Construction Notice for the Morse-Clinton 138 kV Pole Installation Project

PUCO Case No. 24-0131-EL-BNR

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

Submitted by:
Ohio Power Company

February 20, 2024

Construction Notice

Ohio Power Company
Morse-Clinton 138 kV Pole Installation Project

4906-6-05

Ohio Power Company (the "Company") provides the following information to the Ohio Power Siting Board ("OPSB") pursuant to Ohio Administrative Code Section 4906-6-05.

4906-6-05(B) General Information

B(1) Project Description

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

The Company proposes to construct the Morse-Clinton 138 kV Pole Installation Project (the "Project") in the City of Columbus, Franklin County, Ohio. The Project involves the installation of three structures along the existing transmission line. The structures will be wood, 2-pole braced structures. The Project is within the existing right-of-way (ROW) of the 138 kV transmission line. The location of the proposed poles and overall Project area are shown on Figures 1A, 1B, 2A, and 2B in Appendix A.

The Project meets the requirements for a CN because it is within the types of projects defined by item (2) (a) of Ohio Administrative Code Section 4906-1-01 Appendix A of the Application Requirement Matrix For Electric Power Transmission Lines:

> *(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:*
> *(a) Two miles or less.*

The Project has been assigned PUCO Case No. 24-0131-EL-BNR.

B(2) Statement of Need

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

The Project is required to ensure proper operating clearances on the existing transmission line. Failure to construct the Project is expected to result in portions of the line not meeting clearance requirements and potentially creating operational constraints under certain load conditions. The Project's proposal to construct prop poles on the existing line will mitigate these risks.

As this Project results in no operational, modeling, or topology changes, the Project will not be brought through the PJM M-3 process.

B(3) Project Location

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

The location of the Project in relation to existing transmission lines is shown in Figures 1A and 1B of Appendix A.

B(4) Alternatives Considered

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

The Project proposes to add three structures along an existing 138 kV electric transmission line. The location of the new poles is the most suitable solution for the Project, as other alternatives would require additional or more costly structures or relocating the existing transmission line. The proposed Project is not anticipated to impact wetlands, streams, or any known cultural resource areas eligible for the National Register of Historic Places (NRHP). Therefore, this Project represents the most suitable location and is the most appropriate solution for meeting the Company's needs in the area.

B(5) Public Information Program

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

The Company maintains a website (http//aeptransmission.com/ohio/) 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. The Company also retains land agents who will discuss Project timelines, construction and restoration activities with affected owners and tenants.

B(6) Construction Schedule

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

Construction of the Project is planned to begin and be placed back in service in March 2024.

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.

Figures 1A and 1B in Appendix A provide the proposed Project area on a map of 1:24,000-scale (1 inch equals 2,000 feet), showing the Project on the United States Geological Survey (USGS) 7.5-minute topographic map of the Northeast Columbus, Ohio quadrangle. Figures 2A and 2B in Appendix A show the Project Area on recent aerial photography, dated 2022, as provided by ESRI World Imagery at a scale of 1:6,000 scale (1 inch equals 500 feet).

To visit the Project site from Columbus, Ohio, take I-71 North to Exit 115 for Cooke Road. At the end of the ramp, turn left onto Overbrook Drive. After 0.2 mile, turn right onto Indianola Avenue. Continue for 0.1 mile and then turn right onto East Cook Road. The western portion of the Project area is on the left after approximately 0.2 mile at the address 808 East Cooke Road, Columbus, OH 43214 (latitude 40.050011, longitude -82.998438).

To continue to the eastern Project area, head south on East Cooke Road for 0.2 mile and turn right onto Indianola Avenue. After 0.9 mile, Turn right onto Morse Road. Continue on Morse Road for 4.1 miles and turn left onto South Sunbury Road. After 0.9 mile, turn left onto Sugarbush Boulevard. Continue for 0.3 mile and turn left onto Teton Road followed by a nearly immediate right onto Mount Hood Court. The Ohio to Erie Access is at the end of Mount Hood Court. The trail can be followed on foot for approximately 0.1 mile to the eastern structure at latitude 40.066989, longitude -82.920507.

B(8) Property Agreements

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

The Project is located on three parcels, as well as within the I-71 ROW. The Project is located within the existing ROW. A supplemental easement for property parcel number 600-137530 is necessary to construct the Project.

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

Property Parcel Number	Agreement Type	Easement/ Option Obtained (Yes/No)
600-137530	Supplemental	No
010-227031	Existing ROW	Yes
010-006453	Existing ROW	Yes

B(9) Technical Features

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

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

Line Asset Name:	Morse-Clinton (Morse Road Station to Karl Road Station)
Ownership:	Ohio Power Company
Voltage:	138 kV
Conductors:	(6) 1272 KCM ACSR 45/7 Bittern
Static Wire:	(2) 3#5 Copperweld
Insulators:	Ceramic, Polymer (New)
ROW Width:	100 feet
Structure Type:	(1) 2-Pole Wood, Braced

Line Asset Name:	Morse-Clinton 138 kV (Clinton Station to Karl Road Station)
Ownership:	Ohio Power Company
Voltage:	138 kV
Conductors:	(3) 636 KCM ACSR 24/7 Rook, (3) 336.4 KCM ACSR 30/7 Oriole
Static Wire:	(1) 3#5 Copperweld, (1) 96F OPGW
Insulators:	Ceramic, Polymer (New)
ROW Width:	100 feet
Structure Type:	(2) 2-Pole Wood, Braced

B(9)(b) Electric and Magnetic Fields

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

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately $820,000 based on a Class 5 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the Ohio Power Company's FERC formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Ecological Impacts

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

B(10)(a) Land Use Characteristics

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

An aerial photograph of the Project vicinity is provided as Figures 2A and 2B in Appendix A. The Project is located in the City of Columbus in Franklin County, Ohio. The Project is located entirely within the Company's existing transmission line ROW. Land use surrounding the Project consists of recreational land use in the eastern portion of the Project area, which is comprised of the City of Columbus's Tanager Woods conservation area and Alum Creek Trail. The western portion of the Project area is located between a railroad and the I-71 corridor, with one structure on a commercial property and the other structure within the I-71 right-of-way.

B(10)(b) Agricultural Land Information

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

The Project is located within existing electric transmission line ROW and does not cross agricultural land. In addition, the Franklin County Auditor indicated that the Project parcels are not registered as agricultural district land on January 19, 2024. Therefore, no impacts to agricultural land or agricultural district land are anticipated.

B(10)(c) Archaeological and Cultural Resources

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

The Company's consultant completed a Phase I Cultural Resource Management Investigation of the Project Area. No resources that are eligible for the NRHP were identified. No further investigation was considered to be necessary by the consultant. The Ohio Historic Preservation Office ("SHPO") agreed that the Project will not impact any cultural resources eligible for listing on the NRHP and no additional coordination is necessary prior to construction. A copy of the February 5, 2024 concurrence letter from SHPO is provided in Appendix B.

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

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

A Notice of Intent is only needed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000006, if ground disturbance exceeds one acre. The area of disturbance is below reporting and permitting requirements for state and local stormwater permitting requirements and no permits are required. The Company will implement and maintain best management practices to minimize erosion control sediment to protect surface water quality during storm events.

Per field reviews in October 2023, one palustrine emergent (PEM) wetland, one palustrine scrub shrub (PSS) wetland, and two ephemeral streams were identified in the survey corridor. These features are expected to be avoided and protected during construction. Therefore, the Project will not require a Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers or a Section 401 Water Quality Certification from the OEPA. A summary report is provided in Appendix C.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map numbers **39049C0183K and 39049C0186K**). Based on this mapping, the eastern structure is within a 100-year flood zone. Coordination will be completed with the City of Columbus Floodplain Development Manager. A floodplain permit is required for this portion of the Project. No mapped FEMA floodplains are located in the western Project Area.

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

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

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

A coordination letter was submitted to the United States Fish and Wildlife Service ("USFWS") Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened and endangered species. The October 31, 2023 response letter from the USFWS (see Appendix B) indicated all projects in the State of Ohio lie within the range of the federally endangered Indiana bat and northern long-eared bat as well as the federally proposed endangered tricolored bat. In Ohio, presence of these species is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document probable absence. The USFWS response letter states that, should the Project site contain trees ≥3 inches diameter at breast height (dbh), the trees be saved whenever possible. If any caves

or abandoned mines may be disturbed, further coordination is requested. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, the USFWS recommends that removal of trees ≥3 inches dbh only occur between October 1 and March 31 in order to avoid adverse effects to these species. If implementation of seasonal tree clearing is not possible, the USFWS recommends summer presence/absence surveys be conducted between June 1 and August 15. Based on current USFWS Ohio Field Office guidance, a desktop evaluation of potential hibernaculum was conducted in the Project area. No hibernaculum or caves were located in the Project area based on the site reconnaissance and review of documented mines and karst features. Additionally, no tree clearing is anticipated as part of the Project. Therefore, no impacts are anticipated for the Indiana bat, northern long-eared bat, or tricolored bat.

Additionally, the USFWS states that they do not anticipate adverse effects to any other federally endangered, threatened, proposed or candidate species due to the Project type, size, and location.

A coordination letter was also submitted to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW"). A response was received from ODNR on November 17, 2023 (see Appendix B). Based on this response, the Project is within the vicinity of records for the Indiana bat, a state and federally endangered species; northern long-eared bat, a state-endangered and federally threatened species; little brown bat, a state-endangered species; and the tricolored bat, a state endangered species. No tree clearing is anticipated for the Project. Therefore, no additional coordination with ODNR is anticipated.

The Project is within the range of 13 endangered or threatened mussel species and nine endangered or threatened fish species. Due to no in-water work, the Project is not likely to impact these species.

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.

No unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, or other protected natural areas were identified within the Project Area.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map numbers **39049C0183K and 39049C0186K**). Based on this mapping, the eastern structure is within a 100-year flood zone. Coordination will be completed with the City of Columbus Floodplain Development Manager. A floodplain permit is required for this portion of the Project. No mapped FEMA floodplains are located in the western Project Area.

Wetland and stream delineation field surveys were completed within the Project area by the Company's consultant in October 2023, one PEM wetland, one PSS wetland, and two ephemeral streams were

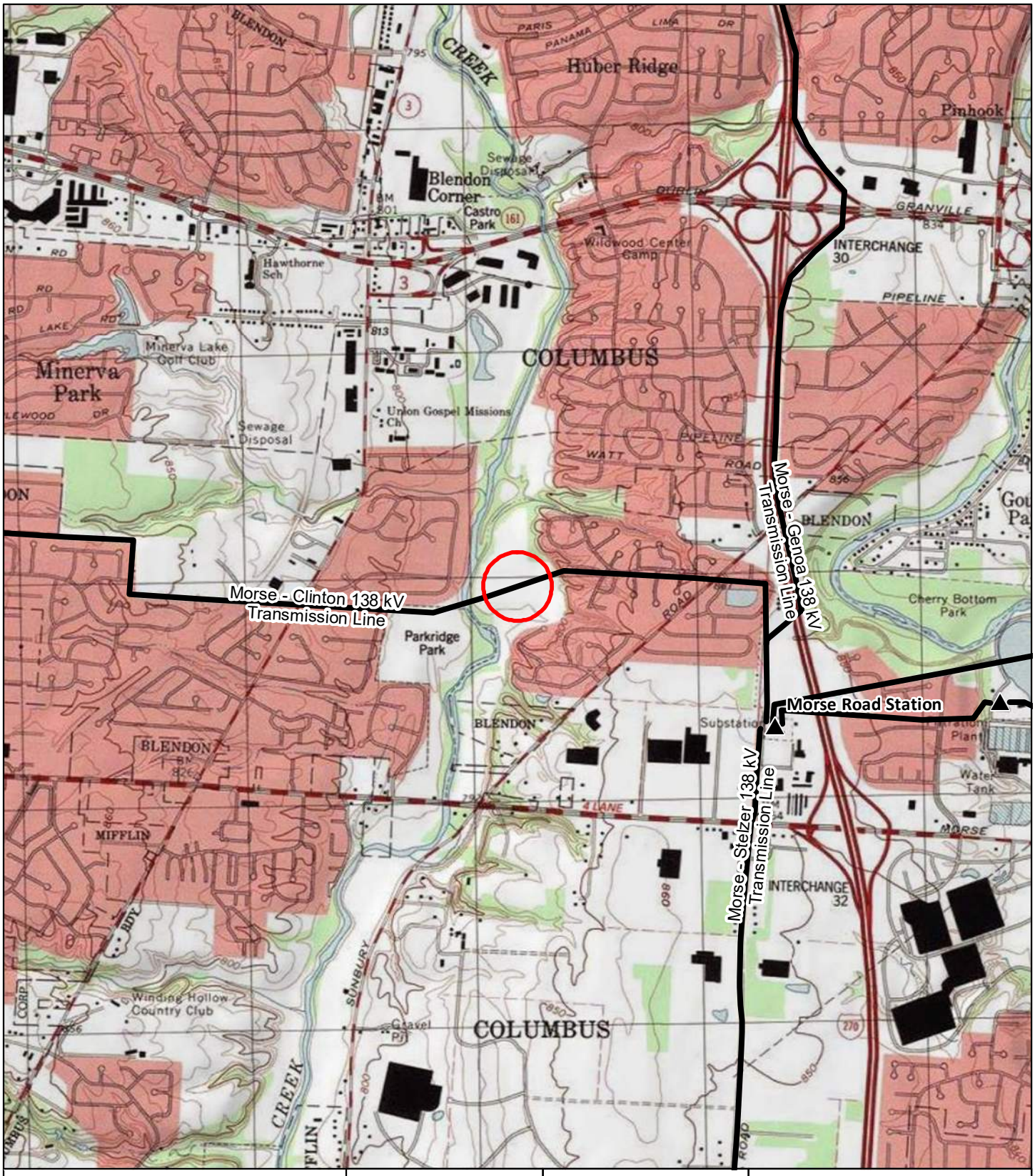
identified in the survey corridor. These features are expected to be avoided and protected during construction. A summary report is provided in Appendix C.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps



Legend:
- Project Area
- Existing Station
- Existing Transmission Line

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

Ohio State Plane South NAD 1983

February 14, 2024

PROJECT LOCATION

FRANKLIN COUNTY, OHIO

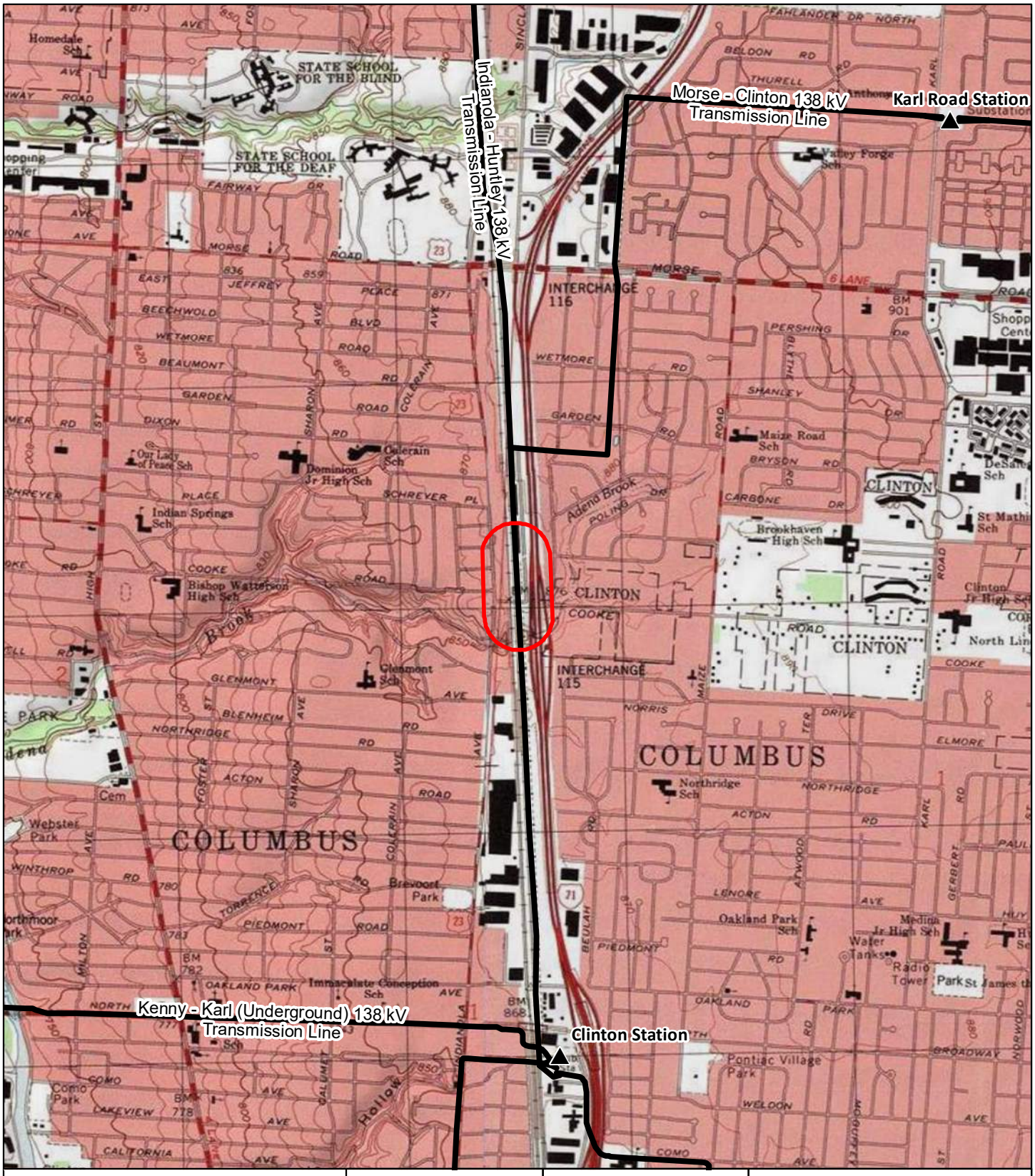
FIGURE 1A
TOPOGRAPHIC OVERVIEW

AEP OHIO

Morse-Clinton 138 kV Pole Installation Project

0 1,000 2,000 3,000

Feet



Legend:
- Project Area
- Existing Station
- Existing Transmission Line

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

Ohio State Plane South NAD 1983

February 14, 2024

PROJECT LOCATION

FRANKLIN COUNTY, OHIO

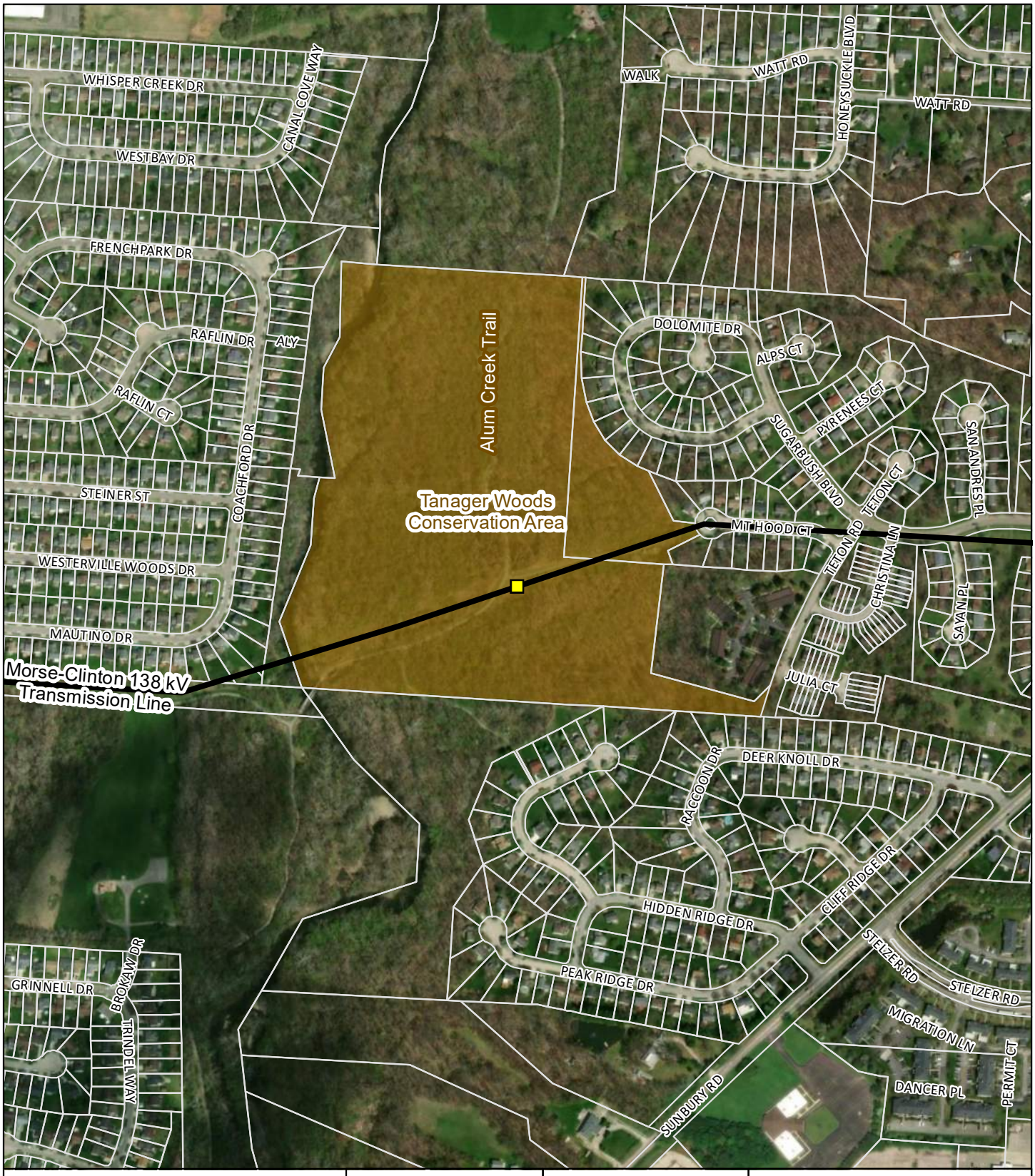
FIGURE 1B
TOPOGRAPHIC OVERVIEW

AEP OHIO

Morse-Clinton 138 kV Pole Installation Project

0 1,000 2,000 3,000

Feet



Legend:

- Proposed Structure
- Existing Substation
- Existing Transmission Line
- Parcel Boundary

Data Sources: AEP, ESRI World Imagery, 2022

Ohio State Plane North
NAD 1983

February 14, 2024

PROJECT LOCATION

FRANKLIN COUNTY, OHIO

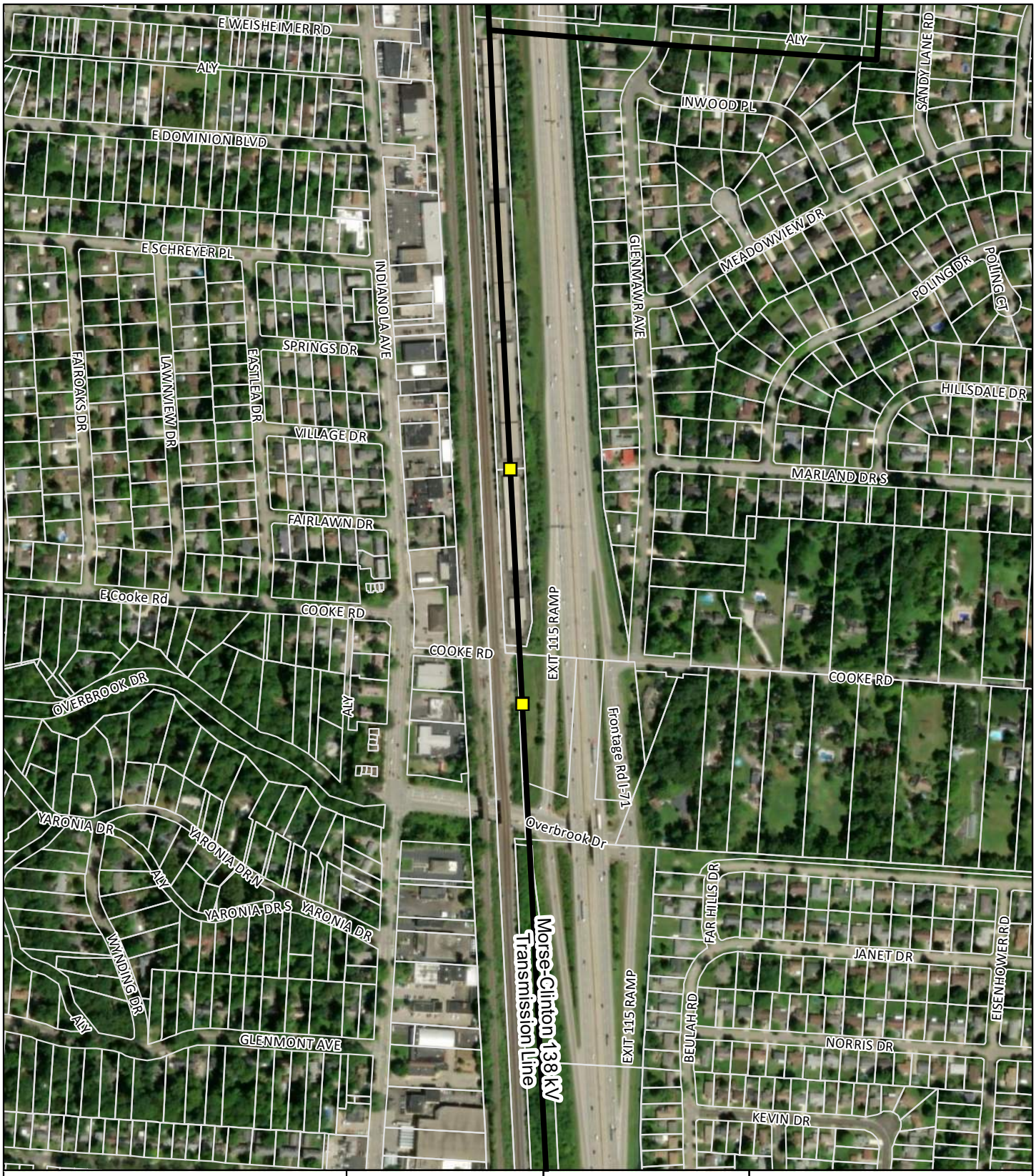
FIGURE 2A
PROJECT AERIAL MAP

AEP OHIO

Morse-Clinton 138 kV
Pole Installation Project

0 250 500 750

Feet



Legend:

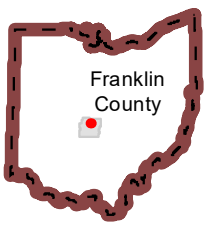
- Proposed Structure
- Existing Substation
- Existing Transmission Line
- Parcel Boundary

Data Sources: AEP, ESRI World Imagery, 2022

Ohio State Plane North
NAD 1983

February 14, 2024

PROJECT LOCATION



FRANKLIN COUNTY, OHIO

FIGURE 2B
PROJECT AERIAL MAP

AEP OHIO

Morse-Clinton 138 kV
Pole Installation Project

0 250 500 750

Feet

Appendix B

Agency Coordination

In reply, refer to
2024-FRA-60130

February 5, 2024

Ryan Weller
Weller & Associates, Inc.
1395 W. Fifth Ave.
Columbus, OH 43212
rweller@wellercrm.com

RE: Morse-Clinton 138kV Rebuild Project, City of Columbus, Franklin County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received January 9, 2024 regarding the proposed Morse-Clinton 138kV Rebuild Project, City of Columbus, Franklin County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Archaeological Investigation for the 7.85 km (4.88 mi) Morse-Clinton 138kV Rebuild Project in the City of Columbus, Franklin County, Ohio* by Seth T. Cooper (Weller & Associates, Inc. 2024).

A literature review, visual inspection, shovel probe, and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area and no new archaeological sites were identified during survey. Our office agrees no additional archaeological survey is needed.

The following comments pertain to the *History/Architecture Investigations for the 5.77 km (3.58 mi) Morse-Clinton 138kV Rebuild Project in the City of Columbus, Franklin County, Ohio* by Scott McIntosh (Weller & Associates, Inc. 2024).

A literature review and field survey were conducted as part of the investigations. A total of sixty-one (61) resources fifty years of age or older were identified in the Area of Potential Effects (APE). In addition to these 61 resources, a total of six (6) post-WWII residential neighborhoods 50 years of age or older were identified. It is Weller's recommendation that none of the resources are eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with Weller's recommendations of eligibility.

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

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1101346, 1101347

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

October 31, 2023

Project Code: 2024-0006405

Dear Anna Findish:

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 ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

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

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.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

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

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

Sincerely,

Scott Hicks
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

November 17, 2023

Anna Findish
AECOM
707 Grant Street
Pittsburgh, Pennsylvania 15219

Re: 23-1268_Morse-Clinton 138 kV Line Clearance Violation Mitigation

Project: The proposed project involves emergency repairs to 23 sections along the existing Morse-Clinton 138 kV Transmission Line for clearance violations within the City of Columbus.

Location: The proposed project is located in the City of Columbus, Franklin County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Yellow-crowned Night-heron (*Nyctanassa violacea*), SI
Deer Mouse (*Peromyscus maniculatus*), SC
Paddlefish (*Polyodon spathula*), T
Kidneyshell (*Ptychobranchus fasciolaris*), SC
Rainbow (*Villosa iris*), SC

Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened. The review was performed on the unbuffered specified project area as well as an additional one-mile radius. Records searched date from 1980. Features searched include locations of rare and endangered plants and animals determined to be of value to the conservation of their species, high quality plant communities, animal breeding assemblages, and outstanding geological features.

Location records for the species listed above are provided in a shapefile attachment to this letter. Species location information will not be disclosed, published or distributed beyond the scope of your project.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an 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 portion of the project west of Karl Road is within the vicinity of records for the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in this area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally 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 bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. However, if trees are present within this area, (outside of the area delineated above) 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza, for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.
Federally Endangered
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)
northern rifffleshell (*Epioblasma torulosa rangiana*)
snuffbox (*Epioblasma triquetra*)
purple cat's paw (*Epioblasma o. obliquata*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered
elephant-ear (*Elliptio crassidens crassidens*)
pocketbook (*Lampsilis ovata*)
long solid (*Fusconaia maculata maculate*)
washboard (*Megalonaias nervosa*)
Ohio pigtoe (*Pleurobema cordatum*)

State Threatened
pondhorn (*Uniomerus tetralasmus*)
Salamander Mussel (*Simpsonaias ambigua*)

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

The project is within the range of the following listed fish species.
State Endangered
goldeye (*Hiodon alosoides*)
shortnose gar (*Lepisosteus platostomus*)
Iowa darter (*Etheostoma exile*)
spotted darter (*Etheostoma maculatum*)
northern brook lamprey (*Ichthyomyzon fossor*)
tonguetied minnow (*Exoglossum laurae*)
popeye shiner (*Notropis ariommus*)

State Threatened
lake chubsucker (*Erimyzon sucetta*)
paddlefish (*Polyodon spathula*)

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

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

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

Mike Pettegrew
Environmental Services Administrator

Appendix C Ecological Survey

MORSE-CLINTON 138 KV LINE CLEARANCE VIOLATION MITIGATION (STRUCTURES 6 TO 7 AND 40 TO 42) PROJECT

FRANKLIN COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
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Project #: 60718529

November 2023

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1.0 INTRODUCTION

American Electric Power, Ohio Transmission Company (AEP Ohio Transco) is proposing emergency repairs on various components of the existing Morse-Clinton 138 kilovolt (kV) transmission lines to address clearance violations located within and/or adjacent to the City of Columbus, Franklin County, Ohio (OH) as part of the Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project. The Project totals approximately 0.71 miles of transmission line corridor to address the repairs at between Structures 6 to 7 and between Structures 40 to 42. The Project survey area associated with this Ecological Report is located within the Northeast Columbus, OH United States Geological Survey (USGS) 7.5-minute topographical quadrangle as displayed on the 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 as well as 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 completed for a 100-foot-wide corridor along the proposed transmission line centerline and 50-foot-wide corridor centered along proposed access roads totaling approximately 9.77-acre Project survey area. 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, USGS National Hydrography Dataset (NHD), Federal Management Agency (FEMA) 100-year floodplain data, and USGS 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland areas and/or streams.

Field survey activities included recording the physical boundaries of observed water features using sub-meter capable EOS Arrow Global Positioning System (GPS) units in conjunction with the 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 vegetative 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 supplement that consisted of a pedestrian site reconnaissance, including identifying the vegetative 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 type 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 the 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 (259 hectares), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the Headwater Habitat Evaluation Index (HHEI) methodology and all other streams assessed using the QHEI methodology. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and 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 the OEPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2017). Mapping provided by the OEPA illustrates the eligibility of streams in the area to fall under a Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. 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 the OEPA's water quality certification for the Nationwide Permits if all other general and regional special terms and conditions are met.

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

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

2.2.3 UPLAND DRAINAGE FEATURES

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OHWM (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 the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the USFWS Ohio Ecological Services Field Office soliciting comments on the proposed Project. Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of assessing potential impacts to 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 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.

3.0 RESULTS

On October 12, 13, and 16, 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 two wetlands (one PEM and one PSS) as well as two ephemeral streams. The

representative wetland and stream data forms as well as photo documentation are provided as **Appendix B and C,** respectively**.**

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, eight soil map units are mapped within the Project survey area (USDA NRCS, 2023a and 2023b). Of these, one was identified as hydric soil, five were identified as containing hydric inclusions, and two were identified as non-hydric. 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**.

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

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Alexandria	AdE2	Alexandria silt loam, 18 to 25 percent slopes, eroded	Moraines, till plains	No	-
Bennington	BfA	Bennington-Urban land complex, 0 to 2 percent slopes	End moraines, ground moraines	Yes*	Typic Endoaquents, till substratum 6%
	BfB	Bennington-Urban land complex, 0 to 6 percent slopes	End moraines, ground moraines	Yes*	Typic Endoaquents, till substratum 6%
Cardington	CbB	Cardington-Urban land complex, 2 to 6 percent slopes	End moraines, ground moraines	Yes*	Pewamo 10%
	Crd1B2	Cardington silt loam, 2 to 6 percent slopes, eroded	Ground moraines, end moraines	Yes*	Condit 4%, Pewamo 3%
Medway	Mh	Medway silt loam, occasionally flooded	Flood plains	Yes*	Sloan 5%
Sloan	So	Sloan silt loam, Columbus Lowland, 0 to 2 percent slopes, frequently flooded	Backswamps on flood plains,meander scars on flood plains,flood-plain steps on flood plains	Yes	Sloan 85%
Udorthents	Ut	Udorthents-Urban land complex, gently rolling	-	No	-

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

3.1.2 NATIONAL WETLANDS INVENTORY MAP REVIEW

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

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

NWI Code	NWI Description	Related Field Inventoried Resource (Wetland ID/Stream ID)	Comments
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	-	Feature was verified as absent within the heavily developed Project survey area
PEM1C	Palustrine, Emergent, Persistent, Seasonally Flooded	-	Feature was verified as absent within the heavily developed Project survey area
R4SBC	Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated	S-EAC-002	Feature was field verified as an ephemeral stream S-EAC-002

3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified one PEM wetland and one PSS wetland both of which were assigned as ORAM category 1. No Category 2 or 3 wetlands were identified within the Project survey area. The AECOM delineation boundaries are provided on **Figures 2 and 3**. Details for each delineated wetland in the survey area are provided in **Table 3**. The completed USACE Data Form and photographs of the upland data point are provided in **Appendix B**.

TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROECT SURVEY AREA

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-EAC-004	40.066943	-82.920163	Yes	PEM	0.207334	24.5	1	Structure 6A (Proposed)	None	None	N/A	TBD	TBD
W-EAC-005	40.066655	-82.921696	Yes	PSS	1.044868	34	1 or 2 Gray Zone	Structure 7 (Existing)	Structure 7	None	N/A	TBD	TBD
Total:					**13.17**							**TBD**	**TBD**

3.2 STREAM DELINEATION

AECOM identified two ephemeral streams within the Project survey area (**Figure 3**). A summary of the delineated features is provided in **Table 3**. Stream data forms and photographs of the delineated stream resource are provided in **Appendix C**.

AECOM has provided a provisional determination that delineated streams within the Project survey area appear 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**.

TABLE 4 - SUMMARY OF DELINEATED STREAMS

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Category / Rating / OAC Designation			Fill Type	Area (acre)
S-EAC-001	40.067082	-82.919687	Ephemeral	UNT to Alum Creek	123	2	1.5	HHEI	10	Class I PHW	Eligible	TBD	TBD	TBD
S-EAC-002	40.047403	-82.998036	Ephemeral	Adena Brook	488	4.5	3	HHEI	29	Class I PHW	Possibly Eligible	TBD	TBD	TBD
				Total:	**611**									**TBD**

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs across two watersheds, designated by 401 WQC eligibility, as listed in **Table 3**. One watershed is listed as eligible and the other as "possibly eligible." OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**.

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

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050600011602	Bliss Run-Alum Creek	Eligible	1
050600011103	Outlet Olentangy River	Possibly Eligible	1
		Total	**2**

3.3 FEMA 100 YEAR FLOODPLAINS

Mapped FEMA designated 100-year floodplains and floodways are displayed on **Figure 2.** Regulated FEMA 100-year floodplains and FEMA regulated floodways are located within the Project survey area between Structure 6 and 7, (FEMA, 2008).

3.4 PONDS

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

3.5 UPLAND DRAINAGE FEATURES PONDS

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

3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. As described in **Table 2** below, the Project survey area contains wetlands/streams, landscaped, scrub-shrub and urban habitat. 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 D**.

TABLE 6 - VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Landscaped	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey area and adjacent areas are frequently mowed grasses and forbs.	0.36	3.68%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with 30% or greater coverage of woody species that are not trees (including sapling trees generally <3" dbh and <20' in height).	1.80	18.42%
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.	6.34	64.89%
Wetlands/Streams	Streams and wetlands were observed both within and beyond the Project survey area.	1.27	13.00%
	Totals:	**9.77**	**100%**

3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

On October 19, 2023, coordination letters were sent to USFWS and the ODNR Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review of the Project for potential impacts to threatened and endangered species. Responses were received from the USFWS on October 31, 2023, and from the ODNR on November 17, 2023. Response letters from the USFWS and the ODNR for the Project are included as **Appendix E**.

Regarding state and federal listed threatened and endangered species that may occur within the Project vicinity, a total of three federally listed bat species were identified by the USFWS and twenty-six species (four bats, nine fish, 13 mussel species, and no birds) were identified by the ODNR. Based on the review of these species and the habitat identified within the Project area, it is not anticipated that the Project would adversely affect any of the species or their habitats identified within **Table 7**.

Table 7 provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project Area are provided as **Appendix D**.

TABLE 7
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 (*Myotis sodalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, trees were identified along edge of existing right-of-way that may provide suitable habitat for the species. Hibernaculum(a) No mine 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 No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 31. Hibernaculum(a) 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 (*Myotis septentrionalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, trees were identified along edge of existing right-of-way that may provide suitable habitat for the species. Hibernaculum(a) No mine 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 No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 31. Hibernaculum(a) 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 (*Myotis lucifugus*)	Endangered	NA	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, trees were identified along edge of existing right-of-way that may provide suitable habitat for the species. Hibernaculum(a) No mine 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). Additionally, the ODNR indicated that there is a known presence of this species within the Project area located West of Karl Road (Structure 26) and summer surveys would not constitute a presence or absence of this species. 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 No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 31. Additional summer surveys would not constitute presence/absence within the Project area for the little brown bat. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.

TABLE 7
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
Tricolored bat (*Perimyotis subflavus*)	Endangered	Proposed	Summer habitat During spring/summer, this bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project survey area, trees were identified along edge of existing right-of-way that may provide suitable habitat for the species. Hibernaculum(a) No mine 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 No impact to listed bat species or their habitat is anticipated due to absence of tree clearing activities. If tree clearing is required, it should be completed between October 1 and March 31. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Fish							
Goldeye (*Hiodon alosoides*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Iowa darter (*Etheostoma exile*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Lake chubsucker (*Erimyzon sucetta*)	Threatened	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Northern brook lamprey (*Ichthyomyzon fossor*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Paddlefish (*Polyodon spathula*)	Threatened	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Popeye shiner (*Notropis ariommus*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Shortnose gar (*Lepisosteus platostomus*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Spotted darter (*Etheostoma maculatum*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Tonguetied minnow (*Exoglossum laurae*)	Endangered	None	Perennial Streams	No perennial streams were identified within the project survey area.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Mussels							
Elephant-ear (*Elliptio crassidens crassidens*)	Endangered	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No

TABLE 7
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
Long solid (*Fusconaia maculata maculate*)	Endangered	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Northern riffleshell (*Epioblasma torulosa rangiana*)	Endangered	Endangered	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Ohio pigtoe (*Pleurobema cordatum*)	Endangered	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Pocketbook (*Lampsilis ovata*)	Endangered	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Pondhorn (*Uniomerus tetralasmus*)	Threatened	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Rabbitsfoot (*Quadrula cylindrica cylindrica*)	Threatened	Threatened	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Salamander Mussel (*Simpsonaias ambigua*)	Threatened	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Snuffbox (*Epioblasma triquetra*)	Endangered	Endangered	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Washboard (*Megalonaias nervosa*)	Endangered	None	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Clubshell (*Pleurobema clava*)	Endangered	Endangered	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Rayed bean (*Villosa fabalis*)	Endangered	Endangered	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No
Purple cat's paw (*Epioblasma o. obliquata*)	Endangered	Endangered	Perennial Streams	No perennial stream of sufficient size.	N/A	Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.	No

*2023 Joint Guidance – Refers to the 2023 ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing, a copy of the guidance is provided within **Appendix F** of this memo.

Protected Species Agency Summary –

Based on general observations during the ecological field survey, forested areas were only identified along the edge of the existing rights-of-way and tree clearing is not anticipated to be required for this Project. If tree clearing were to become part of the Project scope of work, the ODNR and the USFWS recommends 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. Additionally, the ODNR confirmed a known presence for the portion of the project west of Karl Road (Structure 26) for the little brown bat. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for the northern long-eared bat, Indiana bat, and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project survey area for the little brown bat located west of Karl Road (Structure 26). If summer tree clearing is needed outside of the seasonal restriction, additional coordination will be completed with the ODNR and the USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2023 Ohio ODNR DOW and the USFWS Joint Guidance for Bat Surveys and Tree Clearing within 0.25 miles 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 finds potential habitat within 0.25 miles of the Project survey area. Therefore, no further coordination is necessary with either the ODNR and/or the USFWS regarding the listed bat species. Results of the desktop habitat assessment are included in **Appendix A**.

No impacts are anticipated to occur to any fish and mussel species as no in-water work is proposed as part of the Project.

4.0 SUMMARY

The ecological field survey of the Project survey area identified two wetlands (one PEM and one PSS) as well as two ephemeral streams. The representative wetland and stream data forms as well as photo documentation are provided as **Appendix B and C,** respectively**.** Of the twenty-six state and/or federal listed threatened or endangered species within range of the Project survey area, no habitat for any of the listed fish, mussel, and/or bird species were identified within the Project survey area. However, if tree clearing activities are required outside of the seasonal restriction of October 1 and March 31, additional coordination with the ODNR and USFWS is recommend to avoid adverse effects to the listed bat species.

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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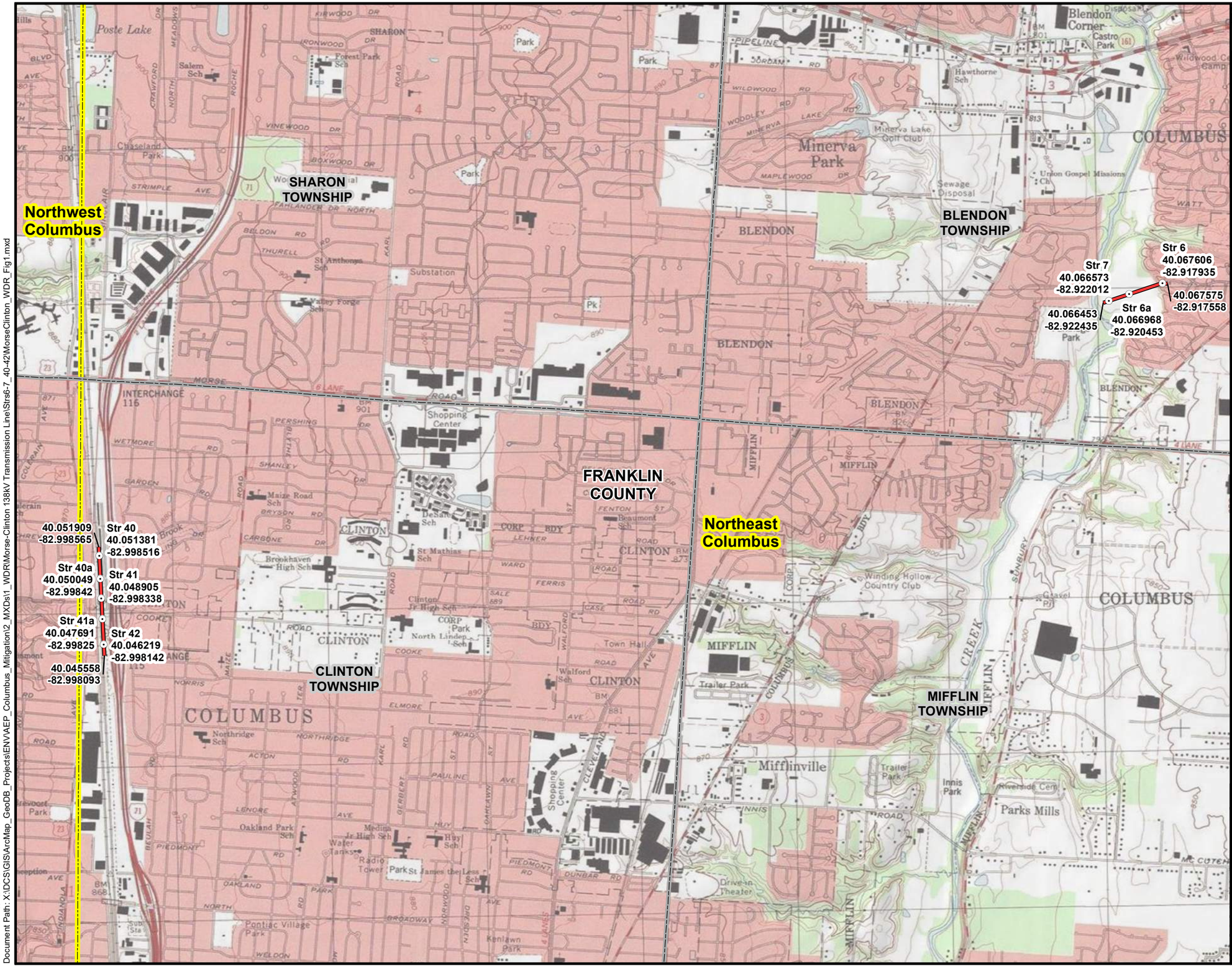

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 1
PROJECT OVERVIEW

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JOB NO.: 60718529	AECOM

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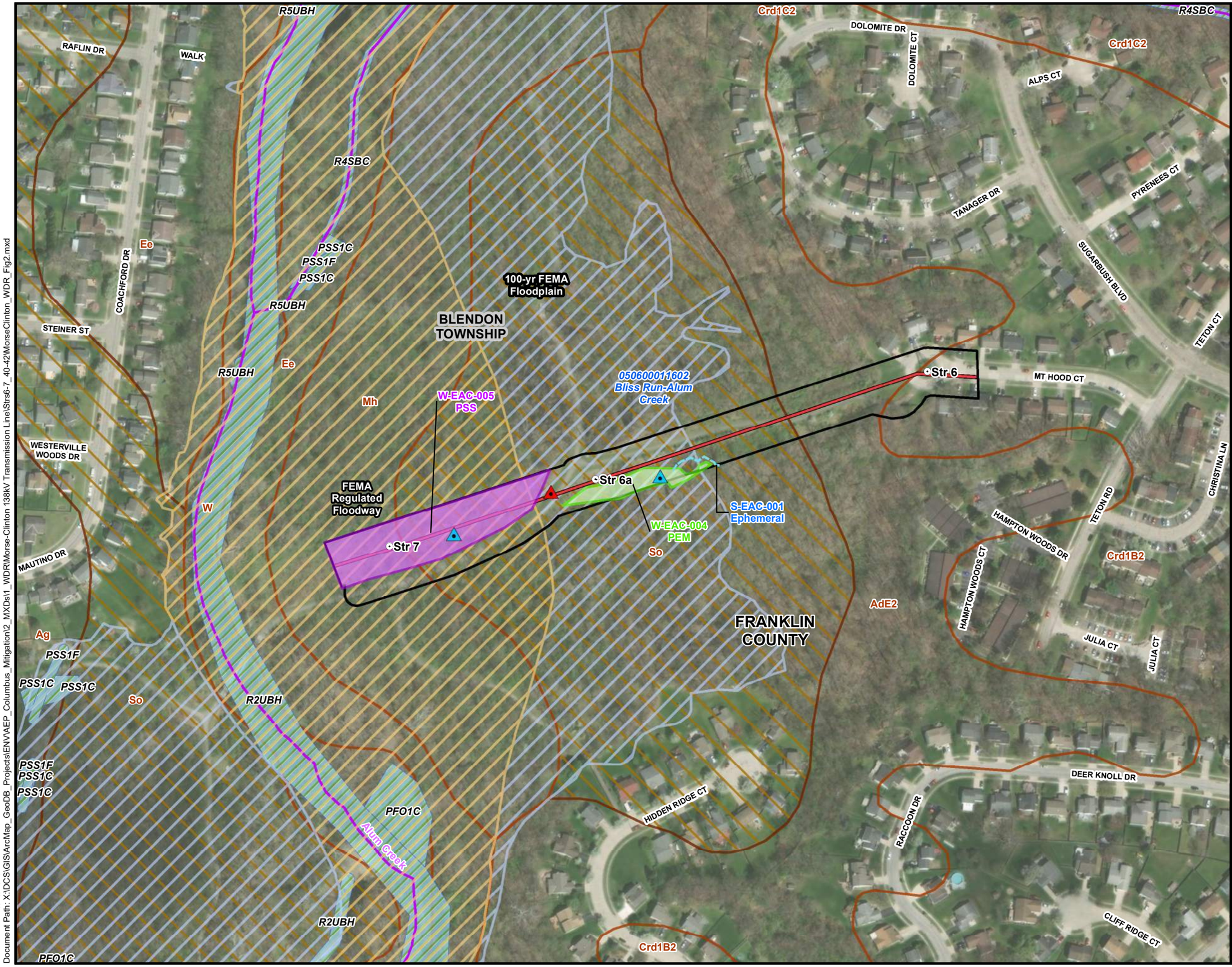

Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Project Survey Area
- Delineated PEM Wetland
- Delineated PSS Wetland
- NWI Wetlands (USFWS)
- NFHL 100-Year Floodplain (FEMA)
- NFHL Floodway (FEMA)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

AdE2: Alexandria silt loam, 18 to 25 percent slopes, eroded

Crd1B2: Cardington silt loam, 2 to 6 percent slopes, eroded

Mh: Medway silt loam, occasionally flooded

So: Sloan silt loam, Columbus Lowland, 0 to 2 percent slopes, frequently flooded

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2A
SOIL MAP AND
NATIONAL WETLANDS INVENTORY MAP

DATE: 10/26/2023	1 INCH = 200 FEET
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JOB NO.: 60718529	AECOM

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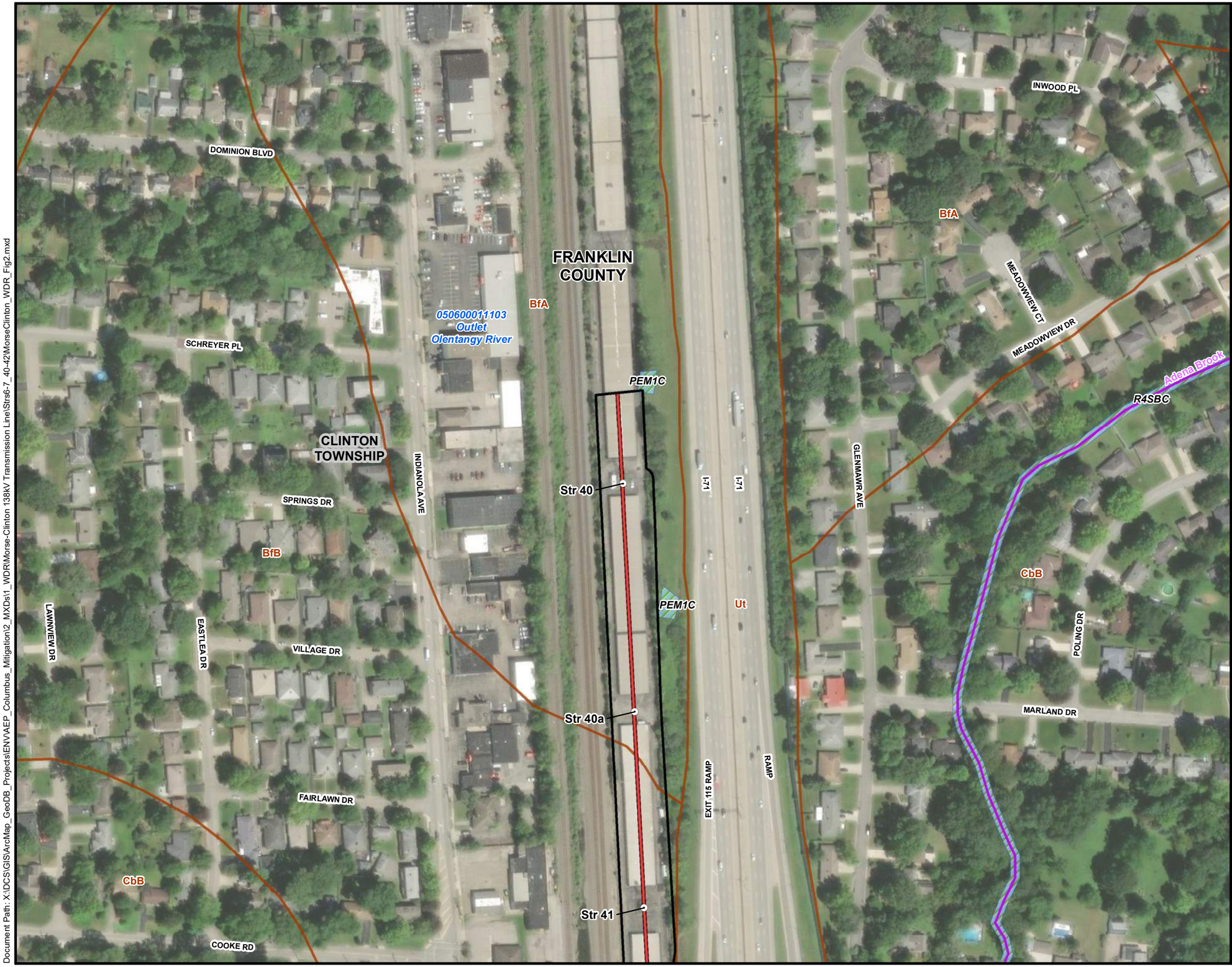

Legend

- Structure Location
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- NHD Stream (USGS)
- Project Survey Area
- NWI Wetlands (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BfA: Bennington-Urban land complex, 0 to 2 percent slopes

BfB: Bennington-Urban land complex, 0 to 6 percent slopes

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2B
SOIL MAP AND
NATIONAL WETLANDS INVENTORY MAP

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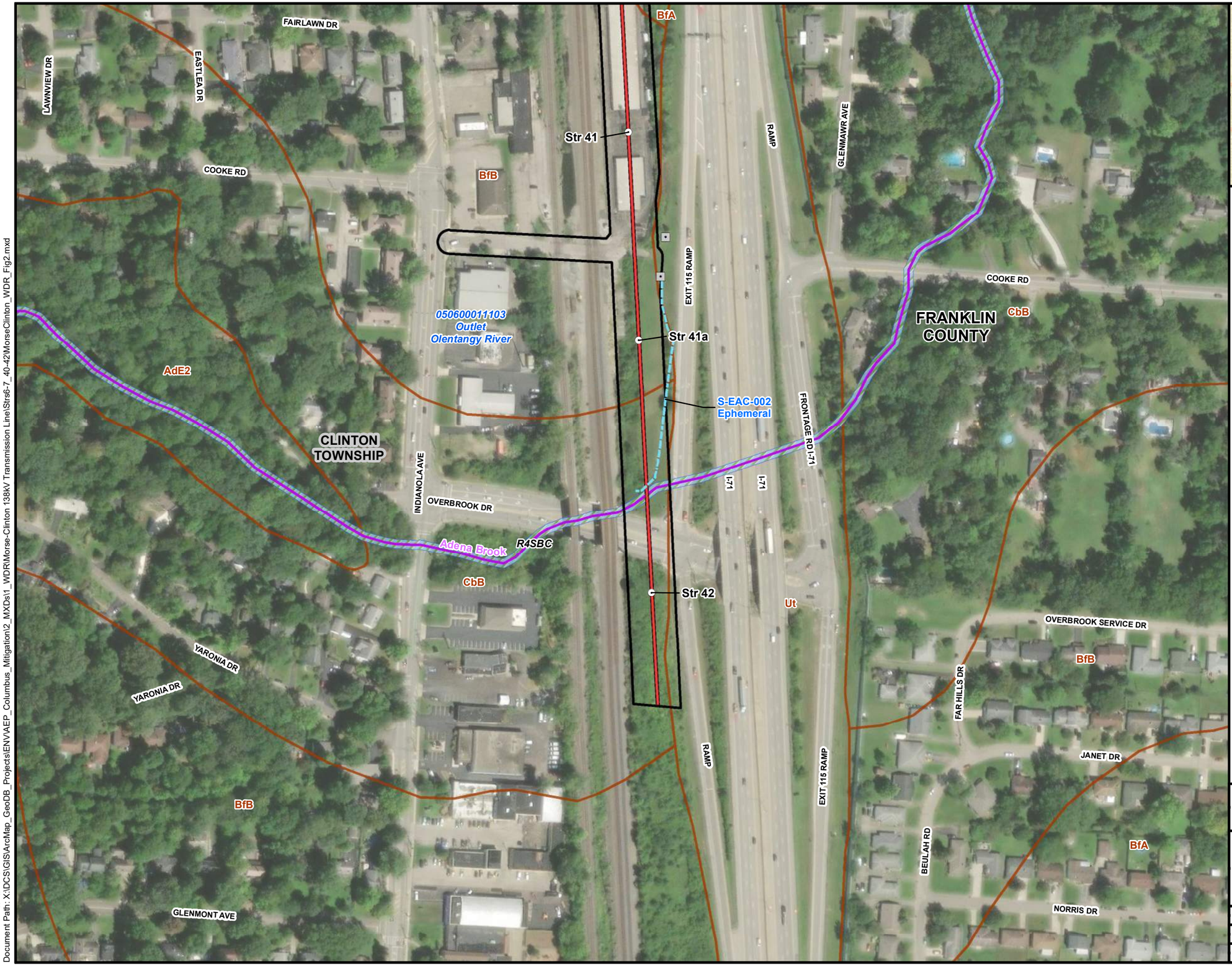

Legend

- Structure Location
- Culvert
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Project Survey Area
- NWI Wetlands (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BfA: Bennington-Urban land complex, 0 to 2 percent slopes

BfB: Bennington-Urban land complex, 0 to 6 percent slopes

CbB: Cardington-Urban land complex, 2 to 6 percent slopes

Ut: Udorthents-Urban land complex, gently rolling

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2C
SOIL MAP AND
NATIONAL WETLANDS INVENTORY MAP

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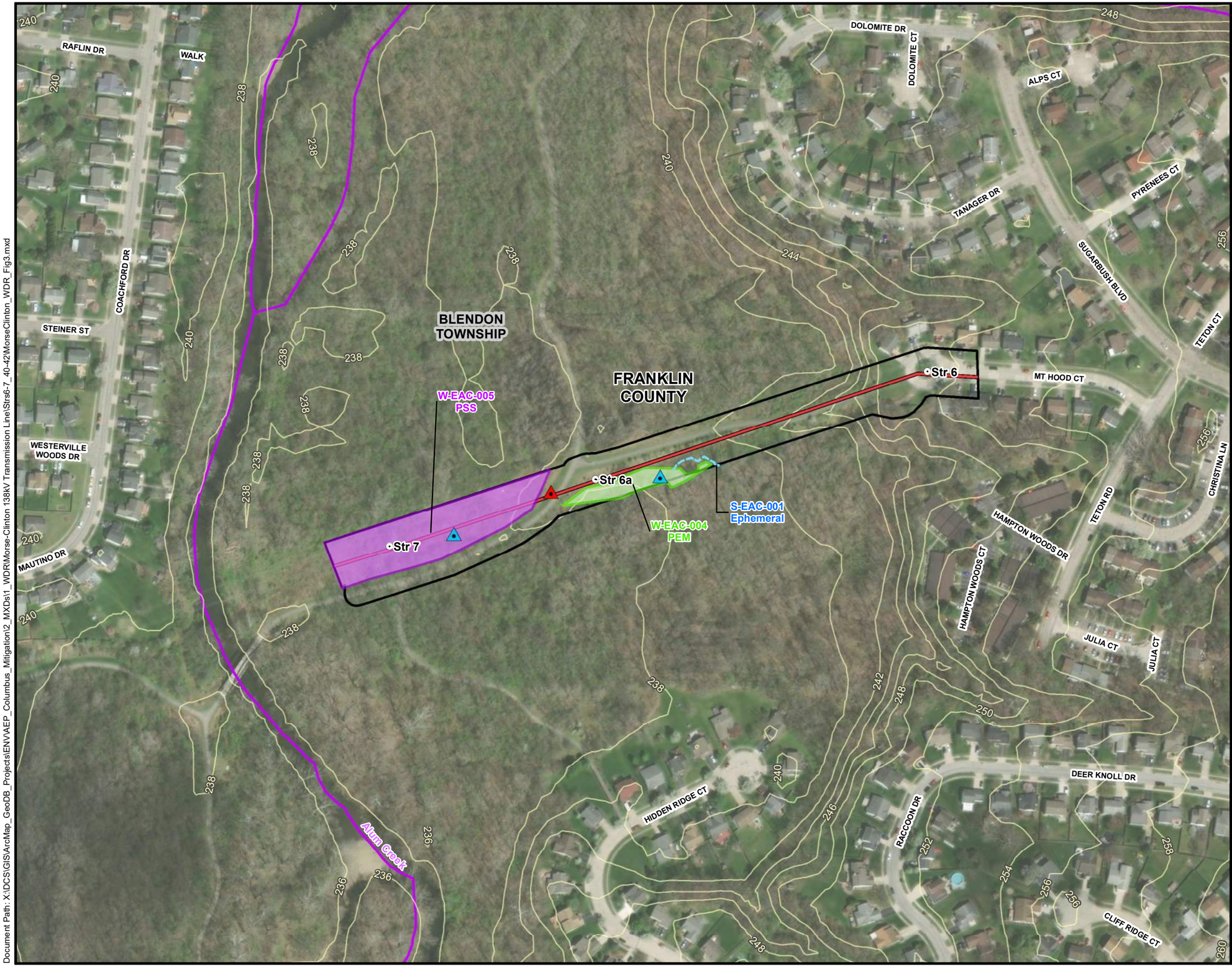

Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Contours (2ft)
- Project Survey Area
- Delineated PEM Wetland
- Delineated PSS Wetland

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2A
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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JOB NO.: 60718529	AECOM

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Legend

- Structure Location
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- NHD Stream (USGS)
- Contours (2ft)
- Project Survey Area

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2B
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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JOB NO.: 60718529	AECOM

Date Saved: 10/26/2023
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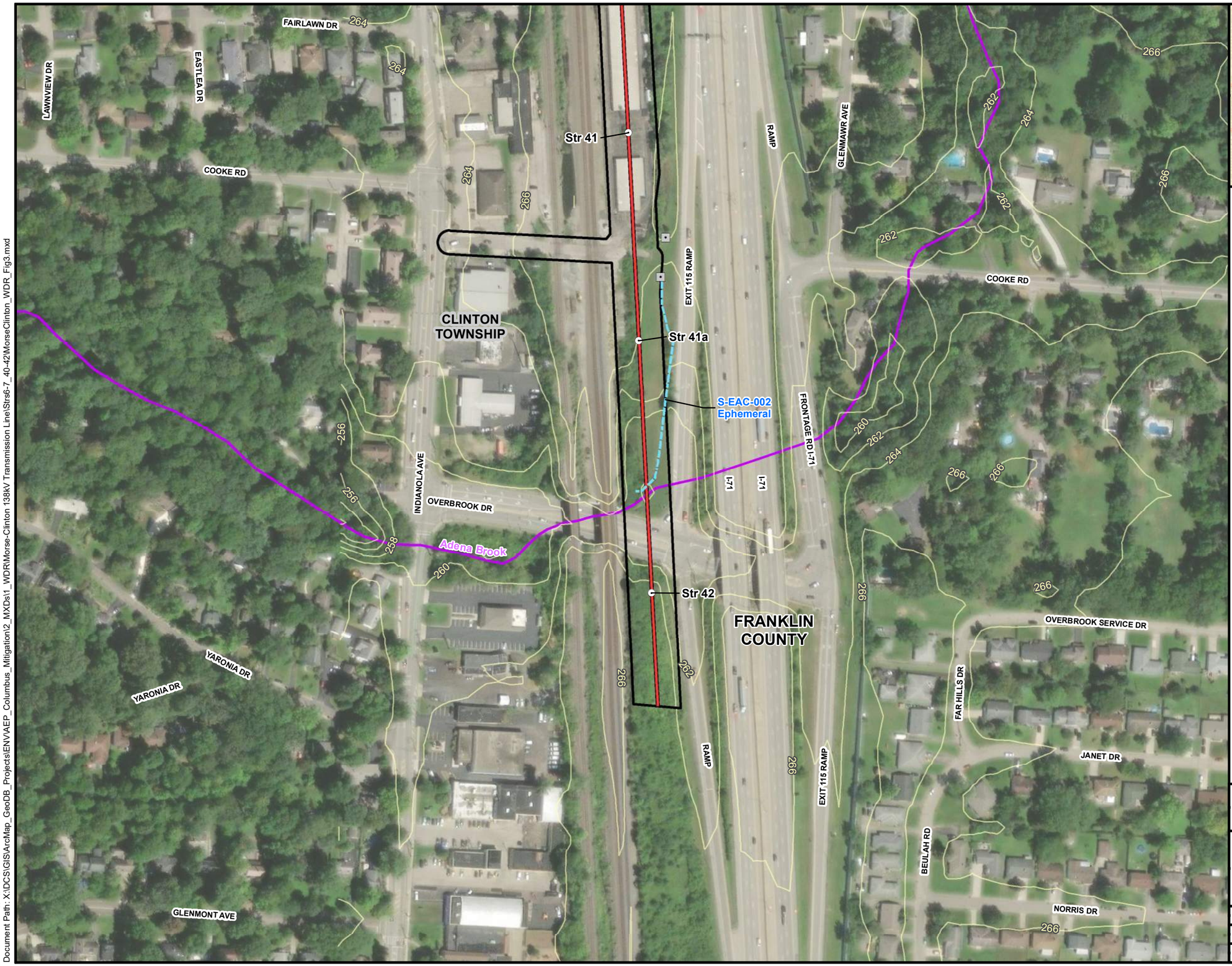

Legend

- Structure Location
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- Culvert
- Delineated Ephemeral Stream
- NHD Stream (USGS)
- Contours (2ft)
- Project Survey Area

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 2C
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

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JOB NO.: 60718529	AECOM

Date Saved: 10/26/2023
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OEPA EPA 401
Possibly Eligible
Rush Run-Olentangy River
050600011102

OEPA EPA 401
Ineligible
Rush Run-Olentangy River
050600011102

Bill Moose Run

OEPA EPA 401
Possibly Eligible
Outlet Olentangy River
050600011103

40.051909
-82.998565

Str 40
40.051381
-82.998516

Str 40a
40.050049
-82.99842

Str 41
40.048905
-82.998338

Str 41a
40.047900
-82.99825

Str 42
40.046219
-82.998142

40.045558
-82.998093

Adena Brook

OEPA EPA 401
Eligible
Bliss Run-Alum Creek
050600011602

Alum Creek

Str 7
40.066573
-82.922012

Str 6
40.067606
-82.917935

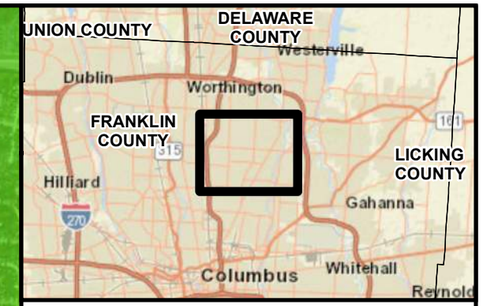
40.067575
-82.917558

Str 6a
40.066968
-82.920453

40.066453
-82.922435

OEPA EPA 401
Possibly Eligible
City of Gahanna-Big Walnut Creek
050600011502

OEPA EPA 401
Possibly Eligible
Mason Run-Big Walnut Creek
050600011505



Legend

- Structure Location
- Morse-Clinton 138 kV Transmission Line (Structures 6 to 7 and 40 to 42)
- NHD Stream (USGS)
- Project Survey

OEPA Eligibility:

- Eligible
- Ineligible
- Possibly Eligible

N

0 1,000 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 4
STREAM ELIGIBILTY MAP

DATE: 10/26/2023	1 INCH = 2,000 FEET
CREATED BY: AH	CHECKED BY: JH
JOB NO.: 60718529	AECOM

Date Saved: 10/26/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\1_WDR\Morse-Clinton 138kV Transmission Line\Strs6-7_40-42\MorseClinton_WDR_Fig4.mxd

Legend

- Structure Location
- Photograph Location
- Project Survey Area

Vegetative Communities Type

- Scrub/Shrub
- Urban
- Wetlands/Streams

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 5A
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 10/27/2023	1 INCH = 200 FEET
CREATED BY: AH	CHECKED BY: JH
JOB NO.: 60718529	AECOM

Date Saved: 10/27/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\1_WDR\Morse-Clinton 138kV Transmission Line\Str6-7_40-42\MorseClinton_WDR_Fig5.mxd

Legend

- Structure Location
- Project Survey Area

Vegetative Communities Type

- Urban

N

0 100 200 400

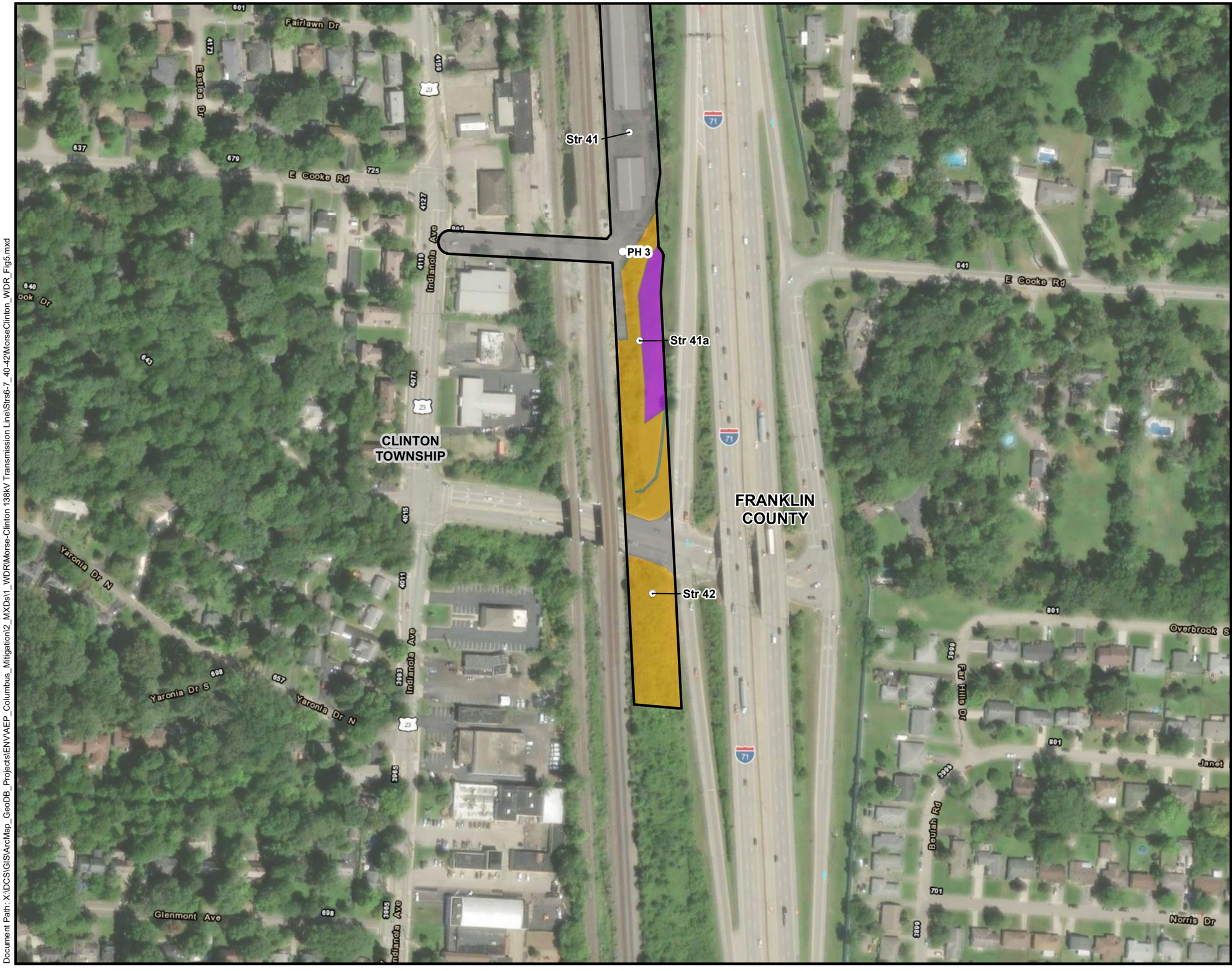
Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 5B
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 10/27/2023	1 INCH = 200 FEET
CREATED BY: AH	CHECKED BY: JH
JOB NO.: 60718529	AECOM

Date Saved: 10/27/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\1_WDR\Morse-Clinton 138kV Transmission Line\Strs6-7_40-42\MorseClinton_WDR_Fig5.mxd



Legend

- Structure Location
- Photograph Location
- Project Survey Area

Vegetative Communities Type

- Landscaped
- Scrub/Shrub
- Urban
- Wetlands/Streams

N

0 100 200 400

Feet

Morse-Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project

FIGURE 5C
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 10/27/2023	1 INCH = 200 FEET
CREATED BY: AH	CHECKED BY: JH
JOB NO.: 60718529	AECOM

Date Saved: 10/27/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\1_WDR\Morse-Clinton 138kV Transmission Line\Strs6-7_40-42\MorseClinton_WDR_Fig5.mxd

APPENDIX A

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

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

October 19, 2023

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

Transmitted via email: environmentalreviewrequest@dnr.state.oh.us;
NHDRequest@dnr.state.oh.us

Reference: **Project Review Request**
Morse-Clinton 138 kV Line Clearance Violation Mitigation, City of Columbus, Franklin County, Ohio

Mr. Pettegrew:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) completes an environmental review and a Natural Heritage Database (NHD) search request for the proposed Morse-Clinton 138 kV Line Clearance Violation Mitigation Project (Project) located in Franklin County, Ohio (OH). The Project consists of the emergency repairs to 23 sections along the existing Morse-Clinton 138 kV Transmission Line for clearance violations within the City of Columbus, Franklin County, OH. The 23 emergency repair activities total approximately 4.6 miles of transmission line corridor. The proposed survey area is approximately 63.96 acres and is located on the United States Geological Survey (USGS) Northeast Columbus, OH 7.5-minute topographical quadrangle as displayed on the Topographic Project Overview (Figure 1).

AECOM Technical Services, Inc. (AECOM) completed a desktop review of publicly available data to identify abandoned underground mines within 0.25-mile of the Project area. The data sources utilized included USGS topographical maps, aerial photography, and the ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figures 1 and 2. Based on the available desktop resources, there are no underground mines and/or karst features located within a 0.25-miles radius of the Project area that are anticipated to provide suitable hibernacula for cave-dwelling bats.

AECOM respectfully requests the results of the ODNR's environmental review, including results of the ODNR Natural Heritage Database search (see attached NHD Request Form) 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,

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

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

Attachments (3): Figure 1 – Topographic Project Overview; Figure 2 – Aerial Project Overview; NHD Request Form; Electronic Shapefiles(.shp)

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.55 miles west of the project area.

CITY OF WORTHINGTON

CITY OF RIVERLEA

CITY OF COLUMBUS

CITY OF MINERVA PARK

SHARON TOWNSHIP

CLINTON TOWNSHIP

BLENDON TOWNSHIP

MIFFLIN TOWNSHIP

FRANKLIN COUNTY

Northwest Columbus

Northeast Columbus

40.068125
-82.992796

40.064498
-82.993102

40.057549
-82.993422

40.051909
-82.998565

40.045558
-82.998093

40.067825
-82.977359

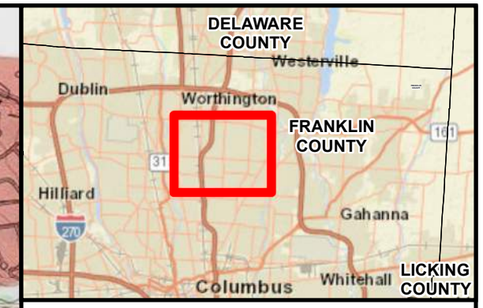
40.067624
-82.973867

40.06925
-82.952383

40.069207
-82.951912

40.068408
-82.940532

40.066285
-82.934336



Legend

- Existing Morse-Clinton 138kV Transmission Line
- County Boundary
- Township Boundary
- City Boundary
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle

N

0 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

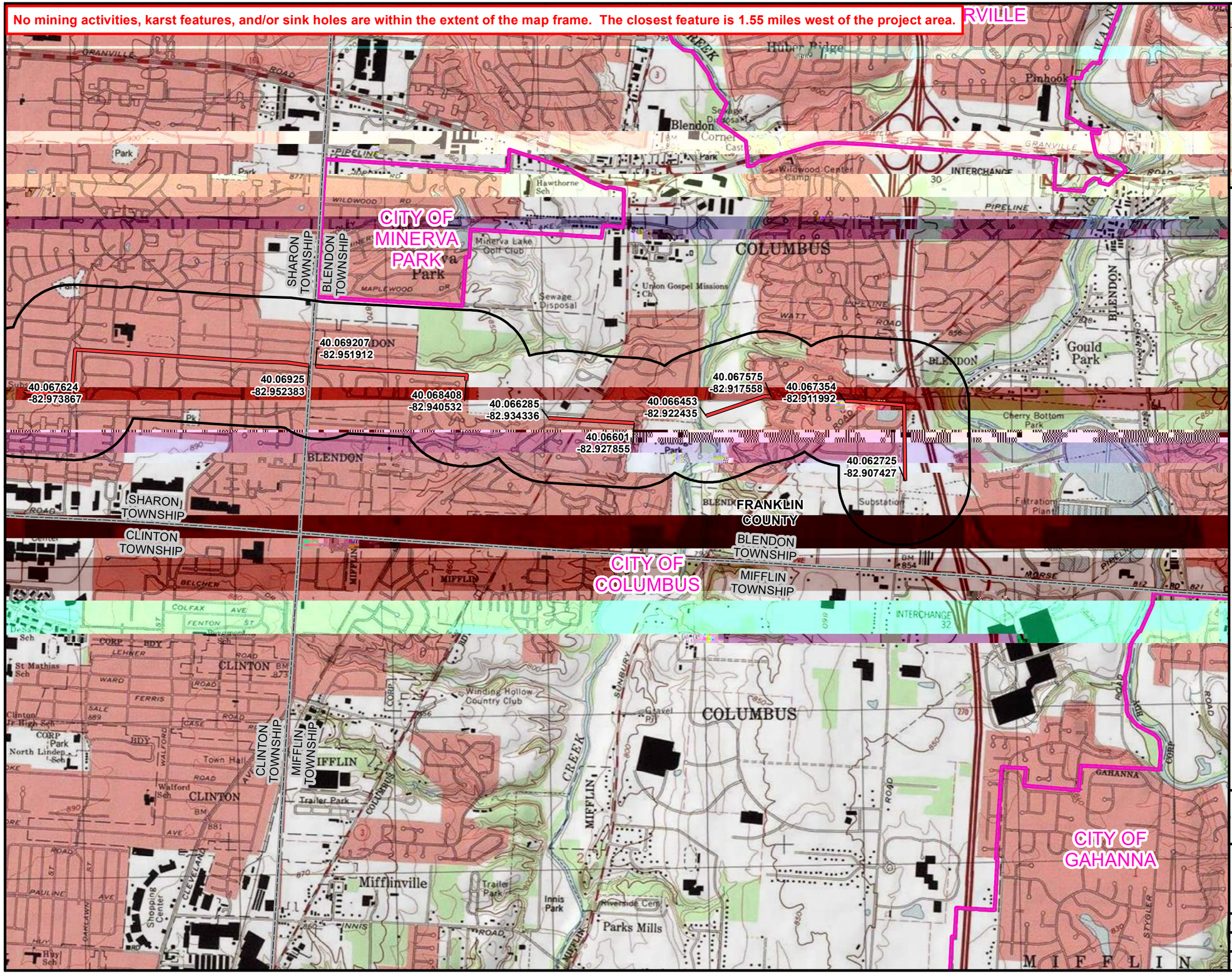
Morse-Clinton 138kV Line Clearance Violation Mitigation Project

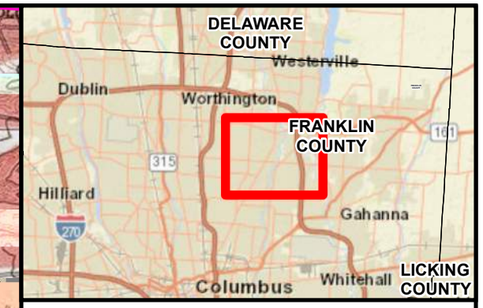
FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 10/19/2023	1 INCH = 2,000 FEET
CREATED BY: AH	CHECKED BY: BG
JOB NO.: 60718529	AECOM

Date Saved: 10/19/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\0_TE\MorseClinton 138kV TLine\MorseClinton_ODNRFigure1_Topo_Overview.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.55 miles west of the project area.





Legend

- Existing Morse-Clinton 138kV Transmission Line
- County Boundary
- Township Boundary
- City Boundary
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle

N

0 2,000 4,000

Feet

Morse-Clinton 138kV Line Clearance Violation Mitigation Project

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

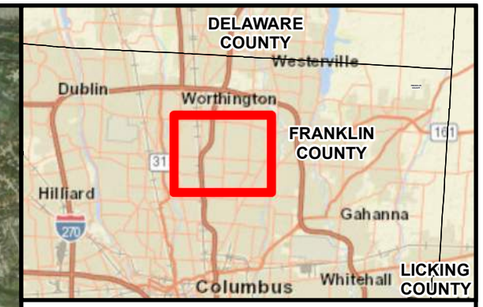
DATE: 10/19/2023	1 INCH = 2,000 FEET
CREATED BY: AH	CHECKED BY: BG
JOB NO.: 60718529	AECOM

Date Saved: 10/19/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\0_TE\MorseClinton 138kV TLine\MorseClinton_ODNRFigure1_Topo_Overview.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.55 miles west of the project area.

CITY OF WORTHINGTON
CITY OF RIVERLEA
CITY OF MINERVA PARK
CITY OF COLUMBUS
SHARON TOWNSHIP
BLENDON TOWNSHIP
CLINTON TOWNSHIP
MIFFLIN TOWNSHIP
FRANKLIN COUNTY
Northwest Columbus
Northeast Columbus

40.069207 -82.951912
40.06925 -82.952383
40.068408 -82.940532
40.066285 -82.934336
40.067825 -82.977359
40.067624 -82.973867
40.068125 -82.992796
40.064498 -82.993102
40.057549 -82.993422
40.051909 -82.998565
40.045558 -82.998093



Legend

- Existing Morse-Clinton 138kV Transmission Line
- County Boundary
- Township Boundary
- City Boundary
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle

N

0 2,000 4,000
Feet

Morse-Clinton 138kV Line Clearance Violation Mitigation Project

FIGURE 1
AERIAL PROJECT OVERVIEW

DATE: 10/19/2023	1 INCH = 2,000 FEET
CREATED BY: AH	CHECKED BY: BG
JOB NO.: 60718529	AECOM

Date Saved: 10/19/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\0_TE\MorseClinton 138kV TLine\MorseClinton_ODNRFigure2_Aerial_Overview - Copy.mxd

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.55 miles west of the project area.

RVILLE

CITY OF MINERVA PARK

SHARON TOWNSHIP

BLENDON TOWNSHIP

40.069207
-82.951912

40.067624
-82.973867

40.06925
-82.952383

40.068408
-82.940532

40.066285
-82.934336

40.06601
-82.927855

40.066453
-82.922435

40.067575
-82.917558

40.067354
-82.911992

40.062725
-82.907427

SHARON TOWNSHIP

CLINTON TOWNSHIP

FRANKLIN COUNTY

BLENDON TOWNSHIP

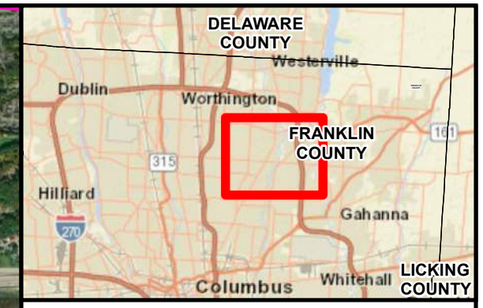
MIFFLIN TOWNSHIP

CITY OF COLUMBUS

CLINTON TOWNSHIP

MIFFLIN TOWNSHIP

CITY OF GAHANNA



Legend

- Existing Morse-Clinton 138kV Transmission Line
- County Boundary
- Township Boundary
- City Boundary
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle

N

0 2,000 4,000

Feet

AMERICAN ELECTRIC POWER

Morse-Clinton 138kV Line Clearance Violation Mitigation Project

FIGURE 1
AERIAL PROJECT OVERVIEW

DATE: 10/19/2023	1 INCH = 2,000 FEET
CREATED BY: AH	CHECKED BY: BG
JOB NO.: 60718529	AECOM

Date Saved: 10/19/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\AEP_Columbus_Mitigation\2_MXDs\0_TE\MorseClinton_ODNRFigure2_AerialOverview - Copy.mxd

APPENDIX B

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

OEPA WETLAND ORAM FORMS

DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Morse_Clinton Clearance Violations City/County: Columbus /Franklin Sampling Date: 10/12/2023

Applicant/Owner: AEP State: OH Sampling Point: W-EAC-004 PEM

Investigator(s): EAC, KAY Section, Township, Range: T2N R17W

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

Slope (%): 0 Lat: 40.063725 Long: -82.907412 Datum: NAD83

Soil Map Unit Name: So- Sloan Silt Loam Columbus Lowland 0 to 2 percent slopes Frequently Flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Depressional area east of constructed footpath fill. Runoff waters collected periodically from upslope areas are impounded by the fill material.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30r)	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	10	Yes	FAC
2.			
3.			
4.			
5.			
	10	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15r)			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5r)			
1. *Phalaris arundinacea*	60	Yes	FACW
2. *Elymus virginicus*	25	Yes	FACW
3. *Pilea pumila*	20	No	FACW
4. *Lysimachia nummularia*	10	No	FACW
5. *Typha latifolia*	10	No	OBL
6. *Agrimonia parviflora*	10	No	FACW
7. *Eupatorium perfoliatum*	10	No	OBL
8. *Impatiens capensis*	10	No	FACW
9. *Solidago altissima*	10	No	FACU
10. *Ludwigia palustris*			OBL
	165	=Total Cover	
Woody Vine Stratum (Plot size: 15r)			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	135	x 2 =	270
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	175 (A)		360 (B)
Prevalence Index = B/A =			2.06

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegtation is present in dominance test and prevalence index.

SOIL

Sampling Point: -EAC-004 PE

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10yr 2/1	100					Loamy/Clayey	Loam
5-17	2.5y 4/1	90	7.5yr 4/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Hydric soil indicators are present

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:

Primary and Secondary Hydrology indicators are present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Morse_Clinton Clearance Violations City/County: Columbus /Franklin Sampling Date: 10/12/2023

Applicant/Owner: AEP State: OH Sampling Point: W-EAC-004/ 005 UPL

Investigator(s): EAC, KAY Section, Township, Range: T2 R17W

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

Slope (%): 1 Lat: 40.066275 Long: -82.923328 Datum: NAD83

Soil Map Unit Name: So- Sloan Silt Loam Columbus Lowland 0 to 2 percent slopes Frequently Flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil x, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

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

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

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

Remarks:
Sample taken adjacent to constructed footpath with maintained vegetation . Footpath is bermed and higher than surounding landscape within the Survey Area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15r)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5r)			
1. *Digitaria sanguinalis*	30	Yes	FACU
2. *Schedonorus arundinaceus*	30	Yes	FACU
3. *Medicago lupulina*	15	No	FACU
4. *Trifolium fragiferum*	15	No	FACU
5. *Plantago major*	5	No	FAC
6.			
7.			
8.			
9.			
10.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: 15r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	5	x 3 =	15
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	95 (A)		375 (B)

Prevalence Index = B/A = 3.95

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
No hydrophytic vegetation present

SOIL

Sampling Point: AC-004/ 005

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	2.5y 5/3	100					Loamy/Clayey	loam

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

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: gravel
Depth (inches): 5

Hydric Soil Present? **Yes** ____ **No** x

Remarks:
No hydric soil indicators present, soil is compacted and disturbed.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:
No primary hydrology indicators present

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Morse_Clinton Clearance Violations City/County: Columbus /Franklin Sampling Date: 10/12/2023

Applicant/Owner: AEP State: OH Sampling Point: W-EAC-005 PSS

Investigator(s): EAC, KAY Section, Township, Range: T2 R17N

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

Slope (%): 0 Lat: 40.066645 Long: -82.921532 Datum: NAD83

Soil Map Unit Name: Mh- Medway silt loam ocassionally flooded NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes x No ____ (If no, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? Yes x No ____

Are Vegetation____, Soil____, or Hydrology____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks:
Sample point taken in ROW within a floodprone area and adjacent to an observed forested wetland area.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30r)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15r)			
1. *Acer negundo*	40	Yes	FAC
2. *Fraxinus pennsylvanica*	15	Yes	FACW
3. *Alnus incana*	15	Yes	FACW
4. *Platanus occidentalis*	15	Yes	FACW
5. *Rhamnus cathartica*			FAC
	85	=Total Cover	
Herb Stratum (Plot size: 5r)			
1. *Poa palustris*	30	Yes	FACW
2. *Elymus virginicus*	20	Yes	FACW
3. *Phalaris arundinacea*	20	Yes	FACW
4. *Geum canadense*	10	No	FAC
5. *Dichanthelium clandestinum*	15	No	FACW
6. *Carex crinita*	5	No	OBL
7. *Carex muskingumensis*	5	No	OBL
8.			
9.			
10.			
	105	=Total Cover	
Woody Vine Stratum (Plot size: 15r)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	130	x 2 =	260
FAC species	50	x 3 =	150
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	190 (A)		420 (B)

Prevalence Index = B/A = 2.21

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation is present because the vegetation passed the dominance test and prevalence index. Low woody vegetation is thick in this area and invasives are present.

SOIL

Sampling Point: '-EAC-005 PS

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10yr 3/2	100					Loamy/Clayey	
4-17	10yr 3/2	60	7.5yr 4/2	40	C	M	Loamy/Clayey	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:
Primary hydric soil indicator was present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

(includes capillary fringe)

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

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

Remarks:
Primary and secondary hydrology indicators are present

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

Instructions

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

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

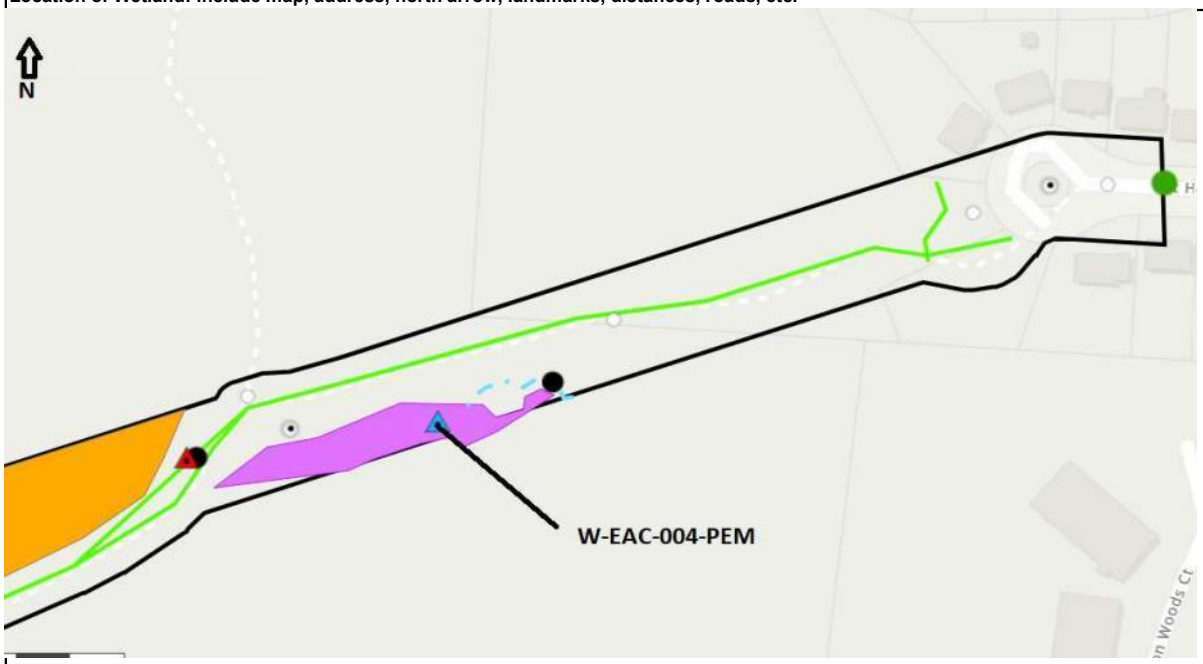
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual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

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

Background Information

Name:	**EAC, KAY**
Date:	**10/12/2023**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513 508-0885**
e-mail address:	adam.crowe@aecom.com
Name of Wetland:	**W-EAC-004**
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:	**40.066993, -82.919974**
USGS Quad Name:	**Norteast Columbus**
County:	**Franklin**
Township:	**City of Columbus**
Section and Subsection:	**T2 R17W**
Hydrologic Unit Code:	**050600011602 Bliss Run Alum Creek**
Site Visit:	**10/12/2023**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	W-EAC-004		
Wetland Size (delineated acres):	0.19	Wetland Size (Estimated total acres):	0.21

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

Comments, Narrative Discussion, Justification of Category Changes:

W-EAC-004 is a depressional wetland that recieves hydrology from ephemeral stream S-EAC-001. The Fill material used to construct the footpath raised the ground elevation west of the feature which cuts off the hydrologic connection to W-EAC-005. Additionaly, W-EAC-004 has a predominance of Invasive Reed Canary Grass (*Phalaris arundinacea*).

Final score:	24.5	Category:	1

Wetland ID:	W-EAC-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-EAC-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 United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	***NO** Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	***NO** Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	***NO** Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	***NO** Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis* , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	***NO** Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	***NO** Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	***NO** Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	***NO** Go to Question 8b

Wetland ID:	W-EAC-004

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	***NO** Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	***NO** Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	***NO** Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	***NO** Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	***NO** Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	***NO** Complete Quantitative Rating

Wetland ID:	W-EAC-004

Table 1. Characteristic plant species.

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

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

Wetland ID:	W-EAC-004

Site:	Morse-Clinton Clearance Violations		EAC, KAY	Date:	10/12/2023

Field ID:

W-EAC-004 PEM

Delineated acres:	0.19
Total acres:	0.21

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

4.0 (max 14 pts.) | 5.0 (subtotal)

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

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

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

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

Metric 3. Hydrology.

6.5 (max 30 pts.) | 11.5 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

11.0 (max 20 pts.) | 22.5 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

22.5 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-EAC-004

Site:	Morse-Clinton Clearance Violations	Rater(s):	EAC, KAY	Date:	10/12/2023

Field ID:

W-EAC-004 PEM

22.5
subtotal this page

0.0 max 10 pts. **22.5** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2.0 max 20pts. **24.5** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- 0 Aquatic bed
- 1 Emergent
- 0 Shrub
- 0 Forest
- 0 Mudflats
- 0 Open water
- 0 Other_____

6b. horizontal (plan view) Interspersion.
Select only one.

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

6c. Coverage of invasive plants. Refer Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.
Score all present using 0 to 3 scale.

- 1 Vegetated hummucks/tussucks
- 1 Coarse woody debris >15cm (6in)
- 0 Standing dead >25cm (10in) dbh
- 0 Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species
Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generallyw/o presence of rare threatened or endangered spp to
A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

24.5 **TOTAL (Max 100 pts)**

1 **Category**

Wetland ID:	W-EAC-004

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1		
	Metric 2. Buffers and surrounding land use	4		
	Metric 3. Hydrology	6.5		
	Metric 4. Habitat	11		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	2		
	TOTAL SCORE	24.5		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-EAC-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 *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	***NO**	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	***NO**	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	***YES** Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	***NO**	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	***NO** Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

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

Instructions

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

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

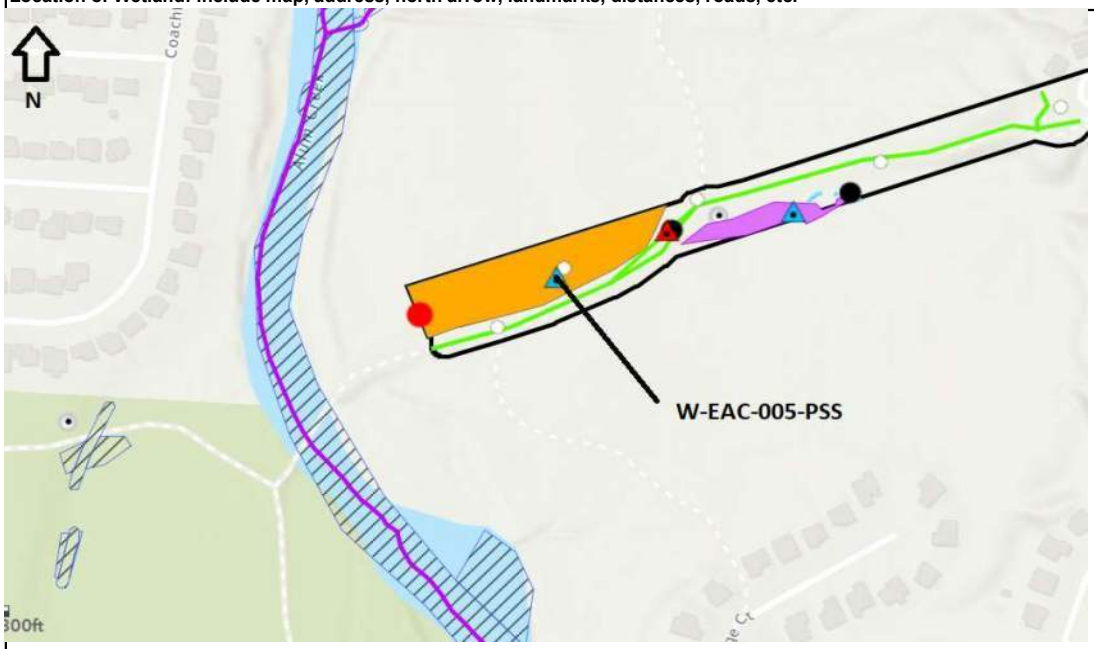
It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To properly answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual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

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

Background Information

Name:	**EAC, KAY**
Date:	**10/12/2023**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**513 508-0885**
e-mail address:	adam.crowe@aecom.com
Name of Wetland:	**W-EAC-005**
Vegetation Communit(ies):	**PFO, PSS**
HGM Class(es):	**Riverine**

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



Lat/Long or UTM Coordinate:	**10.066654, -82.921575**
USGS Quad Name:	**Northeast Columbus**
County:	**Franklin**
Township:	**City of Columbus**
Section and Subsection:	**T2 R17W**
Hydrologic Unit Code:	**050600011602 Bliss Run- Alum Creek**
Site Visit:	**10/12/2023**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	W-EAC-005		
Wetland Size (delineated acres):	1.07	Wetland Size (Estimated total acres):	9.40

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

Comments, Narrative Discussion, Justification of Category Changes:

The Study Area wetland falls within a power line right of way lending to past clearance of what was a mature forested habitat. Right of way maintenance has kept the habitat successionally confined to a scrub shrub condition. Hydrology indicators persist and are present. Soils have been disturbed repeatedly; first by Right of way grading in the distant past and more recently by construction of a footpath connecting nearby neighborhoods to Alum Creek. Outside the Right of way disturbance a mature forested wetland complex persists with less disturbance noted of the soils and vegetation. Floodplain conectivity with Alum Creek is intact and the study area wetland is hydrlogically connected to surrounding habitats. This was taken into consideration for the ORAM scoring boundary.

Final score:	34	Category:	1 or 2 Gray Zone

Wetland ID:	W-EAC-005

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-EAC-005

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature and by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), http://www.dnr.state.oh.us/dnap . The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	**Critical Habitat.** Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	*NO Go to Question 2
2	**Threatened or Endangered Species.** Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	*NO Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	*NO Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	*NO Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis* , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	*NO Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	*NO Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	*NO Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	*NO Go to Question 8b

Wetland ID:	W-EAC-005

8b	**Mature forested wetlands**. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	***YES** Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands**. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	***NO** Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	***NO** Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	***NO** Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	***NO** Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	***NO** Go to Question 11
11	**Relict Wet Prairies**. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	***NO** Complete Quantitative Rating

Wetland ID:	W-EAC-005

Table 1. Characteristic plant species.

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

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

Wetland ID:	W-EAC-005

Site:	Morse-Clinton Clearance Violation	Rater(s):	EAC, KAY	Date:	10/12/2023

Field ID:

W-EAC-005

Delineated acres:	1.07
Total acres:	9.40

3.0 / 3.0 Metric 1. Wetland Area (size).

max 6 pts | subtotal

Select one size class and assign score.

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

7.0 / 10.0 Metric 2. Upland buffers and surrounding land use.

max 14 pts. | subtotal

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

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

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

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

7.0 / 17.0 Metric 3. Hydrology.

max 30 pts. | subtotal

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

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

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

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

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

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

Check all disturbances observed

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

6.0 / 23.0 Metric 4. Habitat Alteration and Development.

max 20 pts. | subtotal

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

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

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

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

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

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

Check all disturbances observed

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

23.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-EAC-005

Site:	Morse-Clinton Clearance Violation	Rater(s):	EAC, KAY	Date:	10/12/2023

Field ID:

W-EAC-005

23.0
subtotal this page

5.0 max 10 pts. | **28.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6.0 max 20pts. | **34.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

0	Aquatic bed
0	Emergent
1	Shrub
2	Forest
0	Mudflats
0	Open water
0	Other_____

6b. horizontal (plan view) Interspersion.
Select only one.

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

6c. Coverage of invasive plants. Refer Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.
Score all present using 0 to 3 scale.

0	Vegetated hummucks/tussucks
2	Coarse woody debris >15cm (6in)
1	Standing dead >25cm (10in) dbh
1	Amphibian breeding pools

Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 1 vegetation and is of moderate quality, or comprises a significant part but is of low quality
2	Present and either comprises significant part of wetland's 2 vegetation and is of moderate quality or comprises a small part and is of high quality
3	Present and comprises significant part, or more, of wetland's 3 vegetation and is of high quality

Narrative Description of Vegetation Quality

Low spp diversity and/or predominance of nonnative or low disturbance tolerant native species
Native spp are dominant component of the vegetation, mod although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generallyw/o presence of rare threatened or endangered spp to
A predominance of native species, with nonnative spp high and/or disturbance tolerant native spp absent or virtually absent, and high spp diversity and often, but not always, the presence of rare, threatened, or endangered spp

Mudflat and Open Water Class Quality

0	Absent <0.1ha (0.247 acres)
1	Low 0.1 to <1ha (0.247 to 2.47 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

0	Absent
1	Present very small amounts or if more common of marginal quality
2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
3	Present in moderate or greater amounts and of highest quality

34.0	**TOTAL (Max 100 pts)**
1 or 2 Gray Zone	**Category**

Wetland ID:	W-EAC-005

ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1 Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	*YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	3		
	Metric 2. Buffers and surrounding land use	7		
	Metric 3. Hydrology	7		
	Metric 4. Habitat	6		
	Metric 5. Special Wetland Communities	5		
	Metric 6. Plant communities, interspersion, microtopography	6		
	TOTAL SCORE	34		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-EAC-005

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	***NO**	Is quantitative rating score *less* than the Category 2 scoring threshold (*excluding* gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	***YES** Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	***NO**	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	***NO**	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	***YES** Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1- 54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	***NO** Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

W-EAC-004

Date:

October 12, 2023

Description:

PEM wetland

Category 1

Facing North

W-EAC-004

Date:

October 12, 2023

Description:

PEM wetland

Category 1

Facing East

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

W-EAC-004	
Date: October 12, 2023 **Description:** PEM wetland Category 1 Facing South	

W-EAC-004	
Date: October 12, 2023 **Description:** PEM wetland Category 1 Facing West	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

W-EAC-004	
Date: October 12, 2023 **Description:** PEM wetland Category 1 Facing Soil	

W-EAC-005	
Date: October 12, 2023 **Description:** PSS wetland Category 1 Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

W-EAC-005

Date:

October 12, 2023

Description:

PSS wetland

Category 1

Facing East

W-EAC-005

Date:

October 12, 2023

Description:

PSS wetland

Category 1

Facing South

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

W-EAC-005	
Date: October 12, 2023 **Description:** PSS wetland Category 1 Facing West	

W-EAC-005	
Date: October 12, 2023 **Description:** PSS wetland Category 1 Facing Soil	

APPENDIX C

OEPA STREAM DATA FORMS AND PHOTOGRAPHIC RECORD

Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 10

SITE NAME/LOCATION: AEP-Morse-Clinton Clearance Violations

SITE NUMBER: S-EAC-001 RIVER BASIN: Olentangy River RIVER CODE: _____ DRAINAGE AREA (mi²): >0.1 sq mi

LENGTH OF STREAM REACH (ft): 123 LAT: 40.067098 LONG: -82.919585 RIVER MILE: _____

DATE: 10/13/23 SCORER: EA COMMENTS: Ephemeral channel, Flows to W-EAC-004 PEM

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☐ ☐	SILT [3 pt]	
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	10
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	
☐ ☐	GRAVEL (2-64 mm) [9 pts]		☒ ☒	MUCK [0 pts]	90
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 3 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 2

HHEI Metric Points

Substrate Max = 40: 5

A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☒	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: Puddled at time of sampling MAXIMUM POOL DEPTH (centimeters): 0

Pool Depth Max = 30: 0

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☒	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: _____ AVERAGE BANKFULL WIDTH (meters): 0.6

Bankfull Width Max=30: 5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank)

L	R	
☒	☒	Wide >10m
☐	☐	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☒	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☒	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

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

☐	Stream Flowing	☒	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐	None	☐	1.0	☐	2.0	☐	3.0
☐	0.5	☒	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☐ Flat to Moderate ☒ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ 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: Northeast Columbus NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Franklin Township/City: City of Columbus

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 24 hours Quantity: _____

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): n Canopy (% open): 20

Were samples collected for water chemistry? (Y/N): n Lab Sample # or ID (attach results): N/A

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) N/A Conductivity (umhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) y If not, explain: _____

Additional comments/description of pollution impacts: Recieves runoff from local topography. Channel was affected by Footpath construction and ROW maintenance

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) n Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) n Species observed (if known): _____

Salamanders Observed? (Y/N) n Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) n Species observed (if known): _____

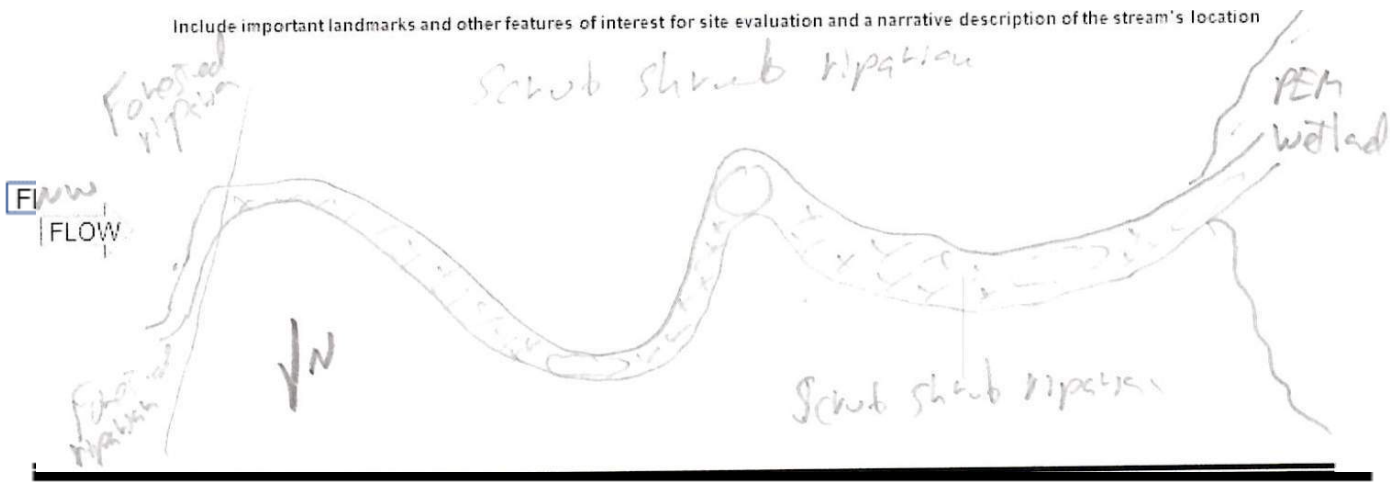
Comments Regarding Biology: Very poor epifaunal substrate, Thick scrub shrub and herbaceous bank vegetation OHWM: 1.5' x 0.3'

BF: 2' x 0.5'

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

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



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) 29

SITE NAME/LOCATION: AEP Morse_Clinton_Clearance Violations

SITE NUMBER: S-EAC-002 RIVER BASIN: Olentangy River RIVER CODE: _____ DRAINAGE AREA (mi²): >0.1 sq mi

LENGTH OF STREAM REACH (ft): 216 LAT: 40.046848 LONG: -82.998249 RIVER MILE: _____

DATE: 10/16/23 SCORER: EAC COMMENTS: Ephemeral Channel, Drainage between Roadway and Railway

NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for Instructions

STREAM CHANNEL MODIFICATIONS: ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☒ RECENT OR NO RECOVERY

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐ ☐	BLDR SLABS [16 pts]		☒ ☐	SILT [3 pt]	80
☐ ☐	BOULDER (>256 mm) [16 pts]		☐ ☒	LEAF PACK/WOODY DEBRIS [3 pts]	15
☐ ☐	BEDROCK [16 pts]		☐ ☐	FINE DETRITUS [3 pts]	
☐ ☐	COBBLE (65-256 mm) [12 pts]		☐ ☐	CLAY or HARDPAN [0 pt]	
☐ ☐	GRAVEL (2-64 mm) [9 pts]	5	☐ ☐	MUCK [0 pts]	
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0 (A)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 6

(B) TOTAL NUMBER OF SUBSTRATE TYPES: 3

HHEI Metric Points

Substrate Max = 40

9

A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☒	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: _____ MAXIMUM POOL DEPTH (centimeters): 2.5

Pool Depth Max = 30

5

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☒	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: _____ AVERAGE BANKFULL WIDTH (meters): 1.5

Bankfull Width Max=30

15

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ★ NOTE: River Left (L) and Right (R) as looking downstream ★

RIPARIAN WIDTH (Per Bank) L	R		FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☐	☐	Wide >10m	☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☐	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☒	☒	Urban or Industrial
☐	☐	Narrow <5m	☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☒	☒	None	☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

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

☒	Stream Flowing	☐	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐	None	☒	1.0	☐	2.0	☐	3.0
☐	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

☐ Flat (0.5 ft/100 ft) ☒ Flat to Moderate ☐ Moderate (2 ft/100 ft) ☐ Moderate to Severe ☐ Severe (10 ft/100 ft)

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

QHEI PERFORMED? ☐ Yes ☒ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ 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: Northeast Columbus NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Franklin Township/City: City of Columbus

MISCELLANEOUS

Base Flow Conditions? (Y/N): y Date of last precipitation: currently raining Quantity: 1/4"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): n Canopy (% open): 85

Were samples collected for water chemistry? (Y/N): n Lab Sample # or ID (attach results): _____

Field Measures: Temp (°C) N/A Dissolved Oxygen (mg/l) N/A pH (S.U.) N/A Conductivity (umhos/cm) N/A

Is the sampling reach representative of the stream (Y/N) y If not, explain: _____

Additional comments/description of pollution impacts: _____

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) n Species observed (if known): _____

Frogs or Tadpoles Observed? (Y/N) n Species observed (if known): _____

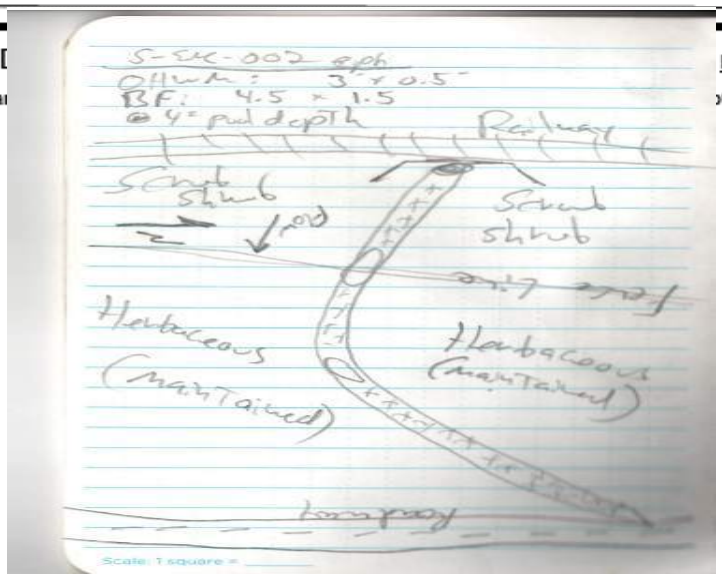
Salamanders Observed? (Y/N) n Species observed (if known): _____

Aquatic Macroinvertebrates Observed? (Y/N) n Species observed (if known): _____

Comments Regarding Biology: _____

DRAWING AND ... must be completed)

Include important la... otion of the stream's location



FLOW

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Stream Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

S-EAC-001

Date:

October 12, 2023

Description:

Ephemeral

Facing Upstream

S-EAC-001

Date:

October 12, 2023

Description:

Ephemeral

Facing Downstream

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Stream Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

S-EAC-001	
Date: October 12, 2023	
Description: Ephemeral Substrate	

S-EAC-002	
Date: October 16, 2023	
Description: Ephemeral Facing Upstream	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Stream Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

S-EAC-002 **Date:** October 16, 2023 **Description:** Ephemeral Facing Downstream	

S-EAC-002 **Date:** October 16, 2023 **Description:** Ephemeral Substrate	

APPENDIX D

HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

PH-01	
Date: October 12, 2023 **Description:** Urban Facing West	

PH-02	
Date: October 12, 2023 **Description:** Urban Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Morse – Clinton 138 kV Line Clearance Violation Mitigation (Structures 6 to 7 and 40 to 42) Project	60718529

PH-03

Date:

October 16, 2023

Description:

Urban

Facing North

PH-03

Date:

October 16, 2023

Description:

Scrub Shrub

Facing South

APPENDIX E

USFWS/ODNR RESPONSE LETTERS

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

November 17, 2023

Anna Findish
AECOM
707 Grant Street
Pittsburgh, Pennsylvania 15219

Re: 23-1268_Morse-Clinton 138 kV Line Clearance Violation Mitigation

Project: The proposed project involves emergency repairs to 23 sections along the existing Morse-Clinton 138 kV Transmission Line for clearance violations within the City of Columbus.

Location: The proposed project is located in the City of Columbus, Franklin County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following data within one mile of the project area:

Yellow-crowned Night-heron (*Nyctanassa violacea*), SI
Deer Mouse (*Peromyscus maniculatus*), SC
Paddlefish (*Polyodon spathula*), T
Kidneyshell (*Ptychobranchus fasciolaris*), SC
Rainbow (*Villosa iris*), SC

Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened. The review was performed on the unbuffered specified project area as well as an additional one-mile radius. Records searched date from 1980. Features searched include locations of rare and endangered plants and animals determined to be of value to the conservation of their species, high quality plant communities, animal breeding assemblages, and outstanding geological features.

Location records for the species listed above are provided in a shapefile attachment to this letter. Species location information will not be disclosed, published or distributed beyond the scope of your project.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an 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 portion of the project west of Karl Road is within the vicinity of records for the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in this area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally 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 bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. However, if trees are present within this area, (outside of the area delineated above) 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.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "*RANGE-WIDE INDIANA BAT & NORTHERN LONG-EARED BAT SURVEY GUIDELINES*." If a habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the project area, please send this information to Eileen Wyza, for project recommendations. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the following listed mussel species.
Federally Endangered
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)
northern rifffleshell (*Epioblasma torulosa rangiana*)
snuffbox (*Epioblasma triquetra*)
purple cat's paw (*Epioblasma o. obliquata*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

State Endangered
elephant-ear (*Elliptio crassidens crassidens*)
pocketbook (*Lampsilis ovata*)
long solid (*Fusconaia maculata maculate*)
washboard (*Megalonaias nervosa*)
Ohio pigtoe (*Pleurobema cordatum*)

State Threatened
pondhorn (*Uniomerus tetralasmus*)
Salamander Mussel (*Simpsonaias ambigua*)

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

The project is within the range of the following listed fish species.
State Endangered
goldeye (*Hiodon alosoides*)
shortnose gar (*Lepisosteus platostomus*)
Iowa darter (*Etheostoma exile*)
spotted darter (*Etheostoma maculatum*)
northern brook lamprey (*Ichthyomyzon fossor*)
tonguetied minnow (*Exoglossum laurae*)
popeye shiner (*Notropis ariommus*)

State Threatened
lake chubsucker (*Erimyzon sucetta*)
paddlefish (*Polyodon spathula*)

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

Due to the potential of impacts to federally listed species, as well as to state listed species, we recommend that this project be coordinated with the US Fish & Wildlife Service.

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

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

Mike Pettegrew
Environmental Services Administrator

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

October 31, 2023

Project Code: 2024-0006405

Dear Anna Findish:

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 ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

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

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.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus is it important to conserve the functions and values of the remaining wetlands in Ohio (https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf). We recommend avoiding and minimizing project impacts to all wetland habitats (e.g., forests, streams, vernal pools) to the maximum extent possible in order to benefit water quality and fish and wildlife habitat. Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the U.S. Army Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

Due to the project type, size, and location, we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

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

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

Sincerely,

Scott Hicks
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

APPENDIX F

2023 JOINT GUIDANCE

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, **with minor modifications referenced below**, 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 long-eared 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[1], qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis, M. septentrionalis*[2]*, M. lucifugus*[2]*,* and *P. subflavus*[2]) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern long-eared, 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.

[1] https://www.fws.gov/media/indiana-bat-summer-survey-guidance

[2] 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 (https://ipac.ecosphere.fws.gov/).** When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at https://www.whitenosesyndrome.org/topics/decontamination). 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 e-mailing 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 long-eared, 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: https://www.fws.gov/media/bat-reporting-spreadsheets-2020-2021) 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 ODNR Mines of Ohio Viewer, Karst Interactive Map, 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.

Limited summer tree cutting guidance for bats that are only state-listed endangered: 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 ≥ 20".

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:

Level of effort for all state-listed endangered bat species 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:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 14 detector nights per 123 acres (0.5 km^2) 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:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 10 detector nights per 123 acres (0.5 km^2) 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?

Level of effort for all state-listed endangered bat species 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.