer and winter cases,

the Maliszewski - Polaris 138 kV line is overloaded in N-1-1 test for mwww.ejm.comd.Public.ars

# **AEP Transmission Zone: Baseline** 2023 RTEP Window 2 Clusters 2, 3 & 5



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# AEP Transmission Zone: Baseline 2023 RTEP Window 2 Clusters 2, 3 & 5

# Problem Statement (Conti.):

Single floaters:

2023W2-N2-ST50, 2023W2-N2-ST9, 2023W2-N2-ST16, 2023W2-N2-ST34, 2023W2-N2-ST45 In 2028 RTEP summer case, the Genoa – Spring Road138 kV line is overloaded in N-1-1 test for multiple contingency pairs.

2023W2-N2-ST11, 2023W2-N2-ST41, 2023W2-N2-WT8, 2023W2-N2-ST10, 2023W2-N2-WT7, 2023W2-N2-ST36, 2023W2-N2-ST12, 2023W2-N2-ST23, 2023W2-N2-ST14

In 2028 RTEP summer and winter cases, the Polaris - Westar 138kV line is overloaded in N-1-1 test for multiple contingency pairs.

### Cluster 2: All of the above (cluster 3 &5, and single floaters), plus

2023W2-N1-ST21, 2023W2-N1-ST20, 2023W2-N1-ST23, 2023W2-N1-ST22, 2023W2-N1-ST25, 2023W2-N1-ST24, 2023W2-N1-ST27, 2023W2-N1-ST26, 2023W2-N1-ST19, 2023W2-N2-ST33, 2023W2-N2-ST38, 2023W2-N2-ST35, 2023W2-GD-S170, 2023W2-N1-ST10, 2023W2-N1-ST12, 2023W2-N1-ST16, 2023W2-N1-ST18, 2023W2-N1-ST17, 2023W2-N1-ST1, 2023W2-N2-ST21, 2023W2-N1-ST3, 2023W2-N1-ST2, 2023W2-N2-ST20, 2023W2-N1-ST5, 2023W2-N1-WT1, 2023W2-N1-ST4, 2023W2-N1-ST7, 2023W2-N1-WT3, 2023W2-N1-ST6, 2023W2-N1-WT2, 2023W2-N2-ST29, 2023W2-N2-ST27, 2023W2-N2-ST26, 2023W2-GD-S4, 2023W2-GD-S3, 2023W2-N2-WT6, 2023W2-GD-W154, 2023W2-GD-W155, 2023W2-GD-W153, 2023W2-GD-W156, 2023W2-GD-S115, 2023W2-GD-S114, 2023W2-N2-ST42, 2023W2-GD-S6, 2023W2-GD-W162, 2023W2-GD-W165, 2023W2-GD-W163, 2023W2-GD-W164, 2023W2-GD-S122, 2023W2-GD-S121, 2023W2-GD-S123, 2023W2-GD-S126, 2023W2-GD-S125, 2023W2-GD-S116, 2023W2-GD-W59, 2023W2-GD-W58, 2023W2-GD-S122, 2023W2-GD-S121, 2023W2-GD-S123, 2023W2-GD-S126, 2023W2-GD-S125, 2023W2-GD-S116, 2023W2-GD-W59, 2023W2-GD-W58, 2023W2-N1-WT10, 2023W2-N1-WT13, 2023W2-N1-WT14, 2023W2-N1-WT12, 2023W2-GD-W213, 2023W2-N2-WT2, 2023W2-GD-W214, 2023W2-N2-ST3, 2023W2-GD-W215, 2023W2-GD-W215, 2023W2-GD-W213, 2023W2-GD-W214, 2023W2-N2-ST3, 2023W2-GD-W215, 2023W2-GD-S127, 2023W2-N1-WT5, 2023W2-GD-W214, 2023W2-N1-WT4, 2023W2-GD-W215, 2023W2-GD-S127, 2023W2-N1-ST9, 2023W2-N1-ST8, 2023W2-N1-WT4, 2023W2-N1-WT7, 2023W2-N1-WT6, 2023W2-N1-WT9, 2023W2-N1-WT8, 2023W2-N2-ST19, 2023W2-N2-ST15, 2023W2-GD-W19, 2023W2-GD-W19, 2023W2-N1-WT7, 2023W2-N1-WT6, 2023W2-N1-WT9, 2023W2-N1-WT8, 2023W2-N2-ST11, 2023W2-N2-ST19, 2023W2-N2-ST15, 2023W2-GD-W19, 2023W2-GD-W19, 2023W2-N2-ST19, 2023W2-N2-ST15, 2023W2-GD-W19, 2023W2-GD-W25

In 2028 RTEP summer and winter cases, Maliszewski transformer 765/138KV transformer and Maliszewski 138kV series reactor bypass are overload in generator deliverability test and basecase analysis test for N-1 and N-2 outages.

In 2028 RTEP Summer case, the Morse – Spring Road 138kV line, the Marysville – Hyatt 345kV line, the Hyatt – Vassell 345kV line, the Hyatt – Maliszewski #2 138kV line, the Genoa – Maliszewski 138kV #2 line are overloaded in N-1-1 test for multiple contingency pairs.

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# AEP Transmission Zone: Baseline 2023 RTEP Window 2 Clusters 2, 3 & 5



# Appendix C Agency Correspondence



# **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



April 14, 2023

Project Code: 2023-0066336

Dear Mr. Holmes:

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened, endangered, and proposed 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 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  $\geq 3$  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 longeared bats hibernate in caves, rock crevices and abandoned mines.

<u>Federally Proposed Species</u>: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

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

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared 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.

<u>Section 7 Coordination</u>: 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.

<u>Stream and Wetland Avoidance</u>: 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 (<u>https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf</u>). 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, Environmental Services Administrator, at (614) 265-6387 or at <u>mike.pettegrew@dnr.ohio.gov</u>.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <u>ohio@fws.gov</u>.

Sincerely,

ah

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

May 15, 2023

Joshua Holmes AECOM 707 Grant Street, 5th Floor Pittsburgh, Pennsylvania 15219

Re: 23-0397; AEP Vassell 765kV and 345kV Transformer and Site Hardening Projects

**Project:** The proposed project involves expanding the existing 345kV yard and 765kV yard, installing a 0.3-mile greenfield 345kV transmission line to connect the existing 345kV and 765kV yards, and upgrading the existing fence at the 345kV yard.

Location: The proposed project is located in Trenton Township, Delaware 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 endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats

predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "*OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING*". 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 "<u>RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES</u>." 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.

This project is within the range of the following listed mussel species. <u>Federally Endangered</u> rayed bean (*Villosa fabalis*) snuffbox (*Epioblasma triquetra*)

<u>Federally Threatened</u> rabbitsfoot (*Quadrula cylindrica cylindrica*)

<u>State Threatened</u> Salamander Mussel (*Simpsonaias ambigua*) pondhorn (*Uniomerus tetralasmus*)

Due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these or other mussel species.

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

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 <u>local floodplain administrator</u> 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 <u>mike.pettegrew@dnr.ohio.gov</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator Appendix D Ecological Report

# VASSELL 765KV AND 345KV TRANSFORMER AND SITE HARDENING PROJECTS DELAWARE COUNTY, OHIO

# **ECOLOGICAL REPORT**

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



Prepared by:



525 Vine Street, Suite 1800 Cincinnati, Ohio 45202

Project #: 60706418, 60706424 and 60706428

December 2023

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# 1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing the Vassell 765 kilovolt (kV) and 345kV Transformer and Site Hardening Projects (Project) in Delaware County, Ohio (OH). The Project consists of three components. The Vassell Station component which consists of the expansion of the existing 345kV yard and 765kV yard for the installation of major equipment and a DICM Expansion module in the 765kV yard at the existing Vassell Substation. The Vassell 765kv – Vassell 345kV Tie Line No. 2 component is to install a new 0.3-mile greenfield 345kV transmission tie line to connect the existing 345kV and 765kV Yards together at the Vassell Station. The final component, Upgrade 345kV Station Fence, is to upgrade the existing fence at the 345kV yard of the existing Vassell Substation due to the expansion of the 345kV substation yard. The Project survey area associated with this Report for the Project is located within the Sunbury, OH United States Geologic Survey (USGS) 7.5-minute topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

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

# 2.0 METHODOLOGY

The field survey was conducted within an entirely AEP Ohio Transco owned parcel, which encompasses the three components of the Project, composing a Project survey area of approximately 130-acres. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, and USGS National Hydrography Dataset (NHD), Federal Management Agency (FEMA) 100-year floodplain data FEMA, and USGS 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland and/or stream areas.

Field survey activities included recording the physical boundaries of observed water features using submeter 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 United States Army Corps of Engineers (USACE) *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) *and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE, 2010).

During field survey activities AECOM utilized the routine on-site delineation method described in the *1987 Manual* and *Regional Supplement* 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.

# 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 used for the classification.

# 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* (QHEI) (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 square mile (259ha), and a maximum depth of natural pools equal to or less than 15.75 inches were evaluated utilizing the Headwater Habitat Evaluation Index (HHEI) methodology; all other streams were assessed utilizing QHEI methodology. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manual (OEPA, 2020) or by AECOM's professional opinion.

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 based on whether it may be ineligible for coverage under Ohio EPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2017). Mapping provided by OEPA illustrate the eligibility of streams in the area to fall under the Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. 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 WQC determined by the watershed category. The three categories are defined as:

*Eligible*: Streams within the watershed are eligible for coverage under OEPA's WQC 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 WQC 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 OEPA's 401 WQC 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 OH State WQC of the 2017 Nationwide Permit Reauthorization.

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# 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 WOTUS except in certain circumstances, such as relocated streams.

# 2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a 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. Agencyidentified 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 A**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and USGS websites.

Vassell 765kV and 345kV Transformer and Site Hardening Projects

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# 3.0 RESULTS

On April 12 and 13, 2023, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. During the delineation, within the Project survey area, AECOM delineated nine wetlands, one stream, and six UDFs. The delineated features are discussed in detail in the following sections.

# 3.1 WETLAND DELINEATION

# 3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, six map units are mapped within the Project survey area (USDA NRCS, 2021b). Of these, one soil map unit is identified as hydric, and four soil map units contain hydric inclusions (USDA NRCS, 2021a). Soils indicated as hydric inclusions are not predominately hydric soils and hydric soils are more likely to be found in topographic settings, **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**.

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Amanda	AmD2	Amanda silt loam, 12 to 18 percent slopes, eroded	Ground moraines, end moraines	No	None
Poppington	BeA	Bennington silt loam, 0 to 2 percent slopes	Ground moraines, end moraines	No*	Condit 5% Pewamo, low carbonate till 3%
Bennington	BeB	Bennington silt loam, 2 to 6 percent slopes	End moraines, ground moraines	No*	Pewamo, low carbonate till 3% Condit 3%
Contorburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Ground moraines, end moraines	No*	Condit 4% Marengo 3%
Centerburg	Cen1C2	Centerburg silt loam, 6 to 12 percent slopes, eroded	End moraines, ground moraines	No*	Condit 4%
Pewamo	PwA	Pewamo silty clay loam, 0 to 1 percent slopes	Drainageways on till plains, depressions on till plains	Yes	Pewamo 85% Minster 6%

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

No\* = Hydric inclusions

# 3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area contains no mapped NWI wetlands. The locations of NWI mapped wetlands in the Project vicinity are shown on **Figure 2**.

# 3.1.3 DELINEATED WETLANDS

During the field survey on April 12-13, 2023, AECOM delineated six PEM wetlands (W-MRK-001, W-MRK-002, W-MRK-004, W-MRK-007, W-MRK-008, and W-MRK-009), two PEM/PUB wetland complexes (W-

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MRK-003, and W-MRK-006), and one PEM/PFO wetland complex (W-MRK-005) within the Project survey area. Each of the identified wetlands were assessed as an ORAM Category 1 wetlands. No Category 2 or Category 3 wetlands were identified within the Project survey area. The AECOM delineation boundaries are provided on **Figures 2** and **3**.

All the wetlands within the Project survey area were determined to be isolated, by AECOM. Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. The location and approximate extent of the wetland identified within the Project survey area is shown on **Figure 3**. Details for the delineated wetlands in the Project survey area are provided in **Table 2**. Completed USACE data forms and photographs of the wetlands are provided in **Appendix B**. There is a potential of some of the delineated wetland features to change from wetlands into engineered stormwater features. However, at time of delineation these were called out as wetlands.

Wetland ID	Location				Delineated	ORAM		Nearest	Existing Structure	Structure	Proposed Impacts	
	Latitude	Longitude	Isolated?	Habitat Type	Area (acre)	Score	Category	Structure # (Existing / Proposed)	in Wetland	Installation Method	Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-MRK-001	40.23085	-82.85491	Yes	PEM	0.03	12	1	N/A	None	N/A	TBD	TBD
W-MRK-002	40.22864	-82.85490	Yes	PEM	0.28	21	1	N/A	None	N/A	TBD	TBD
	40.22829	-82.85488	Mar	PEM	PEM 1.12		1	N/A	None	N/A	TBD	TBD
W-MRK-003	40.22771	-82.85483	Yes	PUB	0.37	21	1	N/A	None	N/A	TBD	TBD
W-MRK-004	40.22803	-82.85580	Yes	PEM	0.10	21	1	N/A	None	N/A	TBD	TBD
	40.22712	-82.85578	Yes	PEM	0.20	21	1	N/A	None	N/A	TBD	TBD
W-MRK-005	40.22670	-82.85574		PFO	0.17		1	N/A	None	N/A	TBD	TBD
	40.22806	-82.85003	Yes	PEM	2.07	40	1	N/A	None	N/A	TBD	TBD
W-MRK-006	40.22835	-82.84936		PUB	0.11	18	1	N/A	None	N/A	TBD	TBD
W-MRK-007	40.22910	-82.85014	Yes	PEM	0.65	18	1	N/A	None	N/A	TBD	TBD
W-MRK-008	40.23036	-82.85068	Yes	PEM	1.04	15	1	N/A	None	N/A	TBD	TBD
W-MRK-009	40.23133	-82.84397	Yes	PEM	0.24	13	1	N/A	None	N/A	TBD	TBD
Total:					6.38						TBD	TBD

# TABLE 2 - SUMMARY OF DELINEATED WETLANDS WITHIN THE PROECT SURVEY AREA

# 3.2 STREAM DELINEATION

During the field survey on April 12-13, 2023, AECOM delineated one intermittent stream, S-MRK-001, within the Project survey area. The intermittent stream was assessed using the HHEI evaluation form. S-MRK-001 was classified as a Modified Class 2 PHW. A summary of the delineated stream is provided below in **Table 5**. Photographs of the delineated stream resource are provided in **Appendix C**.

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 3**. Stream data forms and photographs of each delineated stream resource are provided in **Appendix C**.

Location		ation Stream Or Number			Delineated Bankfull OHW				Field Evaluation			Ohio EPA Stream	Proposed Impacts	
Stream ID	Latitude	Longitude	Туре	Stream Name	Length (feet)	Width (feet)	Width (feet)	Method	Score	Classification / Rating / OAC Designation	401 Eligibility	Stream Crossing?	Fill Type	Length (LF)
S-MRK-001	40.22951	-82.84427	Intermittent	UNT to Big Walnut Creek	572.06	4	1.5	HHEI	47	Modified Class II PHW	Eligible	None	-	-

### TABLE 3 - SUMMARY OF DELINEATED STREAMS WITHIN THE PROJECT SURVEY AREA

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AECOM

# 3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs within one watershed, Prairie Rub-Big Walnut Creek (HUC-12 050600011306) that is designated as 401 WQC Eligible. OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**.

# 3.3 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2** (FEMA 2017). No regulated FEMA 100-year floodplains and/or floodways are located within the Project survey area.

# 3.4 PONDS

During the field survey, AECOM did not identify any ponds within the Project survey area.

# 3.5 UPLAND DRAINAGE FEAUTURES

During the field survey, six UDFs were identified within the Project survey area. The extend of the UDFs is displayed on **Figures 2** and **3** and photographs are provided in **Appendix D**.

# 3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field survey. As described in Table 5 below, the Project area contains old field, urban, woodlands, and stream/wetlands. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**. Representative photographs of the vegetative communities in the Project survey area are provided as **Appendix E**.

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Old Field	Grassland and/or herbaceous cover alongside roads, field borders, and abandoned fields, as the initial stages of recolonization by plants following disturbance, and are infrequently mowed areas dominated by grasses, forbs, and occasional woody species. 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.	78.89	60.54%
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.	41.85	32.12%
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	6.27	4.81%
Woodlands	Woodlands are present along the Project survey area. The dominant tree species was red maple ( <i>Acer rubrum</i> ) and dominant shrub-layer species was quaking aspen ( <i>Populus tremuloides</i> ).	3.29	2.52%
	Totals:	130.3	100%

# TABLE 5- VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

# 3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

# Protected Species Agency Consultation -

On April 13, 2023, coordination letters were sent to USFWS and the ODNR Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species.

Responses were received from the USFWS on April 14, 2023, and from the ODNR on May 15, 2023. According to a response letter received from the USFWS, three federally listed bat species were identified within range of the Project area. Regarding state threatened and endangered species that may occur within the Project vicinity, ten species were listed by the ODNR.

Correspondence letters from the USFWS and ODNR for Project are included as **Appendix F. Table 6** 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 are provided as **Appendix E**.

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ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA									
Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts		
Mammals									
Indiana Bat ( <i>Myotis sodalis</i> )	Endangered	Endangered	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. <u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, the existing land use is composed of two existing station sites, old fields, streams/wetlands, and non- contiguous woodlands. It's unlikely this Project survey area is suitable for bat roosting trees. <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance)*.	April 1 – September 30	Summer habitat         ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30).         Hibernaculum(a)         The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is not present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. <u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.		
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Endangered	Endangered	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. <u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	<u>Summer habitat</u> Within the Project survey area, the existing land use is composed of two existing station sites, old fields, streams/wetlands, and non- contiguous woodlands. It's unlikely this Project survey area is suitable for bat roosting trees. <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). <u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is not present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. <u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.		
Little brown bat ( <i>Myotis lucifugus</i> )	Endangered	NA	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. <u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, the existing land use is composed of two existing station sites, old fields, streams/wetlands, and non- contiguous woodlands. It's unlikely this Project survey area is suitable for bat roosting trees. <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). <u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2023 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is not present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. <u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.		

TABLE 3 ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

 TABLE 3

 ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

	ODAK AND OSFWS LISTED SPECIES							
Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments		
Tricolored bat ( <i>Perimyotis subflavus</i> )	bat bflavus) Endangered Proposed Du hibern		Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. <u>Hibernaculum(a)</u> During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, the existing land use is composed of two existing station sites, old fields, streams/wetlands, and non- contiguous woodlands. It's unlikely this Project survey area is suitable for bat roosting trees. <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2023 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Da Clearing Activities (April 1 – September 30). <u>Hibernaculum(a)</u> The ODNR DOW recommends a desktop habitat assessme conducted to identify potential hibernacula within 0.25 miles of area. If habitat assessment finds potential hibernaculum wi miles, a revised seasonal tree clearing restriction (March 15 to 15) is recommended (2023 Joint Guidance)*. If absence or no or subsurface impacts are proposed, the Project is not likely to species.		
		1		Mussel	Is			
Pondhorn ( <i>Uniomerus</i> <i>tetralasmus</i> )	Threatened	None	Perennial Streams	No perennial streams present.	N/A	Due to the location, and there is no in-water work proposed in stream, this Project is not likely to impact this specie		
Rabbitsfoot ( <i>Quadrula cylindrica</i> <i>cylindrica</i> )	Threatened	Threatened	Perennial Streams	No perennial streams present.	N/A	Due to the location, and there is no in-water work proposed in stream, this Project is not likely to impact this specie		
Rayed bean ( <i>Villosa fabalis</i> )	Endangered	Endangered	Perennial Streams	No perennial streams present.	N/A	Due to the location, and there is no in-water work proposed in stream, this Project is not likely to impact this specie		
Salamander mussel (Simpsonaias ambigua)	Threatened	None	Perennial Streams	No perennial streams present.	N/A	Due to the location, and there is no in-water work proposed in stream, this Project is not likely to impact this specie		
Snuffbox ( <i>Epioblasma triquetra</i> )	Endangered	Endangered	Perennial Streams	No perennial streams present.	N/A	Due to the location, and there is no in-water work proposed in stream, this Project is not likely to impact this specie		
				Birds				
Northern harrier ( <i>Circus hudsonis</i> )	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	Based on field reviews, the Project area consists of existing substations and associated transmission lines and is surrounded by agricultural land and woodlots. Therefore, due to existing development and the absence of contiguous grassland, suitable habitat is absent.	April 15 to July 31	Habitat should be avoided during the bird's nesting period be 15 through July 31. If habitat will not be impacted, this Proje likely impact species.		

	Potential Impacts
Dates for Tree ment to be of the Project within 0.25 to November no tree cutting to impact this	Summer habitat Potential summer roosting habitat is not present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. <u>Hibernaculum(a)</u> No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
in a perennial cies.	No
oetween April oject will not	No

# Protected Species Agency Summary -

Based on general observations during the ecological survey, it is unlikely that suitable bat roosting trees exist within the Project survey area due to the presence of two existing station sites, old fields, streams/wetlands, and non-contiguous woodlands. If tree clearing is required, the ODNR and USFWS recommend implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, northern long-eared bat, and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. If summer tree clearing is needed, additional coordination will be completed with ODNR and the USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2023 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2023 Joint Guidance; **Appendix F**) within 0.25-mile of the Project area and no caves, mines, and/or karst features were identified. As per ODNR and USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25-mile of the Project area. Therefore, no further coordination was necessary with either the ODNR and/or USFWS regarding the listed bat species. Results of the desktop habitat assessment has been included within **Appendix A**.

No impacts are anticipated to occur to any mussel species, as no in-water work is proposed as part of the Project. Additionally, an absence of potential nesting habitat for the northern harrier was determined based on field/desktop review of the Project survey area. The absence of habitat was identified due to the Project area consisting of existing stations and associated transmission lines, as well as being surrounded by agricultural fields and woodlots, which contribute to severely fragmented old field habitat. Therefore, no further coordination regarding the listed bird species is required for this Project.

# 4.0 SUMMARY

The ecological survey of the Project survey area identified a total of nine wetlands and one stream. The wetlands within the Project survey area were all assessed as Category 1 wetlands and determined to be isolated. The identified intermittent stream, UNT to Big Walnut Creek has a HHEI classification of 47. AECOM has preliminary determined that the assessed stream within the Project survey area appear to be jurisdictional (i.e., WOTUS).

The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey area provided in **Figure 3**. Areas that fall outside of the Project survey area were not evaluated in the field and are not included in the reporting of this survey.

Of ten state and/or federally listed threatened or endangered species within range of the Project survey area, four bat species were identified as displaying potential summer roosting habitat and no hibernacula was identified within 0.25 miles of the Project survey area. Due to presence of potential summer roosting habitat for these bat species, it was recommended by the ODNR to complete seasonal tree clearing activities between October 1 and March 31. If seasonal tree clearing cannot be completed, mist net surveys could be completed between June 1 to August 15.

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

### 5.0 REFERENCES

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APPENDIX A

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

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- United Sates Geological Survey (USGS). 2019. 7.5-Minute Topographic Quadrangle Maps for Sunbury, Ohio. 2019 edition. Accessed April 2023
- USGS. 2016. National Hydrography Dataset, Ohio Statewide Geodatabase. Published August 2016. Earth Science Information Center, USGS, Reston, VA.





April 13, 2023

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

Via email: <a href="mailto:environmentalreviewrequest@dnr.state.oh.us">environmentalreviewrequest@dnr.state.oh.us</a>; <a href="mailto:NHDRequest@dnr.state.oh.us">NHDRequest@dnr.state.oh.us</a>; <a href="mailto:NHDRequest@

Reference: Request for Technical Assistance, Vassell 765kv and 345kV Transformer and Site Hardening Projects, Delaware County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a review for the proposed Vassell 765kv and 345kV Transformer and Site Hardening Projects in Delaware County, Ohio. There are three components to this project and the purpose of each is described i below.

The purpose of the Vassell Stations component is to expand the existing 345kV yard and 765kV yard for the installation of major equipment and a DICM Expansion module in the 765kV yard at the existing Vassell Substation. The purpose of the Vassell 765kv – Vassell 345kV Tie Line No. 2 component is to install a new 0.3-mile greenfield 345kV transmission tie line to connect the existing 345kV and 765kV Yards together at the Vassell Station. The final component, Upgrade 345kV Station Fence, is to upgrade the existing fence at the 345kV yard of the existing Vassell Substation due to the expansion of the 345kV substation yard. The Project study area is located on USGS Sunbury, 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 underground voids which could be potential hibernation sites for overwintering bats (hibernacula) within 0.25-miles of the Project area. 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 or karst features located within 0.25-mile of the Project. Therefore, potential hibernacula is not anticipated to occur within the range of the Project area.

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.

Sincerely,

# BOUNDLESS ENERGY

Baan of Mulle

Brian Miller Environmental Project Manager Phone: (412-667-9172) brian.miller1@aecom.com

- Attachments: Figure 1 Topographic Project Overview Figure 2 – Aerial Project Overview Natural Heritage Data Request Form Electronic Shapefiles (.shp)
- Cc: Amy J. Toohey Environmental Specialist-Consultant Phone: (614-565-1480) <u>ajtoohey@aep.com</u>

# BOUNDLESS ENERGY





APPENDIX B

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

# OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

APPENDIX C

# OEPA STREAM DATA FORMS / DELINEATED FEATURES PHOTOGRAPHS (STREAMS)

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Da	te:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling Po	oint:	N-MRK-	001 PEM
Investigator(s): MRK, ACB	_ Section, Towns	ship, Range: S T	4N	R <u>17</u> W		
Landform (hillslope, terrace, etc.): Hillside	L	Local relief (concave, convex, r	ione): conca	ave		
Slope: <u>3.0%</u> / <u>1.7</u> ° Lat.: <u>40.230845</u>	Long.: -{	82.854914		Datum:	NAD83	
Soil Map Unit Name: <u>Cen1B1: Centerburg silt loam, 2 to 6 percent slop</u>		NWI d	lassification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	es 🖲 No 🔿	(If no, explain in Remarks.	)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstanc	es" present?	Ye	es 💿	No 🔿
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?	(If needed, explain any a	nswers in Ren	narks.)		

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

	Hydric Soil Present? Ye	es 💿	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\bullet$ No $\bigcirc$
--	-------------------------	------	-------------------------	---------------------------------------	-----------------------------

Dominant

Remarks:

This PEM wetland is located within a hillside swale that is collecting surface runoff. The wetland extends beyond the current study area and the boundary follows edge of swale.

# **VEGETATION -** Use scientific names of plants.

		— Sn	ecies? -		
Tree Stratum (Plot size: 30' radius )	Absolute % Cove	e Re	I.Strat.	Indicator Status	Dominance Test worksheet:
			Cover	Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC:(A)
2	0		0.0%		Total Number of Dominant
3	0	$\Box$	0.0%		Species Across All Strata: 1 (B)
4	0		0.0%		
5.	0		0.0%	0	Percent of dominant Species
	0	= To	otal Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )					Prevalence Index worksheet:
1	0		0.0%		Total % Cover of: Multiply by:
2.	0		0.0%		OBL species $30 \times 1 = 30$
3.	0		0.0%		FACW species 75 x 2 = $150$
4.	0		0.0%		FAC species $25$ x 3 = $75$
5.	0		0.0%		FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5' radius )	0	= Te	otal Cove	er	UPL species $0 \times 5 = 0$
1. Phalaris arundinacea	75	$\checkmark$	57.7%	FACW	Column Totals: <u>130</u> (A) <u>255</u> (B)
2. Scirpus atrovirens	25		19.2%	OBL	Prevalence Index = $B/A = 1.962$
3. Poa pratensis	25		19.2%	FAC	Hydrophytic Vegetation Indicators:
4. Juncus effusus	5		3.8%	OBL	
5	0		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
6.	0		0.0%		✓ 2 - Dominance Test is > 50%
7.	0		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0		0.0%		data in Remarks or on a separate sheet)
10.	0		0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	130	= Te	otal Cove	er	$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	$\square$	0.0%		
2	0		0.0%		Hydrophytic
2					Vegetation Present? Yes • No ·
	0	= 10	otal Cove	er	Present? Yes VNO
Remarks: (Include photo numbers here or on a separate sh	eet.)				•

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Descript	-		e depth ne				firm the	absence of indicators.)	
Depth		latrix			edox Featu		1.0.07	- Touturo	Domorko
(inches)	Color (m 2.5Y		<u> </u>	Color (moist) 10YR 5/8	<u>%</u> 25	<u>Type<sup>1</sup></u> C	Loc <sup>2</sup>		Remarks
	2.51	4/2	/5	10TK 5/0	25		1*1		
	<u> </u>								
	<u>_</u>			<u>_</u>					
. <u> </u>									
<sup>1</sup> Type: C=Concent	tration, D=	Depletion,	RM=Reduce	ed Matrix, CS=Cove	red or Coate	d Sand Graii	ıs.	Location: PL=Pore Lining. M	I=Matrix.
Hydric Soil Indi								Indicators for Problem	matic Hydric Soils <sup>3</sup> :
Histosol (A1)				_ · ·	ed Matrix (S4	)		Coast Prairie Redox	(A16)
Histic Epipedo	. ,			Sandy Redo	. ,			Dark Surface (S7)	
Hydrogen Sul	,			Stripped Ma	( )			Iron Manganese Mas	sses (F12)
Stratified Lav				_ ,	ky Mineral (F	,		Very Shallow Dark S	. ,
2 cm Muck (A	. ,				ed Matrix (F2	2)		Other (Explain in Re	
	,	rface (A11	)	✓ Depleted Ma	. ,				
Thick Dark Su		•	/	_	Surface (F6)			2	
Sandy Muck	Mineral (S1)	)			ark Surface (I essions (F8)	-7)		<sup>3</sup> Indicators of hydroph wetland hydrology	ytic vegetation and
5 cm Mucky F	Peat or Pea	t (S3)			essions (F8)			unless disturbed	
Restrictive Laye	er (if obser	ved):							
Туре:									
Depth (inches)	):							Hydric Soil Present?	Yes 🖲 No 🔿
Remarks:									
HYDROLOG	Y								
Wetland Hydrol	oav Indica	ators:							
			reauired: ch	neck all that apply)				Secondary Indicat	ors (minimum of two required)
Surface Wate					ined Leaves	(B9)		Surface Soil Ci	
High Water T	• •				auna (B13)	( - )		Drainage Patte	( )
Saturation (A					atic Plants (B	14)		_	ater Table (C2)
Water Marks	(B1)			Hydrogen	Sulfide Odor	(C1)		Crayfish Burro	ws (C8)
Sediment Dep	posits (B2)			Oxidized F	Rhizospheres	on Living Ro	oots (C3)	Saturation Visi	ble on Aerial Imagery (C9)
Drift Deposits	s (B3)			Presence	of Reduced I	ron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat or (	Crust (B4)			Recent Ire	on Reduction	in Tilled Soi	ls (C6)	✓ Geomorphic P	osition (D2)
Iron Deposits	s (B5)			Thin Muck	Surface (C7	)		✓ FAC-Neutral T	est (D5)
Inundation Vi	isible on Ae	rial Image	ry (B7)	Gauge or	Well Data (D	9)			
Sparsely Vege	etated Cond	cave Surfac	ce (B8)	Other (Ex	plain in Rema	arks)			
Field Observation	ons:			\ \					
Surface Water Pre	esent?	Yes 🤇	🔾 No 🖲	Depth (i	nches):				
Water Table Prese	ent?	Yes 🤇	🕨 No C	) Depth (i	nches):	0			
Saturation Present		Yes 🤇	• No C	) Depth (i	nches):	0	Wet	land Hydrology Present?	Yes 🔍 No 🔾
(includes capillary					-	-		c) if available.	
NA	ieu Dala (	suedin g	auge, mon	nitoring well, aeri	ai priotos, f		spections	s, ii avaliaule.	
Remarks:	udrela		run off						
The source of h	iyurology I	s surrace	runoff.						

Project/Site: Vassell Station	City/County: D	elaware		Sampling Dat	:e:12-A	pr-23
Applicant/Owner: AEP		State: OH	Sampling F	Point:	N-MRK-00	LUPL
Investigator(s): MRK, ACB	_ Section, Townsh	iip, Range: S	T <u>4N</u>	R 17W		
Landform (hillslope, terrace, etc.): Ridgetop	Loc	cal relief (concave, convex	, none): conv	/ex		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.230682</u>	Long.:8	2.854797		Datum:	NAD83	
Soil Map Unit Name: <u>Cen1B1: Centerburg silt loam, 2 to 6 percent slop</u>	les	NW	I classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Remark	(S.)			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significantly o	disturbed?	Are "Normal Circumsta	nces" present?	Ye	es 💿 No	0
Are Vegetation , Soil , or Hydrology naturally prol	blematic?	(If needed, explain an	y answers in Re	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ○ No ● Yes ○ No ● Yes ○ No ●	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $\textcircled{ullet}$
Remarks:			

Dominant

Upland data point for W-MRK-001. Upland data was collected within a fallow/old field.

# **VEGETATION -** Use scientific names of plants.

		— Species? -		
<u>Tree Stratum</u> (Plot size: 30' radius )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3		0.0%		Species Across All Strata: <u>2</u> (B)
4	0	0.0%		
5	0	0.0%		Percent of dominant Species That Are OBL EACW or EAC: 50.0% (A/B)
	0	= Total Cove	r	That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)
<u>Sapling/Shrub Stratum (Plot size: 15' radius</u> )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2	0	0.0%		OBL species $0 \times 1 = 0$
3.	0	0.0%		FACW species $0   x 2 = 0$
4.	0	0.0%		FAC species $25$ x 3 = $75$
5.	0	0.0%		FACU species 70 $x 4 = 280$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	r	UPL species $10$ x 5 = $50$
1. Dactylis glomerata	60	57.1%	FACU	Column Totals: <u>105</u> (A) <u>405</u> (B)
2. Poa pratensis	25	23.8%	FAC	Prevalence Index = $B/A = 3.857$
3. Daucus carota	10	9.5%	UPL	
4. Trifolium pratense	10	9.5%	FACU	Hydrophytic Vegetation Indicators:
5	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		2 - Dominance Test is > 50%
7.	0	0.0%		<b>3</b> - Prevalence Index is ≤3.0 $^{1}$
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woodv Vine Stratum (Plot size: 30' radius )	105	= Total Cove	r	$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%		
2.		0.0%		Hydrophytic
	0	= Total Cove		Vegetation Present? Yes O No •
			I	
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Descrip	tion: (Describe to	the depth ne	eded to document t	he indic	ator or con	firm the	absence of indicators.)	
Depth	Matrix			ox Featu				
(inches)	Color (moist)	<u>%</u>	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	25% mixed rock
0-16	10YR 3/3						Silt Loam	
					,			
		n, RM=Reduce	d Matrix, CS=Covered	or Coate	d Sand Grair	s.	Location: PL=Pore Lining.	M=Matrix.
Hydric Soil Ind							Indicators for Proble	ematic Hydric Soils <sup>3</sup> :
Histosol (A1	,		Sandy Gleyed N	•	)		Coast Prairie Redox	k (A16)
Black Histic	. ,		Sandy Redox (S				Dark Surface (S7)	
Hydrogen S	. ,		Stripped Matrix	• •	1)		Iron Manganese M	asses (F12)
Stratified La			Loamy Mucky N				Very Shallow Dark	Surface (TF12)
2 cm Muck (			Depleted Matrix		<u>-</u> )		Other (Explain in R	emarks)
Depleted Be	low Dark Surface (A	11)	Redox Dark Su	• •				
Thick Dark S	Surface (A12)		Depleted Dark				<sup>3</sup> Indicators of hydrop	b. tic
Sandy Muck	Mineral (S1)		Redox Depress		.,		wetland hydrolog	ly must be present,
5 cm Mucky	Peat or Peat (S3)		· · · · · · · · · · · · · · · ·				unless disturbed	or problematic.
Restrictive Lay	er (if observed):							
Туре:								$\mathbf{x}$ $\bigcirc$ $\mathbf{x}$ $\bigcirc$
Depth (inche	s):						Hydric Soil Present?	Yes 🔘 No 🖲
HYDROLOG	β <b>γ</b>							
	logy Indicators:							
	ors (minimum of one	is required; ch	eck all that apply)				Secondary Indica	ators (minimum of two required)
Surface Wat			Water-Staine	d Leaves	(B9)		Surface Soil	
High Water			Aquatic Faun		( )		Drainage Pat	
Saturation (	A3)		True Aquatic	Plants (B	14)		Dry Season \	Water Table (C2)
Water Marks	s (B1)		Hydrogen Su	lfide Odor	· (C1)		Crayfish Burr	rows (C8)
Sediment De	eposits (B2)		Oxidized Rhiz	ospheres	on Living Ro	ots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposi	ts (B3)		Presence of F	Reduced I	ron (C4)		Stunted or S	tressed Plants (D1)
Algal Mat or	Crust (B4)		Recent Iron F	Reduction	in Tilled Soi	s (C6)	Geomorphic	Position (D2)
Iron Deposit			Thin Muck Su	irface (C7	)		FAC-Neutral	Test (D5)
	/isible on Aerial Ima		Gauge or We	ll Data (D	9)			
Sparsely Ve	getated Concave Su	face (B8)	Other (Explai	n in Rema	arks)			
Field Observat	iona					1		
Surface Water Pr		O No 🖲	Depth (inch	es):				
Water Table Pres		○ No ●						
Saturation Prese			Depth (inch	es):		Wet	land Hydrology Present?	Yes 🔾 No 🖲
(includes capillar	V DC	O No O	Depth (inch	es):				
Describe Recor	ded Data (stream	gauge, mon	toring well, aerial p	photos, p	previous ins	pection	s), if available:	
NA								
Remarks:								

No source of hydrology was observed.

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Da	te:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint:	N-MRK-	002 PEM
Investigator(s): MRK, ACB	_ Section, Towr	nship, Range: S	T 4N	R 17W		
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, convex	, none): conc	ave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.228557</u>	Long.:	-82.854923		Datum:	NAD83	
Soil Map Unit Name:BeA: Bennington silt loam, 0 to 2 percent slopes		NW	classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Remark	s.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumsta	nces" present?	Ye	es 💿	No 🔿
Are Vegetation , Soil , or Hydrology naturally pro	blematic?	(If needed, explain any	answers in Rer	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊙ Yes ⊙ Yes ⊙	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\odot$ No $\bigcirc$
Pomarke				

Remarks:

This PEM wetland is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression which also drains to W-MRK-003. Wetland boundary follows edge of depression.

Dominant

### **VEGETATION -** Use scientific names of plants.

		— Species? ·		
_Tree Stratum_(Plot size: 30' radius )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:3 (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 3 (B)
4	0	0.0%		
5.	0	0.0%	0	Percent of dominant Species
	0	= Total Cove	r	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species $60 \times 1 = 60$
3.	0	0.0%		FACW species $25$ x 2 = $50$
4.	0	0.0%		FAC species $40$ x 3 = $120$
5.	0	0.0%		FACU species $0$ x 4 = $0$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $0 \times 5 = 0$
1, Typha angustifolia	50	<b>✓</b> 40.0%	OBL	Column Totals: <u>125</u> (A) <u>230</u> (B)
2. Panicum virgatum	40	32.0%	FAC	Prevalence Index = $B/A = 1.840$
3. Carex vulpinoidea	25	20.0%	FACW	Hydrophytic Vegetation Indicators:
4. Juncus effusus	10	8.0%	OBL	
5.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7.		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	125	= Total Cove		<sup>1</sup> / <sub>-</sub> Indicators of hydric soil and wetland hydrology must
<u>Woodv Vine Stratum</u> (Plot size: <u>30' radius</u> )			:1	be present, unless disturbed or problematic.
1	0	0.0%		
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cove	er 👘	Present? Yes No

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

Profile Descrip	•		e depth ne	eded to a				firm the	absence of indicators.)	
Depth		Matrix		Color (		ox Featu	res Type <sup>1</sup>	1.002	Toxturo	Bomarka
(inches)	Color (m		<u> </u>	Color (		<u>%</u>	C	Loc <sup>2</sup>		Remarks
0-16	2.5Y	5/2		10YR	5/8	25		I*I		
							- <u></u> ,		-	
<sup>1</sup> Type: C=Conce	ntration, D=	Depletion,	RM=Reduce	ed Matrix, (	CS=Covered	d or Coate	d Sand Grai	ns.	Location: PL=Pore Lining. N	1=Matrix.
Hydric Soil Ind	dicators:								Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A1	.)			Sar	ndy Gleyed	Matrix (S4	)		Coast Prairie Redox	-
Histic Epipe	. ,			Sar	ndy Redox (	S5)			Dark Surface (S7)	(A10)
Black Histic	. ,			Stri	pped Matrix	k (S6)			Iron Manganese Ma	scor (E12)
Hydrogen S				Loa	amy Mucky	Mineral (F	1)		Very Shallow Dark S	
Stratified La	, , ,			Loa	amy Gleyed	Matrix (F2	2)			
2 cm Muck (	. ,	wfaca (111	`	🖌 Dej	oleted Matri	ix (F3)			Other (Explain in Re	marks)
Thick Dark S		•	)	_	dox Dark Su	• • •				
	•	,			pleted Dark		-7)		<sup>3</sup> Indicators of hydroph	ytic vegetation and
Sandy Muck Mineral (S1)       Redox Depressions (F8)         5 cm Mucky Peat or Peat (S3)							wetland hydrology unless disturbed			
Restrictive Lay										
Type:		iveu).								
Depth (inche	c).								Hydric Soil Present?	Yes 🖲 No 🔾
Remarks:										
HYDROLOG	Ϋ́									
Wetland Hydro	logy Indica	ators:								
Primary Indicato	ors (minimun	n of one is	required; ch	eck all tha	it apply)				Secondary Indicat	ors (minimum of two required)
Surface Wat				V	Vater-Staine	ed Leaves	(B9)		Surface Soil C	racks (B6)
✓ High Water	Table (A2)			A	quatic Faur	na (B13)			Drainage Patte	erns (B10)
Saturation (	A3)			🗌 т	rue Aquatic	: Plants (B	14)		Dry Season W	ater Table (C2)
Water Marks	s (B1)			Пн	lydrogen Su	Ifide Odor	(C1)		Crayfish Burro	ws (C8)
Sediment De	,			C	xidized Rhi	zospheres	on Living R	oots (C3)	<ul> <li>Saturation Vis</li> </ul>	ible on Aerial Imagery (C9)
Drift Deposi				P	resence of	Reduced I	ron (C4)			essed Plants (D1)
Algal Mat or				R	ecent Iron	Reduction	in Tilled Soi	ls (C6)	Geomorphic P	
Iron Deposit				Т	hin Muck S	urface (C7	)		✓ FAC-Neutral T	est (D5)
Inundation V	Visible on Ae	erial Image	ry (B7)		auge or We	ell Data (D	9)			
Sparsely Ve	getated Con	cave Surfa	ce (B8)	🗌 C	ther (Expla	in in Rema	arks)			
Field Observat	ions:			\ \						
Surface Water Pr	resent?	Yes			Depth (incl	nes):		-		
Water Table Pres	sent?	Yes 🤆	No C	)	Depth (incl	hes):	0	.		<b>M</b>
Saturation Prese		Yes (	No O	)	Depth (incl	hes):	0	Wetl	and Hydrology Present?	Yes 🖲 No 🔾
(includes capillar							-			
Describe Recor	ueu Data (	sueam g	auge, mon	itoring w	en, aerial	prioros, p	nevious in	spections	o, ii avaliadie:	
NA										
Remarks:										
The source of	hydrology	is surface	runoff.							

Project/Site: Vassell Station C	City/County:	Delaware		Sampling Da	te: 12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling F	Point: W-	MRK-002-003 UPL
Investigator(s): MRK, ACB	Section, Town	nship, Range: S	T <u>4N</u>	R _17W	
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, convex,	none): conv	/ex	
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.228431</u>	Long.:	-82.854454		Datum:	NAD83
Soil Map Unit Name: _BeA: Bennington silt loam, 0 to 2 percent slopes		NWI	classification:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	$\odot$ No $\bigcirc$	(If no, explain in Remarks	s.)		
Are Vegetation . Soil , or Hydrology significantly di	listurbed?	Are "Normal Circumstar	ces" present?	Ye	es 🔍 No 🔾
Are Vegetation , Soil , or Hydrology naturally prob	plematic?	(If needed, explain any	answers in Re	marks.)	

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

Hydrophytic Vegetation Present?	$_{\rm Yes}$ $\bigcirc$	No 🖲		
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $\bigcirc$
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿		
Remarks:				

Upland data point for W-MRK-002 and W-MRK-003. Upland data was collected within a fallow/old field.

#### **VEGETATION** - Use scientific names of plants. Dominant Species? Rel.Strat. Indicator **Dominance Test worksheet:** Absolute Tree Stratum (Plot size: 30' radius ) % Cover Cover Status Number of Dominant Species 1. 0 0.0% That are OBL, FACW, or FAC: 1 (A) 2. 0 0.0% Total Number of Dominant 3. 0 0.0% Species Across All Strata: 3 (B) 4. 0 0.0% 5. Percent of dominant Species 0 0.0% 0 33.3% (A/B) That Are OBL, FACW, or FAC: 0 = Total Cover Sapling/Shrub Stratum (Plot size: 15' radius ) Prevalence Index worksheet: 1. 0 0.0% Total % Cover of: Multiply by: 2. 0 0.0% **OBL** species x 1 = 0 0 3. 0 0.0% FACW species 0 x 2 = 0 4. 0 0.0% FAC species 25 x 3 = 75 5. 0 0.0% FACU species 100 x 4 = 400 0 = Total Cover UPL species 0 x 5 = 0 Herb Stratum (Plot size: 5' radius ) 1. Dactylis glomerata 40.0% Column Totals: 125 (A) 475 (B) 50 FACU ✓ 32.0% 2. Festuca arundinacea 40 FACU Prevalence Index = B/A = 3.800 3. Poa pratensis ✓ 20.0% 25 FAC Hydrophytic Vegetation Indicators: 4. Andropogon virginicus 8.0% FACU 10 **1** - Rapid Test for Hydrophytic Vegetation 5. $\square$ 0 0.0% 2 - Dominance Test is > 50% 6. 0.0% 0 **3** - Prevalence Index is $\leq$ 3.0 <sup>1</sup> 7. $\square$ 0 0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide supporting 8. 0 0.0% data in Remarks or on a separate sheet) 9 0 0.0% **Problematic Hydrophytic Vegetation**<sup>1</sup> (Explain) $10^{-}$ 0 0.0% <sup>1</sup> Indicators of hydric soil and wetland hydrology must 125 = Total Cover Woodv Vine Stratum (Plot size: 30' radius be present, unless disturbed or problematic. ) 0 0.0% 1. Hydrophytic 2. 0 0.0% Vegetation Yes 🔘 No 🖲 0 = Total Cover Present?

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

Profile Desc	ription: (Descri	ibe to the d	lepth need	ed to document t	the indic	ator or con	firm the	absence of indicators.)		
Depth		atrix			ox Featu			_		
(inches)	Color (mo	ist) o	<u>%</u> (	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks	
0-16	10YR	3/3 1	.00		-			Silt Loam		
					-					
<sup>1</sup> Type: C=Co	ncentration, D=De	epletion, RM	=Reduced N	latrix, CS=Covered	or Coate	d Sand Grair	ıs.	Location: PL=Pore Lining.	M=Matrix.	
Hydric Soil	Indicators:							Indicators for Proble	ematic Hydric Soils <sup>3</sup> :	
Histosol	(A1)			Sandy Gleyed N	Aatrix (S4	)			-	
Histic Ep	ipedon (A2)			Sandy Redox (S		-		Coast Prairie Redox	(A16)	
Black His	. ,			Stripped Matrix	(S6)			Dark Surface (S7)		
	n Sulfide (A4)			Loamy Mucky N	Mineral (F	1)		Iron Manganese Ma		
	l Layers (A5)			Loamy Gleyed	Matrix (F2	2)		Very Shallow Dark		
2 cm Mu	. ,			Depleted Matrix	k (F3)			Other (Explain in Re	emarks)	
'	Below Dark Surf	ace (A11)		Redox Dark Su	rface (F6)					
	rk Surface (A12)			Depleted Dark	Surface (F	-7)		<sup>3</sup> Indicators of hydrop	hytic vegetation and	
Sandy Muck Mineral (S1) Redox Depressions (F8)						wetland hydrology must be present, unless disturbed or problematic.				
	cky Peat or Peat							unless disturbed	or problematic.	
	Layer (if observ	ed):								
Туре:								Hydric Soil Present?	Yes 🔿 No 🖲	
Depth (in	ches):			_				Hyune Son Present:	res O NO O	
Remarks:										
HYDROL	OGY									
Wetland Hy	drology Indicat	ors:								
	cators (minimum o		uired; check	all that apply)				Secondary Indica	tors (minimum of two required)	
Surface	Water (A1)			Water-Staine	d Leaves	(B9)		Surface Soil C	Cracks (B6)	
	ter Table (A2)			Aquatic Fauna	a (B13)			Drainage Patt		
Saturatio				True Aquatic		L4)			Vater Table (C2)	
Water M	arks (B1)			Hydrogen Su	lfide Odor	(C1)		Crayfish Burr		
Sedimen	t Deposits (B2)			Oxidized Rhiz	ospheres	on Living Ro	oots (C3)	Saturation Vis	sible on Aerial Imagery (C9)	
Drift Dep	oosits (B3)			Presence of F	Reduced I	ron (C4)		Stunted or St	ressed Plants (D1)	
🗌 Algal Ma	t or Crust (B4)			Recent Iron F	Reduction	in Tilled Soi	ls (C6)	Geomorphic I	Position (D2)	
Iron Dep	oosits (B5)			Thin Muck Su	Irface (C7	)		FAC-Neutral	Fest (D5)	
Inundati	on Visible on Aeri	al Imagery (	B7)	Gauge or We						
Sparsely	Vegetated Conca	ive Surface (	B8)	Other (Explai	-	-				
						- /				
Field Obser	vations:									
Surface Wate	r Present?	Yes $\bigcirc$	No 🖲	Depth (inch	ies):					
Water Table	Present?	$_{Yes}$ $\bigcirc$	No 🖲	Depth (inch						
Saturation Pro							Wet	and Hydrology Present?	Yes 🔾 No 🖲	
(includes cap		Yes 🔾	No 🖲	Depth (inch	les):					
Describe Re	corded Data (s	tream gaug	ge, monito	ring well, aerial p	photos, p	revious ins	spections	s), if available:		
NA										

#### Remarks:

No source of hydrology was observed.

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Da	te:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint:	V-MRK-	003 PEM
Investigator(s): MRK, ACB	_ Section, Towr	nship, Range: S	T_4N	R <u>17</u> W		
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, conver	, none): conc	ave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.228288</u>	Long.:	-82.854882		Datum:	NAD83	
Soil Map Unit Name:BeA: Bennington silt loam, 0 to 2 percent slopes		NM	I classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	es 🖲 No 🔾	(If no, explain in Remar	ks.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumsta	nces" present?	Ye	es 💿	No 🔿
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?	(If needed, explain an	y answers in Rer	marks.)		

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

Hydrophytic Vegetation Present?	Yes 🖲	No 🔾		
Hydric Soil Present?	Yes 🖲	No O	Is the Sampled Area within a Wetland?	Yes $\bullet$ No $\bigcirc$
Wetland Hydrology Present?	Yes 🖲	No O		
Remarks:				

This PEM section of a PEM/PUB wetland complex is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression. Wetland boundary follows edge of depression.

Dominant

### **VEGETATION -** Use scientific names of plants.

		— Species? -		
_Tree Stratum_(Plot size: 30' radius )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: <u>3</u> (B)
4	0	0.0%		
5	0	0.0%	0	Percent of dominant Species That Are OBL EACW or EAC: 100.0% (A/B)
	0	= Total Cove	r	That Are OBL, FACW, or FAC:(A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )				Prevalence Index worksheet:
1. Salix nigra	5	✔ 100.0%	OBL	Total % Cover of: Multiply by:
2	0	0.0%		OBL species x 1 =85
3.	0	0.0%		FACW species $10 \times 2 = 20$
4.	0	0.0%		FAC species $50 \times 3 = 150$
5.	0	0.0%		FACU species $0   x 4 = 0$
	5	= Total Cove	r	UPL species $0 \times 5 = 0$
1, Panicum virgatum	40	28.6%	FAC	Column Totals: <u>145</u> (A) <u>255</u> (B)
2. Scirpus cyperinus	35	25.0%	OBL	Prevalence Index = $B/A = 1.759$
3. Typha angustifolia	25	17.9%	OBL	Hydrophytic Vegetation Indicators:
4. Juncus effusus	20	14.3%	OBL	
5. Carex vulpinoidea	10	7.1%	FACW	1 - Rapid Test for Hydrophytic Vegetation
6. Apocynum cannabinum	10	7.1%	FAC	✓ 2 - Dominance Test is > 50%
7.	0	0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	140	= Total Cove		$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
-	0	0.0%		
1 2.	0			Hydrophytic
۷		0.0%		Vegetation
	0	= Total Cove	r	Present? Yes $\bigcirc$ NO $\bigcirc$
Remarks: (Include photo numbers here or on a separate sh	eet.)			•

Profile Descrip	-		lepth need				firm the	absence of indicators.)	
Depth _		atrix			dox Featu		1.0.0?	- Touturo	Domosika
(inches)	<u>Color (mo</u> 2.5Y			Color (moist) 10YR 5/8	<u>%</u> 25	<u>Type<sup>1</sup></u> C	Loc <sup>2</sup>		Remarks
	2.51	J/2	/J				14		
					-				
	ntration D-D			Matrix, CS=Covere	d ar Casta	d Cond Croit		l'acotione DI - Dava Lining N	1_Matrix
Hydric Soil In	•			Matrix, CS=Covere		a Sana Gran	15.	Location: PL=Pore Lining. N	
Histosol (A1				Sandy Gleyed	Matrix (SA	)		Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosof (Al	,			Sandy Gleyed	•	)		Coast Prairie Redox	(A16)
Black Histic	. ,			Stripped Matr	• •			Dark Surface (S7)	
🗌 Hydrogen S	ulfide (A4)			Loamy Mucky	( )	1)		Iron Manganese Ma	sses (F12)
Stratified La	ayers (A5)			Loamy Gleyed	•	,		Very Shallow Dark S	Surface (TF12)
2 cm Muck	. ,			Depleted Mat	•	,		Other (Explain in Re	marks)
	elow Dark Surf	ace (A11)		Redox Dark S	urface (F6)	)			
	Surface (A12)			Depleted Darl	k Surface (I	F7)		<sup>3</sup> Indicators of hydroph	nytic vegetation and
Sandy Muck Mineral (S1)     Redox Depressions (F8)       5 cm Mucky Peat or Peat (S3)								wetland hydrology	must be present,
								unless disturbed	or problematic.
Restrictive Lay	er (if observ	/ed):							
Type:								Hydric Soil Present?	Yes 💿 No 🔿
Depth (inche									
Remarks:									
HYDROLOG	SV.								
	_								
Wetland Hydro								Conneden Indian	
Primary Indicato		or one is rec	juirea; chec			(00)			cors (minimum of two required)
Surface Wa	. ,			Water-Stain		(B9)		Surface Soil C	· · /
Saturation (				True Aquati		14)			ater Table (C2)
Water Mark				Hydrogen S	-			Crayfish Burro	
	eposits (B2)					on Living R	oots (C3)		ible on Aerial Imagery (C9)
				Presence of		-			ressed Plants (D1)
Algal Mat o						in Tilled Soi	ls (C6)	Geomorphic P	
Iron Deposi				Thin Muck S			. ,	✓ FAC-Neutral T	
Inundation	Visible on Aeri	ial Imagery (	(B7)	Gauge or W		-			
Sparsely Ve	getated Conca	ave Surface	(B8)	Other (Expl	ain in Rema	arks)			
						•			
Field Observat	tions:								
Surface Water P	resent?	Yes $\bigcirc$	No 🖲	Depth (ind	ches):				
Water Table Pre	sent?	Yes 🖲	No $\bigcirc$	Depth (ind	ches):	0			
Saturation Prese		Yes 🖲	No 〇	Depth (inc	-hes).	0	Wet	land Hydrology Present?	Yes 🖲 No 🔾
(includes capilla						-		) if pupileble:	
	ueu Data (S	ueam gau	ye, monito	oring well, aerial	priotos, f	Nevious In	spections	s), il avalidDle:	
NA									
Remarks:									

The source of hydrology is surface runoff.

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Dat	te:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint:	N-MRK-	003 PUB
Investigator(s): MRK, ACB	Section, Towns	ship, Range: S	T <u>4N</u>	R 17W		
Landform (hillslope, terrace, etc.): Flat	Lo	ocal relief (concave, convex	none): conc	ave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.227708</u>	Long.:{	82.854827		Datum:	NAD83	
Soil Map Unit Name:BeB: Bennington silt loam, 2 to 6 percent slopes		NW	classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Remark	s.)			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significantly	disturbed?	Are "Normal Circumsta	nces" present?	Ye	es 💿	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally pro	blematic?	(If needed, explain any	answers in Rei	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊙ Yes ⊙ Yes ⊙	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\bullet$ No $\bigcirc$
Remarks:				

This PUB section of a PEM/PUB wetland complex is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression. Wetland boundary follows edge of open water.

Dominant

#### **VEGETATION** - Use scientific names of plants.

		— Species?		-
<u>Tree Stratum</u> (Plot size: 30' radius )	Absolute % Cover	Rel.Strat.		Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		Tabel Number of Demisert
3	0	0.0%		Total Number of Dominant Species Across All Strata: 1 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Sapling/Shrub Stratum (</u> Plot size: <u>15' radius</u> )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species $0 \times 1 = 0$
3	0	0.0%		FACW species $0   x 2 = 0$
4.	0	0.0%		FAC species $25$ x 3 = $75$
5.	0	0.0%		FACU species $0$ x 4 = $0$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $0$ $x 5 = 0$
1 Panicum virgatum	25	✓ 100.0%	FAC	Column Totals: 25 (A) 75 (B)
2.		0.0%		
3.	0	0.0%		Prevalence Index = B/A = <u>3.000</u>
4.		0.0%		Hydrophytic Vegetation Indicators:
5.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7.	0	0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must
Woodv Vine Stratum (Plot size: 30' radius )	25	= Total Cove	er	be present, unless disturbed or problematic.
1	0	0.0%		
2	0	0.0%		Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes No
				1

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

Hydrophytic vegetation is limited to edge of open water.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

	-		ne depth ne	eded to do				firm the	absence of indicators.)	
Depth (inches)	Color (m	Matrix noist)	%	Color (m		ox Featu %	<u>Tvpe<sup>1</sup></u>	Loc <sup>2</sup>	Texture	Remarks
0-16	10YR	3/2	75	10YR	5/8	25	C	M	Silty Clay Loam	
-			-	-			-		-	
						-				
17		Develoption ,	DM Deduce	,				-		
<sup>1</sup> Type: C=Conc		Depletion,	RM=Reduce	I Matrix, C	S=Covered	a or Coate	a Sana Grair	IS.	Location: PL=Pore Lining. N	
Hydric Soil I				Corre		Matuity (C4)	<b>`</b>		Indicators for Proble	natic Hydric Soils <sup>3</sup> :
Histosol (A	,					Matrix (S4	)		Coast Prairie Redox	(A16)
Black Histi	. ,				ly Redox (				Dark Surface (S7)	
	Sulfide (A4)				ped Matrix	(56) Mineral (Fi	1)		Iron Manganese Ma	sses (F12)
Stratified L	Layers (A5)					Matrix (F2			Very Shallow Dark S	urface (TF12)
2 cm Mucł	k (A10)				eted Matri		.)		Other (Explain in Re	marks)
Depleted E	Below Dark Su	urface (A11	)	_ `		rface (F6)				
Thick Dark	c Surface (A12	2)		_		Surface (F			3	- Manager Manager and
Sandy Muc	ck Mineral (S1	.)			ox Depress		")		<sup>3</sup> Indicators of hydroph wetland hydrology	must be present,
5 cm Mucł	ky Peat or Pea	at (S3)			ox Depress				unless disturbed	
<b>Restrictive La</b>	ayer (if obse	rved):								
Туре:										
Depth (inch	nes):								Hydric Soil Present?	Yes 🖲 No 🔾
Remarks:										
HYDROLO	GY									
Wetland Hyd	rology Indic	ators:								
Primary Indica			required; ch	eck all that	apply)				Secondary Indicat	ors (minimum of two required)
Surface W	ater (A1)			Wa	ater-Staine	d Leaves	(B9)		Surface Soil C	
High Wate	r Table (A2)				uatic Faun		. ,		Drainage Patte	erns (B10)
Saturation						Plants (B	L4)			ater Table (C2)
Water Mar	rks (B1)			🗌 Ну	drogen Su	Ilfide Odor	(C1)		Crayfish Burro	ws (C8)
Sediment	Deposits (B2)			🗌 Ox	idized Rhi	zospheres	on Living Ro	ots (C3)		ble on Aerial Imagery (C9)
Drift Depo	sits (B3)			Pre	esence of	Reduced I	ron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat (	or Crust (B4)			🗌 Re	cent Iron	Reduction	in Tilled Soil	s (C6)	Geomorphic P	osition (D2)
Iron Depo	sits (B5)			Th'	in Muck Si	urface (C7	)		FAC-Neutral T	est (D5)
✓ Inundation	n Visible on Ae	erial Image	ery (B7)	🗌 Ga	uge or We	ell Data (D	9)			
Sparsely V	egetated Con	cave Surfa	ice (B8)	Oti	her (Expla	in in Rema	arks)			
Field Observa	ations:									
Surface Water	Present?	Yes(	● No ○	0	Depth (incl	nes):	36			
Water Table Pr	resent?	Yes(	No O	C	Depth (incl	nes):	0			
Saturation Pres		Yes					0	Wet	land Hydrology Present?	Yes $ullet$ No $igcap$
(includes capilla					Depth (incl			<u> </u>	X	
	orded Data (	(stream g	jauge, moni	toring we	II, aerial	photos, p	revious ins	pections	s), if available:	
NA										
Remarks:										
The source of	f hydrology	is surface	e runoff.							

Project/Site: Vassell Station	City/County:	Delaware	S	Sampling Da	te:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	Point:	W-MRK-	004 PEM
Investigator(s): MRK, ACB	_ Section, Town	nship, Range: S	t <u>4N</u>	R <u>17</u> W		
Landform (hillslope, terrace, etc.): Hillside		Local relief (concave, convex,	none): conc	ave		
Slope: <u>3.0%</u> / <u>1.7</u> ° Lat.: <u>40.228031</u>	Long.:	-82.855801		Datum:	NAD83	
Soil Map Unit Name:BeB: Bennington silt loam, 2 to 6 percent slopes		NWI	classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Remarks	.)			
Are Vegetation . Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstan	ces" present?	Ye	es 🖲	No O
Are Vegetation, Soil, or Hydrology naturally pro	blematic?	(If needed, explain any	answers in Rer	marks.)		

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

Hydric Soil Present? Ye	(es )	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\odot$ No $\bigcirc$
, 5,				

Dominant

Remarks:

This PEM wetland is located within a hillside swale that is collecting surface runoff. The wetland extends beyond the current study area and the boundary follows edge of swale.

# **VEGETATION -** Use scientific names of plants.

		— Spe	cies? -		
Tree Stratum (Plot size: 30' radius )	Absolute % Cover	e Rel.	Strat.	Indicator Status	Dominance Test worksheet:
				Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC: (A)
2	0		0.0%		Total Number of Dominant
3	0		0.0%		Species Across All Strata: 4 (B)
4	0		0.0%		
5	0		0.0%	0	Percent of dominant Species
	0	= To	tal Cove	r	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )					Prevalence Index worksheet:
1	0		0.0%		Total % Cover of: Multiply by:
2	0		0.0%		OBL species $80 \times 1 = 80$
3.	0		0.0%		FACW species $0   x 2 = 0$
4.	0		0.0%		FAC species $35 \times 3 = 105$
5.	0		0.0%		FACU species $0 \times 4 = 0$
Herb Stratum_(Plot size: 5' radius)	0	= To	tal Cove	r	UPL species $0 \times 5 = 0$
1. Scirpus atrovirens	30	✓ 2	26.1%	OBL	Column Totals: <u>115</u> (A) <u>185</u> (B)
2. Typha angustifolia	25	✓ _ 2	21.7%	OBL	Prevalence Index = $B/A = 1.609$
3. Juncus effusus	25	✓ <u></u> 2	21.7%	OBL	Hydrophytic Vegetation Indicators:
4. Juncus tenuis	25	✓ 2	21.7%	FAC	1 - Rapid Test for Hydrophytic Vegetation
5. Poa pratensis	10		8.7%	FAC	
6	0		0.0%		✓ 2 - Dominance Test is > 50%
7.	0		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0		0.0%		data in Remarks or on a separate sheet)
10.	0		0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	115	= To	tal Cove	r	$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,	0		0.0%		
2.	0		0.0%		Hydrophytic
	0	= To	tal Cove	r	Vegetation Present? Yes • No O
Remarks: (Include photo numbers here or on a separate sh	neet.)				1

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

			he depth ne	eded to d				firm the	absence of indicators.)	
Depth (inches)	Color (n	Matrix	%	Color (		ox Featu 	res _Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches) 0-16	2.5Y	4/2	_ <b>6</b> 80	10YR	5/6	20	C	 M	Silty Clay Loam	Remarks
		7/2		IUIK	5/0			м		
	p					-				
	· ·	,								
						-				
<sup>1</sup> Type: C=Conc		=Depletion,	, RM=Reduce	ed Matrix, (	CS=Covered	d or Coate	d Sand Grai	ns.	Location: PL=Pore Lining. N	1=Matrix.
Hydric Soil II									Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A	,				ndy Gleyed I		)		Coast Prairie Redox	(A16)
Histic Epip	. ,				ndy Redox (	,			Dark Surface (S7)	
Black Histi	Sulfide (A4)			_	pped Matrix				Iron Manganese Ma	sses (F12)
Stratified L				_	my Mucky I	•	,		Very Shallow Dark S	
2 cm Muck				_	my Gleyed	•	2)		Other (Explain in Re	
	Below Dark S	urface (A1)	1)		oleted Matri					
	Surface (A1	•	,		lox Dark Su	. ,			2	
Sandy Muc	k Mineral (S	1)		· · ·	oleted Dark dox Depress	•	-7)		<sup>3</sup> Indicators of hydroph wetland hydrology	ytic vegetation and
5 cm Muck	ky Peat or Pe	at (S3)			JOX Depress				unless disturbed	
Restrictive La	yer (if obse	erved):								
Туре:										
Depth (inch	es):								Hydric Soil Present?	Yes $ullet$ No $igcap$
Remarks:										
HYDROLO	GY									
Wetland Hydr	ology India	ators:								
Primary Indicat			reauired; cl	neck all tha	t apply)				Secondary Indicat	ors (minimum of two required)
Surface Wa					Vater-Staine	d Leaves	(B9)		Surface Soil C	
High Wate					quatic Faun		()		Drainage Patte	
Saturation					rue Aquatic		14)			ater Table (C2)
Water Mar					Iydrogen Su	•	,		Crayfish Burro	
Sediment I	Deposits (B2)	)			xidized Rhiz	zospheres	on Living R	oots (C3)	Saturation Vis	ible on Aerial Imagery (C9)
Drift Depos	sits (B3)			- P	resence of I	Reduced I	ron (C4)		Stunted or Str	essed Plants (D1)
Algal Mat d	or Crust (B4)			🗌 R	ecent Iron I	Reduction	in Tilled Soi	ils (C6)	✓ Geomorphic P	osition (D2)
Iron Depos	sits (B5)			🗌 т	hin Muck Su	urface (C7	)		✓ FAC-Neutral T	est (D5)
Inundation	visible on A	erial Image	ery (B7)		auge or We	ell Data (D	9)			
Sparsely V	egetated Cor	ncave Surfa	ace (B8)		ther (Explai	in in Rema	arks)			
Field Observa	tions:		0 0							
Surface Water	Present?	Yes (	🔾 No 🤄	)	Depth (inch	nes):		-		
Water Table Pr	esent?	Yes (	• No С	)	Depth (inch	nes):	6			$\hat{}$
Saturation Pres	ent?	Yes(	No C	)	Donth (inch	, <u> </u>	4	Wet	land Hydrology Present?	Yes 🖲 No 🔾
(includes capilla					Depth (inch			- <b> </b>	<u>) (C) (1) (1)</u>	
	orded Data	(stream g	gauge, mor	ntoring w	eii, aerial j	photos, p	previous in	spections	s), if available:	
NA										
Remarks:										
The source of	f hydrology	is surface	e runoff.							

Project/Site: Vassell Station Cit	ity/County: Delaware		Sam	pling Date:	12-Apr-23
Applicant/Owner: AEP	Sta	e: OH	Sampling Poin	t: <b>W-MRK-0</b>	04-005 UPL
Investigator(s): MRK, ACB	Section, Township, Rang	e: S T	4N R	17W	
Landform (hillslope, terrace, etc.): Hillside	Local relie	(concave, convex, no	ne): convex		
Slope: <u>3.0%</u> / <u>1.7</u> • Lat.: <u>40.227894</u>	Long.: -82.8558	5	D	atum: NAD83	
Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes		NWI cla	ssification: <u>N</u>	A	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	● No ○ (If no,	explain in Remarks.)			
Are Vegetation . Soil , or Hydrology significantly dis	sturbed? Are	Normal Circumstances	" present?	Yes 🖲	No 🔿
Are Vegetation , Soil , or Hydrology naturally proble	ematic? (If n	eeded, explain any ans	swers in Reman	rks.)	

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

Hydrophytic Vegetation Present?	$_{\rm Yes}$ $\bigcirc$	No 🖲				
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $\bigcirc$		
Wetland Hydrology Present?	Yes $\bigcirc$	No 🖲				
Remarks:						

Upland data point for W-MRK-004 and W-MRK-005. Upland data was collected within a fallow/old field.

#### **VEGETATION** - Use scientific names of plants. Dominant Species? Rel.Strat. Indicator **Dominance Test worksheet:** Absolute Tree Stratum (Plot size: 30' radius ) % Cover Cover Status Number of Dominant Species 1. 0 0.0% That are OBL, FACW, or FAC: 0 (A) 2. 0 0.0% Total Number of Dominant 3. 0 0.0% Species Across All Strata: (B) 1 4. 0 0.0% 5. Percent of dominant Species 0 0.0% 0.0% (A/B) That Are OBL, FACW, or FAC: 0 = Total Cover Sapling/Shrub Stratum (Plot size: 15' radius ) Prevalence Index worksheet: 1. 0 0.0% Total % Cover of: Multiply by: 2. 0 0.0% **OBL** species x 1 = 0 0 3. 0 0.0% FACW species 0 x 2 = 0 4. 0 0.0% FAC species x 3 = 0 0 5. 0 0.0% FACU species 110 x 4 = 440 0 = Total Cover UPL species 20 x 5 = 100 Herb Stratum (Plot size: 5' radius ) 1. Dactylis glomerata ✓ 61.5% Column Totals: 130 (A) 540 (B) 80 FACU 2. Daucus carota 20 15.4% UPL Prevalence Index = B/A = 4.154 3. Trifolium pratense 20 15.4% FACU Hydrophytic Vegetation Indicators: 4. Solidago canadensis 7.7% FACU 10 **1** - Rapid Test for Hydrophytic Vegetation 5. $\square$ 0 0.0% 2 - Dominance Test is > 50% 6. 0.0% 0 **3** - Prevalence Index is $\leq$ 3.0 <sup>1</sup> 7. $\square$ 0 0.0% 4 - Morphological Adaptations <sup>1</sup> (Provide supporting 8. 0 0.0% data in Remarks or on a separate sheet) 9 0 0.0% **Problematic Hydrophytic Vegetation**<sup>1</sup> (Explain) $10^{-}$ 0 0.0% <sup>1</sup> Indicators of hydric soil and wetland hydrology must 130 = Total Cover Woodv Vine Stratum (Plot size: 30' radius be present, unless disturbed or problematic. ) 0.0% 0 1. Hydrophytic 2. 0 0.0% Vegetation Yes 🔘 No 🖲 0 = Total Cover Present?

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

Profile Descrip	tion: (Descri	be to th	e depth ne	eded to document t	he indic	ator or con	firm the	absence of indicators.)
Depth		itrix	0/-		ox Featu		1.4-7	
<u>(inches)</u> 0-8	Color (moi 10YR	<b>st)</b> 3/3	<u> </u>	Color (moist)	<u>%</u>	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks Silt Loam
8-16	10YR	3/4	100					Silty Clay Loam
<u>.                                    </u>	<u>_</u>				-			
17								12 antiana DI Dava Lining M. Matrix
		epletion,	RM=Reduce	ed Matrix, CS=Covered	or Coate	d Sand Grai	IS.	Location: PL=Pore Lining. M=Matrix.
Hydric Soil Ind						`		Indicators for Problematic Hydric Soils <sup>3</sup> :
Histosol (A1	,			Sandy Gleyed N	•	·)		Coast Prairie Redox (A16)
Black Histic	. ,			Stripped Matrix	,			Dark Surface (S7)
Hydrogen S	ulfide (A4)			Loamy Mucky N	• •	1)		Iron Manganese Masses (F12)
Stratified La	yers (A5)			Loamy Gleved	•	,		Very Shallow Dark Surface (TF12)
2 cm Muck (	(A10)			Depleted Matrix	•	-)		Other (Explain in Remarks)
Depleted Be	elow Dark Surfa	ace (A11)	)	Redox Dark Su	• •	)		
Thick Dark S	Surface (A12)			Depleted Dark	Surface (I	F7)		<sup>3</sup> Indicators of hydrophytic vegetation and
	Mineral (S1)			Redox Depress				wetland hydrology must be present,
5 cm Mucky	Peat or Peat (	S3)						unless disturbed or problematic.
Restrictive Lay	er (if observe	ed):						
Туре:								Hydric Soil Present? Yes O No 🖲
Depth (inche	s):							Hydric Soil Present? Yes 🕖 No 🖲
Remarks:								
HYDROLOG	6Y							
Wetland Hydro	logy Indicate	ors:						
Primary Indicato	ors (minimum c	of one is i	required; cl	neck all that apply)				Secondary Indicators (minimum of two required)
Surface Wat	ter (A1)			Water-Staine	d Leaves	(B9)		Surface Soil Cracks (B6)
High Water	Table (A2)			Aquatic Faun	a (B13)			Drainage Patterns (B10)
Saturation (	,			True Aquatic	`	,		Dry Season Water Table (C2)
Water Marks	. ,			Hydrogen Sul		. ,		Crayfish Burrows (C8)
Sediment De				Oxidized Rhiz	•		ots (C3)	
Drift Deposi				Presence of F		. ,	- (66)	Stunted or Stressed Plants (D1)
Algal Mat or	. ,			Recent Iron F			s (C6)	Geomorphic Position (D2)
Iron Deposit	. ,	IImagor	n ( ( <b>D</b> 7 )	Thin Muck Su	-	-		FAC-Neutral Test (D5)
	Visible on Aeria getated Conca	-		Gauge or We	-	-		
			е (во)	Other (Explai	n in Rema	arks)		
Field Observat	ions							
Surface Water Pr		Yes C	No 🖲	Depth (inch	es):			
			No					
Water Table Pres					es):		Wet	tland Hydrology Present? Yes $\bigcirc$ No $ullet$
Saturation Prese (includes capillar		Yes C	No 🖲	) Depth (inch	es):			
Describe Recor	ded Data (st	ream ga	auge, mor	itoring well, aerial p	photos, p	previous ins	pection	s), if available:
NA								
Remarks:								

No source of hydrology was observed.
Project/Site: Vassell Station	City/County: Dela	aware	Sa	mpling Date:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling Poi	int: W-MRK	-005 PEM
Investigator(s): MRK, ACB	_ Section, Township,	Range: S T	4N F	R_17W	
Landform (hillslope, terrace, etc.): Flat	Local	relief (concave, convex, nor	ne): conca	ve	
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.227116</u>	Long.: -82.8	855778		Datum: NAD83	
Soil Map Unit Name: _ PwA: Pewamo silty clay loam, 0 to 1 percent slop	)es	NWI cla	ssification: _	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔾 (1	If no, explain in Remarks.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstances	" present?	Yes 🖲	No $\bigcirc$
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally pro	oblematic?	(If needed, explain any ans	wers in Rem	arks.)	

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊙ Yes ⊙ Yes ⊙	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\odot$ No $\bigcirc$
Remarks:				

Dominant

This PEM section of a PEM/PFO wetland complex is located in a depression collecting surface runoff. The wetland extends into a forested area that drains outside of the current study area. Wetland boundary follows edge of depression.

#### **VEGETATION -** Use scientific names of plants.

		— Sr	ecies? -		
<u>Tree Stratum</u> (Plot size: 30' radius )	Absolute % Cover	e Re	I.Strat.	Indicator	Dominance Test worksheet:
		r (	Cover	Status	Number of Dominant Species
1	0		0.0%		That are OBL, FACW, or FAC:(A)
2	0		0.0%		Total Number of Dominant
3			0.0%		Species Across All Strata: 1 (B)
4.	0		0.0%		
5.	0		0.0%	0	Percent of dominant Species
	0	= T	otal Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Sapling/Shrub Stratum (Plot size: 15' radius</u> )					Prevalence Index worksheet:
1	0		0.0%		Total % Cover of: Multiply by:
2.	0		0.0%		OBL species <u>110</u> x 1 = <u>110</u>
3.	0		0.0%		FACW species $25$ x 2 = $50$
4.	0		0.0%		FAC species $0$ $x 3 = 0$
5.	0		0.0%		FACU species $0   x 4 = 0$
Herb Stratum (Plot size: 5' radius )	0	= T	otal Cove	er	$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $
1, Typha angustifolia	75		55.6%	OBL	Column Totals: <u>135</u> (A) <u>160</u> (B)
2. Scirpus atrovirens	25		18.5%	OBL	Prevalence Index = $B/A = 1.185$
3. Phalaris arundinacea	25		18.5%	FACW	
4. Juncus effusus	10		7.4%	OBL	Hydrophytic Vegetation Indicators:
5.	0		0.0%		✓ 1 - Rapid Test for Hydrophytic Vegetation
6.	0		0.0%		✓ 2 - Dominance Test is > 50%
7.	0		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0		0.0%		data in Remarks or on a separate sheet)
10.	0		0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	135	= T	otal Cove	er	$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,	0		0.0%		
2.	0		0.0%		Hydrophytic
	0	= T	otal Cove	er	Vegetation Present? Yes • No O
Remarks: (Include photo numbers here or on a separate sh	eet.)				

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Descri		-	eded to document	the indic	ator or con	firm the	absence of indicators.)	
Depth .	Matrix Color (moist)			ox Featu	res Type <sup>1</sup>	1.007	- Touturo	Domoska
(inches) 0-15	10YR 3/2	<u>%</u> 80	<b>Color (moist)</b> 10YR 3/6	<u>%</u> 20	_ Type - C	Loc <sup>2</sup>		Remarks
	101K 5/2		<u>101K</u> <u>5/0</u>			м		
							_	
1Type: C=Conc	entration D=Deplet	tion RM=Reduced	Matrix, CS=Covered	l or Coate	d Sand Grain	IS	Location: PL=Pore Lining.	∕I=Matrix
Hydric Soil Ir								
Histosol (A			Sandy Gleyed I	Matrix (S4	)		Indicators for Proble	•
Histic Epipe	,		Sandy Redox (	•	,		Coast Prairie Redox	(A16)
Black Histic	c (A3)		Stripped Matrix	,			Dark Surface (S7)	
	Sulfide (A4)		Loamy Mucky I	• •	1)		Iron Manganese Ma	
Stratified L	, , ,		Loamy Gleyed	Matrix (F2	2)		Very Shallow Dark S	
2 cm Muck	. ,		Depleted Matrix	x (F3)			Other (Explain in Re	emarks)
· · ·	elow Dark Surface	(A11)	🖌 Redox Dark Su	rface (F6)	1			
_	Surface (A12)		Depleted Dark	Surface (I	F7)		<sup>3</sup> Indicators of hydroph	nytic vegetation and
	k Mineral (S1)		Redox Depress	ions (F8)			wetland hydrology	/ must be present,
	y Peat or Peat (S3)						unless disturbed	or problematic.
	yer (if observed)	1						
Type:	)						Hydric Soil Present?	Yes 🖲 No 🔾
Depth (inch	es):							
Remarks:								
HYDROLO	CY							
-	ology Indicators:							
	cors (minimum of or	ne is required; che			(7.0)			cors (minimum of two required)
Surface Wa	. ,		Water-Staine		(B9)		Surface Soil C	( )
High Water			Aquatic Faun		1.4.)			
Saturation			<ul> <li>True Aquatic</li> <li>Hydrogen Su</li> </ul>		-			/ater Table (C2)
Water Marl	Deposits (B2)		Hydrogen Su Oxidized Rhiz		. ,	ote (C3)	Crayfish Burro	ible on Aerial Imagery (C9)
					5	003 (03)		ressed Plants (D1)
	or Crust (B4)		Recent Iron I			s (C6)	Geomorphic F	
Iron Depos			Thin Muck Su			0 (00)	✓ FAC-Neutral T	
	Visible on Aerial In	nagery (B7)	Gauge or We		-			()
	egetated Concave S		Other (Explai					
	-							
Field Observa		0 7						
Surface Water	Present? Ye	es 🔿 No 🖲	Depth (inch	nes):				
Water Table Pre	esent? Ye	es 💿 No 🔿	Depth (inch	nes):	0			0 0
Saturation Pres		s   No			0	Wet	land Hydrology Present?	Yes 🖲 No 🔾
(includes capilla	ily ninge)		Depth (inch		-		<b>.</b>	
	orded Data (strea	m gauge, monit	toring well, aerial p	ohotos, p	previous ins	pections	s), it available:	
NA								
Remarks:								

The source of hydrology is surface runoff.

Project/Site: Vassell Station	City/County: D	Delaware	S	ampling Date	: 12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint: W	-MRK-005 PFO
Investigator(s): MRK, ACB	Section, Townsh	nip, Range: S	T <u>4N</u>	r <u>17</u> W	
Landform (hillslope, terrace, etc.): Flat	Lo	cal relief (concave, convex,	none): conca	ave	
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.2267</u>	Long.: -8	32.855743		Datum: N	AD83
Soil Map Unit Name:BeA: Bennington silt loam, 0 to 2 percent slopes		NWI	classification:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔾	(If no, explain in Remarks	.)		
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstar	ces" present?	Yes	● No ○
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally pro	oblematic?	(If needed, explain any	answers in Ren	narks.)	

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ● No ○ Yes ● No ○ Yes ● No ○	Is the Sampled Area within a Wetland? Yes <ul> <li>No</li> </ul>	

Remarks:

This PFO section of a PEM/PFO wetland complex is located in a depression collecting surface runoff. The wetland extends into a forested area that drains outside of the current study area. Wetland boundary follows edge of depression.

Tree Stratum_(Plot size: 30' radius )	Absolute % Cover		Indicator Status	Dominance Test worksheet:		
1. Quercus palustris	30	✓ 54.5%	FACW	Number of Dominant Species That are OBL, FACW, or FAC:	2	(A)
2. Acer negundo	25	✔ 45.5%	FAC			( )
3	0	0.0%		Total Number of Dominant Species Across All Strata:	2	(B)
l.	0	0.0%		Species Across Air Strata.	<u> </u>	(0)
5.	0	0.0%	0	Percent of dominant Species		( ) ( )
	55	= Total Cove	er	That Are OBL, FACW, or FAC:	100.0%	(A/B)
apling/Shrub Stratum (Plot size: 15' radius )				Prevalence Index worksheet:		
l <u>.                                    </u>	0	0.0%		Total % Cover of:	Multiply by:	_
2	0	0.0%		OBL species 0	x 1 =0	
3	0	0.0%		FACW species 30	x 2 = 60	
1	0	0.0%		FAC species 25	x 3 = 75	
5	0	0.0%		FACU species 0	x 4 = 0	
lerb Stratum_(Plot size: 5' radius)	0	= Total Cove	er	UPL species 0	x 5 =	
1	0	0.0%		Column Totals: <u>55</u>	(A) <u>135</u>	(B)
2	0	0.0%		Prevalence Index = B/A =	= 2.455	
3	0	0.0%		Hydrophytic Vegetation Indica	tors	
1 <u>.                                    </u>	0	0.0%		1 - Rapid Test for Hydrophy		
5	0	0.0%		✓ 2 - Dominance Test is $> 50$	, ,	
5	0	0.0%		✓ 2 - Dominance Test is > 50 ✓ 3 - Prevalence Index is $\leq 3$ .		
7	0	0.0%				
3	0	0.0%		4 - Morphological Adaptati data in Remarks or on a se	ons ± (Provide sup parate sheet)	porting
9.	0	0.0%		Problematic Hydrophytic V	. ,	in)
0	0	0.0%				-
<u>Voodv Vine Stratum</u> (Plot size: 30' radius )	0	= Total Cove	er	<sup>1</sup> Indicators of hydric soil and be present, unless disturbed o		/ must
 I.	0	0.0%				
2.	0	0.0%		Hydrophytic Vegetation		
	0	= Total Cove	er	Present? Yes I No	, O	

No understory within the PFO section of the wetland.

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Descrip	=		e depth need				firm the	absence of indicators.)	
Depth _		atrix	0/		dox Featu		1	- Tautuus	Dementer
(inches)	Color (mo 10YR	4/2		Color (moist) 10YR 4/6	<u>%</u>	<u>Type<sup>1</sup></u> C	Loc <sup>2</sup>	Texture Silt Loam	Remarks
	101K	т/ <i>с</i>					м		
								<u></u>	
	. 10								
<sup>1</sup> Type <sup>,</sup> C=Conce	ntration D=C	enletion F	M=Reduced	Matrix, CS=Cover	ed or Coate	d Sand Grain	s	Lecation: PL=Pore Lining. M	1=Matrix
Hydric Soil In							5.	_	
Histosol (A1				Sandy Gleyed	Matrix (S4	+)		Indicators for Proble	•
Histic Epipe	,			Sandy Redox	•	,		Coast Prairie Redox	(A16)
Black Histic	(A3)			Stripped Matr				Dark Surface (S7)	
Hydrogen S				Loamy Mucky	. ,	1)		Iron Manganese Mas	. ,
Stratified La	, , ,			Loamy Gleye	d Matrix (F2	2)		Very Shallow Dark S	. ,
2 cm Muck	. ,			<ul> <li>Depleted Mat</li> </ul>	rix (F3)			Other (Explain in Re	marks)
_ '	elow Dark Sur	. ,		Redox Dark S	Surface (F6)	)			
	Surface (A12)			Depleted Dar	k Surface (I	F7)		<sup>3</sup> Indicators of hydroph	ytic vegetation and
· ·	(Mineral (S1)	(62)		Redox Depres	ssions (F8)			wetland hydrology	must be present,
	Peat or Peat							unless disturbed	or problematic.
Restrictive Lay	er (if observ	/ed):							
Type:								Hydric Soil Present?	Yes 💿 No 🔿
Depth (inche	es):								
Remarks:									
HYDROLOG	SV.								
		_							
Wetland Hydro	•••		aguirad, cha	ak all that apply)				Cocondon/ Indicat	ore (minimum of two required)
Primary Indicato			equired; chec	Water-Stair		(00)			ors (minimum of two required)
✓ High Water	. ,			Aquatic Fau		(B9)			
Saturation (						14)			ater Table (C2)
Water Mark				Hydrogen S	-	-		Crayfish Burro	
	eposits (B2)					on Living Ro	ote (C3)		ble on Aerial Imagery (C9)
				Presence of	-	-	063 (05)		essed Plants (D1)
Algal Mat or						in Tilled Soil	s (C6)	Geomorphic P	
Iron Deposi							5 (00)	FAC-Neutral T	
	Visible on Aer	ial Imagery	/ (B7)	Gauge or W	-	-			()
Sparsely Ve				Other (Expl	•	,			
	-								
Field Observat	tions:	~	-						
Surface Water P	resent?	Yes $\mathbb{C}$	) No 🖲	Depth (in	ches):				
Water Table Pre	sent?	Yes 🖲	No 🔿	Depth (in	ches):	0			$\sim$
Saturation Prese		Yes 🖲	No 〇	Depth (in		0	Wet	land Hydrology Present?	Yes $ullet$ No $igcap$
(includes capilla						-			
	rued Data (s	stream ga	uge, monito	oring well, aeria	i priotos, f	Drevious ins	pections	s), il avalladie:	
NA									
Remarks:									

The source of hydrology is surface runoff.

Project/Site: Vassell Station	City/County: De	elaware	S	ampling Date:	12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling Po	oint: W-N	IRK-006 PEM
Investigator(s): MRK, ACB	_ Section, Townshi	ip, Range: S	4N	R 16W	
Landform (hillslope, terrace, etc.): Flat	Loc	cal relief (concave, convex,	none): conca	ave	
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.22806</u>	Long.: -82	2.850033		Datum: NA	083
Soil Map Unit Name: _ PwA: Pewamo silty clay loam, 0 to 1 percent slop		NWI	classification:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	es 🖲 No 🔿	(If no, explain in Remarks	.)		
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstane	es" present?	Yes (	● No ○
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?	(If needed, explain any	answers in Ren	narks.)	

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊙ Yes ⊙ Yes ⊙	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\bullet$ No $\bigcirc$
Remarks:				

Dominant

This PEM section of a PEM/PUB wetland is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression which also drains from W-MRK-007. Wetland boundary follows edge of depression.

#### **VEGETATION -** Use scientific names of plants.

		— Species?		
<u>Tree Stratum</u> (Plot size: 30' radius )	Absolute % Cove	e Rel.Strat.	Indicator	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 1 (B)
4.	0	0.0%		
5.	0	0.0%		Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species $55 \times 1 = 55$
3.	0	0.0%		FACW species $0   x 2 = 0$
4.	0	0.0%		FAC species $75$ x 3 = $225$
5.	0	0.0%		FACU species $0 \times 4 = 0$
	0	= Total Cove		
Herb Stratum (Plot size: 5' radius )		- 10001 0010	-1	
1. Panicum virgatum	75	✓ 57.7%	FAC	Column Totals: <u>130</u> (A) <u>280</u> (B)
2. Typha angustifolia	25	19.2%	OBL	Prevalence Index = $B/A = 2.154$
3. Scirpus cyperinus	20	15.4%	OBL	Hydrophytic Vegetation Indicators:
4. Juncus effusus	10	7.7%	OBL	
5.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7.	0	0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%	·	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
	130	= Total Cove		$rac{1}{-}$ Indicators of hydric soil and wetland hydrology must
<u>Woodv Vine Stratum</u> (Plot size: <u>30' radius</u> )		- 10001 0010	-1	be present, unless disturbed or problematic.
1,	0	0.0%		
2.	0	0.0%		Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes • No
Remarks: (Include photo numbers here or on a separate sh	eet.)			

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Description: (Desc	-			confirm the	absence of indicators.)	
Beben	1atrix oist)%	Color (moist)	dox Features <u>%</u> <u>Type</u> <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
(inches) Color (m 0-16 2.5Y	4/2 80	10YR 5/6	20 C	<u>LOC-</u> M	Silty Clay Loam	Reliarks
		p.				
<sup>1</sup> Type: C=Concentration, D=	Doplation RM-Roduc		d or Costod Sand C	`rainc	Paration: DI - Dara Lining N	1-Matrix
Hydric Soil Indicators:				il dil 15.	Location: PL=Pore Lining.	
Histosol (A1)		Sandy Gleyed	Matrix (S4)		Indicators for Proble	matic Hydric Soils <sup>5</sup> :
Histic Epipedon (A2)		Sandy Redox	. ,		Coast Prairie Redox	(A16)
Black Histic (A3)		Stripped Matri	. ,		Dark Surface (S7)	
Hydrogen Sulfide (A4)		Loamy Mucky	. ,		Iron Manganese Ma	sses (F12)
Stratified Layers (A5)		Loamy Gleyed			Very Shallow Dark S	Surface (TF12)
2 cm Muck (A10)		Depleted Mati			Other (Explain in Re	marks)
Depleted Below Dark Su	( )	Redox Dark S	urface (F6)			
Thick Dark Surface (A12		Depleted Dark	k Surface (F7)		<sup>3</sup> Indicators of hydroph	nytic vegetation and
Sandy Muck Mineral (S1		Redox Depres	ssions (F8)		wetland hydrology	r must be present,
5 cm Mucky Peat or Pea					unless disturbed	or problematic.
Restrictive Layer (if obser	ved):					
Туре:					Hydric Soil Present?	Yes $oldsymbol{igodol}$ No $igodol$
Depth (inches):						
Remarks:						
HYDROLOGY						
Wetland Hydrology Indica						<i></i>
Primary Indicators (minimun	n of one is required; cl		(70)			ors (minimum of two required)
Surface Water (A1)			ed Leaves (B9)		Surface Soil C	
High Water Table (A2)		Aquatic Fau			Drainage Patt	
Saturation (A3)		_	c Plants (B14) ulfide Odor (C1)			/ater Table (C2)
Water Marks (B1) Sediment Deposits (B2)			izospheres on Living	a Poots (C3)	Crayfish Burro	ible on Aerial Imagery (C9)
Drift Deposits (B3)			Reduced Iron (C4)	J KUUG (CJ)		ressed Plants (D1)
Algal Mat or Crust (B4)			Reduction in Tilled	Soils (C6)	Geomorphic F	· · /
Iron Deposits (B5)		_	Surface (C7)	00110 (00)	FAC-Neutral T	
Inundation Visible on Ae	rial Imagery (B7)	_	/ell Data (D9)			
Sparsely Vegetated Con			ain in Remarks)			
	()					
Field Observations:						
Surface Water Present?	Yes 🔿 No 🖲	Depth (inc	ches):			
Water Table Present?	Yes 💿 No 🖯	) Depth (inc	ches): 6			
Saturation Present? (includes capillary fringe)	Yes 💿 No 🖯	) Depth (inc	ches): 4	Wetl	and Hydrology Present?	Yes $ullet$ No $ightarrow$
Describe Recorded Data (	stream gauge, mor	nitoring well, aerial	photos, previous	inspections	s), if available:	
NA		- •				
Remarks:						
The source of hydrology	s surface runoff.					

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Date	e: 12-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint: W	-MRK-006 PUB
Investigator(s): MRK, ACB	_ Section, Towns	ship, Range: S	T <u>4N</u>	R 16W	
Landform (hillslope, terrace, etc.): Flat	L/	ocal relief (concave, convex	, none): <u>conc</u>	ave	
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.228351</u>	Long.: -	82.849363		Datum: N	NAD83
Soil Map Unit Name: _ PwA: Pewamo silty clay loam, 0 to 1 percent slop	bes	NW	I classification:	NA	
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔾	(If no, explain in Remar	(S.)		
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumsta	nces" present?	Yes	5 🔍 No 🔾
Are Vegetation, Soil, or Hydrology naturally pro	oblematic?	(If needed, explain an	y answers in Rer	marks.)	

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

Hydrophytic Vegetation Present?	Yes 🖲	No O		
Hydric Soil Present?	Yes 🖲	No $\bigcirc$	Is the Sampled Area within a Wetland?	Yes 🖲 No 🔿
Wetland Hydrology Present?	Yes 🖲	No 🔿		
Remarks:				

Dominant

This PUB section of a PEM/PUB wetland is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression which also drains from W-MRK-007. Wetland boundary follows edge of depression.

## **VEGETATION -** Use scientific names of plants.

		— Species? ·		
Tree Stratum (Plot size: 30' radius )	Absolute % Cove	Rel.Strat.	Indicator Status	Dominance Test worksheet:
	0		otatus	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2				Total Number of Dominant
		0.0%		Species Across All Strata: (B)
4	0	0.0%		Demonstration of demoister of Constitution
5	0	0.0%		Percent of dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
	0	= Total Cove	er	
<u>Sapling/Shrub Stratum (Plot size: 15' radius</u> )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species x 1 =
3	0	0.0%		FACW species $0   x 2 = 0$
4.	0	0.0%		FAC species $10$ x 3 = $30$
5.	0	0.0%		FACU species $0   x 4 = 0$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $0$ x 5 = $0$
1. Panicum virgatum	10	33.3%	FAC	Column Totals: <u>30</u> (A) <u>50</u> (B)
2. Typha angustifolia	10	✔ 33.3%	OBL	Prevalence Index = $B/A = 1.667$
3. Scirpus cyperinus	5	16.7%	OBL	
4. Juncus effusus	5	16.7%	OBL	Hydrophytic Vegetation Indicators:
5.	0	0.0%		1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7		0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
				$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must
Woodv Vine Stratum (Plot size: 30' radius )	30	= Total Cove	er	be present, unless disturbed or problematic.
1	0	0.0%		
2.	0	0.0%		Hydrophytic Vegetation
	0	= Total Cove	er	Present? Yes No

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

Hydrophytic vegetation is limited to edge of open water.

Profile Description: (Describe to the	depth needed to document the indicator or confirm	the absence of indicators.)				
Depth Matrix	Redox Features					
(inches) Color (moist)	<u>% Color (moist) % Type<sup>1</sup> Lo</u>	c <sup>2</sup> Texture Remarks				
<sup>1</sup> Type: C=Concentration, D=Depletion, R	4=Reduced Matrix, CS=Covered or Coated Sand Grains.	Lecation: PL=Pore Lining. M=Matrix.				
Hydric Soil Indicators:		Indicators for Problematic Hydric Soils <sup>3</sup> :				
Histosol (A1)	Sandy Gleyed Matrix (S4)	-				
Histic Epipedon (A2)	Sandy Redox (S5)	Coast Prairie Redox (A16)  Dark Surface (S7)				
Black Histic (A3)	Stripped Matrix (S6)	Iron Manganese Masses (F12)				
Stratified Layers (A5)	Loamy Mucky Mineral (F1)	Very Shallow Dark Surface (TF12)				
$\square$ 2 cm Muck (A10)	Loamy Gleyed Matrix (F2)	Other (Explain in Remarks)				
Depleted Below Dark Surface (A11)	Depleted Matrix (F3)					
Thick Dark Surface (A12)	Redox Dark Surface (F6)	3				
Sandy Muck Mineral (S1)	Depleted Dark Surface (F7)     Redox Depressions (F8)	<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,				
5 cm Mucky Peat or Peat (S3)		unless disturbed or problematic.				
Restrictive Layer (if observed):						
Туре:						
Depth (inches):		Hydric Soil Present? Yes 💿 No 🔾				
Remarks:						
Unable to dig a soil pit due to water o	depth and rock lining the edge of open water arour	nd the pond. Hydric soils are assumed due to inundation.				
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one is re	quired; check all that apply)	Secondary Indicators (minimum of two required)				
Surface Water (A1)	Water-Stained Leaves (B9)	Surface Soil Cracks (B6)				
✓ High Water Table (A2)	Aquatic Fauna (B13)	Drainage Patterns (B10)				
Saturation (A3)	True Aquatic Plants (B14)	Dry Season Water Table (C2)				
Water Marks (B1)	Hydrogen Sulfide Odor (C1)     Ovidized Bhizespheres on Living Boots	Crayfish Burrows (C8)				

itors:						
of one is rec	juired; check		Secondary Indicators (minimum of two required)			
		)	Surface Soil Cracks (B6)			
		🖌 Aquatic Fauna (B13)		Drainage Patterns (B10)		
		True Aquatic Plants (B14)		Dry Season Water Table (C2)		
		Hydrogen Sulfide Odor (C1	.)	Crayfish Burrows (C8)		
		Oxidized Rhizospheres on	Living Roots (C3)	Saturation Visible on Aerial Imagery (C9)		
		Presence of Reduced Iron	(C4)	Stunted or Stressed Plants (D1)		
		Recent Iron Reduction in T	illed Soils (C6)	Geomorphic Position (D2)		
		Thin Muck Surface (C7)		FAC-Neutral Test (D5)		
rial Imagery (	B7)					
ave Surface (	(B8)	Other (Explain in Remarks)	)			
	No 〇	Depth (inches):	24			
Yes 🖲	No $\bigcirc$	Depth (inches):		Hydrology Present? Yes 🖲 No 🔾		
Yes 🖲	No $\bigcirc$	Depth (inches):	0 Wetland	Hydrology Present? Yes • No 🔾		
stream gau	ge, monito	ring well, aerial photos, prev	ious inspections), if	available:		
s surface ru	noff.					
s surface ru	noff.					
	rial Imagery ( cave Surface ( Yes Yes Yes Yes Yes	rial Imagery (B7) cave Surface (B8) Yes  No  Yes No  Yes No  Yes No  Yes No	n of one is required; check all that apply)         Water-Stained Leaves (B9)         ✓         Aquatic Fauna (B13)         True Aquatic Plants (B14)         Hydrogen Sulfide Odor (C1         Oxidized Rhizospheres on         Presence of Reduced Iron         Recent Iron Reduction in T         Thin Muck Surface (C7)         rial Imagery (B7)         cauge or Well Data (D9)         cave Surface (B8)         Other (Explain in Remarks)         Yes ● No ○       Depth (inches):         Yes ● No ○       Depth (inches):         Yes ● No ○       Depth (inches):	n of one is required; check all that apply)         Water-Stained Leaves (B9)         ✓         Aquatic Fauna (B13)         True Aquatic Plants (B14)         Hydrogen Sulfide Odor (C1)         Oxidized Rhizospheres on Living Roots (C3)         Presence of Reduced Iron (C4)         Recent Iron Reduction in Tilled Soils (C6)         Thin Muck Surface (C7)         rial Imagery (B7)         Gauge or Well Data (D9)         cave Surface (B8)         Other (Explain in Remarks)		

Project/Site: Vassell Station	City/County:	Delaware		Sampling Da	te: 12-A	pr-23
Applicant/Owner: AEP		State: OH	Sampling I	Point: W-	MRK-006-0	07 UPL
Investigator(s): MRK, ACB	_ Section, Towr	nship, Range: S	T_4N	R 16W		
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, conve	ex, none): <u>con</u>	/ex		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.228899</u>	Long.:	-82.849398		Datum:	NAD83	
Soil Map Unit Name: <u>Cen1C2: Centerburg silt loam, 6 to 12 percent sk</u>	opes, eroded	N	WI classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Year	es 🖲 No 🔾	(If no, explain in Rema	rks.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circums	tances" present?	Ye	es 💿 No 🤇	$\supset$
Are Vegetation , Soil , or Hydrology naturally pro	oblematic?	(If needed, explain a	ny answers in Re	marks.)		

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

Hydrophytic Vegetation Present?	$_{\rm Yes}$ $\bigcirc$	No 🖲			
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	Is the Sampled Area within a Wetland?	Yes 🔿 No 🖲	
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿			
Remarks:					

Upland data point for W-MRK-006 and W-MRK-007. Upland data was collected within a fallow/old field.

## VEGETATION - Use scientific names of plants. Dominant

		— Species?		
_Tree Stratum_(Plot size: 30' radius )	Absolute % Cover	Rel.Strat	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0			That are OBL, FACW, or FAC:(A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: <u>2</u> (B)
4	0	0.0%		
5	0	0.0%	0	Percent of dominant Species That Are OBL_EACW_or_EAC' 0.0% (A/B)
	0	= Total Cov	/er	That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )		_		Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2	0	0.0%		OBL species $0   x   1 = 0$
3.	0	0.0%		FACW species $0   x^2 = 0$
4	0	0.0%		FAC species $0 \times 3 = 0$
5.	0	0.0%		FACU species $145 \times 4 = 580$
Herb Stratum_(Plot size: 5' radius)	0	= Total Cov	ver	UPL species <u>10</u> $\times 5 = 50$
1. Dactylis glomerata	50	✔ 32.3%	FACU	Column Totals: <u>155</u> (A) <u>630</u> (B)
2. Festuca arundinacea	50	32.3%	FACU	Prevalence Index = $B/A = 4.065$
3. Trifolium pratense	25	16.1%	FACU	Hydrophytic Vegetation Indicators:
4. Andropogon virginicus	10	6.5%	FACU	1 - Rapid Test for Hydrophytic Vegetation
5. Daucus carota	10	6.5%	UPL	
6. Solidago canadensis	10	6.5%	FACU	
7.	0	0.0%		$\square$ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9.	0	0.0%		
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	155	= Total Cov	/er	$\stackrel{1}{-}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1.	0	0.0%		
2.	0	0.0%		Hydrophytic
	0	= Total Cov	 /er	Vegetation Present? Yes O No •
Remarks: (Include photo numbers here or on a separate s	heet.)			

Profile Descr	ription: (Desc	ribe to the	depth nee	ded to document	the indic	ator or con	firm the	absence of indicators.)
Depth		latrix		Red	ox Featu			_
(inches)	Color (m	oist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture Remarks
0-10	10YR	3/3	100					Silt Loam
10-16	10YR	3/4	100					Silty Clay Loam
	. <u> </u>				i			
-								
1Type: C=Con	centration D=[	Denletion RI	M=Reduced	Matrix, CS=Covered	l or Coate	d Sand Grain	c	Location: PL=Pore Lining. M=Matrix.
Hydric Soil I	•		n=neduced				5.	
				Sandy Gleyed I	Matrix (CA	١		Indicators for Problematic Hydric Soils <sup>3</sup> :
	pedon (A2)			Sandy Redox (		.)		Coast Prairie Redox (A16)
Black Hist	. ,			Stripped Matrix	,			Dark Surface (S7)
	Sulfide (A4)				• •	1)		Iron Manganese Masses (F12)
Stratified	Layers (A5)			Loamy Mucky I				Very Shallow Dark Surface (TF12)
2 cm Muc	k (A10)			Loamy Gleyed		2)		Other (Explain in Remarks)
Depleted	Below Dark Sur	face (A11)		Depleted Matri	• •			_ (', ',
Thick Dar	k Surface (A12)	)						2
Sandy Mu	ick Mineral (S1)	)		Depleted Dark		F7)		<sup>3</sup> Indicators of hydrophytic vegetation and wetland hydrology must be present,
5 cm Muc	ky Peat or Peat	t (S3)		Redox Depress	sions (F8)			unless disturbed or problematic.
	ayer (if obser							
Type:								
	hes):							Hydric Soil Present? Yes $\bigcirc$ No $oldsymbol{igodol}$
Remarks:								1
Remarks.								
HYDROLO	JGT							
Wetland Hyd	rology Indica	itors:						
Primary Indica	ators (minimum	of one is re	quired; che	ck all that apply)				Secondary Indicators (minimum of two required)
Surface W	/ater (A1)			Water-Staine	d Leaves	(B9)		Surface Soil Cracks (B6)
High Wate	er Table (A2)			Aquatic Faun	a (B13)			Drainage Patterns (B10)
Saturation	ו (A3)			True Aquatic	Plants (B	14)		Dry Season Water Table (C2)
Water Ma	rks (B1)			🗌 Hydrogen Su	lfide Odor	· (C1)		Crayfish Burrows (C8)
Sediment	Deposits (B2)			Oxidized Rhiz	zospheres	on Living Ro	ots (C3)	Saturation Visible on Aerial Imagery (C9)
Drift Depo	osits (B3)			Presence of I	Reduced I	iron (C4)		Stunted or Stressed Plants (D1)
🗌 Algal Mat	or Crust (B4)			Recent Iron	Reduction	in Tilled Soils	s (C6)	Geomorphic Position (D2)
Iron Depo	osits (B5)			Thin Muck Su	urface (C7	')		FAC-Neutral Test (D5)
Inundatio	n Visible on Ae	rial Imagery	(B7)	Gauge or We	ell Data (D	9)		
Sparsely \	Vegetated Conc	ave Surface	(B8)	Other (Explai	in in Rema	arks)		
Field Observ	ations:							
Surface Water	Present?	Yes $\bigcirc$	No 🖲	Depth (incl	nes):			
Water Table P	resent?	$_{\sf Yes}$ $\bigcirc$	No 🖲	Depth (incl	nes).			
Saturation Pres		_	-				Wet	land Hydrology Present? Yes $\bigcirc$ No $oldsymbol{igodol}$
(includes capil		Yes 〇	No 🖲	Depth (incl	nes):			
Describe Rec	orded Data (	stream gau	uge, monite	oring well, aerial <sub>l</sub>	photos, p	previous ins	pections	s), if available:
NA								

#### Remarks:

No source of hydrology was observed.

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Da	ite:	L3-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint:	W-MRK-	007 PEM
Investigator(s): MRK, ACB	_ Section, Townsl	ship, Range: S	T_4N	R 16W		
Landform (hillslope, terrace, etc.): Flat	Lc	ocal relief (concave, conve	ex, none): conc	ave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.229097</u>	Long.:{	82.850136		Datum:	NAD83	
Soil Map Unit Name: _ PwA: Pewamo silty clay loam, 0 to 1 percent slop	Des	N	NI classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Rema	rks.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumst	ances" present?	Y	es 🖲	No 🔿
Are Vegetation , Soil , or Hydrology naturally pro	oblematic?	(If needed, explain a	ny answers in Rer	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ⊙ Yes ⊙ Yes ⊙	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\bullet$ No $\bigcirc$
Bomarke				

Remarks:

This PEM wetland is a man-made sediment trap located on the existing sub station property. Rock-lined ditches direct surface runoff to the depression which also drains to W-MRK-006. Wetland boundary follows edge of depression.

Dominant

#### **VEGETATION -** Use scientific names of plants.

		— Species?		
Tree Stratum (Plot size: 30' radius )	Absolute % Cove	e Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC:(A)
2	0	0.0%		Total Number of Dominant
3		0.0%		Species Across All Strata: 2 (B)
4.	0	0.0%		
5.	0	0.0%	0	Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Sapling/Shrub Stratum (Plot size:</u> 15' radius )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species <u>115</u> x 1 = <u>115</u>
3.	0	0.0%		FACW species $0 \times 2 = 0$
4.	0	0.0%		FAC species $20$ x 3 = $60$
5.	0	0.0%		FACU species $5$ $x 4 = 20$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $0$ x 5 = $0$
1. Juncus effusus	60	✔ 42.9%	OBL	Column Totals: <u>140</u> (A) <u>195</u> (B)
2. Typha angustifolia	50	✓ 35.7%	OBL	Prevalence Index = $B/A = 1.393$
3. Panicum virgatum	20	14.3%	FAC	Hydrophytic Vegetation Indicators:
4. Scirpus cyperinus	5	3.6%	OBL	
5. Cichorium intybus	5	3.6%	FACU	✓ 1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7.	0	0.0%		✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet)
9.	0	0.0%		
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	140	= Total Cove	er	<sup>1</sup> / <sub>-</sub> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1,	0	0.0%		
2.	0	0.0%		Hydrophytic
	0	= Total Cove	er	Vegetation Present? Yes I No
Remarks: (Include photo numbers here or on a separate sh	neet.)			1

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Click       Coler (misit)       %       Coler       Take target       Take target       Take target       Take target       Take target         0-16       2.5V       3/2       80       10/K       5/8       20       C       Mpt       Sity Cay Lawn       10/K oxidized hitzospheres         0       10/K       5/8       20       C       Mpt       Sity Cay Lawn       10/K oxidized hitzospheres         10/K       10/K       5/8       20       C       Mpt       Sity Cay Lawn       10/K oxidized hitzospheres         10/K       10/K       10/K       10/K       Sity Cay Lawn       10/K oxidized hitzospheres         10/K       10/K       10/K       10/K       10/K       10/K       10/K       10/K         10/K	Depth	M	atrix		Red	lox Featu			_	
Evice         2.57         3.72         60         Time         2.6         PPL         PMD Control           Type:		Color (mo	ist) o	/o	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	
Hydric Soll Indicators:       Indicator for Problematic Hydric Solls <sup>1</sup> / <sub>2</sub> :         Histic Eppedon (A2)       Sandy Redox (S5)         Bitte Histic (A3)       Stripped Matrix (S6)         Data Train Redox (A16)       Dark Surface (A72)         Depleted Below Dark Surface (A11)       V Redox Dark Surface (F37)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy MickY Micrae (F6)       Other (Explain Remarks)         Sondy MickY Micrae (F3)       Redox Dark Surface (F67)         Sondy MickY Micrae (F3)       Depleted Dark Surface (A12)         Depleted Dark Surface (A12)       Depleted Dark Surface (F6)         Sondy MickY Micrael (S1)       Redox Dark Surface (F6)         Sondy MickY Micrael (S1)       Redox Dark Surface (F6)         Type:	0-16	2.5Y	3/2 8	30 1	.0YR 5/8	20	С	M,PL	Silty Clay Loam	10% oxidized rhizospheres
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Stripped Matrix (S6)         Dark Surface (A1)       Dark Surface (A2)         Stripped Matrix (S6)       Dark Surface (A2)         Stripped Matrix (S6)       Dark Surface (A2)         Stripped Matrix (S6)       Dark Surface (F3)         Stripped Matrix (F2)       Very Shallow Dark Surface (TT2)         Depleted Below Dark Surface (A11)       Weako Dark Surface (F6)         Sondy Mack Mineral (S1)       Depleted Dark Surface (F0)         Sondy Mack Mineral (S1)       Redox Depressions (F8)         Sondy Mack Mineral (S1)       Redox Depressions (F8)         Hydric Soil Present?       Yes  No           Puppth (inches):       Presenter Standa Lawes (P9)         Subrix Mater (A1)       Daquatic Forma (S13)         Hydric Soil Present?       Yes  No           Median Hydrology Indicators:       Preimary Indicators (Parting Rods (S1)         Presence of Reduced Iron (C4)       Subrix And Rods (S1)         Subrix Mater (A1)       Daquatic Forma (Lawes (P9)         Subrix Mater (A1)       Daquatic Forma (Lawes (P9)         Subrix Mater (A1)       Daquatic Forma (Lawes (P1)         Subrix Mater (A1) <td< td=""><td></td><td></td><td></td><td></td><td> <u>-</u></td><td></td><td></td><td>-</td><td></td><td></td></td<>					<u>-</u>			-		
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:										
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:										
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:										
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:										
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:						-	-	-		
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:								-	-	
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:										
Hydric Soil Indicators:       Indicators for Problematic Hydric Soils <sup>1</sup> :         Histic Eppedon (A2)       Sandy Redax (S5)         Bitte Histic (A3)       Sindpot Matrix (S4)         Depleted Below Dark Surface (A1)       Depleted Matrix (F2)         Depleted Below Dark Surface (A1)       Depleted Matrix (F3)         Depleted Below Dark Surface (A12)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Depleted Matrix (F3)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Thick Dark Surface (A12)       Depleted Dark Surface (F0)         Sondy McLW Mineral (S1)       Redox Depressions (F8)         Restrictive Layer (if observed):       "yrue:         Type:						-		-		
Indicators of Hydrophytic vegetation and welland hydrology indicators (Fi)         Bits Histic Expendion (A2)         Bits Histic (A3)         Depleted Bits Mitrix (P2)         2 orn Muck (A10)         Depleted Bits Mitrix (P3)         Depleted Bits Mitrix (P3)         Bits Histic Lays of A45 Grades (A11)         Sem Muck Patter Parts Fields (A12)         Bits Histic Lays of Parts (A31)         Bits Histic Lays of Parts (A11)         Bits Histic Lays of Parts (A11)         Bits Histic Cays of Parts (A12)         Bits Histic Cays of Parts (A13)         Bits Histic Cays of Parts (A13)         Bits Histic Cays of Part	<sup>1</sup> Type: C=Conc	entration, D=D	epletion, RM	=Reduced I	Matrix, CS=Covere	d or Coate	d Sand Gra	ains.	Lecation: PL=Pore Lining	. M=Matrix.
Initial intermediation (A2)       Sandy Gleyed Matrix (54)       Cast Prainte Redox (A16)         Black Hate (A3)       Stripped Matrix (55)       Dark Surface (57)         Hydrogn Sulfade (A4)       Lawny Mucky Mincral (F1)       Dark Surface (77)         Stratified Layers (A5)       Lawny Mucky Mincral (F3)       Dark Surface (71)         Depicted Book Dark Surface (A11)       Depicted Matrix (F3)       Dark Surface (77)         Sandy Mcky Mineral (51)       Depicted Matrix (F3)       Depicted Matrix (F2)         Sendy Muck Mineral (51)       Depicted Matrix (F3)       Depicted Matrix (F3)         Sandy Mcky Mineral (51)       Depicted Matrix (F3)       Depicted Matrix (F3)         Sendy Muck Mineral (51)       Depicted Matrix (F3)       Other (Explain in Remarks)         Sendy Muck Mineral (51)       Depicted Matrix (F3)       Other (Explain in Remarks)         Better (Hohese):       Redox Depressions (F8)       unless disturbed or problematic.         Remarks:       Three:       Hydric Soil Present?       Yes  No         MURDUOGY       Mucky Mater Stained Leaves (B9)       Surface Soil Cracks (B6)       Dialage Patterns (B10)       Dialage Patterns (B10	Hydric Soil I	ndicators:							Indicators for Prob	lematic Hydric Soils <sup>3</sup> :
Image: Support of (A2)       □ Surfy Redox (S5)       □ Dark Surface (S7)         Image: Mark High (A3)       □ Strupped Mark (F1)       □ Dark Surface (S7)         Image: Mark High (A4)       □ Darny (Seved Mark (F2)       □ Orther (Explain in Remarks)         □ Stratified Layers (A3)       □ Darny (Seved Mark (F3)       □ Orther (Explain in Remarks)         □ Deptied Balow Dark Surface (A11)       ✓ Redox Dark Surface (F7)       3 Indicators of Trydrophytic vegetation and wetland hydrology must be proteent; unless disturbed or problematic.         S cm Muck Mineral (S1)       ■ Redox Depressions (F8)       Image: Secondary Indicators of Trydrophytic vegetation and wetland hydrology must be proteent; unless disturbed or problematic.         Retrictive Layer (If Observed):       Type:	Histosol (A	1)			Sandy Gleyed	Matrix (S4	)			-
□ bringer Matrix (S0)       □ bringer Matrix (S0)       □ bringer Matrix (S0)       □ bringer Matrix (S0)         □ bringer Matrix (S1)       □ bringer Matrix (S2)       □ very Shallow Dark Surface (F12)         □ bringer Matrix (F2)       □ very Shallow Dark Surface (F12)       □ very Shallow Dark Surface (F12)         □ bringer Matrix (F2)       □ peleted Matrix (F2)       □ very Shallow Dark Surface (F12)         □ bringer Matrix (F2)       □ peleted Dark Surface (F7)       3 Indicators of hydrophysic vegetation and wetlend hydrology must be present, unless disturbed or problematic.         □ Sandy Muck Minral (S1)       □ peleted Dark Surface (F7)       3 Indicators of hydrophysic vegetation and wetlend hydrology must be present, unless disturbed or problematic.         □ bringer Minral (S1)       □ peleted Dark Surface (F7)       3 Indicators (minimum of two required)         □ bringer Minral (S1)       □ peleted Dark Surface (F7)       ************************************		. ,			Sandy Redox (	(S5)				· · /
□ Stratifie Layers (A)       □ Loamy Glevel Matrix (F2)       □ Very Shallow Dark Surface (TF12)         □ orm Wack (A10)       □ Depieted Matrix (F2)       □ Other (Explain in Remarks)         □ Depieted Dark Surface (A12)       □ Depieted Dark Surface (F6)       □ Indicators of hydrophytic vegetation and wettand hydrology must be present, unless disturbed or problematic.         Restrictive Layer (If observed):       Type:		. ,			Stripped Matri	x (S6)				
□       2 m Muck (A10)       □ Depleted Matrix (F2)       □ Other (Explain in Remarks)         □       Depleted Matrix (F2)       □ Depleted Matrix (F2)       □ Other (Explain in Remarks)         □       Depleted Matrix (F2)       □ Depleted Matrix Surface (F6)       □         □       Sondy Muck Mineral (S1)       □       Depleted Matrix Surface (F7)       □       □ Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:		. ,			Loamy Mucky	Mineral (F	1)			
□ Depleted Below Dark Surface (A11)       □ Depleted Dark (r5)         □ Sandy Muck Mineral (S1)       □ epleted Dark Surface (F7)         □ Sandy Muck Mineral (S1)       □ epleted Dark Surface (F7)         □ Sandy Muck Mineral (S1)       □ epleted Dark Surface (F7)         □ Type:       □ unless disturbed or problematic.         Restrictive Layer (if observed):       Type:         Type:       □ unless disturbed or problematic.         Remarks:       Hydric Soil Present? Yes No ○         Properties (A11)       □ detar-Stained Leaves (B9)         □ factors (minimum of two required)       □ Surface Soil Cracks (B0)         □ high water Table (A2)       □ detate-Stained Leaves (B9)         □ high water Table (A2)       □ detate-Stained Leaves (B9)         □ brindicators (minimum of two required)       □ Surface Soil Cracks (B0)         □ high water Table (A2)       □ detate-Stained Leaves (B9)         □ brindicators (B13)       □ Drainage Patterns (B10)         □ brindicators (B13)       □ Drainage Patterns (B10)         □ brindicators (B13)       □ detate-Stained Leaves (B9)         □ brindicators (B13)       □ detate Fauna (B13)       □ Drainage Patterns (B10)         □ brindicators (B13)       □ detate Fauna (B13)       □ Drainage Patterns (B10)         □ bris deta fauta (B13)       □ detater Fauna (B					Loamy Gleyed	Matrix (F2	2)			
□       Thick Dark Surface (A12)       □       Depleted Dark Surface (P7)       3 Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.         S cm Mucky Peat or Peat (S3)       □       Redox Depressions (P8)		. ,			Depleted Matr	ix (F3)			Other (Explain in	Remarks)
□       Sandy Muck Mineral (S1)       □       Depleted Dark Surrade (Pr)       □       Indicators of hydrophydic vegetation and wetand hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	·		ace (A11)		Redox Dark Su	urface (F6)				
□ sharts vinck filled (3)       □ Redox Depressions (F8)       wetand hydrology must be present, unless disturbed or problematic.         Restrictive Layer (if observed):       Type:	Thick Dark	Surface (A12)			Depleted Dark	Surface (F	-7)		<sup>3</sup> Indicators of hydro	phytic vegetation and
□ S or Mucky Peat or Peat (33)       unless disturbed or problematic.         Restrictive Layer (if observed):       Type:         Depth (inches):	Sandy Muc	ck Mineral (S1)			Redox Depres	sions (F8)			wetland hydrolo	gy must be present,
Type:	5 cm Mucł	ky Peat or Peat	(S3)		•	. ,			unless disturbe	ed or problematic.
Pupph (inches):       Yes       No         Remarks:             Appendix Hydrology Indicators:             Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Vater (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         Surface Water (A1)       Water-Stained Leaves (B1)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Wet Marks (B1)       Hydrogen Sufface Odor (C1)       Crayfish Burrows (C3)         Saturation Nisbile on Aerial Imagery (B7)       Gauge or Well Data (D9)       Sturate or Stressed Plants (D1)         Agal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Ø Geomorphic Position (D2)         Innundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Spassely Vegetated Concewe Surface (B8)       O ther (Explain in Remarks)         Field Observations:       Surface Not @ Depth (inches):       Wettand Hydrology Present?       Yes<	<b>Restrictive La</b>	ıyer (if observ	ed):							
Attraction       Remarks:         Attraction       Remarks:             Attraction       Remarks:             Attraction       Remarks:             Attraction       Remarks:             Attraction       Remarks:             Attract       Remarks:             Attract       Remarks:             Attract       Remarks:             Attract       Remarks:             Attraction       Remarks:             Attraction       Remarks:             Attraction       Remarks:             Attraction       Remarks:           Attraction           Attraction     Remarks:   <	Туре:									
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required); check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fanan (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plans (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Suffide Odor (C1)       Caryfish Burrows (C3)         Sediment Deposits (B2)       Ø Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         I'nt Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         I runndation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Field Observations:         Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       Soil         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       <	Depth (inch	ies):							Hydric Soil Present?	Yes 🔍 No 🔾
HYDROLOGY         Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required); check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fiana (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plans (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Suffide Odor (C1)       Crayfish Burrows (C3)         Sediment Deposits (B2)       Ø Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         I'nt Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       G Geomorphic Position (D2)         I runndation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       Field Observations:         Surface Water Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No       Soil         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes	Remarks:								•	
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Ø Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Dift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Surface Water Present?       Yes       No       Depth (inches):         Water Table Present?       Yes       No       Depth (inches):         Saturation Present?       Yes       No       Depth (inches):       Wetland Hydrology Present?       Yes       No         Describe Recorded Data (stream gauge, monitoring we										
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Dift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):										
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Dift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):										
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Dift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):										
Wetland Hydrology Indicators:         Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Dift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Solis (C6)       Geomorphic Position (D2)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)       FAC-Neutral Test (D5)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)       Wetland Hydrology Present?       Yes       No         Saturation Present?       Yes       No       Depth (inches):										
Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Ø xolizzed Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Sturted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C5)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Wetland Hydrology Present?         Yes       No       Depth (inches):	HYDROLO	GY								
Primary Indicators (minimum of one is required; check all that apply)       Secondary Indicators (minimum of two required)         Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Ø xolizzed Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Sturted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C5)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Wetland Hydrology Present?         Yes       No       Depth (inches):	Wotland Hyd	alogy Indicat	orci							
Surface Water (A1)       Water-Stained Leaves (B9)       Surface Soil Cracks (B6)         High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:		57		uired: chec	k all that apply)				Secondary Indi	cators (minimum of two required)
High Water Table (A2)       Aquatic Fauna (B13)       Drainage Patterns (B10)         Saturation (A3)       True Aquatic Plants (B14)       Dry Season Water Table (C2)         Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Saturation Visible on Aerial Imagery (C9)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:				ulleu, chec		d Lanuar	(PO)			· · · · ·
Saturation (A3) □ True Aquatic Plants (B14) □ Dry Season Water Table (C2)   Water Marks (B1) □ Hydrogen Sulfide Odor (C1) □ Crayfish Burrows (C8)   Sediment Deposits (B2) ✓ Oxidized Rhizospheres on Living Roots (C3) ✓ Saturation Visible on Aerial Imagery (C9)   Drift Deposits (B3) □ Presence of Reduced Iron (C4) □ Stunted or Stressed Plants (D1)   Algal Mat or Crust (B4) □ Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2)   □ Iron Deposits (B5) □ Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5)   □ Inundation Visible on Aerial Imagery (B7) □ Gauge or Well Data (D9)   Sparsely Vegetated Concave Surface (B8) ○ Other (Explain in Remarks) <b>Field Observations:</b> Surface Water Present? Yes No   Quettr Table Present? Yes No   Depth (inches):		. ,			_		(B9)			
Water Marks (B1)       Hydrogen Sulfide Odor (C1)       Crayfish Burrows (C8)         Sediment Deposits (B2)       Oxidized Rhizospheres on Living Roots (C3)       Saturation Visible on Aerial Imagery (C9)         Drift Deposits (B3)       Presence of Reduced Iron (C4)       Stunted or Stressed Plants (D1)         Algal Mat or Crust (B4)       Recent Iron Reduction in Tilled Soils (C6)       ✓ Geomorphic Position (D2)         Iron Deposits (B5)       Thin Muck Surface (C7)       ✓ FAC-Neutral Test (D5)         Inundation Visible on Aerial Imagery (B7)       Gauge or Well Data (D9)         Sparsely Vegetated Concave Surface (B8)       Other (Explain in Remarks)         Field Observations:		. ,			— .	( )				
Sediment Deposits (B2) ✓ Oxidized Rhizospheres on Living Roots (C3) ✓ Saturation Visible on Aerial Imagery (C9)   Drift Deposits (B3) Presence of Reduced Iron (C4) Stunted or Stressed Plants (D1)   Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2)   Inon Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5)   Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)   Sparsely Vegetated Concave Surface (B8) Other (Explain in Remarks)   Field Observations:   Surface Water Present? Yes No   Depth (inches): Depth (inches):   Cincludes capillary fringe) Yes No   Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: No   Remarks:										
□ Drift Deposits (B3) □ Presence of Reduced Iron (C4) □ Stunted or Stressed Plants (D1)   □ Algal Mat or Crust (B4) □ Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2)   □ Iron Deposits (B5) □ Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5)   □ Inundation Visible on Aerial Imagery (B7) □ Gauge or Well Data (D9)   ○ Sparsely Vegetated Concave Surface (B8) □ 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):   Water Table Present? Yes No Depth (inches):   Bescribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:   NA Remarks:									_ ·	
Algal Mat or Crust (B4) Recent Iron Reduction in Tilled Soils (C6) ✓ Geomorphic Position (D2)   Iron Deposits (B5) Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5)   Inundation Visible on Aerial Imagery (B7) Gauge or Well Data (D9)   Sparsely Vegetated Concave Surface (B8) 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):   Wetland Hydrology Present? Yes   No Depth (inches):   Saturation Present? Yes   No Depth (inches):   Wetland Hydrology Present? Yes   No Depth (inches):   Persent? Yes No Depth (inches): Saturation Present? Yes								Roots (C3)	_	
□ Iron Deposits (B5) □ Thin Muck Surface (C7) ✓ FAC-Neutral Test (D5)   □ Inundation Visible on Aerial Imagery (B7) □ Gauge or Well Data (D9)   ○ Sparsely Vegetated Concave Surface (B8) ○ 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):   Saturation Present? Yes No Depth (inches):   Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: No   Remarks:									_	
□ Inundation Visible on Aerial Imagery (B7) □ Gauge or Well Data (D9)   □ Sparsely Vegetated Concave Surface (B8) □ Other (Explain in Remarks)   Field Observations:   Surface Water Present? Yes No ●   Depth (inches):								oils (C6)		
□       Sparsely Vegetated Concave Surface (B8)       □       Other (Explain in Remarks)         Field Observations:					Thin Muck S	urface (C7	)		✓ FAC-Neutra	l Test (D5)
Field Observations:   Surface Water Present?   Yes   No   Depth (inches):   Water Table Present?   Yes   No   Depth (inches):   Saturation Present?   Yes   No   Depth (inches):   Wetland Hydrology Present? Yes No Depth (inches): Conscribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: NA Remarks:	Inundation	NVisible on Aeri	al Imagery (	B7)	Gauge or W	ell Data (D	9)			
Surface Water Present? Yes No Depth (inches):   Water Table Present? Yes No Depth (inches):   Saturation Present? Yes No Depth (inches):   Wetland Hydrology Present? Yes No Depth (inches): Image: No Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: NA Remarks:	Sparsely V	egetated Conca	ive Surface (	B8)	Other (Expla	in in Rema	arks)			
Surface Water Present? Yes No Depth (inches):   Water Table Present? Yes No Depth (inches):   Saturation Present? Yes No Depth (inches):   Wetland Hydrology Present? Yes No Depth (inches): Image: No Secribe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: NA Remarks:										
Water Table Present? Yes No  Depth (inches): Saturation Present? Yes No  No  Depth (inches): Depth (inches): Depth (inches): Wetland Hydrology Present? Yes  No  No  No  No  Remarks:	Field Observa	ations:								
Saturation Present? Yes No O Depth (inches): Wetland Hydrology Present? Yes No O Depth (inches): Wetland Hydrology Present? Yes No O Depth (inches): Depth (inches): Remarks:	Surface Water	Present?	Yes $\bigcirc$	No 🖲	Depth (inc	hes):		_		
Saturation Present? Yes No O Depth (inches): Wetland Hydrology Present? Yes No O Depth (inches): Wetland Hydrology Present? Yes No O Depth (inches): Depth (inches): Remarks:	Water Table Pr	esent?		No 🖲	Depth (inc	hoc):				
(includes capillary fringe) Yes Vo Vo Depth (inches): Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: NA Remarks:								Wet	land Hydrology Present?	Yes $ullet$ No $igodot$
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: NA Remarks:			Yes 🔾	No 🔍	Depth (inc	hes):		_		
NA Remarks:			tream gaug	je, monito	ring well, aerial	photos, p	previous in	nspections	s), if available:	
Remarks:	NA									
		f hydrology is	curface ***	noff						
	The source of	i nyurulugy Is	surrace ru							

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Project/Site: Vassell Station	City/County:	Delaware	S	ampling Da	te:	13-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	oint:	N-MRK-	008 PEM
Investigator(s): MRK, ACB	_ Section, Townsl	ship, Range: S	T <u>4N</u>	R <u>17</u> W		
Landform (hillslope, terrace, etc.): Flat	Lc	ocal relief (concave, convex	none): conc	ave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.23036</u>	Long.:{	82.850678		Datum:	NAD83	
Soil Map Unit Name:BeA: Bennington silt loam, 0 to 2 percent slopes		NW	classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔿	(If no, explain in Remark	s.)			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significantly	disturbed?	Are "Normal Circumsta	nces" present?	Ye	es 💿	No 🔿
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 naturally pro	blematic?	(If needed, explain any	answers in Rei	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes         ●         No         ○           Yes         ●         No         ○           Yes         ●         No         ○	Is the Sampled Area within a Wetland? Yes <ul> <li>No</li> </ul>	

Remarks:

This PEM wetland is located in a depression on the existing sub station property. The depression is collecting surface runoff from the surrounding area. The wetland boundary follows edge of depression.

Dominant

#### **VEGETATION -** Use scientific names of plants.

		— Species? -		
Tree Stratum (Plot size: 30' radius )	Absolute % Cove	e Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 4 (B)
4	0	0.0%		
5.	0	0.0%	0	Percent of dominant Species
	0	= Total Cove	r	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
Sapling/Shrub Stratum (Plot size: 15' radius )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species X 1 =
3.	0	0.0%		FACW species $60 \times 2 = 120$
4.	0	0.0%		FAC species $10 \times 3 = 30$
5.	0	0.0%		FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	r	UPL species $0 \times 5 = 0$
1. Phragmites australis	30	21.4%	FACW	Column Totals: <u>140</u> (A) <u>220</u> (B)
2. Phalaris arundinacea	30	21.4%	FACW	Prevalence Index = $B/A = 1.571$
3. Juncus effusus	25	✔ 17.9%	OBL	
4. Eleocharis palustris	25	✔ 17.9%	OBL	Hydrophytic Vegetation Indicators:
5. Typha angustifolia	10	7.1%	OBL	✓ 1 - Rapid Test for Hydrophytic Vegetation
6. Scirpus cyperinus	10	7.1%	OBL	✓ 2 - Dominance Test is > 50%
7. Setaria pumila		7.1%	FAC	✓ 3 - Prevalence Index is $\leq$ 3.0 <sup>1</sup>
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	140	= Total Cove	r	<sup>1</sup> / <sub>-</sub> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0	0.0%		
1 2.				Hydrophytic
۷		0.0%		Vegetation
	0	= Total Cove	r	Present? Yes VNO U
Remarks: (Include photo numbers here or on a separate sh	eet.)			•

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Description: (Desc	-			confirm the	absence of indicators.)	
Beben	latrix oist)%	Re Color (moist)	dox Features <u>%</u> Type	<sup>1</sup> Loc <sup>2</sup>	Texture	Remarks
(inches) Color (mo 0-16 2.5Y	4/2 80	10YR 5/8	20 C	<u>CC-</u>	Silty Clay Loam	Kellialks
			C			
					-	
<sup>1</sup> Type: C=Concentration, D=I	Depletion, RM=Reduce	ed Matrix, CS=Covere	ed or Coated Sand (	Grains.	Location: PL=Pore Lining.	1=Matrix.
Hydric Soil Indicators:					Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A1)		Sandy Gleyed	. ,		Coast Prairie Redox	(A16)
Histic Epipedon (A2)		Sandy Redox	. ,		Dark Surface (S7)	
Hydrogen Sulfide (A4)		Stripped Matr	. ,		Iron Manganese Ma	sses (F12)
Stratified Layers (A5)		Loamy Mucky			Very Shallow Dark S	jurface (TF12)
2 cm Muck (A10)		Loamy Gleye			Other (Explain in Re	marks)
Depleted Below Dark Su	face (A11)	Redox Dark S	( )			
Thick Dark Surface (A12)	)		k Surface (F7)		3	
Sandy Muck Mineral (S1)	)	Redox Depres	. ,		<sup>3</sup> Indicators of hydroph wetland hydrology	y must be present.
5 cm Mucky Peat or Peat	t (S3)				unless disturbed	
Restrictive Layer (if obser	ved):					
Туре:						$\sim$
Depth (inches):					Hydric Soil Present?	Yes 🖲 No 🔾
Remarks:						
HYDROLOGY						
Wetland Hydrology Indica	itors:					
Primary Indicators (minimum		neck all that apply)			Secondary Indicat	ors (minimum of two required)
Surface Water (A1)		Water-Stair	ned Leaves (B9)		Surface Soil C	racks (B6)
✓ High Water Table (A2)		Aquatic Fau	una (B13)		Drainage Patt	erns (B10)
Saturation (A3)		True Aquat	ic Plants (B14)			ater Table (C2)
Water Marks (B1)		🗌 Hydrogen S	Sulfide Odor (C1)		Crayfish Burro	ws (C8)
Sediment Deposits (B2)		Oxidized R	nizospheres on Livin	ig Roots (C3)	✓ Saturation Vis	ible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of	f Reduced Iron (C4)	)	Stunted or Str	essed Plants (D1)
✓ Algal Mat or Crust (B4)		Recent Iror	n Reduction in Tilled	l Soils (C6)	Geomorphic P	osition (D2)
Iron Deposits (B5)		Thin Muck S	Surface (C7)		✓ FAC-Neutral T	est (D5)
Inundation Visible on Ae	rial Imagery (B7)	Gauge or W	Vell Data (D9)			
Sparsely Vegetated Conc	ave Surface (B8)	Other (Expl	lain in Remarks)			
Field Observations:		\ \				
Surface Water Present?	Yes 🔾 No 🖲	Depth (in	ches):			
Water Table Present?	Yes 💿 No 🖯	) Depth (in	ches): 0			
Saturation Present? (includes capillary fringe)	Yes 💿 No 🗆	) Depth (in	ches): 0	Wetl	land Hydrology Present?	Yes 🖲 No 🔾
Describe Recorded Data (	stream gauge, mon	itoring well, aerial	l photos, previous	s inspections	s), if available:	
NA		2, ,		•		
Remarks:						
The source of hydrology i	s surface runoff.					

Project/Site: Vassell Station	City/County:	Delaware	S	Sampling Dat	e: 13-Apr-23	
Applicant/Owner: AEP		State: OH	Sampling P	oint: V	V-MRK-008 UPL	
Investigator(s): MRK, ACB	_ Section, Towr	nship, Range: S	T <u>4N</u>	R <u>16</u> W		
Landform (hillslope, terrace, etc.): Flat		Local relief (concave, convex	, none): <u>conv</u>	ex		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.230441</u>	Long.:	-82.850371		Datum:	NAD83	_
Soil Map Unit Name:BeA: Bennington silt loam, 0 to 2 percent slopes		NW	I classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	es 🖲 No 🔿	(If no, explain in Remark	(S.)			
Are Vegetation . Soil , or Hydrology significantly	disturbed?	Are "Normal Circumsta	nces" present?	Ye	s 💿 No 🔾	
Are Vegetation , Soil , or Hydrology naturally pro	oblematic?	(If needed, explain an	y answers in Rei	marks.)		

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

Hydrophytic Vegetation Present?	$_{\rm Yes}$ $\bigcirc$	No 🖲		
Hydric Soil Present?	Yes $\bigcirc$	No 🖲	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $\bigcirc$
Wetland Hydrology Present?	Yes $\bigcirc$	No 💿		
Remarks:				

Dominant

Upland data point for W-MRK-008. Upland data was collected within a fallow/old field.

## **VEGETATION -** Use scientific names of plants.

		— Species?		-
_Tree Stratum_(Plot size: 30' radius )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3		0.0%		Species Across All Strata: 2 (B)
4	0	0.0%		
5	0	0.0%	0	Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC:(A/B)
<u>Sapling/Shrub Stratum (</u> Plot size: 15' radius )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2	0	0.0%		OBL species $0 \times 1 = 0$
3.	0	0.0%		FACW species $0   x 2 = 0$
4.	0	0.0%		FAC species $0 \times 3 = 0$
5.	0	0.0%		FACU species $120 \times 4 = 480$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $10$ $x 5 = 50$
1, Dactylis glomerata	50	✔ 38.5%	FACU	Column Totals: <u>130</u> (A) <u>530</u> (B)
2. Festuca arundinacea	50	✔ 38.5%	FACU	Prevalence Index = $B/A = 4.077$
3. Solidago canadensis	10	7.7%	FACU	
4. Andropogon virginicus	10	7.7%	FACU	Hydrophytic Vegetation Indicators:
5. Daucus carota	10	7.7%	UPL	1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		2 - Dominance Test is > 50%
7.	0	0.0%		$\Box$ 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.		0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
Woody Vine Stratum (Plot size: 30' radius )	130	= Total Cove	er	$\frac{1}{2}$ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%		
2.	0	0.0%		Hydrophytic
<u>ــــــــــــــــــــــــــــــــــــ</u>	0	= Total Cove		Vegetation Present? Yes O No O
			.1	
Remarks: (Include photo numbers here or on a separate s	heet.)			

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

-	-		e depth ne				firm the	absence of indicators.)	
Depth _	 Color (mo	atrix		Color (moist)	Redox Featu	res <u>Type<sup>1</sup></u>	Loc <sup>2</sup>	Texture	Remarks
(inches)	10YR	3/3	<u> </u>	10YR 5/8		C	_LOC <sup>2</sup>	Silt Loam	Remarks
	101K						M		
<sup>1</sup> Type: C=Conce	entration, D=D	epletion,	RM=Reduce	ed Matrix, CS=Cov	vered or Coate	d Sand Grai	ns.	Location: PL=Pore Lining.	1=Matrix.
Hydric Soil In	dicators:							Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A				Sandy Gley	yed Matrix (S4	)		Coast Prairie Redox	(416)
Histic Epipe	. ,			Sandy Red	lox (S5)			Dark Surface (S7)	((10)
Black Histic	. ,			Stripped M	. ,			Iron Manganese Ma	sses (F12)
Hydrogen S				_ ,	cky Mineral (F	,		Very Shallow Dark S	
2 cm Muck					yed Matrix (F2	2)		Other (Explain in Re	( )
	elow Dark Surf	face (A11	)	Depleted N	( )				indiks)
	Surface (A12)	•	)		k Surface (F6)				
_	k Mineral (S1)				Dark Surface (I	F7)		<sup>3</sup> Indicators of hydroph	nytic vegetation and
,	Peat or Peat	(53)		Redox Dep	pressions (F8)			unless disturbed	y must be present, or problematic.
Restrictive Lay									
Type:		cu).							
Depth (inche	es):							Hydric Soil Present?	Yes 🔾 No 🖲
Remarks:									
Remarks.									
HYDROLO	GY								
Wetland Hydro		tors							
			required: ct	eck all that apply	)			Secondary Indicat	ors (minimum of two required)
Surface Wa			required, en		, tained Leaves	(B0)			
High Water	. ,				Fauna (B13)	(65)		Drainage Patt	( )
Saturation (					uatic Plants (B:	14)			/ater Table (C2)
Water Mark					n Sulfide Odor	-		Crayfish Burro	
	eposits (B2)				Rhizospheres		oots (C3)		ible on Aerial Imagery (C9)
Drift Depos	,				e of Reduced I	-		_	ressed Plants (D1)
	r Crust (B4)			_	ron Reduction		ls (C6)	Geomorphic F	
Iron Depos					ck Surface (C7			FAC-Neutral 1	
	Visible on Aeri	ial Image	ry (B7)		r Well Data (D	-			
	egetated Conca	-			xplain in Rema	-			
	-		. ,						
Field Observat	tions:								
Surface Water P	resent?	Yes 🤇	🗅 🛛 No 🖲	) Depth	(inches):				
Water Table Pre	sent?	Yes 🤇	🔿 🛛 No 🖲	) Depth	(inches):				
Saturation Prese							Wet	land Hydrology Present?	Yes 🔿 No 🖲
(includes capilla	ry fringe)	Yes 🤇			(inches):				
Describe Reco	rded Data (s	tream g	auge, mon	itoring well, ae	rial photos, p	previous in	spection	s), if available:	
NA									
Remarks:									
No source of h	nydrology wa	is obser	ved.						

Project/Site: Vassell Station Cit	ity/County: D	Delaware		Sampling Da	te:1	3-Apr-23
Applicant/Owner: AEP		State: OH	Sampling I	Point:	N-MRK-	009 PEM
Investigator(s): MRK, ACB 5	Section, Townsh	hip, Range: S	T_4N	R 16W		
Landform (hillslope, terrace, etc.): Flat	Lo	ocal relief (concave, conve	ex, none): conc	cave		
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.23133</u>	Long.:8	32.843972		Datum:	NAD83	
Soil Map Unit Name: <u>Cen1B1: Centerburg silt loam, 2 to 6 percent slopes</u>	S	N	WI classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? $$ Yes $^{()}$	● No ○	(If no, explain in Rema	rks.)			
Are Vegetation 🗌 , Soil 🗌 , or Hydrology 🗌 significantly dis	sturbed?	Are "Normal Circumst	ances" present?	Ye	es 💿 I	No $\bigcirc$
Are Vegetation , Soil , or Hydrology naturally proble	ematic?	(If needed, explain a	ny answers in Re	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes ● Yes ● Yes ○	No () No () No ()	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $\textcircled{ullet}$

Remarks:

This PEM wetland is located in a depression on the existing sub station property. The depression is collecting surface runoff from the surrounding area. The wetland boundary follows edge of depression.

Dominant

#### **VEGETATION -** Use scientific names of plants.

		— Species?		
Tree Stratum (Plot size: 30' radius )	Absolute	Rel.Strat.	Indicator	Dominance Test worksheet:
	% Cover		Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 2 (B)
4.	0	0.0%		
5.	0	0.0%	0	Percent of dominant Species
	0	= Total Cove	er	That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
<u>Sapling/Shrub Stratum (Plot size: 15' radius</u> )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2.	0	0.0%		OBL species 30 x 1 = 30
3.	0	0.0%		FACW species $90$ x 2 = $180$
4.	0	0.0%		FAC species $0 \times 3 = 0$
5.	0	0.0%		FACU species $0 \times 4 = 0$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	$\begin{array}{c} 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 \\ 0 $
1, Phalaris arundinacea	60	✓ 50.0%	FACW	Column Totals: <u>120</u> (A) <u>210</u> (B)
2. Phragmites australis	30	25.0%	FACW	Prevalence Index = $B/A = 1.750$
3. Juncus effusus	10	8.3%	OBL	Hydrophytic Vegetation Indicators:
4. Typha angustifolia	10	8.3%	OBL	
5. Scirpus atrovirens	10	8.3%	OBL	✓ 1 - Rapid Test for Hydrophytic Vegetation
6.	0	0.0%		✓ 2 - Dominance Test is > 50%
7.	0	0.0%		<b>3</b> - Prevalence Index is ≤3.0 $^{1}$
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	120	= Total Cove	er	<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1	0	0.0%		
2	0	0.0%		Hydrophytic
	0	= Total Cove		Vegetation Present? Yes • No ·
		- 10181 0000		resent:
Remarks: (Include photo numbers here or on a separate sh	eet.)			

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Descri	ption: (Describe	to the depth n	eded to document	the indic	ator or con	firm the	absence of indicators.)	
Depth	Matri			ox Featu			- <u>-</u> .	
(inches)	Color (moist)		Color (moist)	<u>%</u>	<u>Tvpe<sup>1</sup></u>	Loc <sup>2</sup>		Remarks
0-16	2.5Y 4/2	2 80 -	10YR 5/6	20	<u> </u>	М	Silty Clay Loam	
					,			
·				s				
71		etion, RM=Reduce	ed Matrix, CS=Covered	l or Coate	d Sand Grair	s.	Location: PL=Pore Lining.	1=Matrix.
Hydric Soil Ir							Indicators for Proble	matic Hydric Soils <sup>3</sup> :
Histosol (A	,		Sandy Gleyed N	•	)		Coast Prairie Redox	(A16)
Histic Epipe	. ,		Sandy Redox (	,			Dark Surface (S7)	
	Sulfide (A4)		Stripped Matrix	• •	• >		Iron Manganese Ma	sses (F12)
Stratified L			Loamy Mucky N	•			Very Shallow Dark S	jurface (TF12)
2 cm Muck			<ul> <li>Loamy Gleyed</li> <li>Depleted Matrix</li> </ul>	•	2)		Other (Explain in Re	marks)
Depleted B	elow Dark Surface	(A11)	Redox Dark Su					
Thick Dark	Surface (A12)		Depleted Dark	• • •			<sup>3</sup> Indicators of hydroph	. dia
Sandy Muc	k Mineral (S1)		Redox Depress	•	,)		wetland hydrology	nytic vegetation and must be present,
5 cm Muck	y Peat or Peat (S3	)					unless disturbed	or problematic.
<b>Restrictive La</b>	yer (if observed)	):						
Туре:								× • • •
Depth (inch	es):						Hydric Soil Present?	Yes 🖲 No 🔿
HYDROLO	GY							
-	ology Indicators							
-	tors (minimum of c	one is required; cl						ors (minimum of two required)
Surface Wa			Water-Staine		(B9)		Surface Soil C	
	r Table (A2)		Aquatic Faun	. ,			Drainage Patt	
Saturation	. ,		True Aquatic		<i>.</i>			ater Table (C2)
Water Mar	Ceposits (B2)		U Hydrogen Su		. ,	ote (C2)	Crayfish Burro	ible on Aerial Imagery (C9)
				•	-	015 (C3)		essed Plants (D1)
	or Crust (B4)		Recent Iron F		. ,	s (C6)	Geomorphic P	
						(00)	✓ FAC-Neutral T	· ,
	Visible on Aerial I	magery (B7)	Gauge or We	-	-			()
	egetated Concave		Other (Explai	-	-			
	-							
Field Observa								
Surface Water I	Present? Y	es 🔿 🛛 No 🖲	Depth (inch	es):				
Water Table Pro	esent? Y	es 🔿 No 🤅	Depth (inch	les):				
Saturation Pres		es O No O	Dopai (iiiai			Wet	land Hydrology Present?	Yes 🔾 No 🖲
(includes capilla	ary fringe) Y							
	orded Data (strea	am gauge, mor	itoring well, aerial p	photos, p	previous ins	pections	s), if available:	
NA								
Remarks:								

The source of hydrology is surface runoff.

Project/Site: Vassell Station	City/County: De	elaware		Sampling Dat	te:1	.3-Apr-23
Applicant/Owner: AEP		State: OH	Sampling P	Point:	N-MRK-	009 UPL
Investigator(s): MRK, ACB	_ Section, Township	p, Range: S	4N	R 16W		
Landform (hillslope, terrace, etc.): Flat	Loca	al relief (concave, convex,	none): flat			
Slope: <u>1.0%</u> / <u>0.6</u> ° Lat.: <u>40.231435</u>	Long.: -82	2.843878		Datum:	NAD83	
Soil Map Unit Name: <u>Cen1B1: Centerburg silt loam, 2 to 6 percent slop</u>		NWI	classification:	NA		
Are climatic/hydrologic conditions on the site typical for this time of year? Yes	s 🖲 No 🔾	(If no, explain in Remarks	.)			
Are Vegetation . , Soil , or Hydrology significantly	disturbed?	Are "Normal Circumstan	ces" present?	Ye	es 💿	No $\bigcirc$
Are Vegetation , Soil , or Hydrology naturally pro	oblematic?	(If needed, explain any	answers in Re	marks.)		

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

Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes O Yes O Yes O	No	Is the Sampled Area within a Wetland?	Yes $\bigcirc$ No $④$
Remarks:				

Dominant

Upland data point for W-MRK-009. Upland data was collected within a fallow/old field.

## **VEGETATION -** Use scientific names of plants.

		— Species?		
_Tree Stratum_(Plot size: 30' radius )	Absolute % Cover	Rel.Strat.	Indicator Status	Dominance Test worksheet:
			Status	Number of Dominant Species
1	0	0.0%		That are OBL, FACW, or FAC: (A)
2	0	0.0%		Total Number of Dominant
3	0	0.0%		Species Across All Strata: 2 (B)
4	0	0.0%		
5	0	0.0%	0	Percent of dominant Species That Are OBL_EACW_or EAC: 0.0% (A/B)
	0	= Total Cove	er	That Are OBL, FACW, or FAC:(A/B)
<u>Sapling/Shrub Stratum (Plot size: 15' radius</u> )				Prevalence Index worksheet:
1	0	0.0%		Total % Cover of: Multiply by:
2	0	0.0%		OBL species $0   x   1 = 0$
3.	0	0.0%		FACW species $0 \times 2 = 0$
4.	0	0.0%		FAC species $0 \times 3 = 0$
5.	0	0.0%		FACU species $145$ $x 4 = 580$
Herb Stratum (Plot size: 5' radius )	0	= Total Cove	er	UPL species $5$ x 5 = 25
1. Dactylis glomerata	50	33.3%	FACU	Column Totals: <u>150</u> (A) <u>605</u> (B)
2. Festuca arundinacea	50	33.3%	FACU	Prevalence Index = $B/A = 4.033$
3. Solidago canadensis	20	13.3%	FACU	Hydrophytic Vegetation Indicators:
4. Trifolium pratense	20	13.3%	FACU	
5. Daucus carota	5	3.3%	UPL	1 - Rapid Test for Hydrophytic Vegetation
6. Andropogon virginicus	5	3.3%	FACU	2 - Dominance Test is > 50%
7.	0	0.0%		<b>3</b> - Prevalence Index is ≤3.0 $^{1}$
8.	0	0.0%		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.	0	0.0%		data in Remarks or on a separate sheet)
10.	0	0.0%		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
<u>Woodv Vine Stratum</u> (Plot size: 30' radius )	150	= Total Cove	er	<sup>1</sup> / <sub>-</sub> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
	0	0.0%		
12.	0	0.0%		Hydrophytic
۷				Vegetation
	0	= Total Cove	er	Present? Yes V No 🔍
Remarks: (Include photo numbers here or on a separate sh	eet.)			

\*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

Profile Description:	-	the depth ne				nfirm the	absence of indicators.)	
Depth	Matrix			ox Featu	res Type <sup>1</sup>	1.002	Texture	Domostra
(inches) Cole 0-16 2.5Y	or (moist) / 4/3	<u>%</u>	Color (moist) 10YR 5/6	<u>%</u> 20	<u> </u>	Loc <sup>2</sup>	Silt Loam	Remarks
-10 2.51						M		
		. <u> </u>				p		
·								
						-		
<sup>1</sup> Type: C=Concentratio		, RM=Reduce	d Matrix, CS=Covered	d or Coate	d Sand Grai	ns.	Location: PL=Pore Lining. M	=Matrix.
Hydric Soil Indicato	rs:						Indicators for Problem	natic Hydric Soils <sup>3</sup> :
Histosol (A1)	-		Sandy Gleyed		)		Coast Prairie Redox (	A16)
Histic Epipedon (A Black Histic (A3)	2)		Sandy Redox (				Dark Surface (S7)	
Hydrogen Sulfide (	Δ4)		Stripped Matrix	• •			Iron Manganese Mas	ses (F12)
Stratified Layers (A			Loamy Mucky	•	,		Very Shallow Dark Su	rface (TF12)
2 cm Muck (A10)	)		Loamy Gleyed	•	2)		Other (Explain in Ren	
Depleted Below Da	ark Surface (A1	1)	Depleted Matri	. ,				
Thick Dark Surface		,	Redox Dark Su	• • •			2	
Sandy Muck Miner	al (S1)		Depleted Dark	•	-7)		<sup>3</sup> Indicators of hydrophy wetland hydrology	rtic vegetation and
5 cm Mucky Peat o	or Peat (S3)		Redox Depress	sions (F8)			unless disturbed c	
Restrictive Layer (if	observed):							
Туре:	-							
Depth (inches):							Hydric Soil Present?	Yes 🔿 No 🖲
Remarks:								
HYDROLOGY								
Wetland Hydrology	Indicators:							
Primary Indicators (mi		s required; ch	eck all that apply)				Secondary Indicato	rs (minimum of two required)
Surface Water (A1	)		Water-Staine	d Leaves	(B9)		Surface Soil Cra	
High Water Table	, (A2)		Aquatic Faur		. ,		Drainage Patte	· · /
Saturation (A3)	. ,		True Aquatic		14)		Dry Season Wa	
Water Marks (B1)			Hydrogen Su	Ifide Odor	(C1)		Crayfish Burrow	vs (C8)
Sediment Deposits	s (B2)		Oxidized Rhi	zospheres	on Living R	oots (C3)	Saturation Visit	ole on Aerial Imagery (C9)
Drift Deposits (B3)			Presence of	Reduced I	ron (C4)		Stunted or Stre	ssed Plants (D1)
Algal Mat or Crust	(B4)		Recent Iron	Reduction	in Tilled So	ils (C6)	Geomorphic Po	sition (D2)
Iron Deposits (B5)			Thin Muck S	urface (C7	)		FAC-Neutral Te	st (D5)
Inundation Visible	on Aerial Imag	ery (B7)	Gauge or We	ell Data (D	9)			
Sparsely Vegetated	d Concave Surf	ace (B8)	Other (Expla	in in Rema	arks)			
Field Observations:		~ ~						
Surface Water Present?	Yes	🔾 No 🖲	Depth (incl	nes):		-		
Water Table Present?	Yes	🔿 🛛 No 🖲	Depth (incl	nes):		_		
Saturation Present? (includes capillary fring	e) Yes	O No 🖲	Depth (incl	nes):		_ Wetl	land Hydrology Present?	Yes 🔾 No 🖲
Describe Recorded D	Data (stream	gauge, mon	itoring well, aerial	photos, p	previous in	spections	s), if available:	
NA								
Remarks:								
No source of hydrold	ogy was obse	rved.						

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization					
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001				

## **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as 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 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, ACB
Date:	4/12/2023
Affiliation:	AECOM
Address:	707 Grant Street, 5th Floor, Pittsburgh, PA 15219
Phone Number:	814-516-1130
e-mail address:	matthew.kline@aecom.com
Name of Wetland:	
	W-MRK-001 PEM
Vegetation Communit(ies):	PEM
HGM Class(es):	Depressional
Location of Wetland: include map, a	address, north arrow, landmarks, distances, roads, etc.
Lat/Long or UTM Coordinate:	
-	40.230841, -82.854909
Lat/Long or UTM Coordinate: USGS Quad Name: County:	Sunbury
USGS Quad Name: County:	Sunbury Delaware
-	Sunbury         Delaware         Berkshire
USGS Quad Name: County: Township: Section and Subsection:	Sunbury         Delaware         Berkshire         N/A
USGS Quad Name: County: Township:	Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code:	Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit:	Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023         See Figure 2
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit: National Wetland Inventory Map:	Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023

Name of Wetland:	W-MRK-001 PEM		
Wetland Size (delineated acres):	0.05	Wetland Size (Estimated total acres):	0.15
Sketch: Include north arrow, relationship         Sketch: Include north arrow, relationsh	e with other surface waters, vegetati	In zones, etc.	N       N         Image: A stand extends beyond the
Fillal SCULE.	12	Category:	1

### **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.

## **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	YES	*NO
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the	YES	*NO
	loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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

AEP Vassell	Station	Deter(a):				
		Rater(s):	MRK, ACB		Date:	4/12/2023
1.0 1.0	Metric 1. Wetlar	•	e).	Field ID: W-MRK-001 PEM		
ts subtotal	Select one size class a >50 acres (>20.2ha) (6 p 25 to <50 acres (10.1 to	ts)		Delinested serves	0.05	
-	10 to <25 acres (4 to <10 3 to <10 acres (1.2 to <4			Delineated acres:	0.05	-
- - - -	0.3 to <3 acres (0.12 to < x 0.1 to <0.3 acres (0.04 to	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)		Total acres:	0.15	
1.0 2.0 pts. subtotal	WIDE. Buffers average 5 MEDIUM. Buffers average 5 NARROW. Buffers avera × VERY NARROW. Buffers 2b. Intensity of surrour VERY LOW. 2nd growth LOW. Old field (>10 year	uffer width. Sele 0m (164ft) or mor le 25m to <50m (8 ge 10m to <25m ( s average <10m (- iding land use. S or older forest, pra- s), shrubland, you esidential, fenced	ct only one and assig e around wetland perim 2 to <164ft) around wetl 32ft to <82ft) around we <32ft) around wetland p elect one or double cl airie, savannah, wildlife ing second growth fores pasture, park, conserva	n score. Do not double check eter (7) land perimeter (4) stiand perimeter (1) erimeter (0) neck and average. area, etc. (7) ti. (5) tition tillage, new fallow field. (3)	<u>.</u>	
7.0         9.0           pts.         subtotal	Metric 3. Hydro 3a. Sources of Water. S High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent suu Perennial surface water 3c. Maximum water deg >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6 x <0.4m (<15.7in) (1) 3e. Modifications to na Note or none apparent ( Recovered (7) x Recovering (3) Recent or no recovery (1	face water (3) lake or stream) (5 oth. Select one. n) (2) tural hydrologic n 12)	) )	3b. Connectivity. Score al 100 year floodplain (1) Between stream/lake and o Part of wetland/upland (e.g. X Part of riparian or upland cc. 3d. Duration inundation/s Semi- to permanently inund Regularly inundated/satural Seasonally saturated in upp fouble check and average. Check all disturbances of X ditch tile dike weir stormwater input	ther human use (1) forest), complex (1) prridor (1) aturation. Score one or of lated/saturated (4) ted (3) per 30cm (12in) (1)	
6.0 15.0	Metric 4. Habita		•			
pts. subtotal	4a. Substrate disturbar         None or none apparent (         Recovered (3)         x       Recovering (2)         Recent or no recovery (1         4b. Habitat development         Excellent (7)         Very good (6)         Good (5)         Moderately good (4)         Fair (3)         Poor to fair (2)         x         Poor (1)         4c. Habitat alteration. S         None or none apparent (         Recovering (3)         Recent or no recovery (1	4) ) tt. Select only on core one or doul 9)	e and assign score.		erved x shrub/sapling remo herbaceous/aquati sedimentation dredging farming nutrient enrichment	bed removal

Wetla	nd ID: W	/-MRK-001 PEM				
Site:	AEP Vassell St	ation	Rater(s):	MRK, ACB	Date:	4/12/202
				Field ID:		
	15.0			W-MRK-001 PEM		
	subtotal this page					
		latuia E. Que sial Matlana				
		letric 5. Special Wetland				
< 10 pts.		heck all that apply and score	e as indicated.			
		og (10) en (10)				
		d growth forest (10)				
		ature forested wetland (5)				
		ke Erie coastal/tributary wetland-unre		))		
		ke Erie coastal/tributary wetland-restr ke Plain Sand Prairies (Oak Openings				
		elict Wet Praires (10)	3)(10)			
		nown occurrence state/federal threater	ned or endangered s	pecies (10)		
		gnificant migratory songbird/water fow				
	Ca	ategory 1 Wetland. See Question 5 Qu	ualitative Rating (-10)			
-3	3.0 12.0 M	letric 6. Plant communit	ies, interspei	sion, microtopograp	ohy.	
20pts.		a. Wetland Vegetation Comm	unities.		nunity Cover Scale	
		ore all present using 0 to 3 scale.			0.1ha (0.2471 acres) contiguous area	
		juatic bed nergent			prises small part of wetland's 1 oderate quality, or comprises a	
		irub		significant part but is of		
		prest			prises significant part of wetland's 2	
		udflats		vegetation and is of mo	derate quality or comprises a small	
		pen water		part and is of high quali		
		her horizontal (plan view) Interspersion	on	3 Present and comprises vegetation and is of hig	s significant part, or more, of wetland's 3	
		elect only one.	011.	vegetation and is of hig	in quality	
		gh (5)		Narrative Description	of Vegetation Quality	
		oderately high(4)			or predominance of nonnative or low	
		oderate (3)		disturbance tolerant na		
		oderately low (2) w (1)			nt component of the vegetation, mod I/or disturbance tolerant native spp	
	X No				nd species diversity moderate to	
		. Coverage of invasive plants. Refe	r		enerallyw/o presence of rare	
		ble 1 ORAM long form for list. Add		threatened or endange		
		deduct points for coverage			ive species, with nonnative spp high	
		tensive >75% cover (-5) oderate 25-75% cover (-3)			rant native spp absent or virtually iversity and often, but not always,	
		parse 5-25% cover (-1)			nreatened, or endangered spp	
		early absent <5% cover (0)			, , , , , , , , , , , , , , , , , , , ,	
		osent (1)		Mudflat and Open Wa		
		I. Microtopography. core all present using 0 to 3 scale.		0 Absent <0.1ha (0.247 a 1 Low 0.1 to <1ha (0.247		
		egetated hummucks/tussucks		2 Moderate 1 to <4ha (0.247		
		parse woody debris >15cm (6in)		3 High 4ha (9.88 acres)		
	0 Sta	anding dead >25cm (10in) dbh		••••		
	0 An	nphibian breeding pools		Microtopography Cov	ver Scale	
				0 Absent 1 Present very small amo	ounts or if more common	
				of marginal quality		
				2 Present in moderate an	nounts, but not of highest	
	12.0 TOTA	L (Max 100 pts)		quality or in small amou	-	
	1 Categ			3 Present in moderate or	*	
					groater amounto	
				and of highest quality		

		answ	cle ver or 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	7		
	Metric 4. Habitat	6		
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography		3	
	TOTAL SCORE	1	2	Category based on score breakpoints

# **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

# Wetland ID:

W-MRK-001 PEM

## 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	*NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	*Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

## **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or the quality of such species is often an indicator of the quality and lack of disturbance 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, ACB
Date:	4/12/2023
Affiliation:	AECOM
Address:	707 Grant Street, 5th Floor, Pittsburgh, PA 15219
Phone Number:	814-516-1130
e-mail address:	matthew.kline@aecom.com
Name of Wetland:	W-MRK-002, W-MRK-003, W-MRK-004
Vegetation Communit(ies):	PEM/PUB
HGM Class(es):	
	Depressional address, north arrow, landmarks, distances, roads, etc.
	+-
W-MRK-	W-MRK-
	W-MRK-
Lat/Long or UTM Coordinate:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786
Lat/Long or UTM Coordinate: USGS Quad Name:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786 Sunbury
Lat/Long or UTM Coordinate: USGS Quad Name: County:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786 Sunbury Delaware
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786 Sunbury Delaware Berkshire
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township: Section and Subsection:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786         Sunbury         Delaware         Berkshire         N/A
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786         Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786         Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786         Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023         See Figure 2
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit: National Wetland Inventory Map:	40.228557, -82.854923; 40.227936, -82.854888; 40.228173, -82.855786         Sunbury         Delaware         Berkshire         N/A         HUC12 050600011306         4/12/2023

Name of Wetland:	W-MRK-002, W-MRK-003, W-	MRK-004	
Wetland Size (delineated acres):	1.88	Wetland Size (Estimated total acres):	1.92
Wetland Size (delineated acres):         Sketch: Include north arrow, relationshi         Image: Comments, Narrative Discussion, Justiff         These PEM/PUB wetland comple         Ined ditches direct surface rund	p with other surface waters, vegetation	acres): on zones, etc.	g sub station property. Rock-
Final score:	21	Category:	1

#### Wetland ID: W-MRK-002, W-MRK-003, W-MRK-004

### **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, W-MRK-003, W-MRK-004

### **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	YES	*NO
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b
### Wetland ID: W-MRK-002, W-MRK-003, W-MRK-004

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
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	<b>Relict Wet Prairies</b> . 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, W-MRK-003, W-MRK-004

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

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

Wetland ID:	W-MRK-002, V	/-MRK-003, W	MRK-004			
Site: AEP Vas	sell Station	Rater(s):	IRK, ACB		Date:	4/12/2023
2.0 2 nax 6 pts subtotal	.0 Metric 1. Wetla Select one size class >50 acres (>20.2ha) (6 25 to <50 acres (10.1 f	and assign score.	).	Field ID: W-MRK-002 PEM, W-	MRK-003 PEM/PUB	, W-MRK-004 PEM
	10 to <25 acres (4 to < 3 to <10 acres (1.2 to -				1.92	_
	x 0.3 to <3 acres (0.12 to 0.1 to <0.3 acres (0.04 <0.1 acres (0.04ha) (0	o <1.2ha) (2pts) to <0.12ha) (1 pt)		Total acres:	1.92	
1.0 3	WIDE. Buffers average MEDIUM. Buffers aver NARROW. Buffers aver X VERY NARROW. Buff 2b. Intensity of surro VERY LOW. 2nd grow LOW. Old field (>10 ye	buffer width. Select a 50m (164ft) or more a age 25m to <50m (82 areage 10m to <25m (82 areage 10m to <25m (82) areage 10m (<33) unding land use. Sel th or older forest, prairi ares), shrubland, young Residential, fenced pa	only one and assig around wetland perim to <164ft) around wet ft to <82ft) around wet 2ft) around wetland p act one or double cl e, savannah, wildlife s second growth fore sture, park, conserva	n score. Do not double check. eter (7) land perimeter (4) stland perimeter (1) erimeter (0) neck and average. area, etc. (7) st. (5) ation tillage, new fallow field. (3)		
7.0 10 nax 30 pts. subtotal	.0 Metric 3. Hydr 3a. Sources of Water			3b. Connectivity. Score all		
	High pH groundwater ( Other groundwater (3) × Precipitation (1) Seasonal/Intermittent s Perennial surface wate <b>3c. Maximum water</b> of >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27 x <0.4m (<15.7in) (1)	5) r (lake or stream) (5) <b>epth. Select one.</b> .6in) (2) <b>hatural hydrologic reg</b> t (12)	jime. Score one or	100 year floodplain (1)         Between stream/lake and ot         Part of wetland/upland (e.g.         X       Part of riparian or upland co         3d. Duration inundation/s:         Semi- to permanently inundated/saturate         Seasonally inundated/saturate         Seasonally saturated in upp         Jouble check and average.         Check all disturbances ob         X         ditch         tile         dike         weir         x stormwater input	her human use (1) forest), complex (1) rridor (1) <b>aturation. Score one or</b> ated/saturated (4) ed (3) er 30cm (12in) (1)	tormwater)
7.0 17	.0 Metric 4. Habit	at Alteration a	nd Developm	ient.		
nax 20 pts. subtotal	4a. Substrate disturb         None or none apparen         Recoverid (3)         x       Recovering (2)         Recent or no recovery         4b. Habitat developm         Excellent (7)         Very good (6)         Good (5)         Moderately good (4)         Fair (3)         X         Poor to fair (2)         Poor (1)         4c. Habitat alteration         None or none apparen         Recovering (3)         X         Recovering (3)	t (4) ent. Select only one a Score one or double t (9)	and assign score.		x shrub/sapling rem herbaceous/aquat x sedimentation dredging farming nutrient enrichmer	ic bed removal
17 subtotal this pa	-	m Quantitative Rating				

Wetlan	id ID:	W-MRK-002, W-MRK-	003, W-MRK-004			
Site:	AEP Vassel	Station	Rater(s):	MRK, ACB	Date:	4/12/202
				Field ID:		
	17.0				W-MRK-003 PEM/PUB, W-MRK	
	17.0			W-WICK-002 F EW,		
	subtotal this page					
0.0	0 17.0	Metric 5. Special Wet	lands.			
10 pts.	subtotal	Check all that apply and	score as indicated.			
		Bog (10)				
		Fen (10) Old growth forest (10)				
		Mature forested wetland (5)				
		Lake Erie coastal/tributary wetland		0)		
		Lake Erie coastal/tributary wetland				
		Lake Plain Sand Prairies (Oak Op Relict Wet Praires (10)	enings) (10)			
		Known occurrence state/federal th	nreatened or endangered s	pecies (10)		
		Significant migratory songbird/wat				
		Category 1 Wetland. See Question	n 5 Qualitative Rating (-10	)		
4.	0 21.0	Metric 6. Plant comm	unities, interspei	sion, microtopograp	ny.	
20pts.	subtotal	6a. Wetland Vegetation Co			nunity Cover Scale	
		Score all present using 0 to 3 scal	e.		0.1ha (0.2471 acres) contiguous area	
	1	Aquatic bed Emergent			prises small part of wetland's 1 derate quality, or comprises a	
	<u> </u>	Shrub		significant part but is of		
		Forest			prises significant part of wetland's 2	
		Mudflats Open water			derate quality or comprises a small	
		Open water Other		part and is of high quali 3 Present and comprises	significant part, or more, of wetland's 3	
		6b. horizontal (plan view) Inters Select only one.	persion.	vegetation and is of hig		
		High (5)		Narrative Description	of Vegetation Quality	
		Moderately high(4)			r predominance of nonnative or low	
		Moderate (3) Moderately low (2)		disturbance tolerant nat	tive species to component of the vegetation, mod	
	x	Low (1)			/or disturbance tolerant native spp	
		None (0)		can also be present, an	d species diversity moderate to	
		6c. Coverage of invasive plants.			nerallyw/o presence of rare	
		Table 1 ORAM long form for list. A or deduct points for coverage	Auu	threatened or endanger A predominance of nati	ve species, with nonnative spp high	
		Extensive >75% cover (-5)		and/or disturbance tole	rant native spp absent or virtually	
		Moderate 25-75% cover (-3)			versity and often, but not always,	
	X	Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, th	reatened, or endangered spp	
		Absent (1)		Mudflat and Open Wa	ter Class Quality	
		6d. Microtopography.		0 Absent <0.1ha (0.247 a		
	1	Score all present using 0 to 3 scal Vegetated hummucks/tussucks	e.	1 Low 0.1 to <1ha (0.247 2 Moderate 1 to <4ha (2.4		
		Coarse woody debris >15cm (6in)		3 High 4ha (9.88 acres) c		
	0	Standing dead >25cm (10in) dbh				
	1	Amphibian breeding pools		Microtopography Cov	er Scale	
				0 Absent 1 Present very small amo	unts or if more common	
				of marginal quality		
				2 Present in moderate an	nounts, but not of highest	
	21.0 TC	OTAL (Max 100 pts)		quality or in small amou	nts of highest quality	
	1 Ca	itegory		3 Present in moderate or	greater amounts	

and of highest quality

### Wetland ID: W-MRK-002, W-MRK-003, W-MRK-004

		answ	cle /er or 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		1	
	Metric 3. Hydrology	,	7	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography		4	
	TOTAL SCORE	2	1	Category based on score breakpoints

### **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

## Wetland ID: W-MRK-002, W-MRK-003, W-MRK-004

### 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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one	*Category 1	Category 2	Category 3		

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization				
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001			

#### **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or the quality of such species is often an indicator of the quality and lack of disturbance 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, ACB					
Date:	4/12/2023					
Affiliation:	AECOM					
Address:						
Phone Number:	814-516-1130					
-mail address:	matthew.kline@aecom.com					
Name of Wetland:	W-MRK-005 PEM/PFO					
egetation Communit(ies):	PEM/PFO					
IGM Class(es):	Depressional					
.ocation of Wetland: include map, a	ddress, north arrow, landmarks, distances, roads, etc.					
_	W-MRK-					
Ĺ						
at/Long or UTM Coordinate:						
	40.227070, -82.855824 Sunbury					
ISGS Quad Name:	40.227070, -82.855824					
JSGS Quad Name: County:	40.227070, -82.855824 Sunbury					
JSGS Quad Name: County: Township: Section and Subsection:	40.227070, -82.855824 Sunbury Delaware					
JSGS Quad Name: County: Township: Section and Subsection:	40.227070, -82.855824 Sunbury Delaware Berkshire					
JSGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code:	40.227070, -82.855824 Sunbury Delaware Berkshire					
JSGS Quad Name: County: Fownship: Section and Subsection: Hydrologic Unit Code: Site Visit:	40.227070, -82.855824 40.227070, -82.855824 Sunbury Delaware Berkshire N/A HUC12 050600011306					
at/Long or UTM Coordinate: JSGS Quad Name: County: Cownship: Section and Subsection: Hydrologic Unit Code: Site Visit: National Wetland Inventory Map: Dhio Wetland Inventory Map:	40.227070, -82.855824 40.227070, -82.855824 Sunbury Delaware Berkshire N/A HUC12 050600011306 4/12/2023					

Delineation report/map:

See Figure 3

Name of Wetland:	W-MRK-005 PEM/PFO		
Wetland Size (delineated acres):	0.40	Wetland Size (Estimated total acres):	2.85
Sketch: Include north arrow, relationshi	p with other surface waters, vegetation		
Comments, Narrative Discussion, Justif This PEM/PFO wetland complex forested area that drains outside	is located in a depression co		
Final score:	21	Category:	1

#### **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.

#### **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	YES	*NO
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	*NO Go to Question 9a
possible Category 3 status.	Go to Question 9a
VES	*NO
Go to Question 9b	*NO Go to Question 10
VES	*NO
Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
YES	*NO
Go to Question 9d	Go to Question 10
YES	NO
Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
YES	NO
Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
YES	*NO
Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
YES	*NO
Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating
	YES Wetland should be evaluated for possible Category 3 status Go to Question 10 YES Wetland is a Category 3 wetland Go to Question 10 YES Wetland should be evaluated for possible Category 3 status Go to Question 10 YES Wetland is a Category 3 wetland. Go to Question 11 YES Wetland is a Category 3 wetland. Go to Question 11

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

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

Wetla	nd ID:	W-MRK-005 PEM/PFO				
Site:	AEP Vasse	Il Station	Rater(s):	MRK, ACB	Date:	4/12/202
				Field ID:		
	21.0			W-MRK-005 PEM/	PFO	
	subtotal this page					
	1.5					
0	0.0 21.0	Metric 5. Special Wetlan	ds.			
-	subtotal	Check all that apply and sco				
( 10 pts.	subtotai	Bog (10)	e as mulcaleu.			
		Fen (10)				
		Old growth forest (10) Mature forested wetland (5)				
	_	Lake Erie coastal/tributary wetland-un	estricted hydrology (1	0)		
		Lake Erie coastal/tributary wetland-res		-,		
	_	Lake Plain Sand Prairies (Oak Opening	gs) (10)			
		Relict Wet Praires (10) Known occurrence state/federal threate	ened or endangered s	pecies (10)		
		Significant migratory songbird/water for				
		Category 1 Wetland. See Question 5 G	ualitative Rating (-10	Í.		
0	0.0 21.0	Metric 6. Plant communi	ties, interspei	sion, microtopograp	hy.	
20pts.	subtotal	6a. Wetland Vegetation Comm	nunities.	Vegetation Comm	nunity Cover Scale	
		Score all present using 0 to 3 scale.		0 Absent or comprises <0	.1ha (0.2471 acres) contiguous area	
		Aquatic bed			prises small part of wetland's 1	
		1 Emergent Shrub		vegetation and is of moo significant part but is of	derate quality, or comprises a	
		1 Forest			prises significant part of wetland's 2	
		Mudflats		vegetation and is of mod	derate quality or comprises a small	
		Open water		part and is of high qualit		
		Other 6b. horizontal (plan view) Interspers	ion	vegetation and is of high	significant part, or more, of wetland's 3	
		Select only one.		vegetation and to of high	quanty	
		High (5)		Narrative Description		
		Moderately high(4) Moderate (3)		Low spp diversity and/or disturbance tolerant nati	r predominance of nonnative or low	
		Moderately low (2)			t component of the vegetation, mod	
		Low (1)			/or disturbance tolerant native spp	
		x None (0)			d species diversity moderate to	
		6c. Coverage of invasive plants. Ref Table 1 ORAM long form for list. Add	er	threatened or endanger	nerallyw/o presence of rare ed spn to	
		or deduct points for coverage			ve species, with nonnative spp high	
		Extensive >75% cover (-5)			ant native spp absent or virtually	
		x Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)			versity and often, but not always, reatened, or endangered spp	
		Nearly absent <5% cover (0)		the presence of fale, th	reatened, or endangered spp	
		Absent (1)		Mudflat and Open Wat		
		6d. Microtopography.		0 Absent <0.1ha (0.247 ac		
		Score all present using 0 to 3 scale. Vegetated hummucks/tussucks		1 Low 0.1 to <1ha (0.247 2 Moderate 1 to <4ha (2.4		
		1 Coarse woody debris >15cm (6in)		3 High 4ha (9.88 acres) or		
		0 Standing dead >25cm (10in) dbh		,		
		0 Amphibian breeding pools		Microtopography Cove 0 Absent	er Scale	
				Absent     Present very small amount	unts or if more common	
				of marginal quality		
				2 Present in moderate am	ounts, but not of highest	
	<b>21.0</b> <sup>⊤</sup>	OTAL (Max 100 pts)		quality or in small amou	nts of highest quality	
	1 C	ategory		3 Present in moderate or	greater amounts	
		·		and of bish and available		

and of highest quality

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

## **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

### Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	*NO	Is quantitative rating score <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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category					
Choose one *Category 1 Category 2 Category 3					

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001		

#### **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or the quality of such species is often an indicator of the quality and lack of disturbance 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, ACB
Date:	4/12/2023
Affiliation:	AECOM
Address:	707 Grant Street, 5th Floor, Pittsburgh, PA 15219
Phone Number:	814-516-1130
e-mail address:	
Name of Wetland:	matthew.kline@aecom.com
	W-MRK-006, W-MRK-007
Vegetation Communit(ies):	PEM/PUB
HGM Class(es):	Depressional
Location of Wetland: include map,	address, north arrow, landmarks, distances, roads, etc.
	W-MRK-006
	•
Lat/Long or UTM Coordinate:	
	40.22806, -82.850033; 40.229097, -82.850136
USGS Quad Name:	40.22806, -82.850033; 40.229097, -82.850136           Sunbury
USGS Quad Name: County:	40.22806, -82.850033; 40.229097, -82.850136           Sunbury           Delaware
JSGS Quad Name: County: Township:	40.22806, -82.850033; 40.229097, -82.850136           Sunbury           Delaware           Berkshire
USGS Quad Name: County: Township: Section and Subsection:	40.22806, -82.850033; 40.229097, -82.850136           Sunbury           Delaware
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code:	40.22806, -82.850033; 40.229097, -82.850136 Sunbury Delaware Berkshire N/A
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit:	40.22806, -82.850033; 40.229097, -82.850136 40.22806, -82.850033; 40.229097, -82.850136 Sunbury Delaware Berkshire N/A HUC12 050600011306
Lat/Long or UTM Coordinate: USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit: National Wetland Inventory Map: Ohio Wetland Inventory Map:	40.22806, -82.850033; 40.229097, -82.850136           40.22806, -82.850033; 40.229097, -82.850136           Sunbury           Delaware           Berkshire           N/A           HUC12 050600011306           4/13/2023
USGS Quad Name: County: Township: Section and Subsection: Hydrologic Unit Code: Site Visit: National Wetland Inventory Map:	40.22806, -82.850033; 40.229097, -82.850136 40.22806, -82.850033; 40.229097, -82.850136 Sunbury Delaware Berkshire N/A HUC12 050600011306 4/13/2023 See Figure 2

Name of Wetland:	W-MRK-006, W-MRK-007		
Wetland Size (delineated acres):	2.71	Wetland Size (Estimated total acres):	2.71
Sketch: Include north arrow, relationshi	p with other surface waters, vegetation		
	With other surface waters, vegetation	W-MRK-007 W-MRK-006	
		marge and the first	
Comments, Narrative Discussion, Justif These PEM/PUB wetlands are m	an-made sediment trap locate	ed on the existing sub station	property. Rock-lined ditches
direct surface runoff to the depr	essions. Wetland boundary fo	llows edge of depression.	
Final score:	18	Category:	1

#### **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.

#### **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	YES	*NO
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
	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	YES	*NO
	Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the	YES	*NO
	loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
	Does the wetland have a predominance of native species within its vegetation	YES	NO
	communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	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	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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

6 μts         subtotal         Sele           25 to         25 to           10 3 to         3 to           3 to         3 to           10 to         3.0           14 pts.         subtotal           25 to         0.1 to           14 pts.         subtotal           20 pts.         subtotal           20 pts.         subtotal           20 pts.         subtotal	Rater(s):     Rater(s):     Alter(s):     Alter(s):	nd surrounding ect only one and assign re around wetland perims 22 to <164f1 around wetl (32ft to <82ft) around wetl (32ft to <82ft) around wetland pe Select one or double ch rairle, savannah, wildlife soung second growth fores d pasture, park, conserva w cropping, mining, const	an score. Do not double check.         teter (7)         tland perimeter (4)         tetland perimeter (1)         perimeter (0)         heck and average.         area, etc. (7)         st. (5)         ation tillage, new fallow field. (3)         struction. (1)         3b. Connectivity. Score all that apply.         100 year floodplain (1)         Between stream/lake and other human use (1)         Part of inparian or upland corridor (1)         3d. Duration inundation/saturation. Score one or dbl check.         Semi- to permanently inundated/saturated (4)         Regularly inundated/saturated (3)
6 pts subtotal Sele ⇒50 a 25 to 3 to 3 to x 0.3 tt < 1.0 3.0 Me 14 pts. subtotal 2a. C WIDI MED x HIGH 7.0 10.0 Me 30 pts. subtotal 3a. S High Othe x HIGH 0.1 tt x 4 G x 4 G x 4 S Sele 25 to 10 3 to x 0.3 tt x 0.1 tt	act one size class and assign score acres (>20.2ha) (6 pts) o <50 acres (10.1 to <20.2ha) (5 pts) o <50 acres (4 to <10.1ha) (4 pts) <10 acres (1.2 to <4ha) (3 pts) to <3 acres (0.4 to <0.1ha) (4 pts) to <3 acres (0.4 to <0.1cha) (4 pts) to <3 acres (0.4 to <0.1cha) (1 pt) I acres (0.04 to <0.12ha) (1 pt) I acres (0.04ha) (0 pts) etric 2. Upland buffers a Calculate average buffer width. Sel DLM. Buffers average 50m (164ft) or mo DLM. Buffers average 50m to <50m ( RROW. Buffers average 50m to <52m (184K) or Mo DLM. Buffers average 50m to <25m X Y NARROW. Buffers average <10m Intensity of surrounding land use. X LOW. 2nd growth or older forest, p V. Old field (>10 years), shrubland, yc DERATELY HIGH. Residential, fence H. Urban, industrial, open pasture, ro etric 3. Hydrology. Sources of Water. Score all that ap n pH groundwater (5) er groundwater (3) cipitation (1) sonal/Intermittent surface water (3) ennial surface water (lake or stream) ( Maximum water depth. Select one. /(27.6in) (3)	nd surrounding ect only one and assign re around wetland perims 22 to <164f1 around wetl (32ft to <82ft) around wetl (32ft to <82ft) around wetland pe Select one or double ch rairle, savannah, wildlife soung second growth fores d pasture, park, conserva w cropping, mining, const	W-MRK-006 PEM/PUB, W-MRK-007 PEM         Delineated acres:       2.71         Total acres:       2.71         Total acres:       2.71         gland use.       2.71         un score. Do not double check.         neter (7)       100 year floodplain (1)         between stream/lake and other human use (1)         Part of wetland/upland (e.g. forest), complex (1)         X Part of riparian or upland corridor (1)         3d. Duration inundation/saturation (2)         Semi- to permanently inundated/saturated (4)         Regularly inundated/saturated (3)
7.0         10.0           30 pts.         subtotal           7.0         10.0           30 pts.         subtotal           7.0         10.0           Were         20.1           Width         Width           Were         20.1           Wordth         Were           Width         Were           Width         Were           Width         3a. S           Width         Were           Seas         Perce           Sc. N.         0.7           Were         Were           Were         Were           Were         Were           Were         Seas           Were         Seas           Were         Seas           Were         Seas           Were         Seas           Were         Seas	acres (>20.2ha) (6 pts) o <50 acres (10.1 to <20.2ha) (5 pts) o <50 acres (4 to <10.1ha) (4 pts) <10 acres (1.2 to <4ha) (3 pts) to <3 acres (0.12 to <1.2ha) (2pts) to <3 acres (0.04 to <0.12ha) (1 pt) I acres (0.04 to <0.12ha) (1 pt) I acres (0.04ha) (0 pts) etric 2. Upland buffers a Calculate average buffer width. Sel UB. Buffers average 50m (164ft) or mc DIUM. Buffers average 50m to <50m (RROW. Buffers average 50m to <50m RY NARROW. Buffers average <10m Intensity of surrounding land use. RY LOW. 2nd growth or older forest, p V. Old field (>10 years), shrubland, yc DERATELY HIGH. Residential, fencer H. Urban, industrial, open pasture, rov etric 3. Hydrology. Sources of Water. Score all that apin pH groundwater (5) er groundwater (3) cipitation (1) sonal/Intermittent surface water (3) ennial surface water (lake or stream) ( Maximum water depth. Select one. / (27.6in) (3)	nd surrounding ect only one and assign re around wetland perims 22 to <164ft) around wetl (32ft to <82ft) around wetl (32ft to <82ft) around wetland pe Select one or double ch rairle, savannah, wildlife sung second growth fores d pasture, park, conserva w cropping, mining, const	Total acres:       2.71         g land use.
3 to -         x       0.3 tr         0.1 tr       0.1 tr         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.1       -0.1         -0.7       -0.4         -0.5       -0.4         -0.7       -0.4         -0.7       -0.4         -0.4       -0.4         -0.5       -0.4         -0.4       -0.4         -0.5       -0.4         -0.4       -0.4         -0.5       -0.4         -0.7       -0.4         -0.4       -0.4         -0.7       -0.4         -0.7       -0.4         -0.7       -0.4         -0.7       -0.4         -0.7       -0.4         -0.7       -0.4	<10 acres (1.2 to <4ha) (3 pts) to <3 acres (0.12 to <1.2ha) (2pts) to <0.3 acres (0.04 to <0.12ha) (1pt) acres (0.04ha) (0 pts) etric 2. Upland buffers a Calculate average buffer width. Sel DE. Buffers average 50m (164ft) or mc DIUM. Buffers average 25m to <50m ( RROW. Buffers average 25m to <50m ( RROW. Buffers average 10m to <25m RY NARROW. Buffers average <10m Intensity of surrounding land use. RY LOW. 2nd growth or older forest, p V. Old field (>10 years), shrubland, yc DERATELY HIGH. Residential, fencer H. Urban, industrial, open pasture, ro etric 3. Hydrology. Sources of Water. Score all that api n pH groundwater (3) cipitation (1) sonal/Intermittent surface water (3) ennial surface water (lake or stream) ( Maximum water depth. Select one. / (27.6in) (3)	ect only one and assign re around wetland perime 82 to <164ft) around wetl (32ft to <82ft) around wetl (32ft to <82ft) around wetland per Select one or double ch rairie, savannah, wildlife ; ung second growth fores d pasture, park, conserva w cropping, mining, const	g land use.         nn score. Do not double check.         heter (7)         tand perimeter (4)         etland perimeter (1)         her (7)         st. (7)         st. (7)         st. (7)         st. (7)         st. (5)         ation tillage, new fallow field. (3)         struction. (1)         3b. Connectivity. Score all that apply.         100 year floodplain (1)         Between stream/lake and other human use (1)         Part of rigarian or upland corridor (1)         3d. Duration inundation/saturation. Score one or dbi check.         Semi- to permanently inundated/saturated (4)         Regularly inundated/saturated (3)
1.0         3.0         Me           14 pts.         subtotal         2a. C           WIDI         MED         NAR           X VER         2b. II           LOW         MOD           X VER         2b. II           LOW         MOD           X HIGH         3a. S           30 pts.         subtotal         3a. S           Other         Seas           Pere         3c. N           Seas         Pere           CX         Recc           T.0         17.0           Me         None           20 pts.         subtotal           20 pts.         subtotal	etric 2. Upland buffers a Calculate average buffer width. Sel DE. Buffers average 50m (164ff) or mc DIUM. Buffers average 50m (164ff) or mc DIUM. Buffers average 50m (164ff) ROW. Buffers average 10m to <25m RV NARROW. Buffers average <10m Intensity of surrounding land use. RY LOW. 2nd growth or older forest, pt V. Old field (>10 years), shrubland, yc DERATELY HIGH. Residential, fenced H. Urban, industrial, open pasture, ror Petric 3. Hydrology. Sources of Water. Score all that ap n pH groundwater (3) cipitation (1) sonal/Intermittent surface water (3) ennial surface water (lake or stream) ( Maximum water depth. Select one. / (27.6in) (3)	ect only one and assign re around wetland perime 82 to <164ft) around wetl (32ft to <82ft) around wetl (32ft to <82ft) around wetland per Select one or double ch rairie, savannah, wildlife ; ung second growth fores d pasture, park, conserva w cropping, mining, const	an score. Do not double check.         teter (7)         tland perimeter (4)         tetland perimeter (1)         perimeter (0)         heck and average.         area, etc. (7)         st. (5)         ation tillage, new fallow field. (3)         struction. (1)         3b. Connectivity. Score all that apply.         100 year floodplain (1)         Between stream/lake and other human use (1)         Part of inparian or upland corridor (1)         3d. Duration inundation/saturation. Score one or dbl check.         Semi- to permanently inundated/saturated (4)         Regularly inundated/saturated (3)
20 pts. subtotal 4a. S	Im (<15.7in) (1) Modifications to natural hydrologic e or none apparent (12) overed (7) overing (3) ent or no recovery (1)	regime. Score one or d	Seasonally inundated (2)         x       Seasonally saturated in upper 30cm (12in) (1)         double check and average.         Check all disturbances observed         X       ditch         tile       point source (nonstormwater)         tile       road bed/RR track         weir       dredging         x       stormwater input
	etric 4. Habitat Alteration Substrate disturbance. Score one o	•	
X Recc 4b. 1 Exce Very Goor Mod Fair X Poor Poor 4c. 1 Nons Recc X Recc X Recc X Recc	r to fair (2)	uble check and average	e. Check all disturbances observed x mowing x shrub/sapling removal grazing herbaceous/aquatic bed removal x clearcutting sedimentation selective cutting dredging woody debris removal farming toxic pollutants nutrient enrichment

Vetlar	nd ID:	W-MRK-006, W-MRK-007				
Site:	AEP Vassell	Station	Rater(s):	MRK, ACB	Date:	4/12/202
				Field ID:		
	17.0			W-MRK-006 PEM	/PUB, W-MRK-007 PEM	
	subtotal this page					
0.	.0 17.0	Metric 5. Special Wetland	s.			
10 pts.	subtotal	_Check all that apply and score	e as indicated.			
		Bog (10) Fen (10)				
		Old growth forest (10)				
		Mature forested wetland (5)		<b>`</b>		
		Lake Erie coastal/tributary wetland-unres Lake Erie coastal/tributary wetland-restri		))		
		Lake Plain Sand Prairies (Oak Openings	s) (10)			
		Relict Wet Praires (10) Known occurrence state/federal threater	ned or endangered s	ecies (10)		
		Significant migratory songbird/water fow	I habitat or usage (10			
		Category 1 Wetland. See Question 5 Qu	alitative Rating (-10)			
1.	.0 18.0	Metric 6. Plant communit	ies, intersper	sion, microtopograp	ony.	
20pts.	subtotal	6a. Wetland Vegetation Comm	unities.		munity Cover Scale	
		Score all present using 0 to 3 scale.			0.1ha (0.2471 acres) contiguous area pprises small part of wetland's 1	
	1	Emergent			oderate quality, or comprises a	
		Shrub		significant part but is of	f low quality	
		Forest Mudflats			nprises significant part of wetland's 2 oderate quality or comprises a small	
	1	Open water		part and is of high qual	ity	
		Other 6b. horizontal (plan view) Interspersion	<b>.</b>	<li>3 Present and comprises vegetation and is of high</li>	s significant part, or more, of wetland's and guality	3
		Select only one.	511.	vegetation and is of hig	in quanty	
		High (5)			of Vegetation Quality	
		Moderately high(4) Moderate (3)		disturbance tolerant na	or predominance of nonnative or low tive species	
		Moderately low (2)		Native spp are dominated	nt component of the vegetation, mod	
	x	Low (1) None (0)			d/or disturbance tolerant native spp nd species diversity moderate to	
		6c. Coverage of invasive plants. Refe	r		enerallyw/o presence of rare	
		Table 1 ORAM long form for list. Add		threatened or endange		
		or deduct points for coverage Extensive >75% cover (-5)			ive species, with nonnative spp high erant native spp absent or virtually	
	x	Moderate 25-75% cover (-3)		absent, and high spp d	liversity and often, but not always,	
		Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, the	nreatened, or endangered spp	
		Absent (1)		Mudflat and Open Wa		
		6d. Microtopography.		0 Absent <0.1ha (0.247 a		
	0	Score all present using 0 to 3 scale. Vegetated hummucks/tussucks		1 Low 0.1 to <1ha (0.247 2 Moderate 1 to <4ha (2.		
	0	Coarse woody debris >15cm (6in)		3 High 4ha (9.88 acres)		
		Standing dead >25cm (10in) dbh Amphibian breeding pools		Microtopography Cov	ver Scale	
	<u> </u>			0 Absent		
					ounts or if more common	
				of marginal quality 2 Present in moderate ar	nounts, but not of highest	
	18.0 TC	TAL (Max 100 pts)		quality or in small amou	-	
		itegory		3 Present in moderate or	* * *	
				5 Tresent in moderate of	<u></u>	

and of highest quality

		answ	cle /er or 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		1	
	Metric 3. Hydrology	,	7	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography		1	
	TOTAL SCORE	1	8	Category based on score breakpoints

### **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

### Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	*NO	Is quantitative rating score <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 moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

		Final Category	,	
Choose one	*Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Metho for Wetland Categorization	od for Wetlands 10 Page Form
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

#### **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or the quality of such species is often an indicator of the quality and lack of disturbance 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, ACB			
Date:	4/13/2023			
Affiliation:	AECOM			
Address:	707 Grant Street, 5th Floor, Pittsburgh, PA 15219			
Phone Number:	814-516-1130			
e-mail address:	matthew.kline@aecom.com			
Name of Wetland:	W-MRK-008 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:	40.23036, -82.850678
USGS Quad Name:	Sunbury
County:	Delaware
Township:	Berkshire
Section and Subsection:	N/A
Hydrologic Unit Code:	HUC12 050600011306
Site Visit:	4/13/2023
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

Wetland Size (delineated acres):       1.04       Wetland Size (Estimated total acres):       1.04         Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.       1.04       Image: Construction of the surface waters, vegetation zones, etc.	Name of Wetland:	W-MRK-008 PEM		
Comments, Narrative Discussion, Justification of Category Changes: This PEM wetland is located in a depression on the existing sub station property. The depression is collecting surface	Wetland Size (delineated acres):	1.04	acres):	1.04
This PEM wetland is located in a depression on the existing sub station property. The depression is collecting surface	Sketch: Include north arrow, relationshi		n zones, etc.	
This PEM wetland is located in a depression on the existing sub station property. The depression is collecting surface				
Final score: 15 Category: 1	This PEM wetland is located in a runoff from the surrounding are	a depression on the existing s a. The wetland boundary follo	ows edge of depression.	

#### **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.

#### **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	YES	*N0
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

ßb	Mature forested wetlands. Is the wetland a forested wetland with $50\%$ or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
b	Does the wetland's hydrology result from measures designed to prevent erosion and the	YES	*NO
	loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
ic.	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
d	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
le	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
0	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
1	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Ratin

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

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

: AEP Vassell	Station					
		Rater(s): MRI	ACB		Date:	4/13/2023
2.0 2.0	Metric 1. Wetlan	d Area (size).	Field W-MF	ID: K-008 PEM		
pts subtotal	Select one size class an					
-	>50 acres (>20.2ha) (6 pt 25 to <50 acres (10.1 to		<b>—</b>			7
	10 to <25 acres (4 to <10	1ha) (4 pts)	Deline	eated acres:	1.04	
3 to <10 acres (1.2 to <4ha) (3 pts) x 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)		Total	acres:	1.04		
1.0 3.0 4 pts. subtotal	2a. Calculate average b WIDE. Buffers average 5 MEDIUM. Buffers average NARROW. Buffers averag X VERY NARROW. Buffers 2b. Intensity of surroun VERY LOW. 2nd growth LOW. Old field (>10 years	uffer width. Select onl im (164ft) or more arou. 2 5m to <50m (82 to < ge 10m to <25m (32ft to average <10m (<32ft) ding land use. Select or older forest, prairie, s ), shrubland, young se sidential, fenced pastu	4ft) around wetland perime 32ft) around wetland perim yound wetland perimeter (0) e or double check and a annah, wildlife area, etc. (' nd growth forest. (5) park, conservation tillage,	not double check. ter (4) teter (1) verage. 7)		
7.0 10.0 ) pts. subtotal	Metric 3. Hydrol 3a. Sources of Water. S High pH groundwater (5) Other groundwater (3) X Precipitation (1) Seasonal/Intermittent surf Perennial surface water (1 3c. Maximum water dep >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6i X <0.4m (<15.7in) (1) 3e. Modifications to nat None or none apparent (1 Recovered (7) X Recovering (3) Recent or no recovery (1)	ace water (3) ake or stream) (5) th. Select one. h) (2) ural hydrologic regim 2)	100 yea Betwee Part of 3d. Dun Semi-t Regula Season X Season Score one or double che	o permanently inunda ly inundated/saturate ally inundated (2) ally saturated in upp	her human use (1) forest), complex (1) rridor (1) <b>sturation. Score one or o</b> ted/saturated (4) ed (3) er 30cm (12in) (1)	
7.0 17.0	Metric 4. Habita 4a. Substrate disturban	ce. Score one or doub	Development.	ater input	dredging Other:	
	None or none apparent (4         Recovering (2)         Recent or no recovery (1)         4b. Habitat developmen         Excellent (7)         Very good (6)         Good (5)         Moderately good (4)         Fair (3)         X         Poor to fair (2)         Poor to fair (2)         Poor to 10         4c. Habitat alteration. St         None or none apparent (5         Recovered (6)         x         Recover (1)	t. Select only one and core one or double ch )	k and average. Check a grazing X clearcu selectiv Woody	-	x shrub/sapling remo herbaceous/aquati x sedimentation dredging farming nutrient enrichment	c bed removal
Wetla	ind ID: W-	-MRK-008 PEM				
-----------	--------------------	--	---------------------	--	---	-----------
Site:	AEP Vassell Sta	tion	Rater(s):	MRK, ACB	Date:	4/13/2023
				Field ID:		
	17.0			W-MRK-008 PEM		
	subtotal this page					
(	D.0 17.0 Me	etric 5. Special Wetlands.				
		eck all that apply and score a				
< 10 pts.		(10)	is mulcateu.			
	Fen	(10)				
		growth forest (10)				
		ure forested wetland (5) e Erie coastal/tributary wetland-unrestrie	cted hydrology (10	))		
	Lake	e Erie coastal/tributary wetland-restricte	ed hydrology (5)	7		
		e Plain Sand Prairies (Oak Openings) (	10)			
		ct Wet Praires (10) wn occurrence state/federal threatened	l or endangered s	pecies (10)		
		nificant migratory songbird/water fowl ha				
	Cate	egory 1 Wetland. See Question 5 Qualit	tative Rating (-10)			
-2	2.0 15.0 Me	etric 6. Plant communities	s, intersper	sion, microtopograp	ohy.	
: 20pts.	subtotal 6a.	Wetland Vegetation Commun	ities.	Vegetation Com	munity Cover Scale	
		re all present using 0 to 3 scale.			0.1ha (0.2471 acres) contiguous area	
		atic bed			nprises small part of wetland's 1	
	1 Eme Shru			significant part but is o	oderate quality, or comprises a f low quality	
	Fore	est		2 Present and either con	nprises significant part of wetland's 2	
		Iflats			oderate quality or comprises a small	
	Ope	en water er		part and is of high qua 3 Present and comprises	s significant part, or more, of wetland's 3	
	6b.	horizontal (plan view) Interspersion.		vegetation and is of high		
	Sele High	ect only one.		Narrativo Description	of Vegetation Quality	
		lerately high(4)			or predominance of nonnative or low	
	Mod	lerate (3)		disturbance tolerant na	ative species	
	X Low	derately low (2)			nt component of the vegetation, mod d/or disturbance tolerant native spp	
		ie (0)			nd species diversity moderate to	
		Coverage of invasive plants. Refer			enerallyw/o presence of rare	
		le 1 ORAM long form for list. Add educt points for coverage		threatened or endange	red spp to ive species, with nonnative spp high	
		ensive >75% cover (-5)			erant native spp absent or virtually	
	Mod	lerate 25-75% cover (-3)		absent, and high spp o	liversity and often, but not always,	
		rse 5-25% cover (-1) ırly absent <5% cover (0)		the presence of rare, the	hreatened, or endangered spp	
		ent (1)		Mudflat and Open Wa	ater Class Quality	
	6d. I	Microtopography.		0 Absent <0.1ha (0.247	acres)	
		re all present using 0 to 3 scale.		1 Low 0.1 to <1ha (0.24)		
		etated hummucks/tussucks irse woody debris >15cm (6in)		2 Moderate 1 to <4ha (2 3 High 4ha (9.88 acres)		
	0 Star	nding dead >25cm (10in) dbh ́				
	0 Amp	phibian breeding pools		Microtopography Co	ver Scale	
				0 Absent 1 Present verv small am	ounts or if more common	
				of marginal quality		
				2 Present in moderate a	mounts, but not of highest	
	15.0 TOTAL	(Max 100 pts)		quality or in small amo	unts of highest quality	
	1 Catego	ry		3 Present in moderate of	r greater amounts	
	Ŭ			and of high and muchter		

and of highest quality

		answ	cle /er or 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		1	
	Metric 3. Hydrology	,	7	
	Metric 4. Habitat	,	7	
	Metric 5. Special Wetland Communities		0	
	Metric 6. Plant communities, interspersion, microtopography	-	2	
	TOTAL SCORE	15		Category based on score breakpoint

# **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

# Wetland ID:

## 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	*NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

		Final Category	,	
Choose one	*Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

	Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization			
Version 5.0	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001		

#### **Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as presence or possible presence of threatened or endangered species. The presence or the quality of such species is often an indicator of the quality and lack of disturbance 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, ACB
Date:	4/13/2023
Affiliation:	AECOM
Address:	707 Grant Street, 5th Floor, Pittsburgh, PA 15219
Phone Number:	814-516-1130
e-mail address:	matthew.kline@aecom.com
Name of Wetland:	W-MRK-009 PEM
Vegetation Communit(ies):	PEM
HGM Class(es):	Depressional
Location of Wetland: include man	address, north arrow, landmarks, distances, roads, etc.
Lat/Long or UTM Coordinate:	
Lat/Long or UTM Coordinate: USGS Quad Name:	40.23133, -82.843972
County:	Sunbury
Township:	Delaware Berkshire
Section and Subsection:	N/A
Hydrologic Unit Code:	HUC12 050600011306
Site Visit:	4/13/2023
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-009 PEM		
Wetland Size (delineated acres):	0.25	Wetland Size (Estimated total acres):	0.25
Sketch: Include north arrow, relationshi	p with other surface waters, vegetati		
		W-MRK-	Z
Comments, Narrative Discussion, Justif This PEM wetland is located in a	a depression on the existing		ession is collecting surface
runoff from the surrounding are	a. The wetland boundary foll	ows edge of depression.	
Final score:	13	Category:	1

#### **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.

#### **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	YES	*N0
	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).	Wetland should be evaluated for possible Category 3 status Go to Question 2	Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of,	YES	*NO
	or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland. Go to Question 3	Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage	YES	*NO
	Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented	YES	*NO
	regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland Go to Question 5	Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and	YES	*NO
	hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea, 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?	Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or	YES	*NO
	outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated	YES	*NO
	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized	YES	*NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the	YES	*NO
	cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less	YES	*NO
	than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the	YES	*NO
	loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	*NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant	YES	NO
	species within its vegetation communities?	Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton,	YES	*NO
	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.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or	YES	*NO
	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.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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

Wetla	nd ID:	W-MRK-009 PEM				
Site:	AEP Vassell S	Station	Rater(s):	MRK, ACB	Date:	4/13/202
	, <b></b>			Field ID:		
	15.0			W-MRK-009 PEM	l	
	subtotal this page					
				-		
0	0.0 15.0 1	Metric 5. Special Wetlands	<b>5</b> .			
: 10 pts.	subtotal	Check all that apply and score	as indicated.			
		Bog (10)				
		Fen (10)				
		Dld growth forest (10) Mature forested wetland (5)				
		_ake Erie coastal/tributary wetland-unrest	ricted hydrology (1	0)		
		ake Erie coastal/tributary wetland-restric				
		Lake Plain Sand Prairies (Oak Openings) Relict Wet Praires (10)	(10)			
		Known occurrence state/federal threatene	d or endangered s	pecies (10)		
		Significant migratory songbird/water fowl h	nabitat or usage (10	))		
		Category 1 Wetland. See Question 5 Qua	litative Rating (-10	)		
-2	2.0 13.0	Metric 6. Plant communitie	es, interspe	sion, microtopogra	phy.	
20pts.	subtotal	6a. Wetland Vegetation Commu	nities.	Vegetation Com	munity Cover Scale	
		Score all present using 0 to 3 scale.			<0.1ha (0.2471 acres) contiguous area	
		Aquatic bed Emergent			mprises small part of wetland's 1 oderate quality, or comprises a	
		Shrub		significant part but is of		
		Forest			mprises significant part of wetland's 2	
		Mudflats			oderate quality or comprises a small	
		Dpen water Dther		part and is of high qua	ality s significant part, or more, of wetland's 3	
		6b. horizontal (plan view) Interspersion	1.	vegetation and is of hi		
		Select only one.		-		
		High (5) Moderately high(4)			n of Vegetation Quality /or predominance of nonnative or low	
		Moderate (3)		disturbance tolerant n		
		Moderately low (2)			ant component of the vegetation, mod	
		Low (1)			d/or disturbance tolerant native spp	
		None (0) Sc. Coverage of invasive plants. Refer			and species diversity moderate to enerallyw/o presence of rare	
		Table 1 ORAM long form for list. Add		threatened or endange		
		or deduct points for coverage		A predominance of na	tive species, with nonnative spp high	
		Extensive >75% cover (-5)			erant native spp absent or virtually diversity and often, but not always,	
		Moderate 25-75% cover (-3) Sparse 5-25% cover (-1)			threatened, or endangered spp	
		Nearly absent <5% cover (0)				
		Absent (1)		Mudflat and Open W		
		6d. Microtopography. Score all present using 0 to 3 scale.		0 Absent <0.1ha (0.247 1 Low 0.1 to <1ha (0.24		
		/egetated hummucks/tussucks		2 Moderate 1 to <4ha (2		
	0 (	Coarse woody debris >15cm (6in)		3 High 4ha (9.88 acres)		
		Standing dead >25cm (10in) dbh		Minut	una Casta	
	0	Amphibian breeding pools		Microtopography Co 0 Absent	over Scale	
				0 74500112	nounts or if more common	
				of marginal quality		
				2 Present in moderate a	mounts, but not of highest	
	13.0 TOT	AL (Max 100 pts)		quality or in small amo	ounts of highest quality	
	1 Cate	gory		3 Present in moderate o	r greater amounts	
				and of bight and succession		

and of highest quality

		answ	rcle /er or 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	,	7	
	Metric 4. Habitat		6	
	Metric 5. Special Wetland Communities	(	0	
	Metric 6. Plant communities, interspersion, microtopography	-	2	
	TOTAL SCORE	1	3	Category based on score breakpoint

# **ORAM Summary Worksheet**

Complete Wetland Categorization Worksheet.

# Wetland ID:

## 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 <i>"gray zone"</i> for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	*NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	*NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category				
Choose one	*Category 1	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

-			-
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### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

### Project No.

60706418, 60706424 and 60706428





### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No. 60706418, 60706424 and 60706428

W-MRK-001	
Date:	
	K
April 12, 2023	
Description:	
PEM wetland	
Category 1	ALL
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Facing South	
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### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

W-MRK-001	
Date:	
April 12, 2023	
Description:	
PEM wetland	
Category 1	
Facing Soil	-004-66E
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## PHOTOGRAPHIC RECORD Wetland Photograph Record

#### **Client Name:**

W-MRK-002

April 12, 2023 Description:

PEM wetland

Category 1

Facing East

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428





Date:

- April 12, 2023
- **Description:**

PEM wetland

Category 1

Facing South



Site Location:

## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### W-MRK-002

Date:

April 12, 2023

**Description:** 

PEM wetland

Category 1

Facing West



Project No.

60706418, 60706424 and 60706428



#### W-MRK-002

Date:

April 12, 2023 Description:

PEM wetland

Category 1

Facing Soil



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### PHOTOGRAPHIC RECORD Wetland Photograph Record

#### **Client Name:**

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

W-MRK-003	
Date:	
April 12, 2023 Description: PEM wetland Category 1	
Facing North	



## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-003

April 12, 2023 **Description:** 

PEM wetland

Facing South

Category 1

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

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## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

# W-MRK-003 Date:

April 12, 2023

**Description:** 

PEM wetland

Category 1

Facing Soil



# W-MRK-003 Date: April 12, 2023 Description: PUB wetland Category 1 Facing North

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## PHOTOGRAPHIC RECORD Wetland Photograph Record

#### **Client Name:**

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428



# W-MRK-003 Date:

April 12, 2023

Description:

PUB wetland

Category 1

Facing South



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### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-003

April 12, 2023 **Description:** 

PUB wetland

Category 1

Facing West

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428



#### W-MRK-003

Date:

April 12, 2023 Description:

PUB wetland

Category 1

Facing Soil



## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-004

April 12, 2023 **Description:** 

PEM wetland

Category 1

Facing North

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428





April 12, 2023 Description:

PEM wetland

Category 1

Facing East



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## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-004

April 12, 2023 **Description:** 

PEM wetland

Category 1

Facing South

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428





Date:

April 12, 2023 Description:

PEM wetland

Category 1

Facing West



## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

### W-MRK-004

Date:

April 12, 2023

**Description:** 

PEM wetland

Category 1

Facing Soil



# W-MRK-005 Date: April 12, 2023 Description: PEM wetland Category 1 Facing North

### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

### Project No.

60706418, 60706424 and 60706428

W-MRK-005	
Date:	
April 12, 2023	
Description:	不久的原料精神
PEM wetland	放天卫生人
Category 1	A State of the second
Facing East	
	No. Contraction



#### W-MRK-005

Date:

April 12, 2023 **Description:** 

PEM wetland

Category 1

Facing South



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## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-005

April 12, 2023 Description:

PEM wetland

Category 1

Facing West

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



#### W-MRK-005 Date:

April 12, 2023

**Description:** 

PEM wetland

Category 1

Facing Soil



## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

# W-MRK-005 Date: April 12, 2023 **Description:** PFO wetland Category 1 Facing North

#### W-MRK-005

Date:

April 12, 2023 Description:

PFO wetland

Category 1

Facing East





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## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No. 60706418, 60706424 and 60706428

W-MRK-005	
Date:	
April 12, 2023	
Description:	
PFO wetland	
Category 1	
Facing South	
	and the second sec
	CAR AND



Date:

April 12, 2023 Description:

PFO wetland

Category 1

Facing West



### PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428

# W-MRK-005 Date: April 12, 2023 **Description:** PFO wetland Category 1 Facing Soil



# W-MRK-006 Date: April 12, 2023 Description: PEM wetland Category 1 Facing North

# ΑΞϹΟΜ

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## PHOTOGRAPHIC RECORD Wetland Photograph Record

#### **Client Name:**

W-MRK-006

April 12, 2023 **Description:** 

PEM wetland

Category 1

Facing East

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428





## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### Project No.

60706418, 60706424 and 60706428

W-MRK-006	
Date:	Short Alexander
April 12, 2023	ANK AL
Description:	
PEM wetland	
Category 1	
Facing West	
	CH CARA
	1755 B
	Date



#### W-MRK-006

Date:

April 12, 2023 **Description:** 

PEM wetland

Category 1

Facing Soil



# ΑΞϹΟΜ

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## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-006

April 12, 2023 **Description:** 

PUB wetland

Category 1

Facing North

AEP

Date:

#### Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428





lmagine it. Delivered.

Site Location:

## PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

# W-MRK-006

Date:

April 12, 2023

**Description:** 

PUB wetland

Category 1

Facing South



Vassell 765 kV and 345kV Transformer and Site Hardening Projects

#### W-MRK-006

Date:

April 12, 2023 Description:

PUB wetland

Category 1

Facing West



60706418, 60706424 and 60706428
# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

# W-MRK-006 Date: April 12, 2023 **Description:**

PUB wetland

Category 1

Facing Soil





### Date:

April 13, 2023

**Description:** 

PEM wetland

Category 1

Facing North



# PHOTOGRAPHIC RECORD Wetland Photograph Record

# **Client Name:**

AEP

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

# Project No.

60706418, 60706424 and 60706428

W-MRK-007	
Date:	
April 13, 2023	
Description:	
PEM wetland	
Category 1	Contraction of Streams - Australia Arts and
Facing East	A CARLES AND



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# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-007

April 13, 2023 Description:

PEM wetland

Category 1

Facing West

AEP

Date:

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



# W-MRK-007

Date:

April 13, 2023

Description:

PEM wetland

Category 1

Facing Soil



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# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-008

April 13, 2023 Description:

PEM wetland

Facing North

Category 1

AEP

Date:

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

# 

# W-MRK-008

Date:

April 13, 2023

Description:

PEM wetland

Category 1

Facing East



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# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-008

April 13, 2023 **Description:** 

PEM wetland

Category 1

Facing South

AEP

Date:

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



# W-MRK-008

Date:

April 13, 2023 Description:

PEM wetland

Category 1

Facing West



# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

# W-MRK-008

Date:

April 13, 2023

**Description:** 

PEM wetland

Category 1

Facing Soil





Date:

April 13, 2023

Description:

PEM wetland

Category 1

Facing North



# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-009

April 13, 2023 **Description:** 

PEM wetland

Category 1

Facing East

AEP

Date:

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

# Project No.

60706418, 60706424 and 60706428





Date:

April 13, 2023 Description:

PEM wetland

Category 1

Facing South



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# PHOTOGRAPHIC RECORD Wetland Photograph Record

**Client Name:** 

W-MRK-009

April 13, 2023 Description:

PEM wetland

Category 1

Facing West

AEP

Date:

# Site Location:

Vassell 765 kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



# W-MRK-009

Date:

April 13, 2023

Description:

PEM wetland

Category 1

Facing Soil





1. SUBSTRATE (Estin					
	nate percent of every typ	e of substrate pre	sent. Check ONLY two p	redominant substrate TYPE bo	oxes
•		•	·	score is sum of boxes A & B.	HHEI
<u>TYPE</u>	PERCE			PERCENT	Metric
BLDR SLABS [1			SILT [3 pt]		Points
BOULDER (>256	6 mm) [16 pts]		LEAF PACK/WOODY I	DEBRIS [3 pts]	Substrate
BEDROCK [16	pt]		FINE DETRITUS [3 pt	s]	Max = 40
COBBLE (65-25)	6 mm) [12 pts]		CLAY or HARDPAN [0	0 pt]	
GRAVEL (2-64 m	nm) [9 pts]		MUCK [0 pts]		
<b>SAND</b> (<2 mm)	[6 pts]		ARTIFICIAL [3 pts]		
		(*)			
Total of Perce Bldr Slabs, Boulder	entages of Cobble, Bedrock	(A)	Substrate Percentage Check	(B)	A + B
SCORE OF TWO MOST PRI				OF SUBSTRATE TYPES:	
2. Maximum Pool Dep	oth (Measure the maximu	um pool depth with	nin the 61 meter (200 ft)	evaluation reach at the time of	f Pool Dept
	unge pools from road culve				Max = 30
> 30 centimeters [20			> 5 cm - 10 cm [15 pt	s]	
> 22.5 - 30 cm [30 pt			< 5 cm [5 pts]		
> 10 - 22.5 cm [25 p	ts]		NO WATER OR MOIS	ST CHANNEL [0 pts]	
COMMENTS				OL DEPTH (Inches):	
3. BANK FULL WIDTH	I (Measured as the avera	age of 3-4 measure		ONLY one box):	Bankfull
> 4.0 meters (> 13') [3			> 1.0 m - 1.5 m (> 3' 3		Width
> 3.0 m - 4.0 m (> 9' 7			$\leq$ 1.0 m (<=3' 3") [5 pts	s]	Max=30
> 1.5 m - 3.0 m (> 9' 7	7" - 4' 8") [20 pts]				
COMMENTS			AVERAGE BAN	NKFULL WIDTH (Feet):	
				(	
			n <u>must</u> also be complet		[
		QUALITY ☆N	OTE: River Left (L) and R	ted Right (R) as looking downstrear	
RIPARIAN	WIDTH FL	QUALITY ☆N OODPLAIN QUALI	OTE: River Left (L) and R	Right (R) as looking downstrear	m\$t
L R (Per Bank	WIDTH <u>FL</u>	QUALITY ☆N OODPLAIN QUALI R (Most Predo	OTE: River Left (L) and R <u>TY</u> minant per Bank)	Right (R) as looking downstrear	
RIPARIAN         L       R       (Per Bank         □       □       Wide >10	WIDTH         FL           x)         L           m         D	QUALITY         ☆ N           OODPLAIN QUALI         R           R         (Most Predo           Image: Complex of the second	OTE: River Left (L) and R TY minant per Bank) st, Wetland	Right (R) as looking downstrear	lage
L R (Per Bank	WIDTH         FL           k)         L           m         D	QUALITY         ☆N           OODPLAIN QUALI         R           R         (Most Predo           □         Mature Fore	OTE: River Left (L) and R <u>TY</u> minant per Bank)	Right (R) as looking downstrear	lage
RIPARIAN         L       R       (Per Bank         I       I       Wide >10         I       I       Moderate	WIDTH         FL           (i)         L           m         I           5-10m         I	QUALITY     ☆N       OODPLAIN QUALI     R       R     (Most Predo       □     Mature Fore       □     Immature Fore       Field	OTE: River Left (L) and R TY minant per Bank) ist, Wetland orest, Shrub or Old	L       R         I       I       Conservation Till         I       I       Urban or Industri	lage ial
L R (Per Bank C C C Per Bank Wide >10 Moderate	WIDTH     FL       x)     L       m     I       5-10m     I       5m     I	QUALITY     ☆N       OODPLAIN QUALI     R       R     (Most Predo       Immature Fore     Immature Fore       Field     Residential,	OTE: River Left (L) and R TY minant per Bank) st, Wetland prest, Shrub or Old Park, New Field	L       R         I       I         Conservation Till         I       I         U<	lage ial tow Crop
L R (Per Bank C C Per Bank Wide >10 Moderate Narrow <5 None	WIDTH         FL           x)         L           m         D           5-10m         D           5m         D	QUALITY     ☆N       OODPLAIN QUALI     R       R     (Most Predo       □     Mature Fore       □     Immature Fore       Field	OTE: River Left (L) and R TY minant per Bank) st, Wetland prest, Shrub or Old Park, New Field	L       R         I       I       Conservation Till         I       I       Urban or Industri	lage ial tow Crop
L R (Per Bank C C C Per Bank Wide >10 Moderate	WIDTH         FL           x)         L           m         D           5-10m         D           5m         D	QUALITY     ☆N       OODPLAIN QUALI     R       R     (Most Predo       Immature Fore     Immature Fore       Field     Residential,	OTE: River Left (L) and R TY minant per Bank) st, Wetland prest, Shrub or Old Park, New Field	L       R         I       I         Conservation Till         I       I         U<	lage ial tow Crop
L       R       (Per Bank         Image: Constraint of the state stat	WIDTH     FL       x)     L       m     I       5-10m     I       5m     I       5m     I	QUALITY \$N OODPLAIN QUALI R (Most Predo Mature Fore Field Residential, Fenced Pas	OTE: River Left (L) and R <u>TY</u> minant per Bank) st, Wetland orest, Shrub or Old Park, New Field ture	L       R         I       I         Conservation Till         I       I         U<	lage ial tow Crop
L       R       (Per Bank         Image: Constraint of the state stat	WIDTH     FL       m     I       m     I       5-10m     I       5m     I       5m     I       Image: Sum (At Time of Evaluation)	QUALITY \$N OODPLAIN QUALI R (Most Predo Mature Fore Field Residential, Fenced Pas	OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture he box): Moist Channel	L       R         I       I         Conservation Till         I       I         U<	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Comparison of the system       Image: Comparison of the system       None         Image: Comparison of the system       None       COMMENTS         Image: Comparison of the system       Stream Flowing       Subsurface flowing	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         5m       D         ME (At Time of Evaluation ng ow with isolated pools (Interpreted pools	QUALITY     AN       OODPLAIN QUALITR     (Most Predoction of the second of the secon	OTE: River Left (L) and R TY minant per Bank) st, Wetland brest, Shrub or Old Park, New Field ture he box): Moist Channel	L       R         Image: Conservation Till       Image: Conservation Till         Image: Conservation Till       Image: Conservation Till	lage ial cow Crop ruction
RIPARIAN L R (Per Bank U Vide >10 U Moderate Narrow <5 None COMMENTS FLOW REGI Stream Flowing	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         5m       D         ME (At Time of Evaluation ng ow with isolated pools (Interpreted pools	QUALITY     AN       OODPLAIN QUALITR     (Most Predoction of the second secon	OTE: River Left (L) and R TY minant per Bank) st, Wetland brest, Shrub or Old Park, New Field ture he box): Moist Channel	L       R         I       I       Conservation Till         I       I       Urban or Industri         I       I       Open Pasture, R         I       I       Mining or Constr	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Stream Flowing Subsurface flucture       None         Image: Stream Flowing Subsurface flucture       Stream Flowing Subsurface flucture	WIDTH     FL       m     L       m     D       5-10m     D       5m     D       5m     D       S     D       ME (At Time of Evaluation ng ow with isolated pools (Integration science)	QUALITY \$\Delta N. OODPLAIN QUALI R (Most Preda Mature Fore Immature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial)	OTE: River Left (L) and R TY minant per Bank) st, Wetland brest, Shrub or Old Park, New Field ture he box): Dry channel, r	Right (R) as looking downstrear         L       R         Image: Conservation Till         Image: C	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Stream Flowing Subsurface flucture       None         SINUOSITY	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         5m       D         S       D         ME (At Time of Evaluation ng ow with isolated pools (Intro-         S       D         (Number of bends per 61	QUALITY \$\AN OODPLAIN QUALI R (Most Preda Mature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channe	OTE: River Left (L) and R TY minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one bo	L       R         I       I       Conservation Till         I       I       Urban or Industri         I       I       Open Pasture, R         I       I       Mining or Constr         I, isolated pools, no flow (Interration water (Ephemeral)         Interview       Interview	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Stream Flowing Subsurface flucture       None         Stream Flowing Subsurface flucture       Sinuosity         None       None	WIDTH       FL         m       L         m       L         5-10m       L         5m       L         5m       L         S       L         ME (At Time of Evaluation ng ow with isolated pools (Intro-         S       L         (Number of bends per 61         L       L	QUALITY \$\Delta N. OODPLAIN QUALI R (Most Preda Mature Fore Immature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channer D	OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture Moist Channel Dry channel, r el) (Check ONLY one bo 2.0	L       R         I       I       Conservation Till         I       I       Urban or Industri         I       I       Open Pasture, R         I       I       Mining or Constr         I, isolated pools, no flow (Interr       Interr         In water (Ephemeral)       Interr         In water (Ephemeral)       Interr         In water (Interr       Interr         Interr       Interr	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Comparison of the system       Wide >10         Image: Comparison of the system       Moderate         Image: Comparison of the system       None         Image: Comparison of the system       Region         Image: Comparison of the system       Stream Flowin         Image: Comparison of the system       Sinuosity         Image: None       None	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         5m       D         S       D         ME (At Time of Evaluation ng ow with isolated pools (Intro-         S       D         (Number of bends per 61	QUALITY \$\Delta N. OODPLAIN QUALI R (Most Preda Mature Fore Immature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channer D	OTE: River Left (L) and R TY minant per Bank) ist, Wetland orest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one bo	L       R         I       I       Conservation Till         I       I       Urban or Industri         I       I       Open Pasture, R         I       I       Mining or Constr         I, isolated pools, no flow (Interration water (Ephemeral)         Interview       Interview	lage ial cow Crop ruction
RIPARIAN         L       R       (Per Bank         Image: Stream Flowing Subsurface flucture       None         COMMENTS       Sinuosity         Image: Stream Gradien       0.5	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         6m       D         6m       D         1.00       D         1.10       D         1.20       D         5m       D         5m       D         5m       D         5m <td>QUALITY \$\AN OODPLAIN QUALI R (Most Prede Mature Fore Field Residential, Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channe</td> <td>OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one box 2.0 2.5</td> <td>Right (R) as looking downstrear         L       R         Conservation Till         U       Urban or Industri         Open Pasture, R         Mining or Constr         I, isolated pools, no flow (Interr         water (Ephemeral)         Dx):         3.0         &gt;3</td> <td>lage ial cow Crop ruction mittent)</td>	QUALITY \$\AN OODPLAIN QUALI R (Most Prede Mature Fore Field Residential, Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channe	OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one box 2.0 2.5	Right (R) as looking downstrear         L       R         Conservation Till         U       Urban or Industri         Open Pasture, R         Mining or Constr         I, isolated pools, no flow (Interr         water (Ephemeral)         Dx):         3.0         >3	lage ial cow Crop ruction mittent)
RIPARIAN         L       R       (Per Bank         Image: Stream Flowing Subsurface flucture       None         COMMENTS       Sinuosity         Image: Stream Gradien       0.5	WIDTH       FL         m       L         m       D         5-10m       D         5m       D         6m       D         6m       D         1.00       D         1.10       D         1.20       D         5m       D         5m       D         5m       D         5m <td>QUALITY \$\Delta N. OODPLAIN QUALI R (Most Preda Mature Fore Immature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channer D</td> <td>OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one box 2.0 2.5</td> <td>Right (R) as looking downstrear         L       R         Conservation Till         U       Urban or Industri         Open Pasture, R         Mining or Constr         I, isolated pools, no flow (Interr         water (Ephemeral)         Dx):         3.0         &gt;3</td> <td>lage ial cow Crop ruction</td>	QUALITY \$\Delta N. OODPLAIN QUALI R (Most Preda Mature Fore Immature Fore Field Residential, Fenced Pas n) (Check ONLY of erstitial) m (200 ft) of channer D	OTE: River Left (L) and R TY minant per Bank) ist, Wetland brest, Shrub or Old Park, New Field ture he box): Dry channel, r el) (Check ONLY one box 2.0 2.5	Right (R) as looking downstrear         L       R         Conservation Till         U       Urban or Industri         Open Pasture, R         Mining or Constr         I, isolated pools, no flow (Interr         water (Ephemeral)         Dx):         3.0         >3	lage ial cow Crop ruction

ADDITIONAL STREAM INFORMATION (This Information Must Also be C	ompleted):
QHEI PERFORMED? -	_(If Yes, Attach Completed QHEI Form)
DOWNSTREAM DESIGNATED USE(S)	
WWH Name:	Distance from Evaluated Stream
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: NRC	S Soil Map Page: NRCS Soil Map Stream Order
County: Township / C	Dity:
MISCELLANEOUS	
Base Flow Conditions? (Y/N): Date of last precipitation:	Quantity:
Photograph Information:	
Elevated Turbidity? (Y/N): Canopy (% open):	Overall Stability of BOTH Stream Banks (check one)StableModerately StableUnstable
Were samples collected for water chemistry? (Y/N): (Note lab samp	ble no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l)	pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, pleas	e explain:
Additional comments/description of pollution impacts:	
BIOTIC EVALUATION	
Performed? (Y/N): (If Yes, Record all observations. Voucher collect ID number. Include appropriate field data sheet	ctions optional. NOTE: all voucher samples must be labeled with the site s from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observer Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Mat	
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



Λ	ΞC		
A		U	V

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# PHOTOGRAPHIC RECORD Stream Photograph Record

**Client Name:** 

AEP

Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



# S-MRK-001 Date: April 13, 2023 Description: Intermittent Facing Downstream

Α	ΞC	U	M

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# PHOTOGRAPHIC RECORD Stream Photograph Record

**Client Name:** 

AEP

Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No. 60706418, 60706424 and 60706428

S-MRK-001	
Date:	
April 13, 2023	
Description:	
Intermittent	
Substrate	
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APPENDIX D

# UPLAND DRAINAGE FEATURE PHOTOGRAPHIC RECORD

HABITAT PHOTOGRAPHIC RECORD

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# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428

# UDF-MRK-001 Date:

April 13, 2023 Description:

Upland Drainage Feature

Facing Upgradient



# UDF-MRK-001

Date:

April 13, 2023

**Description:** 

Upland Drainage Feature

Facing Downgradient



# PHOTOGRAPHIC RECORD **Upland Drainage Feature Photograph** Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

# 60706418, 60706424 and 60706428

UDF-MRK-001	
Date:	
April 13, 2023	Non to see a serie of the second
Description:	
-	
Upland Drainage	
Feature	
Facing Substrate	
L	



Date:

April 13, 2023

Description:

Upland Drainage Feature

Facing Upgradient



# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428



# UDF-MRK-002

Date:

April 13, 2023

Description:

Upland Drainage Feature

Facing Substrate



# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428

# UDF-MRK-003 Date: April 13, 2023 **Description:** Upland Drainage Feature Facing Upgradient



# UDF-MRK-003

Date:

April 13, 2023

Description:

Upland Drainage Feature

Facing Downgradient



# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428

# UDF-MRK-003 Date: April 13, 2023 **Description:** Upland Drainage Feature Facing Substrate

### UDF-MRK-004

Date:

April 13, 2023

# Description:

Upland Drainage Feature

Facing Upgradient



# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428



### UDF-MRK-004

Date:

April 13, 2023

# Description:

Upland Drainage Feature

Facing Substrate



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# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428



# UDF-MRK-005

Date:

April 13, 2023

**Description:** 

Upland Drainage Feature

Facing Downgradient



# PHOTOGRAPHIC RECORD Upland Drainage Feature Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

# Project No.

60706418, 60706424 and 60706428



# UDF-MRK-006

Date:

April 13, 2023

# Description:

Upland Drainage Feature

Facing Upgradient



# PHOTOGRAPHIC RECORD **Upland Drainage Feature Photograph** Record Project No.

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

60706418, 60706424 and 60706428

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Date:	and South
April 13, 2023	and the state of the second
Description:	
<b>P</b>	E BREDECKER Frederic
Upland Drainage	
Feature	
Facing Downgradient	

### UDF-MRK-006

Date:

April 13, 2023

Description:

Upland Drainage Feature

Facing Substrate



APPENDIX E

# HABITAT PHOTOGRAPHIC RECORD

# ΑΞϹΟΜ

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# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428





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# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428



Date:

April 12, 2023 Description:

Woodlands

Facing East



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# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428





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# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428





# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

# Project No.

60706418, 60706424 and 60706428





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# PHOTOGRAPHIC RECORD Habitat Photograph Record

**Client Name:** 

AEP

# Site Location:

Vassell 765kV and 345kV Transformer and Site Hardening Projects

Project No.

60706418, 60706424 and 60706428

PH-11	
Date:	
April 13, 2023	
Description:	
Urban	
Facing East	
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APPENDIX F

# AGENCY CORRESPONDENCE

23



# **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



April 14, 2023

Project Code: 2023-0066336

Dear Mr. Holmes:

The U.S Fish and Wildlife Service (Service) has received your recent correspondence requesting information about the subject proposal. We offer the following comments and recommendations to assist you in minimizing and avoiding adverse impacts to threatened, endangered, and proposed 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 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  $\geq 3$  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 longeared bats hibernate in caves, rock crevices and abandoned mines.

<u>Federally Proposed Species</u>: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

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

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared 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.

<u>Section 7 Coordination</u>: 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.

<u>Stream and Wetland Avoidance</u>: 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 (<u>https://epa.ohio.gov/portals/47/facts/ohio\_wetlands.pdf</u>). 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, Environmental Services Administrator, at (614) 265-6387 or at <u>mike.pettegrew@dnr.ohio.gov</u>.

If you have questions, or if we can be of further assistance in this matter, please contact our office at (614) 416-8993 or <u>ohio@fws.gov</u>.

Sincerely,

ah

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

May 15, 2023

Joshua Holmes AECOM 707 Grant Street, 5th Floor Pittsburgh, Pennsylvania 15219

Re: 23-0397; AEP Vassell 765kV and 345kV Transformer and Site Hardening Projects

**Project:** The proposed project involves expanding the existing 345kV yard and 765kV yard, installing a 0.3-mile greenfield 345kV transmission line to connect the existing 345kV and 765kV yards, and upgrading the existing fence at the 345kV yard.

Location: The proposed project is located in Trenton Township, Delaware 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 endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats

predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "*OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING*". 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 "<u>RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES</u>." 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.

This project is within the range of the following listed mussel species. <u>Federally Endangered</u> rayed bean (*Villosa fabalis*) snuffbox (*Epioblasma triquetra*)

<u>Federally Threatened</u> rabbitsfoot (*Quadrula cylindrica cylindrica*)

<u>State Threatened</u> Salamander Mussel (*Simpsonaias ambigua*) pondhorn (*Uniomerus tetralasmus*)

Due to the location, and that there is no in-water work proposed in a perennial steam, this project is not likely to impact these or other mussel species.

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

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 <u>local floodplain administrator</u> 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 <u>mike.pettegrew@dnr.ohio.gov</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator



# OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2023

This document has been updated with new state guidance for the 2023 field season.

This guidance applies to state recommendations only. Contact the USFWS to determine if federal consultation is also necessary to comply with federal law.

# Agency Contacts:

**ODNR-DOW Permit Coordinator:** Wildlife.Permits@dnr.ohio.gov, (614) 265-6315 **ODNR-DOW Bat Survey Coordinator:** Eileen Wyza, Eileen.Wyza@dnr.ohio.gov, (614) 265-6764 **USFWS OHFO Endangered Species:** Angela Boyer, angela\_boyer@fws.gov, (614) 416-8993, ext.122

# Covid-19 Guidance:

Surveyors should follow all covid protocols put in place by their agency. All surveyors should wear masks when handling bats and anyone exhibiting symptoms of covid-19 should not participate in bat surveys.

# **Ohio Mist-net Surveys:**

This document serves as guidance for bat mist netting activities in Ohio and does not supersede any requirements listed on your permits or facility certificate. All permit conditions must be strictly adhered to for permits to be valid and for renewal of permits beyond the existing year.

Due to the presence of White-nose Syndrome (WNS), mist-netting in Ohio must be conducted between June 1 and August 15 unless stated otherwise in your state permit. The ODNR Division of Wildlife (ODNR-DOW) and U.S. Fish and Wildlife Service (USFWS) Ohio Field Office (OHFO) have determined that delaying netting activities until June 1 will provide additional recovery time for bats affected by WNS. For presence/probable absence surveys, netting will not be accepted outside of the June 1 - August 15 timeframe.

To assess project areas for presence or probable absence of the state and federally listed Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) during summer residency, the USFWS developed the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023). This protocol, <u>with minor modifications referenced below</u>, can also be used in Ohio for the 2023 field season and includes surveying for the state-listed little brown bat (*Myotis lucifugus*) and tricolored bat (*Perimyotis subflavus*).

According to the updated federal range-wide guidelines, presence/probable absence net surveys for northern longeared bats shall incorporate either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. Presence/probable absence net surveys for Indiana bats shall incorporate six net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. If a project area is eligible for a presence/probable absence survey for both Indiana bats and northern long-eared bats, following the northern long-eared bat level of effort will qualify as a presence/ probable absence survey for both species. However, if a project area is eligible for a presence/absence survey for both species, following the Indiana bat level of effort will not qualify the survey for a northern long-eared bat presence/ probable absence survey. Please note that the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) requires that a minimum of two (2) biologists (e.g., one permitted and one technician) must be on-site for every four (4) net-sets being operated. Exceptions to on-site minimum staffing levels may be allowed under extenuating circumstances, provided written justification is included in the proposed survey study plan and subsequently approved by the OHFO and ODOW.

Due to the reclassification of the northern long-eared bat on March 31, 2023, the previous northern long-eared bat 4(d) rule has been nullified. There is a new online tool in the USFWS's Information for Planning and Consultation (IPaC) website that allows project proponents to utilize a determination key (Dkey) for the northern long-eared bat. **The Dkey cannot be used to replace consultation with ODNR-DOW.** Project proponents should coordinate directly with the ODNR-DOW and the OHFO for project technical assistance for all federally listed species, including the Indiana bat and northern long-eared bat.

The tricolored bat is listed as endangered by ODNR-DOW. Additionally, the USFWS published a proposed rule to list the tri-colored bat as endangered on September 14, 2022. The USFWS is scheduled to publish a final rule on the tricolored bat's status by the end of September 2023 which could affect future project development. Therefore, in anticipation of this listing we recommend that project proponents coordinate with the OHFO in addition to ODNR-DOW to determine if the project could benefit from formal coordination with USFWS for tricolored bat. The USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) allows presence/absence surveys for the tricolored bat that use the northern long-eared bat level of effort.

**Exception for Ohio mist-net surveys:** All presence/absence surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the maximum net nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

# **Ohio Acoustic Surveys:**

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2023 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2023) with the following exceptions:

- Ohio survey dates are June 1 August 15, 2022
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs<sup>1</sup>, qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis, M. septentrionalis<sup>2</sup>, M. lucifugus<sup>2</sup>, and P. subflavus<sup>2</sup>*) must be completed.
- All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern longeared, little brown, tricolored) should follow the maximum acoustic nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

At a minimum, for each detector site/night a program considered presence of state-listed bats likely, review all files (including no IDs) from that site/night. If more than one acoustic bat ID program is used, qualitative analysis must also include a comparison of the results of each program by site and night.

<sup>&</sup>lt;sup>1</sup> <u>https://www.fws.gov/media/indiana-bat-summer-survey-guidance</u>

<sup>&</sup>lt;sup>2</sup> State listing as endangered effective July 1, 2020

## **Combined Mist-netting and Acoustic Surveys:**

ODNR-DOW will accept the USFWS pilot survey option of combining mist-netting and acoustic surveys for traditional survey sites (e.g., 123-acre area) detailed in Appendix I of the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (2023). All presence/absence combined mist-net and acoustic surveys conducted for state listed bat species should follow the maximum level of effort set forth by the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

# Before Field Season:

• Anyone surveying bats using mist-nets in the state of Ohio must obtain a federal permit as well as a state scientific collection permit. The federal permit should include both the Indiana bat and the northern long-eared bat.

• Your ODNR-DOW permit consists of two documents: a Scientific Collector (Wild Animal) Permit and an endangered species letter signed by the Chief of the Division of Wildlife (in addition to your federal permit). Both ODNR-DOW documents must be obtained prior to field work and kept with you and any sub-permittees during field work.

# During Field Season:

• Prior to initiation of field work (a minimum of two weeks in advance), permittees must provide proposed mist netting plans to USFWS and ODNR-DOW in the form of an e-mail letter to the USFWS OHFO and copy to the ODNR-DOW Bat Survey Coordinator. Plans must be reviewed and approved by USFWS OHFO and ODNR-DOW before ANY surveys take place. Study plans must specify objectives, location details, dates of proposed work, and all other relevant details. **Study plans must also include a USFWS Project Code. Project Codes can only be obtained by requesting an official species list through the USFWS's Information for Planning and Consultation (IPaC) website** 

(<u>https://ipac.ecosphere.fws.gov/</u>). When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at

<u>https://www.whitenosesyndrome.org/topics/decontamination</u>). Clothing, boots, gear, and equipment should all be thoroughly decontaminated between nights, as well as between netting sites.

• Request bat bands at least two weeks in advance of needing them. Bat bands can be obtained by emailing the ODNR-DOW Bat Survey Coordinator with how many bands are needed, current permit number, sizes, and a mailing address. Bands will not be issued until your permits are valid. We have two sizes of bands—2.4 mm and 4.2 mm. The 2.4 mm split metal bat ring made of aluminum alloy is suitable for banding small bats. This band must be placed on all captured Indiana, northern long-eared, little brown, and tricolored bats. The larger 4.2 mm band is suitable for silver-haired (*Lasionycteris noctivagans*), big brown (*Eptesicus fuscus*), and hoary (*Lasiurus cinereus*) bats. You must band all Indiana, northern longeared, little brown, and tricolored bats with ODNR-DOW bands; therefore, you should not be in the field without the 2.4 mm sized band.

• Only individuals who are named on the ODNR-DOW endangered species letter portion of the permit and on the corresponding federal bat permit may conduct and oversee mist-net surveys. Trained assistants may work on permitted bat activities under the direct and on-site supervision of a named permittee. All bat IDs must be verified by a named permittee. If an Indiana bat and/or northern long-eared bat is captured, the permittee shall notify the USFWS and the ODNR-DOW Bat Survey Coordinator referenced above within 48 hours via email. If a little brown bat or tricolored bat is captured, notify the ODNR-DOW Bat Survey Coordinator only within 48 hours via email. Reports of listed bat captures should include specific information such as spatial location of capture, band information, radio-transmitter frequency information, sex, reproductive status, and age of individual.

• For presence/absence surveys, ODNR-DOW requires all female and juvenile state endangered and threatened bat species (Indiana, northern long-eared, little brown, and tricolored bat) be radio-tracked if

caught, in accordance with methods outlined in Appendix D of USFWS 2022 Range-wide Indiana Bat Summer Survey Guidelines.

• If you are taking any biological samples (tissue, fur, blood, etc.), this must be specifically authorized in your state and federal permits and noted in your survey proposal.

### After Field Season:

By March 15, you must submit your final ODNR-DOW report(s) from the previous summer. You are not required to fill out the ODNR-DOW Wildlife Diversity Bat Excel Spreadsheet; instead, please forward your USFWS Midwestern US Spreadsheet (found here: <a href="https://www.fws.gov/media/bat-reporting-spreadsheets-2020-2021">https://www.fws.gov/media/bat-reporting-spreadsheets-2020-2021</a>) to the ODNR-DOW Bat Survey Coordinator and ODNR-DOW Permit Coordinator and include your state permit number along with an electronic copy of the project report. Electronic summaries emailed during the field season are NOT considered as full compliance of this reporting requirement.

# Ohio Environmental Review Recommendations for projects involving disturbance near potential/known bat hibernacula (cliffs, caves, mines) or tree cutting:

**Step 1:** Coordinate with Ohio Division of Wildlife (DOW) regarding existing records for state-listed endangered bat summer and/or winter occurrence information. Potential hibernacula found during a habitat assessment must address possible suitability for Indiana bats, northern long-eared bats, tricolored bats, and little brown bats.

If project site contains a known bat hibernaculum(a) -

- For state-listed endangered species other than the Indiana bat and northern long-eared bat, a recommendation of 0.25-mile tree cutting buffer around all known entrances to protect existing conditions at the hibernaculum(a). The U.S. Fish and Wildlife Service (USFWS) should be contacted for guidance on projects occurring within 5 miles of known or potential Indiana bat and/or northern long-eared bat hibernacula. If the project involves subsurface disturbance, consultation with DOW is required.

- Limited tree cutting may be permitted within the buffer. Coordinate with DOW.

If a project site does not contain known bat hibernaculum(a)

- Conduct a desktop habitat assessment of the project area. Tools such as the <u>ODNR Mines of Ohio</u> <u>Viewer</u>, <u>Karst Interactive Map</u>, topographic maps, aerial photos, historical records, etc. should be used to determine if there are any potential caves, mines, karst features, rock ledges, or other features that may serve as potential hibernacula.

- If no such features are found, proceed to Step 2.
- If potential hibernacula are found during the desktop assessment:
  - Assume bats are using these hibernacula and refrain from clearing trees from March 15-November 15

-Or-

- Conduct a field habitat assessment to determine if a potential hibernaculum(a) is present within the action area. We encourage impacts to ledges and rock outcroppings be avoided. If impacts cannot be avoided, features should be evaluated for potential roosting characteristics such as recesses, overhangs, and crevices.

- **NOTE**: The USFWS Range-wide Indiana Bat Guidelines, Appendix H, contains instructions for completing a habitat assessment, but only includes criteria for Indiana bat hibernacula.

Step 2: When conducted, a presence/absence survey must follow current DOW guidelines.

### Step 3: If a state-listed endangered bat is captured or recorded during the survey:

Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles (or 2.5 miles for tricolored bats) of the capture site if a roost is not located.
Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 2.5 miles of a roost tree if located.

## If no state-listed endangered bat is captured or recorded during the survey:

- Summer tree cutting may proceed for 5 years before a new survey is needed under state guidance.

<u>Limited summer tree cutting guidance for bats that are only state-listed endangered</u>: Limited tree cutting in summer may be permitted after consultation with DOW, but clearing trees with the following characteristics should be avoided unless they pose a hazard: dead or live trees of any size with loose, shaggy bark; crevices, holes, or cavities; clusters of dead leaves; live trees of any species with DBH  $\ge 20^{\circ}$ .

# FREQUENTLY ASKED QUESTIONS

### When does the ODNR-DOW Bat Survey protocol have to be used?

This protocol should be used anytime Indiana bat, northern long-eared bat, little brown bat, or tricolored bat summer presence/probable absence surveys are conducted in the state of Ohio.

### How many detector nights are required for presence/probable absence acoustic surveys?

As described in the current USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines:

<u>Level of effort for all state-listed endangered bat species</u> including Indiana bat and northern long-eared bats: Follow maximum detector nights as outlined in the federal guidance (for northern long-eared bat).

### Northern Long-eared Bat Level of Effort:

<u>Linear projects</u>: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat <u>Non-linear projects</u>: a minimum of 14 detector nights per 123 acres (0.5 km<sup>2</sup>) of suitable summer habitat. At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 4 detectors for 3 nights and 1 detector for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 7 nights each (can sample the same location or move within the site)

• 1 detector for 14 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

### Indiana Bat Level of Effort:

<u>Linear projects</u>: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat <u>Non-linear projects</u>: a minimum of 10 detector nights per 123 acres (0.5 km<sup>2</sup>) of suitable summer habitat. At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)

• 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

### How many net surveys are required for presence/probable absence?

<u>Level of effort for all state-listed endangered bat species</u> including Indiana bat and northern long-eared bats: Follow maximum net nights as outlined in the federal guidance (for northern long-eared bat).

Net surveys for northern long-eared bat presence/probable absence shall incorporate, at a minimum, either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

Net surveys for Indiana bat presence/probable absence shall incorporate, at a minimum, either six net nights net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This

does not allow for two net nights on a single night for surveys.

### How long are the results of the surveys valid for an assessment of an area?

Mist-net or acoustic surveys documenting probable absence of state-listed endangered bats are valid for five years.

### When can acoustic or net surveys occur in Ohio?

In Ohio, acoustic or net surveys may only be conducted from June 1 through August 15 unless indicated otherwise in your state permit. Any surveys outside of the June 1 - August 15 timeframe cannot be used in Ohio to assess the presence/probable absence of state-listed bats.

# Can a presence/probable absence survey be conducted within a known Indiana bat and/or northern long-eared bat capture/detection buffer?

Surveys generally cannot be used to document presence/probable absence of state-listed endangered bats where presence of the species has already been confirmed by prior surveys.

# What if a project is proposing to clear trees between April 1 and September 30 when bats may be present but no bat records exist in the project area?

Any Ohio project that is not within a known bat record buffer, and tree clearing between April 1 and September 31 is being proposed, may have a presence/probable absence survey conducted between June 1 and August 15 following the range-wide guidance. If a presence/probable absence survey is not performed, presence of listed bats is assumed.

### How does take of northern long-eared bats differ from Indiana bats?

Under Ohio law, there is no exemption for take of any listed bat species.

### Where do I get bands?

If you need bands, email the ODNR-DOW Bat Survey Coordinator at least two weeks in advance with your current ODNR permit number, how many bands in each size (2.4 and 4.2 mm) you will need this season, and a current address to ship the bands.

### Do I have to band every bat?

No, currently this is optional. However, you are required as per your state permit to band all Indiana, northern long-eared, little brown, and tricolored bats.