

# Letter of Notification for the Green Chapel 138 kV Station Project



PUCO Case No. 23-0028-EL-BLN

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

Submitted by:  
AEP Ohio Transmission Company, Inc.

January 10, 2023

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.

Green Chapel 138kV Station Project

**4906-6-05 Accelerated Application Requirements**

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

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

**B(1) Project Description**

**The applicant shall provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Letter of Notification or Construction Notice application.**

The Company has identified the need to construct the Green Chapel 138kV Station Project (“Project”) located in Licking County, Ohio. The Project consists of constructing a new transmission substation to provide electricity to a customer’s facility. The Project is located on property owned by the Company, near the intersection of Clover Valley Road and Green Chapel Road. The station will receive looped service from the future Green Chapel Extension 138 kV Transmission Line and Innovation-Green Chapel 138 kV Transmission Line, to be filed under separate applications with OPSB. The location of the property (collectively the “Project Area”) is shown on Figure 1 and Figure 2 in Appendix A.

The Project meets the requirements for a Letter of Notification (“LON”) as defined by Item (3) of 4906-1-01 *Appendix A Application Requirement Matrix For Electric Power Transmission Lines*:

*(3) Constructing a new electric power transmission substation*

The Project has been assigned PUCO Case No. 23-0028-EL-BLN

**B(2) Statement of Need**

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

A customer has requested a new substation to serve their facility requiring 440 MW of initial load, with growth up to 1,560 MW of peak demand. To meet the customer’s needs, the Company will be required to construct a new 138 kV to 34.5 kV step down station, configured in a breaker and half bus layout, named Green Chapel Station. To serve the customer’s initial load, the Company will also be required to build two greenfield 138 kV double circuit transmission lines to serve the Green Chapel Station. The first 138 kV

## LETTER OF NOTIFICATION FOR THE GREEN CHAPEL 138 KV STATION PROJECT

transmission line will come from Innovation Station and the second by cutting into the Corridor – Jug 138 kV Transmission Line. A section of the Conesville – Corridor 345 kV Transmission Line will be adjusted to allow the new 138 kV transmission lines to cross. The customer has requested an in-service date of May 31, 2024, for the initial load.

Failure to move forward with the proposed project will result in the inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the New Albany area (potentially 1,560 MW peak).

The need was presented and reviewed with stakeholders at the April 22, 2022, PJM SSRTEP Western Meeting. The solution was presented and reviewed at the December 16, 2022, PJM SSRTEP Western Meeting. **(see Appendix B)**

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

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

The location of the Project is shown on Figure 1, in Appendix A. Figure 2, in Appendix A, identifies the Project components on a 2021 aerial photograph.

### **B(4) Alternatives Considered**

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

Due to the proposed location of the Green Chapel Station on Company property adjacent to the customer, the customer's own site development plants, as well as minimal land use impacts in the Project area, no other alternatives were considered for the Project. The location of the Project minimizes impacts to the community and the environment, while taking into account the customer's engineering and construction needs. The Project represents the most suitable location and most appropriate solution for meeting both the Company's and customer's needs.

### **B(5) Public Information Program**

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

The Project is located on the Company's property. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of OAC Section 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected contiguous property owners to the customer's property. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (<http://aeptransmission.com/ohio/>) which hosts an electronic copy of this LON and the public notice of

this LON. An electronic and paper copy of the LON will be served to the public library in the political subdivision affected by this Project.

**B(6) Construction Schedule**

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

Construction of the Project is planned to commence April 2023 with a proposed in-service date in May 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.**

Figure 1 in Appendix A identifies the location of the Project area on a U.S. Geological Survey Jersey, OH 1:24,000 quadrangle map. Figure 2 in Appendix A consists of an aerial map (September, 2021) of the Project area.

To visit the Project from Columbus, Ohio, take I-270 N and exit east to OH 161. Follow OH 161 E 6.5 miles to US-62 E. Take US-62 E 4 miles to Green Chapel Rd in Jersey Township. Follow Green Chapel Road NW 1 mile to Clover Valley Rd in New Albany. Turn right onto Clover Valley Rd and continue 0.3 miles to destination. Approximate coordinates are - 82.7195550°W 40.1223895°N

**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 proposed Green Chapel Station is located on one parcel, Parcel Number 9511184600002, which is owned by the Company. No other property easements, options, or land use agreements are necessary to construct the Project or operate the station.

**B(9) Technical Features**

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

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



The Green Chapel 138kV Station is proposed to have a breaker and a half configuration and include the following equipment:

- 1 - 16' x 72' Base Drop in Control Module
- 1 - 16' x 48' Expansion Drop in Control Module
- 6 – 225MVA 138/34.5kv Transformers (5 in service, 1 spare)
- 19 - 138 kV Circuit Breakers (138kv yard)

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

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

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

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

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

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

**B(9)(c) Project Costs**

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

The capital cost estimate for the transmission Project, which is comprised of applicable tangible and capital costs, is approximately \$35 million using a Class 4 estimate. Pursuant to the PJM OATT, the costs for this Project will be recovered in the AEP Ohio Transmission Company Inc.'s FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone.

**B(10) Social and Economic Impacts**

**The applicant shall describe the social and ecological impacts of the project.**

**B(10)(a)**

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

An aerial photograph of the Project vicinity is provided as Figure 2 in Appendix A. The Project is located in the city of New Albany, Licking County, Ohio. The existing and surrounding land use of the Project area is agricultural. Prior to the currently planned development, the parcel which the Project is situated on was used for row crops and is now composed of fallow land. No places of worship, schools, institutions,

hospitals, cemeteries, landmarks, or recreational areas were identified within 1,000 feet of the proposed station.

**B(10)(b) Agricultural Land Information**

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

The project area was previously used for agricultural crops but is now fallow awaiting development. The surrounding area is characterized by agricultural land use with low density residential land uses dispersed throughout. The dominant agricultural use in the area appears to be row crops (i.e. soy beans and corn). Large, open agricultural fields are present in the surrounding area along all major road corridors including Clover Valley Road, Miller Road, Green Chapel Road, Beech Road, and Jug Street.

There are no registered agricultural districts in the Project area based on data obtained from Licking County on November 15, 2022.

**B(10)(c) Archaeological and Cultural Resources**

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

Consultation with the State Historic Preservation Office ("SHPO") was initiated, and responses received on September 15, 2022. A Phase I Archaeological Investigation was conducted by an AEP consultant. A literature review, visual inspection, surface collection, and shovel test unit excavation were completed by the consultant. No previously identified archaeological sites were located within the Project area. Three new archaeological sites were identified during survey, but none of the sites are recommended eligible for listing in the National Register of Historic Places (NRHP). The SHPO concurs with this assessment.

Additionally, a literature review and field survey were conducted as part of the historic architecture survey. Eight extant properties fifty years of age or older were identified with the Area of Potential Effects (APE). These properties are not recommended as eligible for listing in the NRHP, and SHPO concurs with this assessment.

The SHPO determined the Project as proposed will have no effect on historic properties and no further coordination is required (see Appendix C).

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

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

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A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000004 during construction of the Project. The Company will implement and maintain best management practices (BMPs), as outlined in the project-specific Storm Water Pollution Prevention Plan (SWPPP), to minimize erosion and control sediment to protect surface water quality during storm events.

The Company's consultant completed a wetland delineation and stream identification field review of the Project area and their wetland delineation report is included as Appendix D. One wetland and four drainage ditches were delineated within the Project study area. Additionally, one previously delineated wetland was confirmed. Impacts to aquatic resources will be avoided, where possible. Due to the active construction activities by others within the Project area, a wetland delineation and stream investigation was completed within the Project area and results of the survey were confirmed by the United States Army Corps of Engineers (USACE) via Jurisdictional Determination (JD; LRH-2022-41-MUS) in 2020 permitted under Ohio EPA (DSW401227893W).

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the Green Chapel 138kV Station is not located in a 100-year floodplain (FEMA Map Panel 39089C0280H). Therefore, no floodplain permit will be required for this Project

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

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

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

Coordination with Ohio Department of Natural Resource Department of Wildlife (ODNR-DOW) was initiated on October 20, 2022, to obtain Environmental Review and Ohio Natural Heritage Database records within a 1-mile buffer area around the Project. Their e-mail response was received on November 23, 2022. In addition, a consultation request was submitted to the U.S. Fish and Wildlife Service (USFWS) on October 20, 2022, with a response received on October 21, 2022. A copy of the Agency Correspondence letters are provided in Appendix C.

Based on coordination with the USFWS, it was confirmed that the Project area lies within the range of two federally listed species including Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*). The USFWS anticipates that no tree clearing will occur, however, if clearing of trees  $\geq 3$  inches diameter breast height (dbh) cannot be avoided, the USFWS recommends removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. If tree clearing must occur outside of October 1 and March 31, additional coordination will be completed with the USFWS and the ODNR. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Because no tree clearing is anticipated, no impacts to the above listed species are anticipated.

Based on the consultation response from ODNR-DOW, the Project area is within range of four state-listed bat species including Indiana bat, northern long-eared bat, little brown bat (*Myotis lucifugus*), and tricolored bat (*Perimyotis subflavus*). ODNR-DOW recommends implementing seasonal tree cutting from October 1 to March 31 and conserving trees with loose, shaggy bark; with crevices, holes, or cavities; or with a dbh greater than or equal to 20 inches. However, no tree clearing is required for the Project, therefore, no impacts to the above listed bat species are anticipated.

ODNR-DOW also stated that the Project is within range of one state threatened fish species, the lake chubsucker (*Erimyzon sucetta*). The ODNR-DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to the species' habitat. If no in-water work is required, the ODNR-DOW does not anticipate impacts to the lake chubsucker or other aquatic species. However, no in-water work is required for the Project and no impacts to the above listed species.

The ODNR-DOW also indicated that one state endangered bird species, the northern harrier (*Circus hudsonis*), is located within range of the Project. The northern harrier breeds and nests in large marshes and grasslands. Female northern harriers build their nests on the ground, often on top of a mound. The ODNR-DOW recommends avoiding construction during the species' nesting period of April 15 through July 31 to minimize impacts to the species' nesting habitat. A professional survey was conducted, and due to disturbance from consistent farming as well as proximity to roads and residential areas, no harrier nesting habitat is considered to be within the Project area, and thus no impacts are anticipated.

#### **B(10)(f) Areas of Ecological Concern**

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

Coordination letters were submitted to the USFWS and ODNR requesting a review of the Project and identification of areas of ecological concern. The USFWS response email was received on October 21, 2022 (Appendix C), indicated no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR response received on November 23, 2022 (Appendix C), indicated no known unique ecological sites, geologic features, scenic rivers, state wildlife areas, state natural preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the Project area.

The Company's consultant prepared an Ecological Resource Inventory Report for the Project area. The Ecological Resource Inventory Report contains detailed information regarding wetlands, waterbodies, wildlife habitat, and other areas of ecological concern. A desktop bat study was completed per the ODNR and USFWS guidelines and found no hibernaculum in the Project area (Appendix C). Professional review found no suitable habitat for any of listed avian species, and no further avian studies are warranted.

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The Ecological Resource Inventory Report is provided in Appendix D. Wetland delineation and stream identification field surveys were completed within the Project Area on August 16, 2022. Land use and natural communities observed within the proposed Project area include old field, streams/wetlands areas, and urban use areas. The Company will utilize erosion and sediment control best management practices to avoid or minimize impacts to adjacent natural resources where possible.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Number 39089c0280H, effective date 5/2/2007, the Green Chapel Station is not located within the 100-year floodplain. Therefore, no floodplain impacts are anticipated.

**B(10)(g) Unusual Conditions**

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

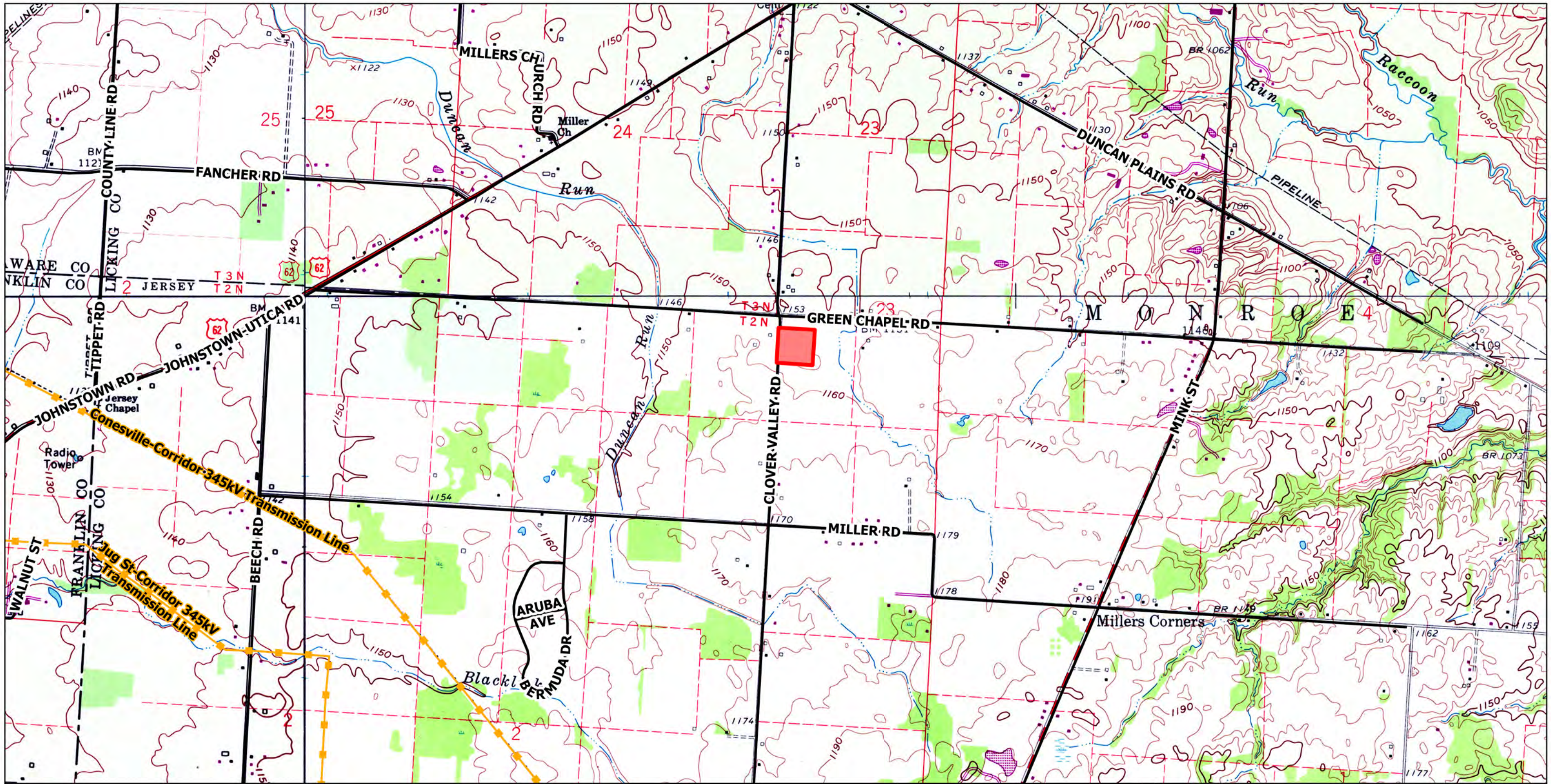
To the best of the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

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**Appendix A            Project Maps**





**Legend**

- Proposed Green Chapel Station
- Existing Transmission Lines
- Roads

Base Map Source:  
ESRI USGS Topographic Maps


Coordinate System  
State Plane Ohio South  
FIPS 3402 (US Feet)  
Datum: NAD 1983  
Scale: 1:24,000

N  
▲

12/7/2022



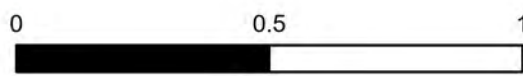
**Exhibit 1  
TOPOGRAPHIC OVERVIEW**



An AEP Company

BOUNDLESS ENERGY™

**Green Chapel  
Substation Project  
Licking County, OH**



Miles





**Legend**

- ⊙ Green Chapel Station Fence Corners
- +— Green Chapel Station Fence
- Roads
- ▭ Licking County Parcels

Base Map Source:  
ESRI World Imagery

Coordinate System  
State Plane Ohio South  
FIPS 3402 (US Feet)  
Datum: NAD 1983  
Scale: 1:6,000

N  
▲

12/15/2022



**Exhibit 2  
AERIAL OVERVIEW**

**Green Chapel  
Substation Project  
Licking County, OH**

0      500      1,000  
Feet



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**Appendix B**

**PJM Interconnection Submittal**

## AEP Transmission Zone M-3 Process Green Chapel

**Need Number:** AEP-2022-OH029

**Process Stage:** Solutions Meeting 12/16/2022

**Previously Presented:**

Need Meeting 04/22/2022

**Project Driver:**

Customer Service

**Specific Assumption Reference:**

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

**Problem Statement:**

Customer Service:

- A customer has requested distribution service at a site Northeast of AEP's existing Jug Street station in New Albany, OH.
- The customer has indicated an initial peak demand of ~~430~~ 440 MW with an ultimate capacity of up to ~~1,500~~ 1,560 MW at the site.
- The customer has a requested an in-service date of May 31<sup>st</sup> 2024.



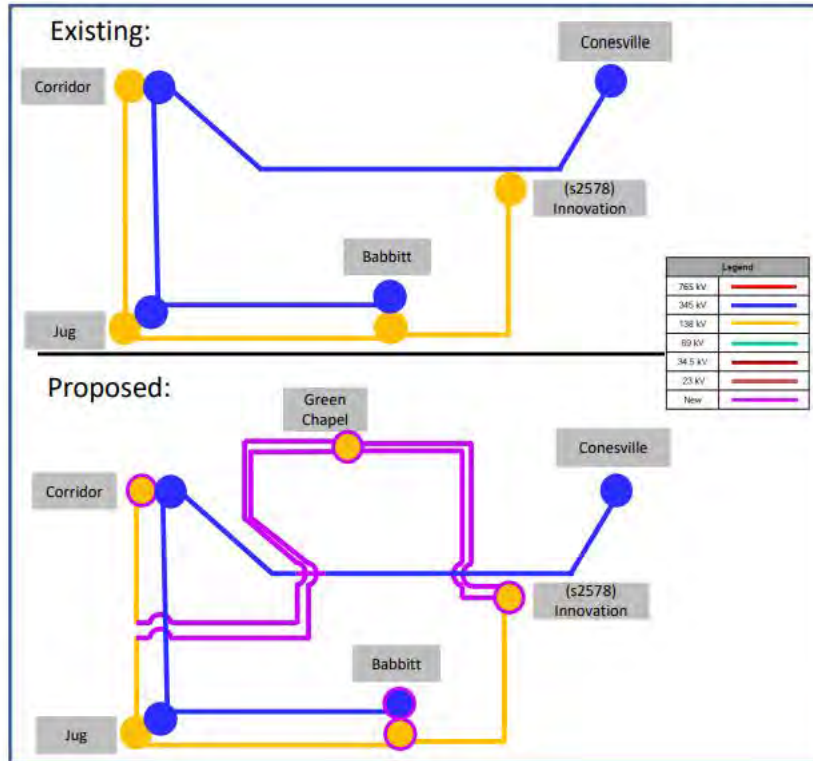
# AEP Transmission Zone M-3 Process Green Chapel

**Need Number:** AEP-2022-OH029

**Process Stage:** Solutions Meeting 12/16/2022

**Proposed Solution:**

- Green Chapel 138 kV:** Construct a greenfield station with 19 - 138kV, 90 kA, 4000 A circuit breakers in breaker and half bus configuration. **Estimated Cost: \$27.57 M**
- Innovation 138 kV:** Build out the remaining 2 breaker & half strings at the station and install 4 - 138 kV 4000A 80kA circuit breakers. **Estimated Cost: \$3.91 M**
- Green Chapel – Innovation 138 kV:** Construct ~2.1 miles of double circuit 138kV transmission line from Innovation Station to Green Chapel Station utilizing 2-bundled ACSS Curlew 1033.5 (54/7) conductor SE rating 1123 MVA. **Estimate Cost: \$12.6 M**
- Green Chapel Extension 138 kV:** Construct ~2.6 miles of double circuit 138kV transmission line extending from Jug - Corridor 138 kV line to Green Chapel station utilizing 2-bundled ACSR Falcon 1590 (54/19) conductor SE rating 1118 MVA to match the existing conductor on the Corridor-Jug line. **Estimate Cost: \$15.6 M**
- Jug – Corridor 138/345 kV:** Additional structures and dead ends will be required on the existing Jug – Corridor double circuit line to accommodate the extension eastward to Green Chapel as the 138 kV circuit is on the west side of the structures. **Estimate Cost: \$3.6 M**
- Conesville - Corridor 345kV:** Modify the existing 345kV line structures to enable appropriate height for the new line to Green Chapel Station. **Estimated Cost: \$1.97 M**



**Proposed Solution - continued:**

- **Babbitt 345/138 kV:** Install a second 675 MVA, 345/138 kV transformer to address overloading Jug Street 345/138 kV transformer under N-1-1 contingencies as a result of this customer load interconnection. Cost: **\$16.0 M**
- **Corridor 138 kV:** Replace 3000A breakers CB-104C & 104S with 4000 A breakers. This addresses N-1-1 overloading on those breakers as a result of this customer load interconnection. **Estimated Cost: \$2.0M**
- **West Lancaster 138 kV:** Install high and low side sectionalizing on the two 138/69 kV transformers. This addresses, due to lack of sectionalizing, N-1-1 overloading on 69 kV lines as a result of this customer load interconnection. **Estimated Cost: \$3.5 M**

**Total Estimated Transmission Cost: \$86.75M**

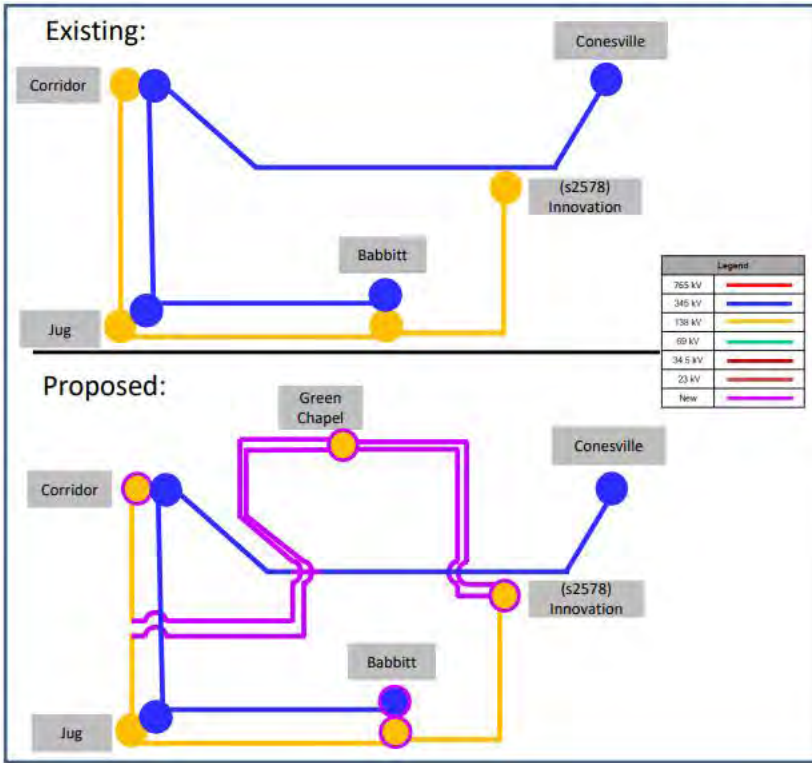
**Alternatives Considered:**

No other viable alternatives considered given the location and timing of the service request.

**Projected In-Service:** 5/31/2024

**Project Status:** Scoping/Engineering

**Model:** 2027 RTEP



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**Appendix C            Agency Correspondence**



In reply, refer to  
2022-LIC-55650

September 15, 2022

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

**RE: Green Chapel Station Greenfield Project, Jersey Township, Licking County, Ohio**

Dear Mr. Weller:

This letter is in response to the correspondence received August 18, 2022 regarding the proposed Green Chapel Station Greenfield Project, Jersey Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the 12.1 ha (30 ac) Green Chapel Station Greenfield Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller and Scott McIntosh (Weller & Associates, Inc. 2022).

A literature review, visual inspection, surface collection, and shovel test unit excavation was completed as part of the investigations. No previously identified archaeological sites are located within the project area. Three (3) new archaeological sites were identified during survey, Ohio Archaeological Inventory (OAI) #33LI3350-33LI3352. None of the sites are recommended eligible for listing in the National Register of Historic Places (NRHP). Our office agrees with this recommendation and no additional archeological investigation is needed.

A literature review and field survey were completed as part of the investigations. A total of eight (8) extant properties fifty years of age or older were identified within the Area of Potential Effects (APE). Weller recommends these properties are not eligible for listing in the NRHP. Our office agrees with Weller's recommendations of eligibility.

Based on the information provided, we agree that the project as proposed will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional historic properties are discovered during implementation of this project. In such a situation, this office should be contacted. Our office requests Weller & Associates, Inc. complete the OAI forms for OAI#33LI3350-33LI3352 as soon as possible. Please notify our office when that form have been completed. If you have any questions, please contact me at (614) 298-2022, or by e-mail at [khorricks@ohiohistory.org](mailto:khorricks@ohiohistory.org). Thank you for your cooperation.

Sincerely,

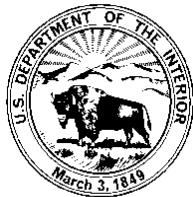
A handwritten signature in black ink, appearing to read "Krista Horrocks".

Krista Horrocks, Project Reviews Manager  
Resource Protection and Review

RPR Serial No: 1094627



# 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 21, 2022

Project Code: 2022-0090716

RE: AEP Ohio, Green Chapel Station Project, Jersey Twp., Licking Co., Ohio

Dear Ms. Wessel:

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

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <https://ecos.fws.gov/ecp/species/9045>), incidental take of Indiana bats is still prohibited without

a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

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

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

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

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



Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield". The signature is fluid and cursive, with the first name "Patrice" and last name "Ashfield" clearly distinguishable.

Patrice Ashfield  
Field Office Supervisor

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



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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*John Kessler, Chief*  
2045 Morse Road – Bldg. E-2  
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November 23, 2022

Jennifer Wessel  
Jacobs Engineering Group, Inc.  
2 Crowne Point Court  
Cincinnati, OH 45241

**Re:** 22-1057; Green Chapel Station Project

**Project:** The proposed project involves the relocation of an electrical distribution station (Green Chapel Station) and the construction of approximately 4.5 miles of greenfield 138 kilovolt (kV) transmission line.

**Location:** The proposed project is located in Jersey Township, Licking County, Ohio.

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

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,

limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at [Eileen.Wyza@dnr.ohio.gov](mailto: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 threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & 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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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](mailto:mike.pettegrew@dnr.ohio.gov) if you have questions about these comments or need additional information.

Mike Pettegrew  
Environmental Services Administrator

LETTER OF NOTIFICATION FOR THE GREEN CHAPEL 138 KV STATION PROJECT

LETTER OF NOTIFICATION FOR THE GREEN CHAPEL 138 KV STATION PROJECT

**Appendix D                    Ecological Resources Inventory Report**

# **GREEN CHAPEL STATION PROJECT LICKING COUNTY, OHIO**

## **ECOLOGICAL REPORT**

*Prepared for:*

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



*Prepared by:*

**AECOM**

525 Vine Street, Suite 1800  
Cincinnati, Ohio 45202

Project #: 60690411

September 2022

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APPENDIX B	Upland Drainage Features Photographs
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## 1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing installation of a new customer driven substation as part of the Green Chapel Station located in Licking County, Ohio. The purpose of Green Chapel Station is to build a new, greenfield station within a customer site. The Survey Area associated with this Report for the Project is located on the Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangles, as displayed on Project Overview Map (Figure 1). Due to the active construction activities by others within the Project area, EMHT completed a previous wetland delineation and stream investigations within the Project area and results of the survey were confirmed by the United States Army Corps of Engineers (USACE) via a Jurisdictional Determination (JD; LRH-2022-41-MUS) in 2020 permitted under Ohio EPA (DSW401227893W). The EMHT delineation boundaries were confirmed during the site assessment and original boundaries are provided on **Figure 3**.

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

## 2.0 METHODOLOGY

The field survey was conducted over a Project survey area of approximately 27.15-acres. Prior to conducting field surveys, digital U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data, and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), FEMA 100-year floodplain data (FEMA), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

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

## 2.1 WETLAND DELINEATION

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

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

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

### 2.1.1 WETLAND CLASSIFICATION

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

### 2.1.2 WETLAND ASSESSMENT

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

## 2.2 STREAM ASSESSMENT

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

water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE, 2005).

### 2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT

Stream assessments were conducted using the methods described in the OEPA’s *Methods for Assessing Habitat in Flowing Waters: Using OEPA’s Qualitative Habitat Evaluation Index* (Rankin, 2006) and in the OEPA’s *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 mi<sup>2</sup> (259ha), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the HHEI methodology and all other streams assessed as QHEI. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and by AECOM’s professional judgment.

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

### 2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

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

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

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

**Possibly Eligible:** Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds that do not directly but eventually drain into high quality waters, might be eligible for coverage under Ohio EPA’s 401 Water Quality Certification for Nationwide Permits depending on the results of a field screening

assessment. The procedures for determining individual stream eligibility in this scenario are specified in Appendix D “Stream Eligibility Determination Process” of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

### 2.2.3 UPLAND DRAINAGE FEATURES

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

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

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

## 2.3 RARE, THREATENED, AND ENDANGERED SPECIES

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

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

AECOM conducted a desktop assessment of the Project survey area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project which is located

in **Appendix D**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and United States Geological Survey websites

**3.0 RESULTS**

On August 16, 2022, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, one previously delineated EMHT wetland (EMHT Wetland 34) was confirmed and one new PEM wetland (W-SRC-001) was identified. No streams and/or ponds were identified within the Project survey area. The delineated features are discussed in detail in the following sections.

**3.1 WETLAND DELINEATION**

**3.1.1 PRELIMINARY SOILS EVALUATION**

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

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

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Drainageways, depressions	Yes*	Condit 5% Pewamo, low carbonate till 3%
	BeB	Bennington silt loam, 2 to 6 percent slopes	Drainageways, depressions	Yes*	Condit 3% Pewamo, low carbonate till 3%
Carlisle	Ca	Carlisle muck	Depressions	Yes	Carlisle 100%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Condit 9% Pewamo, low carbonate till 85%

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

### 3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project survey area contains one mapped NWI wetland, R4SBC. However, the wetland has been replaced with stream drainage tile and is no longer present. The location of the NWI mapped wetland in the Project vicinity is shown on **Figure 2**.

### 3.1.3 DELINEATED WETLANDS

During the field survey, AECOM identified one PEM wetland (W-SRC-001) within the Project survey area. This wetland was assigned ORAM Category 1. No Category 2 or 3 wetlands were identified within the Project survey area. One wetland previously identified by EMHT, Wetland 34, was confirmed within the review area. Based on information from EMHT, Wetland 34 was confirmed to be a PEM, ORAM Category 1 wetland. The boundary of the EMHT delineation is provided on **Figure 3**. Data forms and photographs from the EMHT delineated wetland is provided as **Appendix F**.

AECOM has given each wetland within the Project survey area a provisional determination of jurisdictional (non-isolated, i.e., WOTUS). Final jurisdictional status can only be determined by the USACE, and AECOM assessments are provisional. The locations and approximate extent of the wetlands identified within the Project survey area is shown on **Figure 3**. Details for each delineated wetland in the Project survey area are provided in **Table 2**. Completed USACE data forms and photographs of each wetland are provided in **Appendix A**.

**TABLE 2– SUMMARY OF DELINEATED WETLANDS WITHIN PROJECT SURVEY AREA**

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-SRC-001	40.123602	-82.717605	No	PEM	0.01	15	1	N/A	None	None	N/A	TBD	TBD
Wetland EMHT 34	40.121439	-82.720815	Yes	PEM	0.32	18.5	1	N/A	None	None	N/A	TBD	TBD
<b>Total:</b>												<b>0.000</b>	<b>0.000</b>

### 3.2 STREAM DELINEATION

During the field survey, AECOM did not identify any streams within the Project area. Therefore, no QHEI and/or HHEI evaluations were completed.

#### 3.2.1 OEPA STREAM ELIGIBILITY

OEPA stream eligibility for 401 Water Quality Certification mapping was reviewed for all of the delineated streams. The Project occurs in one watershed, designated by 401 WQC eligibility, as HUC-12 050400060301, Headwaters Raccoon Creek Watershed. This watershed is listed as “eligible”. OEPA stream eligibility mapping for the Project vicinity, is provided on **Figure 4**.

### 3.3 FEMA 100 YEAR FLOODPLAINS

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



### 3.4 UPLAND DRAINAGE FEATURES WITHIN THE PROJECT SURVEY AREA

Two upland drainage features (UDF-SRC-001 and UDF-SRC-002) were identified as roadside ditches along the south side of Green Chapel Road NW and the east side of Clover Valley Road. Two additional upland drainage features (UDF-SRC-003 and UDF-SRC-004) were identified from groundwater discharges from the tile drainage system within the project survey area. Both UDF-SRC-003 and UDF-SRC-004 were previously identified as, Area C, during the EMHT survey and presented to the USACE for determination of jurisdiction. Based on the previous jurisdictional determination of the USACE, these features were not determined to be jurisdictional. Results of the previous jurisdictional determination is provided as **Appendix F**. Photographs of the upland drainage features are provided in **Appendix B**.

### 3.5 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of woody and herbaceous lands, as described in **Table 3** below, are present within the Project survey area, including old field, streams/wetlands areas, and urban use areas. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**.

**TABLE 3- VEGETATIVE COMMUNITIES WITHIN PROJECT SURVEY AREA**

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey area of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the project survey areas and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	25.53	94.03
Urban	Urban/Industrial Use 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.	1.45	5.34
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	0.17	0.63
<b>Totals:</b>		<b>27.15</b>	<b>100%</b>

**3.6 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION**

***Protected Species Agency Consultation –***

AECOM conducted a rare, threatened, and endangered species review for areas within the Project survey area. A summary of the agency coordination is provided below. Correspondence letters from the USFWS and ODNR for the Green Chapel Station Project are included as **Appendix D**. **Table 4** provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project area is provided as **Appendix C**.

TABLE 4-  
ODNR AND USFWS LISTED SPECIES WITHIN PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
<b>Mammals</b>							
Indiana Bat ( <i>Myotis sodalis</i> )	Endangered	Endangered	<p>Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (<i>Carya</i> spp.), oak (<i>Quercus</i> spp.), ash (<i>Fraxinus</i> spp.), birch (<i>Betula</i> spp.), and elm (<i>Ulmus</i> spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead if there are adequately sized patches of loosely adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low-density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.</p>	<p><u>Summer habitat</u> <b>No</b> - Within the Project survey area, areas of young successional forest were not identified. There does not appear to be potentially suitable summer roosting and foraging habitat.</p> <p><u>Hibernaculum(a)</u> <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See <b>Appendix E</b>.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>The ODNR and USFWS stated that the entire state of Ohio is within range of this species. 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 <math>\geq</math> 20 if possible. Therefore, the USFWS recommends that if the site should contain trees <math>\geq</math> 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination would be required with both ODNR and USFWS. If no caves or abandoned mines are present and removal of trees <math>&gt;3</math>" DBH cannot be avoided, USFWS recommends the clearing of trees <math>&gt;3</math>" DBH only occurs between Oct 1 and March 31.</p> <p>If implementation of seasonal tree clearing is not possible, the USFWS recommends presence/absence survey be conducted between June 1 and August 15, prior to any cutting. In accordance with the <i>2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)</i> (copy of guidance provided as <b>Attachment D</b>) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR. However, clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches.</p> <p>ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species.</p> <p>Furthermore, <i>2022 Joint Guidance</i> provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.</p>	<p><u>Summer habitat</u> No potential summer roosting habitat is present within the Project area and no further coordination is warranted.</p> <p><u>Hibernaculum(a)</u> No potential hibernaculum(a) is present within the Project area and no further coordination is warranted (<b>Appendix E</b>).</p>
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Threatened	Threatened	<p>Suitable summer habitat for northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel, and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields, and pastures. This includes forest and woodlots containing potential roosts (i.e., live trees and/or snags <math>\geq</math> 3-inches dbh that have any exfoliating bark, cracks, crevices, hollows, and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, northern long-eared bats hibernate in caves and abandoned mines.</p>	<p><u>Summer habitat</u> <b>No</b> - Within the Project survey area, areas of young successional forest were not identified. There does not appear to be potentially suitable summer roosting and foraging habitat.</p> <p>ODNR commented known records for species within Project area.</p> <p><u>Hibernaculum(a)</u> <b>No</b> – No Mines openings and/or known caves are located within 0.25 miles of Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See <b>Appendix E</b>.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>The ODNR and USFWS stated that the entire state of Ohio is within range of this species. Therefore, the USFWS recommends that if the site should contain trees <math>\geq</math> 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the USFWS. If no caves or abandoned mines are present and trees <math>\geq</math> 3-inch DBH only occur, USFWS recommend the clearing of trees between October 1 and March 31 to avoid adverse effect to this species.</p> <p>The ODNR commented that the Project is within the vicinity of known records of this species. Therefore, summer tree cutting is not recommended and additional summer surveys would not constitute a presence/absence in the area. However, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches.</p> <p>ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species.</p> <p>Furthermore, <i>2022 Joint Guidance</i> provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.</p>	<p><u>Summer habitat</u> No potential summer roosting habitat is present within the Project area and no further coordination is warranted.</p> <p><u>Hibernaculum(a)</u> No potential hibernacula are present within the Project area and no further coordination is warranted.</p>

TABLE 4-  
ODNR AND USFWS LISTED SPECIES WITHIN PROJECT SURVEY AREA

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

TABLE 4-  
ODNR AND USFWS LISTED SPECIES WITHIN PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Tricolored bat ( <i>Perimyotis subflavus</i> )	Endangered	NA	The tricolored bat primarily roosts in trees during the summer months. During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	<p><u>Summer habitat</u> <b>No</b> - Within the Project survey area, areas of young successional forest were not identified. There does not appear to be potentially suitable summer roosting and foraging habitat.</p> <p>ODNR commented known records for species within Project area.</p> <p><u>Hibernaculum(a)</u> <b>No</b> - No Mines openings and/or known caves are located within 0.25 miles of Project area. Furthermore, field evaluations did not identify any potential hibernaculum(a) within the Project area. See <b>Appendix E</b>.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p>The entire state of Ohio is within range of this species. Therefore, the USFWS recommends that if the site should contain trees ≥ 3-inch diameter at breast height (DBH), trees should be saved, whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested by the USFWS. If no caves or abandoned mines are present and trees ≥ 3-inch DBH only occur, the USFWS recommend the clearing of trees between October 1 and March 31 in order to avoid adverse effect to this species.</p> <p>If implementation of seasonal tree clearing is not possible, the ODNR recommends presence/absences surveys be conducted between June 1 and August 15, prior to any cutting. In accordance with the <i>2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)</i> (copy of guidance provided as <b>Attachment D</b>) and ODNR response, limited tree cutting in summer may be permitted after consultation with the ODNR but clearing trees with the following characteristics should be avoided unless they pose a hazard; dead or live trees of any size with loose, shaggy bark; crevices, holes or cavities; clusters of dead leaves; live trees of any species with diameter at breast height (DBH) greater than 20-inches.</p> <p>ODNR also recommends a desktop habitat assessment be completed to determine potential hibernaculum(a) are present within Project area. If desktop habitat assessment finds hibernacula within 0.25 miles, further coordination with the ODNR is required for additional guidance. If potential and/or known hibernaculum is found, the ODNR recommends a 0.25-mile tree cutting and subsurface disturbance buffer around the hibernaculum entrance, however, limited summer or winter tree cutting may be acceptable after consultation with the ODNR. If no tree clearing cutting or subsurface impacts to a hibernaculum are proposed, the Project is not likely to impact these species.</p> <p>Furthermore, <i>2022 Joint Guidance</i> provides additional agency guidance regarding tree clearing activities and states if the Project does not contain known bat hibernaculum(a) and the desktop habitat assessment identifies potential hibernaculum(a), it can be assumed that bats are using these hibernacula and the Project should refrain from clearing trees from March 15 to November 15. Alternatively, the ODNR recommends completion of a field habitat assessment to determine if the potential hibernaculum(a) is present within the Project area and if unavoidable, evaluation of the hibernaculum(a) should be completed to identify potential roosting characteristics following USFWS Range-Wide Indiana Bat Guidelines, Appendix H.</p>	<p><u>Summer habitat</u> No potential summer roosting habitat is present within the Project area and no further coordination is warranted.</p> <p><u>Hibernaculum(a)</u> No potential hibernaculum(a) is present within the Project area and no further coordination is warranted.</p>
<b>Fish</b>							
Lake chubsucker ( <i>Erimyzon sucetta</i> )	Threatened	None	This species is found mainly in lakes, ponds, swamps, and streams.	<b>No</b> - Streams and ponds are not present.	<p><u>No In Water Work</u> March 15- June 30</p>	The DOW recommends no in water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.	No work in-stream or water is proposed; no further coordination required.
<b>Birds</b>							
Northern harrier ( <i>Circus hudsonius</i> )	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	No suitable habitat was observed for this species	<p><u>No Construction</u> March 15- June 30</p>	ODNR stated that if this type of habitat will be impacted, construction should be avoided in the habitat during the species' nesting period of April 15 to July 31.	No suitable habitat was observed within the Project survey area.

**ODNR Coordination –**

Coordination with the ODNR was initiated during the planning stages of the Project to obtain records of protected species located in the vicinity of the Project. On September 16, 2022, the ODNR Office of Real Estate Environmental Review Section replied to a request for records of protected species within an extended area around the Project site. The Ohio Natural Heritage Database (ONHD) review found no records of state-protected species or state protected resource areas at or within a one-mile radius of the Project survey area.

The ODNR Division of Wildlife (DOW) recommended that impacts to streams, wetlands, and other water resources be avoided and minimized to the fullest extent possible, and that best management practices be utilized to minimize erosion and sedimentation. In addition, the DOW listed six state-listed species within range of the Project survey area, including:

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

Potentially suitable summer habitat for the four bats was not identified in the Project survey area and one of the four listed bat species, northern long-eared bat, was identified by the ODNR as a known presence within the Project survey area. The USFWS states, if implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. Therefore, limited tree clearing activities could be permitted upon completion and coordination of results of emergent and/or roost tree surveys with the ODNR. Regarding potential hibernaculum(a) within the Project area, a desktop hibernaculum(a) review was completed in accordance with *2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance)* and no known karst, mines, and/or caves were identified within 0.25 miles of the Project survey area during the desktop analysis or the ecological survey.

The ODNR noted that the Project is within the range of the northern harrier, however, AECOM ecologist and approved avian specialist concluded an absence of these species' habitats within the Project survey area. According to ONDR, open grasslands and wet meadow marshes, of at least approximately 2-acres, is



considered nesting habitat for the Northern Harrier. While the majority of the Project survey area was identified as old field habitat, historical imagery review indicates the area was regularly farmed up to Fall of 2021, indicating a high level of consistent disturbance. Furthermore, due to the proximity to public roadways (bordered by OH-26 and OH-63) and nearby residential areas, northern harrier nesting habitat is not considered to be present within the Project survey area. Therefore, the Project is not likely to impact the northern harrier.

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

#### ***USFWS Coordination –***

Coordination with the USFWS was also initiated during the planning stages of the Project to obtain technical assistance regarding federally listed species that may occur within the Project area. The USFWS responded on August 31, 2022, noting that due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat.

## **4.0 SUMMARY**

The ecological survey of the Project survey area identified a total of one wetland and no streams. The wetland within the Project survey was identified as a Category 1 PEM wetland. The wetland has been provisionally classified as jurisdictional WOTUS. One delineated wetland was previously identified by EMHT, and boundaries of both delineations are provided on **Figure 3**. The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey area provided in **Figure 3**. Areas that fall outside of the Project survey area were not evaluated in the field and are not included in the reporting of this survey.

Of six species identified within range of the Project survey area, no sensitive species or their habitat was identified within the Project area. If site conditions change and tree clearing is required, the USFWS/ODNR recommends to complete seasonal tree clearing activities between October 1<sup>st</sup> and March 31<sup>st</sup>.

The information contained in this wetland delineation report is for a project survey area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

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

## 5.0 REFERENCES

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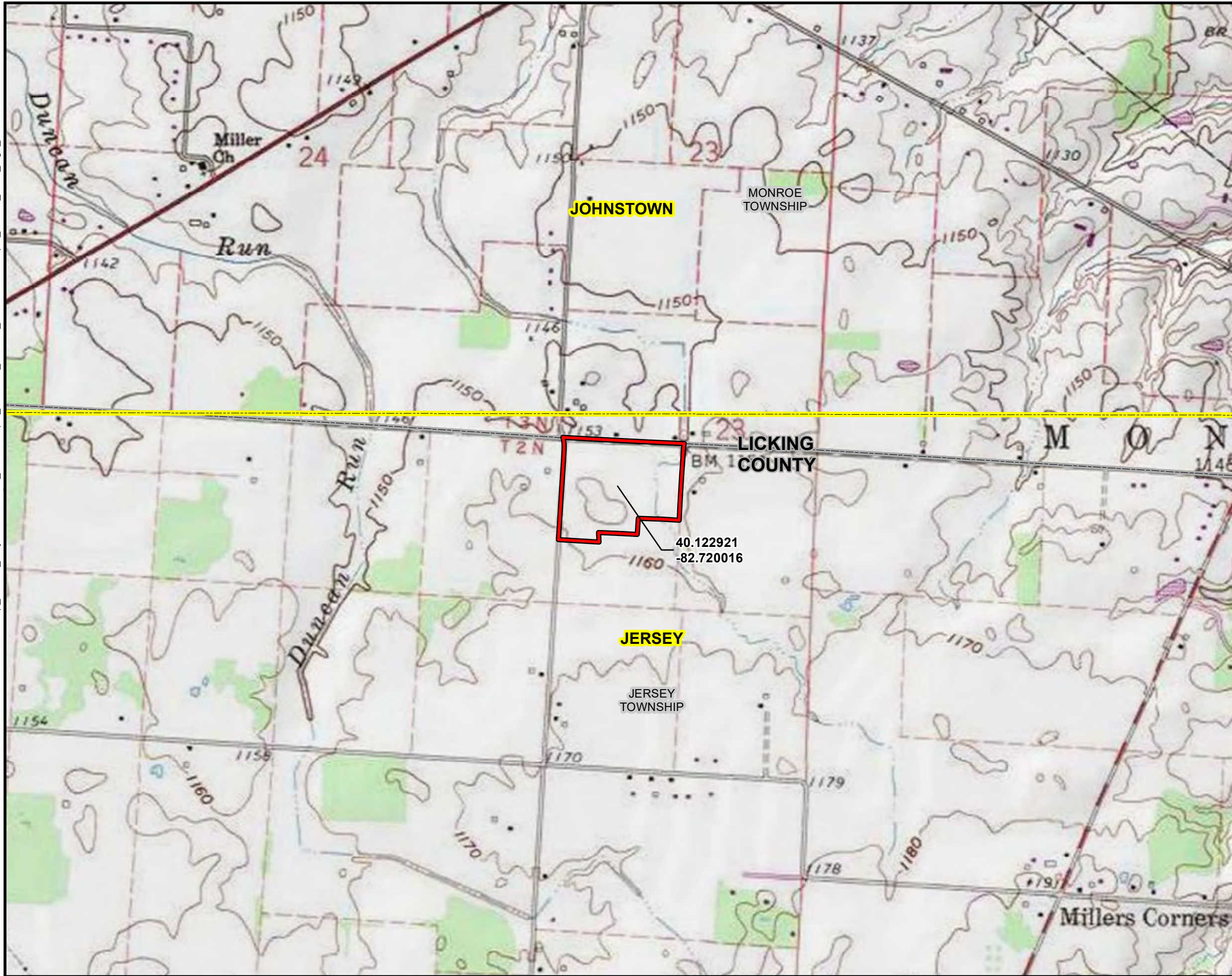


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**Legend**

- Project Survey Area
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 500 1,000 2,000

Feet

**Green Chapel Station Project**

<b>FIGURE 1 PROJECT OVERVIEW</b>	
DATE: 9/29/2022	1 INCH = 1,000 FEET
CREATED BY: PH	CHECKED BY: JH
JOB NO.: 60690411	<b>AECOM</b>



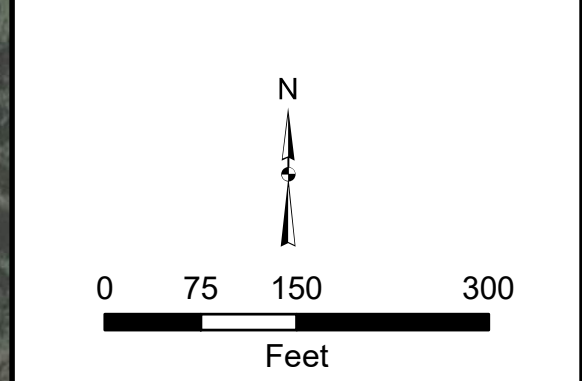


**Legend**

- Culvert
- Sinkhole Location
- Upland Data Point
- Wetland Data Point
- Drainage Channel
- Drainage Tile
- Fenceline
- NHD Stream (USGS)
- EMHT Delineated Wetland
- AECOM Delineated PEM Wetland
- Project Survey Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Ca—Carlisle muck  
 Cen1B1—Centerburg silt loam, 2 to 6 percent slopes  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

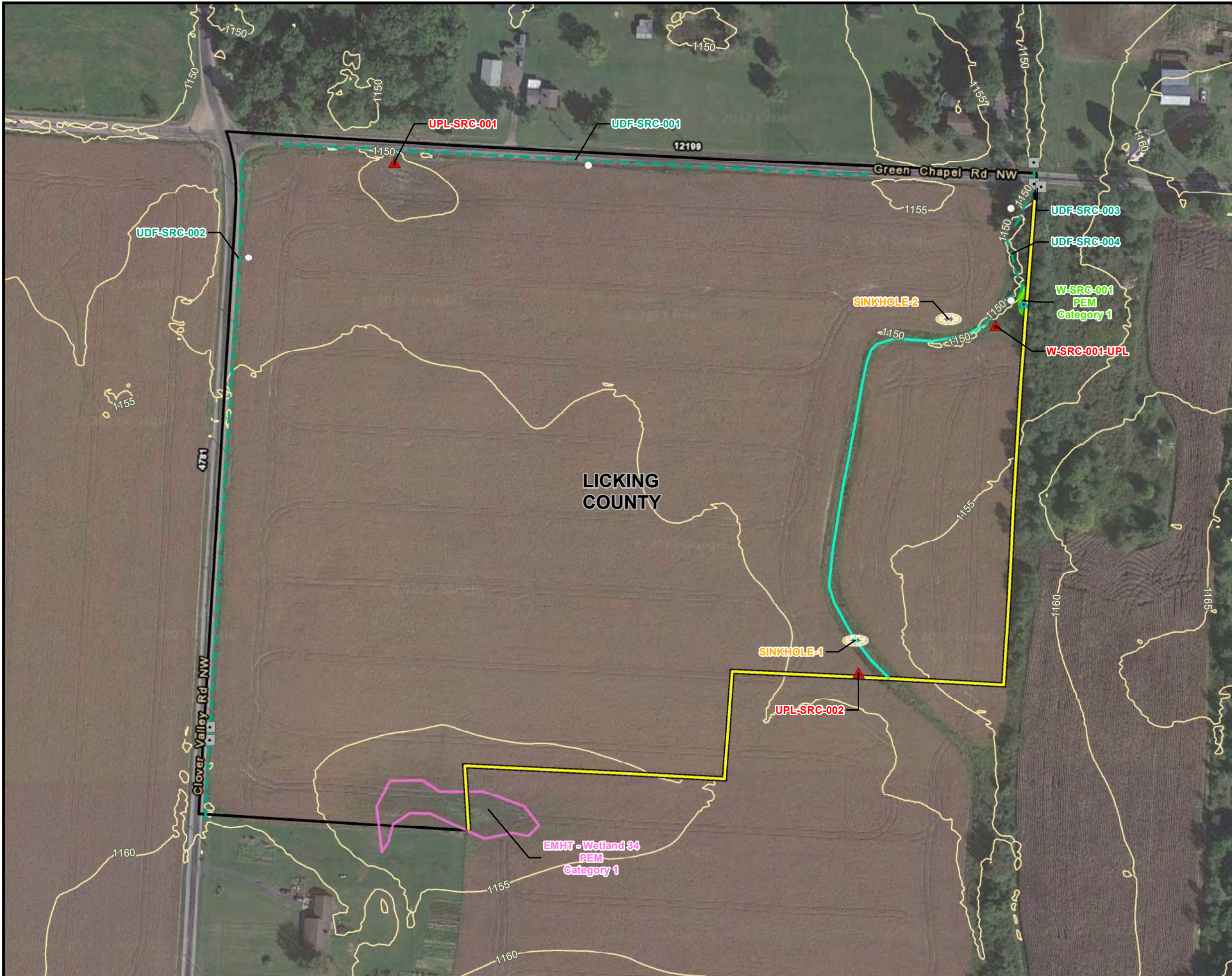


**AEP OHIO TRANSMISSION COMPANY**  
 Green Chapel Station Project

**FIGURE 2  
 SOIL MAP AND  
 NATIONAL WETLAND INVENTORY MAP**

DATE: 9/29/2022	1 INCH = 150 FEET
CREATED BY: PH	CHECKED BY: JH
JOB NO.: 60690411	<b>AECOM</b>





**Legend**

- Culvert
- Sinkhole Location
- Photo Location
- ▲ Upland Data Point
- ▲ Wetland Data Point
- Drainage Channel
- Drainage Tile
- Fenceline
- Contour (5-Ft)
- EMHT Delineated Wetland
- AECOM Delineated PEM Wetland
- Project Survey Area

N

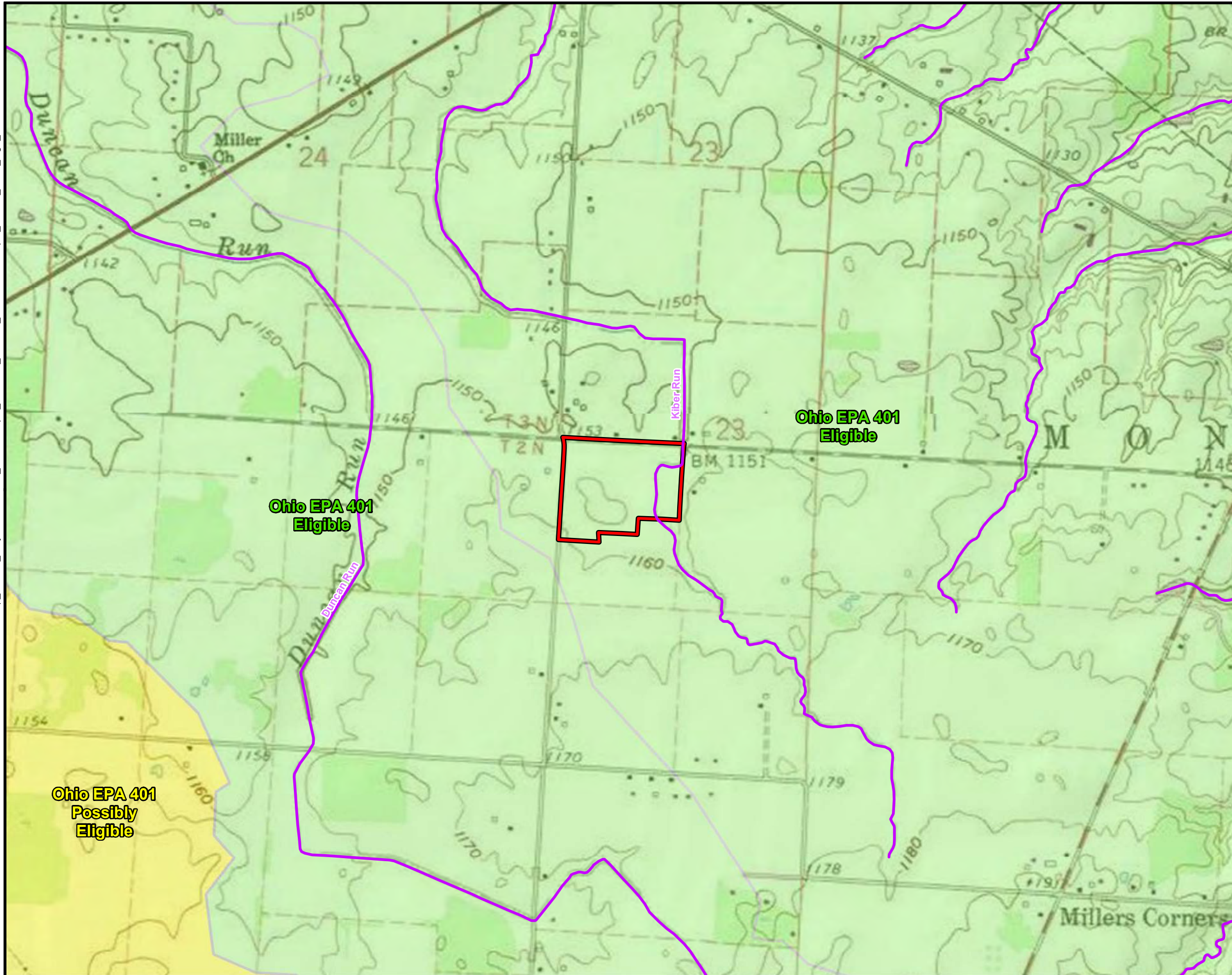
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Feet





**Green Chapel Station Project**

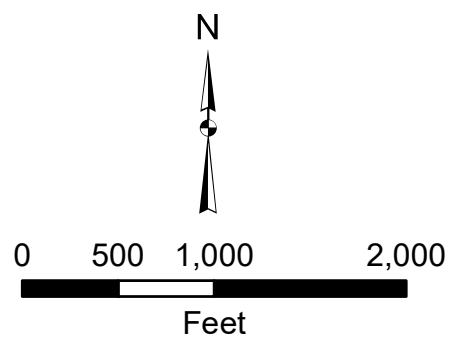
<b>FIGURE 3 WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 9/29/2022	1 INCH = 150 FEET
CREATED BY: PH	CHECKED BY: JH
JOB NO.: 60690411	<b>AECOM</b>





**Legend**

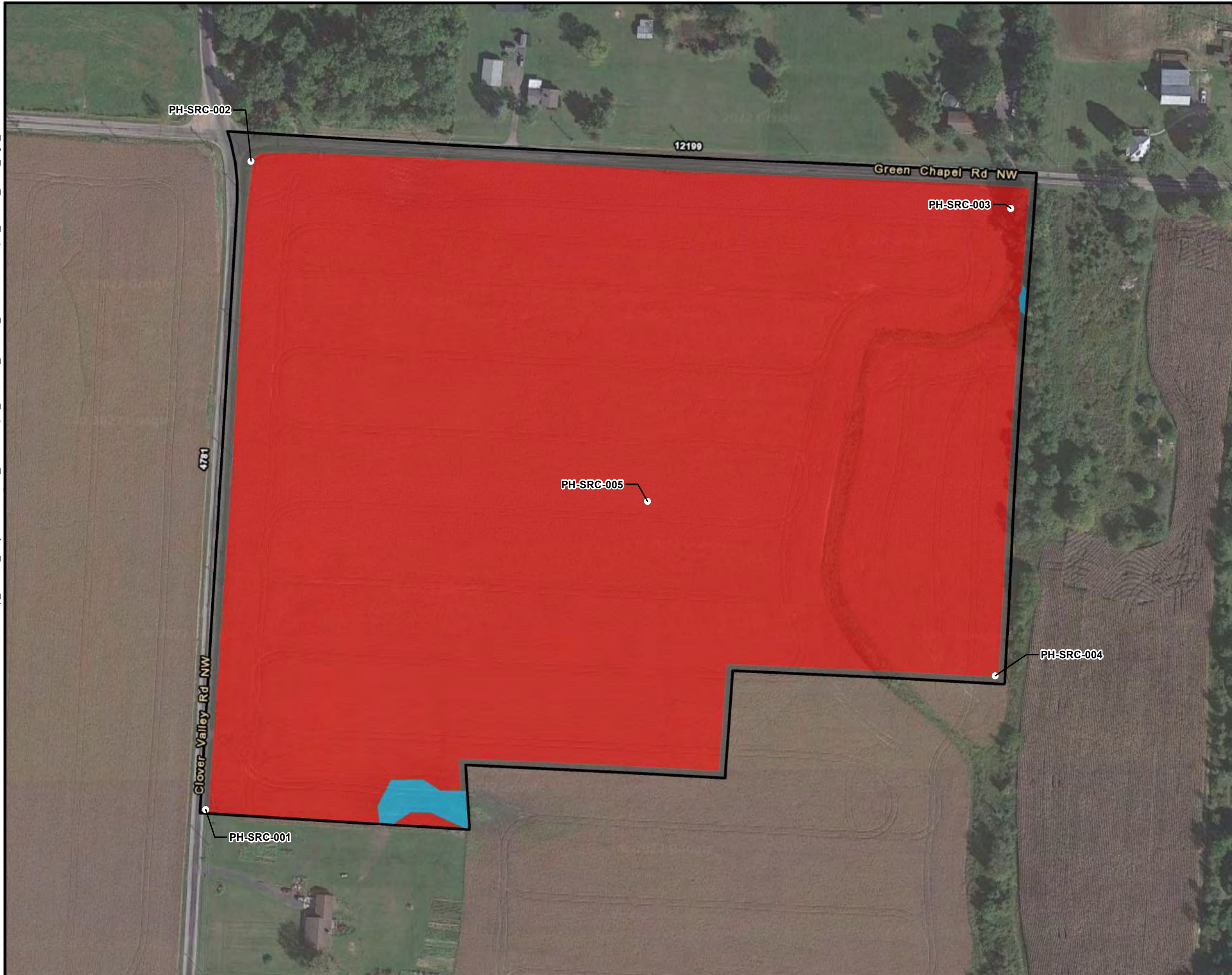
-  NHD Stream (USGS)
-  Project Survey Area
- OEPA Stream Eligibility**
-  Eligible
-  Possibly Eligible



	Green Chapel Station Project
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<b>FIGURE 4 STREAM ELIGIBILITY MAP</b>	
DATE: 9/29/2022	1 INCH = 1,000 FEET
CREATED BY: PH	CHECKED BY: JH
JOB NO.: 60690411	<b>AECOM</b>





**Legend**

- Photo Location
- ▭ Project Survey Area

**Vegetative Community Type**

- Old Field
- Streams/Wetlands
- Urban

N

0 75 150 300

Feet

**FIGURE 5**  
VEGETATIVE COMMUNITIES  
ASSESSMENT MAP

DATE: 9/29/2022	1 INCH = 150 FEET
CREATED BY: PH	CHECKED BY: JH
JOB NO.: 60690411	<b>AECOM</b>



**APPENDIX A**

**EMHT'S U.S. ARMY CORPS OF ENGINEERS WETLAND DETERMINATION DATA FORMS**

**OEPA WETLAND ORAM FORMS**

**DELINEATED FEATURES PHOTOGRAPHS (WETLANDS)**

Project/Site: Green Chapel Station Project City/County: Licking County Sampling Date: 08/16/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: W-SRC-001  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave  
 Slope (%): 1 Lat: 40.123592 Long: -82.717602 Datum: NAD83  
 Soil Map Unit Name: Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: R4SBC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation x, Soil x, or Hydrology x significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
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Remarks:  
 This sample point is representative of W-SRC-001, an data point for a PEM wetland. The wetland is located within a depression in a flat fallow field on the fringe of S-SRC-002 (Kiber Run). The wetland was significantly disturbed by construction/earthmoving activity.

**VEGETATION – Use scientific names of plants.**

<u>Tree Stratum</u> (Plot size: <u>5' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____				
3. _____				
4. _____				
5. _____				
=Total Cover				<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
=Total Cover				
1. <u>N/A</u>				
2. _____				
3. _____				
=Total Cover				
<u>Herb Stratum</u> (Plot size: <u>5' Radius</u> )				<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
1. <u>Echinochloa crus-galli</u>	<u>15</u>	<u>Yes</u>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
<u>15</u> =Total Cover				
<u>Woody Vine Stratum</u> (Plot size: <u>5' Radius</u> )				
1. <u>N/A</u>				
2. _____				
=Total Cover				

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation me the criteria to be considered hydrophytic at the time of investigation. Strata plot sizes were reduced to only include species within the wetland boundary.



**SOIL**

Sampling Point: W-SRC-001

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-16	10YR 3/1	90	7.5YR 4/6	10	C	PL/M	Loamy/Clayey	

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
---------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------

Remarks:  
The soil profile met the criteria to be considered hydric at the time of investigation.

**HYDROLOGY**

Wetland Hydrology Indicators:	
Primary Indicators (minimum of one is required; check all that apply)	Secondary Indicators (minimum of two required)
<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)
<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Surface Soil Cracks (B6)
<input checked="" type="checkbox"/> Saturation (A3)	<input checked="" type="checkbox"/> Drainage Patterns (B10)
<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Dry-Season Water Table (C2)
<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Crayfish Burrows (C8)
<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)
<input checked="" type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Stunted or Stressed Plants (D1)
<input type="checkbox"/> Iron Deposits (B5)	<input checked="" type="checkbox"/> Geomorphic Position (D2)
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<input type="checkbox"/> Other (Explain in Remarks)

<b>Field Observations:</b> Surface Water Present?    Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water Table Present?      Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Saturation Present?        Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)	<b>Wetland Hydrology Present?</b> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:  
Multiple indicators of wetland hydrology were present at the time of investigation.

Project/Site: Green Chapel Station Project City/County: Licking County Sampling Date: 08/16/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: W-SRC-001-UPL  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None  
 Slope (%): 1 Lat: 40.123497 Long: -82.717759 Datum: NAD83  
 Soil Map Unit Name: Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: R4SBC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
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Remarks:  
 This sample point is representative of the upland areas adjacent to W-SRC-001. The sample point is located in a flat fallow field adjacent to the wetland.

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)																
1. <u>N/A</u>																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
_____ =Total Cover																					
Sapling/Shrub Stratum	(Plot size: <u>15' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">Total % Cover of:</td> <td style="width: 50%;">Multiply by:</td> </tr> <tr> <td>OBL species _____</td> <td>x 1 = _____</td> </tr> <tr> <td>FACW species _____</td> <td>x 2 = _____</td> </tr> <tr> <td>FAC species _____</td> <td>x 3 = _____</td> </tr> <tr> <td>FACU species _____</td> <td>x 4 = _____</td> </tr> <tr> <td>UPL species _____</td> <td>x 5 = _____</td> </tr> <tr> <td>Column Totals: _____ (A)</td> <td>_____ (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = _____</td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species _____	x 1 = _____	FACW species _____	x 2 = _____	FAC species _____	x 3 = _____	FACU species _____	x 4 = _____	UPL species _____	x 5 = _____	Column Totals: _____ (A)	_____ (B)	Prevalence Index = B/A = _____	
Total % Cover of:	Multiply by:																				
OBL species _____	x 1 = _____																				
FACW species _____	x 2 = _____																				
FAC species _____	x 3 = _____																				
FACU species _____	x 4 = _____																				
UPL species _____	x 5 = _____																				
Column Totals: _____ (A)	_____ (B)																				
Prevalence Index = B/A = _____																					
1. <u>N/A</u>																					
2. _____																					
3. _____																					
4. _____																					
5. _____																					
_____ =Total Cover																					
Herb Stratum	(Plot size: <u>5' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
1. <u>Setaria pumila</u>		<u>40</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Solidago altissima</u>		<u>20</u>	<u>Yes</u>	<u>FACU</u>																	
3. <u>Apocynum cannabinum</u>		<u>20</u>	<u>Yes</u>	<u>FAC</u>																	
4. <u>Rumex crispus</u>		<u>10</u>	<u>No</u>	<u>FAC</u>																	
5. <u>Echinochloa crus-galli</u>		<u>10</u>	<u>No</u>	<u>FACW</u>																	
6. _____																					
7. _____																					
8. _____																					
9. _____																					
10. _____																					
_____ =Total Cover																					
Woody Vine Stratum	(Plot size: <u>30' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
1. <u>N/A</u>																					
2. _____																					
_____ =Total Cover																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation met the criteria to be considered hydrophytic at the time of investigation.

**SOIL**

Sampling Point: W-SRC-001-UPL

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

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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Remarks:  
The soil profile did not meet the criteria to be considered hydric at the time of the investigation.

**HYDROLOGY**

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

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

Remarks:  
No indicators of wetland hydrology were present at the time of investigation.

Project/Site: Green Chapel Station Project City/County: Licking County Sampling Date: 08/16/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: UPL-SRC-001  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None  
 Slope (%): 1 Lat: 40.124192 Long: -82.721135 Datum: NAD83  
 Soil Map Unit Name: Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: N/A  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
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Remarks:  
 This upland sample point is representative of a flat fallow field.

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1.	<u>N/A</u>				<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>66.7%</u> (A/B)
2.					
3.					
4.					
5.					
=Total Cover					
<b>Sapling/Shrub Stratum (Plot size: <u>15' Radius</u> )</b>					
1.	<u>N/A</u>				<b>Prevalence Index worksheet:</b> Total % Cover of:                      Multiply by: OBL species <u>    </u> x 1 = <u>    </u> FACW species <u>    </u> x 2 = <u>    </u> FAC species <u>    </u> x 3 = <u>    </u> FACU species <u>    </u> x 4 = <u>    </u> UPL species <u>    </u> x 5 = <u>    </u> Column Totals: <u>    </u> (A) <u>    </u> (B) Prevalence Index = B/A = <u>    </u>
2.					
3.					
4.					
5.					
=Total Cover					
<b>Herb Stratum (Plot size: <u>5' Radius</u> )</b>					
1.	<u>Glechoma hederacea</u>	<u>30</u>	<u>Yes</u>	<u>FACU</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2.	<u>Echinochloa crus-galli</u>	<u>30</u>	<u>Yes</u>	<u>FACW</u>	
3.	<u>Ambrosia trifida</u>	<u>20</u>	<u>Yes</u>	<u>FAC</u>	
4.	<u>Rumex crispus</u>	<u>5</u>	<u>No</u>	<u>FAC</u>	
5.	<u>Persicaria pensylvanica</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
6.					
7.					
8.					
9.					
10.					
=Total Cover					
<b>Woody Vine Stratum (Plot size: <u>30' Radius</u> )</b>					
1.	<u>N/A</u>				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>
2.					
=Total Cover					

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation met the criteria to be considered hydrophytic at the time of investigation.

**SOIL**

Sampling Point: UPL-SRC-001

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

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
---------------------------------------------------------------------------------	-------------------------------------------------------------------------------------------------

Remarks:  
The soil profile did not meet the criteria to be considered hydric at the time of the investigation.

**HYDROLOGY**

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

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

Remarks:  
One secondary indicator of wetland hydrology was present at the time of investigation.

Project/Site: Green Chapel Station Project City/County: Licking County Sampling Date: 08/16/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: UPL-SRC-002  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None  
 Slope (%): 1 Lat: 40.121998 Long: -82.718523 Datum: NAD83  
 Soil Map Unit Name: Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: R4SBC  
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>    </u> No <u>X</u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	Is the Sampled Area within a Wetland? Yes <u>    </u> No <u>X</u>
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Remarks:  
 This upland sample point is representative of a flat fallow field.

**VEGETATION – Use scientific names of plants.**

Tree Stratum	(Plot size: <u>30' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>N/A</u>					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____					
3. _____					
4. _____					
5. _____					
		=Total Cover			
Sapling/Shrub Stratum	(Plot size: <u>15' Radius</u> )				
1. <u>N/A</u>					<b>Prevalence Index worksheet:</b> Total % Cover of: _____ Multiply by: _____ OBL species _____ x 1 = _____ FACW species _____ x 2 = _____ FAC species _____ x 3 = _____ FACU species _____ x 4 = _____ UPL species _____ x 5 = _____ Column Totals: _____ (A) _____ (B) Prevalence Index = B/A = _____
2. _____					
3. _____					
4. _____					
5. _____					
		=Total Cover			
Herb Stratum	(Plot size: <u>5' Radius</u> )				
1. <u>Echinochloa crus-galli</u>		<u>30</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Ambrosia trifida</u>		<u>30</u>	<u>Yes</u>	<u>FAC</u>	
3. <u>Daucus carota</u>		<u>10</u>	<u>No</u>	<u>UPL</u>	
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
		<u>70</u> =Total Cover			
Woody Vine Stratum	(Plot size: <u>30' Radius</u> )				
1. <u>N/A</u>					<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>
2. _____					
		=Total Cover			

Remarks: (Include photo numbers here or on a separate sheet.)  
 Vegetation met the criteria to be considered hydrophytic at the time of investigation.

**SOIL**

Sampling Point: UPL-SRC-002

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

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

<sup>2</sup>Location: PL=Pore Lining, M=Matrix.

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

<b>Restrictive Layer (if observed):</b> Type: _____ Depth (inches): _____	<b>Hydric Soil Present?</b> Yes _____ No <u>X</u>
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Remarks:  
The soil profile did not meet the criteria to be considered hydric at the time of the investigation.

**HYDROLOGY**

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

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

Remarks:  
One secondary indicator of wetland hydrology was present at the time of investigation.

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

**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:	Spencer R. Chronister
Date:	8/16/2022
Affiliation:	AECOM Technical Services, Inc.
Address:	681 Anderson Drive, Suite 400, Pittsburgh, PA 15220
Phone Number:	412-503-4700
e-mail address:	<a href="mailto:Spencer.Chronister@aecom.com">Spencer.Chronister@aecom.com</a>
Name of Wetland:	W-SRC-001
Vegetation Communit(ies):	Palustrine Emergent
HGM Class(es):	DEPRESS

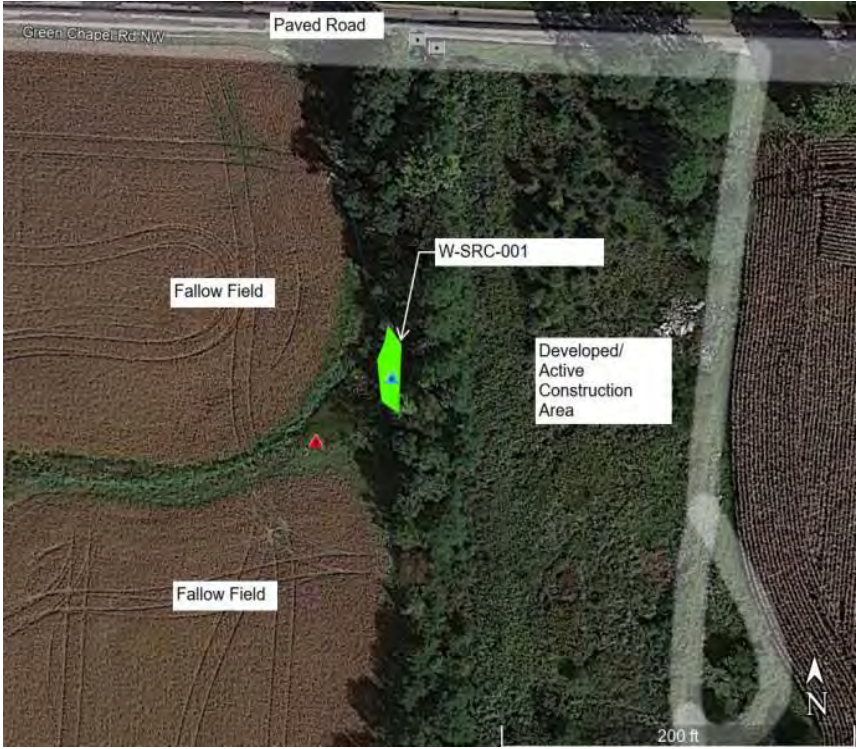
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate:	40.123592, -82.717602
USGS Quad Name:	Jersey
County:	Licking
Township:	Jersey Township
Section and Subsection:	T2N R15 W
Hydrologic Unit Code:	HUC-050400060301
Site Visit:	8/16/2022
National Wetland Inventory Map:	N/A
Ohio Wetland Inventory Map:	N/A
Soil Survey:	See Figure 2
Delineation report/map:	See Figure 2

Name of Wetland:	W-SRC-001		
Wetland Size (delineated acres):	0.01	Wetland Size (Estimated total acres):	N/A

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



Comments, Narrative Discussion, Justification of Category Changes:

The sampled area is representative of W-SRC-001, a PEM wetland. The wetland is located within a depression on the fringe of S-SRC-002 (Kiber Run) and is hydrologically connected to that stream. The wetland was significantly disturbed by construction/earthwork activity at the time of investigation.

Final score:	15	Category:	1
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<b>Wetland ID:</b>	<b>W-SRC-001</b>
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### Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. Areas with a high degree of hydrologic interaction should be scored as a single wetland. In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	<b>X</b>	
<b>Step 2</b>	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.	<b>X</b>	
<b>Step 3</b>	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.	<b>X</b>	
<b>Step 4</b>	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.	<b>X</b>	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	<b>X</b>	
<b>Step 6</b>	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.	<b>X</b>	

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**

**Wetland ID:** W-SRC-001

### 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	<b>Critical Habitat.</b> 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	<b>*NO</b> Go to Question 2
2	<b>Threatened or Endangered Species.</b> 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	<b>*NO</b> Go to Question 3
3	<b>Documented High Quality Wetland.</b> 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	<b>*NO</b> Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> 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	<b>*NO</b> Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<b>*NO</b> Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<b>*NO</b> Go to Question 7
7	<b>Fens.</b> 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	<b>*NO</b> Go to Question 8a
8a	<b>"Old Growth Forest."</b> Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<b>*NO</b> Go to Question 8b

**Wetland ID:** W-SRC-001

<b>8b Mature forested wetlands.</b> 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	<b>*NO</b> Go to Question 9a
<b>9a Lake Erie coastal and tributary wetlands.</b> 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	<b>*NO</b> Go to Question 10
<b>9b</b> 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	<b>*NO</b> Go to Question 9c
<b>9c</b> 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	<b>*NO</b> Go to Question 10
<b>9d</b> 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	<b>*NO</b> Go to Question 9e
<b>9e</b> 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	<b>*NO</b> Go to Question 10
<b>10 Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>*NO</b> Go to Question 11
<b>11 Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<b>*NO</b> Complete Quantitative Rating

**Wetland ID:** W-SRC-001

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

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

Wetland ID: W-SRC-001

Site: Green Chapel Station Rater(s): Spencer R. Chronister Date: 8/16/2022

0.0 0.0
max 6 pts subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
>50 acres (>20.2ha) (6 pts)
25 to <50 acres (10.1 to <20.2ha) (5 pts)
10 to <25 acres (4 to <10.1ha) (4 pts)
3 to <10 acres (1.2 to <4ha) (3 pts)
0.3 to <3 acres (0.12 to <1.2ha) (2pts)
0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
x <0.1 acres (0.04ha) (0 pts)

Field ID:

W-SRC-001

Table with 2 columns: Delineated acres (0.01), Total acres (N/A)

1.0 1.0
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

8.0 9.0
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

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)

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

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

3b. Connectivity. Score all that apply.

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

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)

Check all disturbances observed

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

3.0 12.0
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

Check all disturbances observed

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

12.0
subtotal this page

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID: W-SRC-001

Site: Green Chapel Station Rater(s): Spencer R. Chronister Date: 8/16/2022

12.0 subtotal this page

Field ID: W-SRC-001

0.0 12.0 max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3.0 15.0 max 20pts. subtotal

Metric 6. Plant communities, interspersions, 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)
Moderately low (2)
x Low (1)
None (0)

6c. Coverage of invasive plants. Refer

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

15.0 TOTAL (Max 100 pts)
1 Category



<b>Wetland ID:</b>	<b>W-SRC-001</b>
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### ORAM Summary Worksheet

		Circle answer or insert score		Result
Narrative Rating	Question 1. Critical Habitat	YES	*NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	*NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	*NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	*NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	*NO	If yes, Category 1.
	Question 6. Bogs	YES	*NO	If yes, Category 3.
	Question 7. Fens	YES	*NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	*NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	*NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	*NO	If yes, Category 3
Question 11. Relict Wet Prairies	YES	*NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<b>0</b>		
	Metric 2. Buffers and surrounding land use	<b>1</b>		
	Metric 3. Hydrology	<b>8</b>		
	Metric 4. Habitat	<b>3</b>		
	Metric 5. Special Wetland Communities	<b>0</b>		
	Metric 6. Plant communities, interspersions, microtopography	<b>3</b>		
	TOTAL SCORE	<b>15</b>		Category based on score breakpoints

**Complete Wetland Categorization Worksheet.**

<b>Wetland ID:</b>	<b>W-SRC-001</b>
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### Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<b>*NO</b>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold ( <i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over- categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<b>*NO</b>	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	<b>*NO</b>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold ( <i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<b>*YES</b> 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	<b>*NO</b>	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	<b>*NO</b> 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	<b>*Category 1</b>	Category 2	Category 3
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**End of Ohio Rapid Assessment Method for Wetlands.**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.:</b> 60690411
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<b>W-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> PEM wetland Category 1 Facing North



<b>W-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> PEM wetland Category 1 Facing East





<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.</b> 60690411
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<b>W-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> PEM wetland Category 1 Facing South



<b>W-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> PEM wetland Category 1 Facing West



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.</b> 60690411
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<b>W-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> PEM wetland Category 1 Facing Soil



**APPENDIX B**  
**UPLAND DRAINAGE FEATURES PHOTOGRAPHS**



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.:</b> 60690411
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<b>UDF-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Across



<b>UDF-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Down





<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.:</b> 60690411
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<b>UDF-SRC-001</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Up



<b>UDF-SRC-002</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Across





<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.</b> 60690411
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<b>UDF-SRC-002</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Down



<b>UDF-SRC-002</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Facing Up



**APPENDIX C**  
**HABITAT PHOTOGRAPHIC RECORD**



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.</b> 60690411
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<b>PH-SRC-001</b>	
<b>Date:</b> August 16, 2022	
<b>Description:</b> Old Field Facing East	

<b>PH-SRC-002</b>	
<b>Date:</b> August 16, 2022	
<b>Description:</b> Old Field Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.:</b> 60690411
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<b>PH-SRC-003</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Old Field Facing South



<b>PH-SRC-004</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Old Field Facing North





<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Station Project	<b>Project No.</b> 60690411
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<b>PH-SRC-005</b>
<b>Date:</b> August 16, 2022
<b>Description:</b> Old Field Facing North



**APPENDIX D**  
**AGENCY COORDINATION**

# United States Department of the Interior



## FISH AND WILDLIFE SERVICE

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



August 31, 2022

Project Code: 2022-0075876

Dear Mr. Holmes,

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

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees  $\geq 3$  inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

*Seasonal Tree Clearing for Federally Listed Bat Species:* Should the proposed project site contain trees  $\geq 3$  inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees  $\geq 3$  inches dbh cannot be avoided, we recommend removal of any trees  $\geq 3$  inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <https://ecos.fws.gov/ecp/species/9045>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

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

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

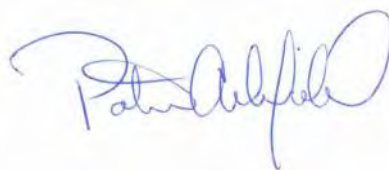
Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus it is important to conserve the functions and values of the remaining wetlands in Ohio ([https://epa.ohio.gov/portals/47/facts/ohio\\_wetlands.pdf](https://epa.ohio.gov/portals/47/facts/ohio_wetlands.pdf)).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

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

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield". The signature is fluid and cursive, with a large initial "P" and "A".

Patrice Ashfield  
Field Office Supervisor

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



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

September 16, 2022

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

**Re:** 22-0843; AEP Green Chapel Station Project

**Project:** The proposed project involves building a new, 15-acre greenfield station within a customer site.

**Location:** The proposed project is located in Jersey Township, Licking County, Ohio.

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

**Natural Heritage Database:** A review of the Ohio Natural Heritage Database indicates there are no records of state or federally listed plants or animals within one mile of the specified project area. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area.

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However,



limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at [Eileen.Wyza@dnr.ohio.gov](mailto: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 threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH  $\geq 20$  if possible.

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "[RANGE-WIDE INDIANA BAT & 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 the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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](mailto:mike.pettegrew@dnr.ohio.gov) if you have questions about these comments or need additional information.

Mike Pettegrew  
Environmental Services Administrator



## OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2022

This document has been updated with new state guidance for the 2022 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 2022). This protocol, **with minor modifications referenced below**, can also be used in Ohio for the 2022 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 16 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 nine 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.

The USFWS published a proposed rule to reclassify the northern long-eared bat as endangered on March 23, 2022. The USFWS must publish a final rule on the northern long-eared bat's status by the end of November 2022 to meet a federal court order. Project proponents may continue to use the current 4(d) rule while the northern long-eared bat remains listed as a threatened species. If the reclassification is finalized, the 4(d) rule will be nullified as the ESA does not allow application of 4(d) rules for species listed as endangered. Therefore, for proposed project activities that may impact northern long-eared bats with a possibility of not being completed prior to the final listing decision in November, we recommend that project proponents discuss with the Ohio Field Office to determine if surveys may be prudent to avoid potential delays to their project timelines resulting from a change to the northern long-eared bat's listing status.

**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. As Ohio's laws do not have a similar liability exclusion comparable to the federal 4d Rule, additional surveys within an existing buffer may not be applicable to ODNR-DOW's recommendations on tree cutting.

### **Ohio Acoustic Surveys:**

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2022 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2022) with the following exceptions:

- Ohio survey dates are June 1 – August 15, 2022
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs<sup>1</sup>, qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis*, *M. septentrionalis*<sup>2</sup>, *M. lucifugus*<sup>2</sup>, and *P. subflavus*<sup>2</sup>) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern 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.

### **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).

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

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

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. 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, 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 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<sup>2</sup>) of suitable summer habitat.

At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 4 detectors for 3 nights and 1 detector for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 7 nights each (can sample the same location or move within the site)
- 1 detector for 14 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

#### Indiana Bat Level of Effort:

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<sup>2</sup>) of suitable summer habitat.

At least 2 detector locations per 123 acre "site" shall be sampled until at least 8 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)
- 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

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

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 16 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 nine 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.

**APPENDIX E**

**DESKTOP ASSESSMENT FOR WINTER BAT HABITAT**



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

September 28, 2022

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

Via email: [environmentalreviewrequest@dnr.state.oh.us](mailto:environmentalreviewrequest@dnr.state.oh.us); [NHDRequest@dnr.state.oh.us](mailto:NHDRequest@dnr.state.oh.us)

Reference: Green Chapel Station Project, Licking County, Ohio

Dear Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a review for the proposed Green Chapel Station Project (Project) located in Licking County, Ohio. The purpose of the Project is to build a new, 15-acre greenfield substation within a 40-acre parcel to meet the needs of a Customer in Licking County, Ohio. The Project Study Area includes the extent of the existing parcel located on the Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangle as displayed on the Project Topographic Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify abandoned underground mines within 0.25-mile of the Project area. The data sources utilized include USGS topographical maps, aerial photography, and ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figure 1 and 2. Based on the available desktop resources, there are no underground and historic surface coal mines located within 0.25-mile of the Project. There are no karst features located within 0.25-miles of the Project.

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

Sincerely,

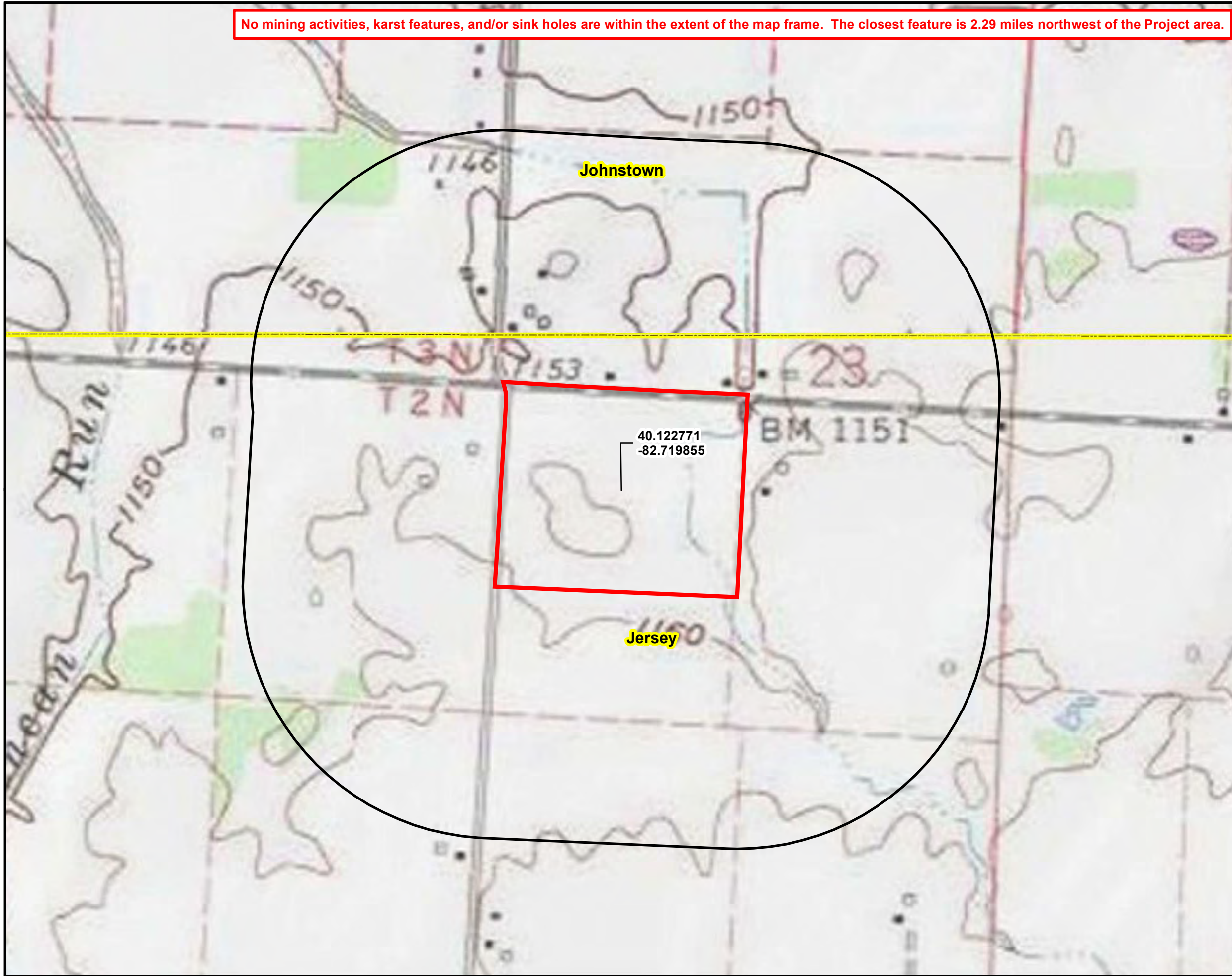
Brian Miller  
Project Manager IV  
Phone: (412-667-9172); [brian.miller@aecom.com](mailto:brian.miller@aecom.com)

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

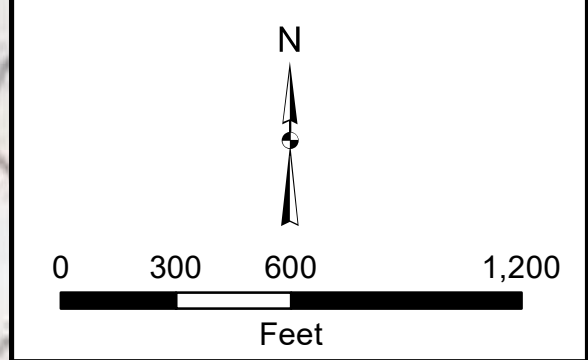
Attachments: Figure 1 – Topographic Project Overview;  
Figure 2 – Aerial Project Overview;  
Natural Heritage Data Request Form;  
Electronic Shapefiles(.shp)

BOUNDLESS ENERGY

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 2.29 miles northwest of the Project area.



- ### Legend
- Project Study Area
  - Quarter Mile Review Boundary
  - Ohio USGS 7.5' Topographic Quadrangle
  - County Boundary



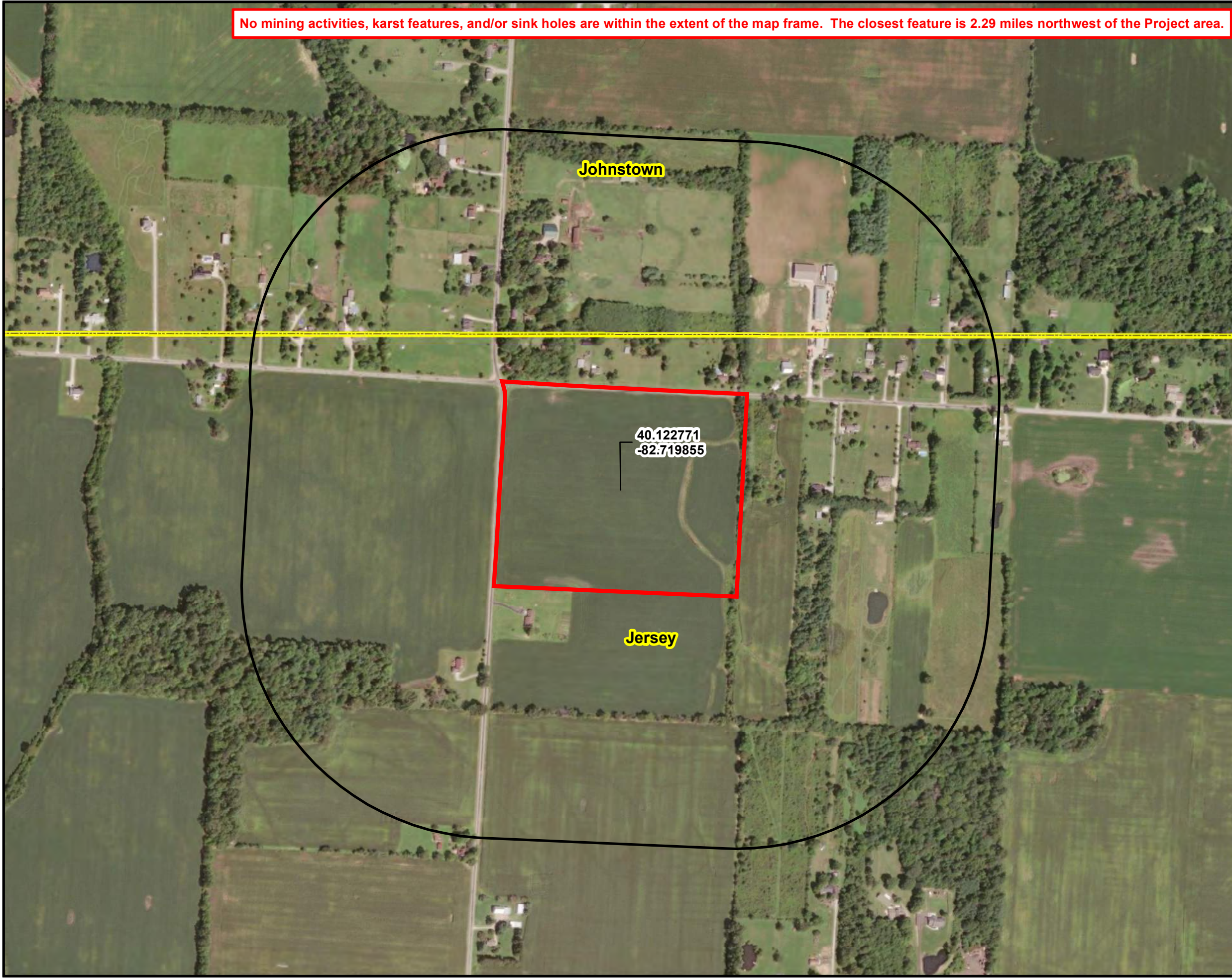
Green Chapel Station Project

FIGURE 1  
TOPOGRAPHIC PROJECT OVERVIEW





DATE: 8/18/2022	1 INCH = 500 FEET
CREATED BY: NAB	CHECKED BY: JH
JOB NO.: 60683729	<b>AECOM</b>

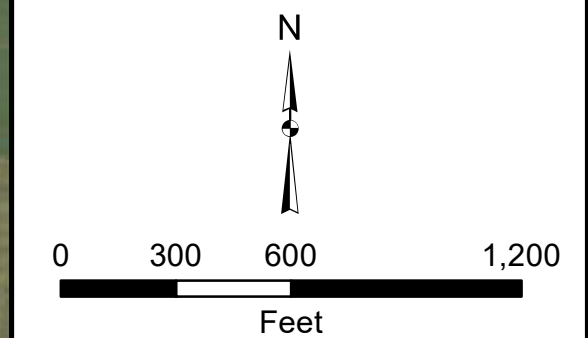


No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 2.29 miles northwest of the Project area.



### Legend

-  Project Study Area
-  Quarter Mile Review Boundary
-  Ohio USGS 7.5' Topographic Quadrangle
-  County Boundary



**FIGURE 2**  
AERIAL PROJECT OVERVIEW

DATE: 8/18/2022	1 INCH = 500 FEET
CREATED BY: NAB	CHECKED BY: JH
JOB NO.: 60683729	<b>AECOM</b>

Date Saved: 8/18/2022  
Document Path: X:\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\_Station2\_MXD\1\_Agency\_Coordination\0\_ODNR\GreenChapelStation\_Fig2\_Aerial\_Overview.mxd



**APPDENIX F**

**EMHT DELINEATED FEATURE DATA AND USACE JURISDICTIONAL DETERMINATION**



DEPARTMENT OF THE ARMY  
HUNTINGTON DISTRICT, CORPS OF ENGINEERS  
502 EIGHTH STREET  
HUNTINGTON, WEST VIRGINIA 25701-2070

REPLY TO  
ATTENTION OF:

February 15, 2022

Regulatory Division  
North Branch  
LRH-2022-41-MUS

**APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATION**

Dick Roggenkamp  
The New Albany Company  
8000 Walton Parkway, Suite 120  
New Albany, Ohio 43054

Dear Mr. Roggenkamp:

I refer to the *Investigation of Waters of the United States Project Dragonfly, Licking County, Ohio* submitted on your behalf by EMH&T and dated January 4, 2022, with additional information received on January 21, 2022. You have requested an Approved Jurisdictional Determination (JD) for the potentially non-jurisdictional features and a Preliminary JD for the potentially jurisdictional aquatic resources located within the 926-acre site. The property is located east of Clover Valley Road, west of Mink Street, and south of Green Chapel Road in Jersey Township, Licking County, Ohio at approximately 40.11458 latitude, -82.71233 longitude. Your request has been assigned the following file number: LRH-2022-41-MUS. Please reference this file number on all future correspondence related to this JD request.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to the discharge of dredged or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 requires a DA permit be obtained for any work in, on, over or under navigable water.

***Preliminary Jurisdictional Determination***

Based upon a review of the submitted report, this office has determined that approximately 5,098 linear feet of two (2) streams (Stream 1 and Stream 2) and 1.27 acres of five (5) wetlands (Wetlands 1, 2, 3, 4a, and 6) are located within the JD review area and may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). As indicated in the guidance, this Preliminary JD is non-binding and cannot be appealed (33 CFR 331.2) and only provides a written indication that waters of the United States, including wetlands, may be present on-site.

You have declined to exercise the option to obtain an Approved JD in this instance and at this time for the aquatic resources mentioned above. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, these aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find a copy of the Preliminary JD. If you agree with the findings of this Preliminary JD and understand your options regarding the same, please sign and date a copy of the Preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy via email or to the following address:

United States Army Corps of Engineers  
Huntington District  
Attn: North Branch  
502 Eighth Street  
Huntington, West Virginia 25701

***Approved Jurisdictional Determination***

Our December 2, 2008 headquarters guidance entitled *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* was followed in the final verification of Section 404 jurisdiction. Based on a review of the of the submitted report, the approximately 926-acre approved JD review area contains 9.98 acres of 37 geographically isolated wetlands (Wetlands 4,5, 7-41) and 1.76 acres of five (5) ponds (Ponds 1-5). Wetlands 4, 5, and 7-41 are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. Wetlands 4, 5, and 7-41 would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Ponds 1-5 have been constructed entirely in uplands, are not impoundments of a jurisdictional stream, and have no connection to a water of the United States. Therefore, Wetlands 4, 5, 7-41 and Ponds 1-5 are not jurisdictional waters of the United States and are not subject to regulation under Section 404; however, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine permit requirements.

In accordance with the June 5, 2007 Joint Memorandum between the United States Environmental Protection Agency (USEPA) and the Corps and the January 28, 2008 Corps Memorandum regarding coordination on jurisdictional determinations, this isolated wetland determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on January 25, 2022 and February 10, 2022, respectively.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. This letter contains an AJD for the subject site. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you

request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer  
United States Army Corps of Engineers  
Great Lakes and Ohio River Division  
550 Main Street, Room 10-714  
Cincinnati, Ohio 45202-3222  
Phone: (513) 684-7261  
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. **It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.**

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter will be provided to your agent, Mr. Michael Krokonko with EMH&T. If you have any questions concerning the above information, please contact Mr. Cecil Cox of the North Branch at 304-399-5274, by mail at the above address or by email at [cecil.m.cox@usace.army.mil](mailto:cecil.m.cox@usace.army.mil).

Sincerely,



Katie E. Samples  
Regulatory Project Manager  
North Branch

Enclosure(s)

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PJD: 25-JAN-2022**

**B. NAME AND ADDRESS OF PERSON REQUESTING PJD:**

Roggenkamp, Dick  
 The New Albany Company  
 8000 Walton Parkway  
 Suite 120  
 New Albany, OH 43054

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:**

LRH, Project Dragonfly JD, LRH-2022-00041-MUS

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:**

**(USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: OH County/parish/borough: Licking County City: Johnstown  
 Center coordinates of site (lat/long in degree decimal format):  
 Lat.: 40.11458° Long.: -82.71233°  
 Universal Transverse Mercator: 17  
 Name of nearest waterbody: Duncan Run

**E. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: January 25, 2022  
 Field Determination. Date(s):

TABLE OF AQUATIC RESOURCES IN REVIEW AREA WHICH "MAY BE" SUBJECT TO REGULATORY JURISDICTION.

Site Number	Latitude (decimal degrees)	Longitude (decimal degrees)	Estimated amount of aquatic resource in review area (acreage and linear feet, if applicable)	Type of aquatic resource (i.e., wetland vs. non-wetland waters)	Geographic authority to which the aquatic resource "may be" subject (i.e., Section 404 or Section 10/404)
Stream 1	40.109026	-82.716711	4572 feet	Non-wetland waters	Section 404
Stream 2	40.106558	-82.712839	526 feet	Non-wetland waters	Section 404
Wetland 1	40.106012	-82.712608	0.45 acres	Wetland	Section 404
Wetland 2	40.106281	-82.712608	0.04 acres	Wetland	Section 404
Wetland 3	40.106488	-82.713975	0.46 acres	Wetland	Section 404
Wetland 4a	40.110838	-82.722829	0.07 acres	Wetland	Section 404
Wetland 6	40.11117	-82.719588	0.25 acres	Wetland	Section 404

1) The Corps of Engineers believes that there may be jurisdictional aquatic resources in the review area, and the requestor of this PJD is hereby advised of his or her option to request and obtain an approved JD (AJD) for that review area based on an informed decision after having discussed

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.



Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

the various types of JDs and their characteristics and circumstances when they may be appropriate.

- 2) In any circumstance where a permit applicant obtains an individual permit, or a Nationwide General Permit (NWP) or other general permit verification requiring "pre-construction notification" (PCN), or requests verification for a non-reporting NWP or other general permit, and the permit applicant has not requested an AJD for the activity, the permit applicant is hereby made aware that: (1) the permit applicant has elected to seek a permit authorization based on a PJD, which does not make an official determination of jurisdictional aquatic resources; (2) the applicant has the option to request an AJD before accepting the terms and conditions of the permit authorization, and that basing a permit authorization on an AJD could possibly result in less compensatory mitigation being required or different special conditions; (3) the applicant has the right to request an individual permit rather than accepting the terms and conditions of the NWP or other general permit authorization; (4) the applicant can accept a permit authorization and thereby agree to comply with all the terms and conditions of that permit, including whatever mitigation requirements the Corps has determined to be necessary; (5) undertaking any activity in reliance upon the subject permit authorization without requesting an AJD constitutes the applicant's acceptance of the use of the PJD; (6) accepting a permit authorization (e.g., signing a proffered individual permit) or undertaking any activity in reliance on any form of Corps permit authorization based on a PJD constitutes agreement that all aquatic resources in the review area affected in any way by that activity will be treated as jurisdictional, and waives any challenge to such jurisdiction in any administrative or judicial compliance or enforcement action, or in any administrative appeal or in any Federal court; and (7) whether the applicant elects to use either an AJD or a PJD, the JD will be processed as soon as practicable. Further, an AJD, a proffered individual permit (and all terms and conditions contained therein), or individual permit denial can be administratively appealed pursuant to 33 C.F.R. Part 331. If, during an administrative appeal, it becomes appropriate to make an official determination whether geographic jurisdiction exists over aquatic resources in the review area, or to provide an official delineation of jurisdictional aquatic resources in the review area, the Corps will provide an AJD to accomplish that result, as soon as is practicable. This PJD finds that there "may be" waters of the U.S. and/or that there "may be" navigable waters of the U.S. on the subject review area, and identifies all aquatic features in the review area that could be affected by the proposed activity, based on the following information:

**SUPPORTING DATA. Data reviewed for PJD (check all that apply)**

Checked items should be included in subject file. Appropriately reference sources below where indicated for all checked items:

- Maps, plans, plots or plat submitted by or on behalf of the PJD requestor: Investigation of Waters of the United States Project Dragonfly, Licking County, Ohio (dated 4 January 2022)  
Map: \_\_\_\_\_.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
  - Office concurs with data sheets/delineation report. 1:24K Jersey, Ohio Quad (Exhibit 2 within report).
  - Office does not concur with data sheets/delineation report. Rationale: \_\_\_\_\_.
- Data sheets prepared by the Corps: \_\_\_\_\_.
- Corps navigable waters' study: \_\_\_\_\_.
- U.S. Geological Survey Hydrologic Atlas: \_\_\_\_\_.
- USGS NHD data.

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

- USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24K Jersey, Ohio Quad (Exhibit 2 within report).
- Natural Resources Conservation Service Soil Survey. Citation: Licking County, OH (Exhibit 3A within report).
- National wetlands inventory map(s). Cite name: Exhibit 5 within report.
- State/local wetland inventory map(s): \_\_\_\_\_.
- FEMA/FIRM maps: Appendix H - FEMA Floodplain Map (Exhibit 4 within referenced report).
- 100-year Floodplain Elevation is: \_\_\_\_\_. (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): (Within referenced report).
- or  Other (Name & Date): Photographs (within referenced report).
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_.
- Other information (please specify): Wetland Data Forms (Appendix B within referenced report).

**IMPORTANT NOTE: The information recorded on this form has not necessarily been verified by the Corps and should not be relied upon for later jurisdictional determinations.**



\_\_\_\_\_  
Signature and date of Regulatory staff member completing PJD

\_\_\_\_\_  
Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)<sup>1</sup>

<sup>1</sup> Districts may establish timeframes for requester to return signed PJD forms. If the requester does not respond within the established time frame, the district may presume concurrence and no additional follow up is necessary prior to finalizing an action.

**APPROVED JURISDICTIONAL DETERMINATION FORM**  
**U.S. Army Corps of Engineers**

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

**SECTION I: BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): 25 January 2022**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: LRH-2022-41-MUS**

**C. PROJECT LOCATION AND BACKGROUND INFORMATION:**

State: Ohio County/parish/borough: Licking City: Johnstown  
Center coordinates of site (lat/long in degree decimal format): Lat. 40.11458° N, Long. -82.71233° W.  
Universal Transverse Mercator:

Name of nearest waterbody: Duncan Run

Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: Muskingum River

Name of watershed or Hydrologic Unit Code (HUC): 050400060301 Raccoon Creek

Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.

Check if other sites (e.g., offsite mitigation sites, disposal sites, etc...) are associated with this action and are recorded on a different JD form.

**D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):**

Office (Desk) Determination. Date: January 25, 2022

Field Determination. Date(s):

**SECTION II: SUMMARY OF FINDINGS**

**A. RHA SECTION 10 DETERMINATION OF JURISDICTION.**

There **Are no** "navigable waters of the U.S." within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [Required]

Waters subject to the ebb and flow of the tide.

Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce.

Explain:

**B. CWA SECTION 404 DETERMINATION OF JURISDICTION.**

There **Are no** "waters of the U.S." within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [Required]

**1. Waters of the U.S.**

**a. Indicate presence of waters of U.S. in review area (check all that apply):<sup>1</sup>**

TNWs, including territorial seas

Wetlands adjacent to TNWs

Relatively permanent waters<sup>2</sup> (RPWs) that flow directly or indirectly into TNWs

Non-RPWs that flow directly or indirectly into TNWs

Wetlands directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs

Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs

Impoundments of jurisdictional waters

Isolated (interstate or intrastate) waters, including isolated wetlands

**b. Identify (estimate) size of waters of the U.S. in the review area:**

Non-wetland waters: linear feet: width (ft) and/or acres.

Wetlands: acres.

**c. Limits (boundaries) of jurisdiction based on: Pick List**

Elevation of established OHWM (if known):

**2. Non-regulated waters/wetlands (check if applicable):<sup>3</sup>**

Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **The 926-acre approved JD review area contains 9.98 acres of 37 wetlands (Wetlands 4, 5, and 7-41) that have been evaluated for possible jurisdiction. Wetlands 4, 5, and 7-41 exhibit no connectivity to any apparent stream channel or jurisdictional water of the United States. Wetlands 4, 5, and 7-41 would not support interstate or foreign commerce interests, nor do they contain any rare or endangered species. Additionally the site contains, Ponds 1-5 (1.76 acres). Ponds 1-5 have been constructed entirely in uplands, are not impoundments of a jurisdictional stream, and**

<sup>1</sup> Boxes checked below shall be supported by completing the appropriate sections in Section III below.

<sup>2</sup> For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).

<sup>3</sup> Supporting documentation is presented in Section III.F.

**have no connection to a water of the United States. This office has determined that Wetlands 4, 5, 7-41, and Ponds 1-5 are non-jurisdictional features and not subject to regulation under Section 404 of the Clean Water Act (CWA).**



### SECTION III: CWA ANALYSIS

#### A. TNWs AND WETLANDS ADJACENT TO TNWs

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

##### 1. TNW

Identify TNW: .

Summarize rationale supporting determination: .

##### 2. Wetland adjacent to TNW

Summarize rationale supporting conclusion that wetland is "adjacent": .

#### B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody<sup>4</sup> is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

##### 1. Characteristics of non-TNWs that flow directly or indirectly into TNW

###### (i) General Area Conditions:

Watershed size: **Pick List**

Drainage area: **Pick List**

Average annual rainfall: inches

Average annual snowfall: inches

###### (ii) Physical Characteristics:

###### (a) Relationship with TNW:

Tributary flows directly into TNW.

Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.

Project waters are **Pick List** river miles from RPW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Project waters are **Pick List** aerial (straight) miles from RPW.

Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW<sup>5</sup>:

Tributary stream order, if known:

<sup>4</sup> Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.

<sup>5</sup> Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) **General Tributary Characteristics (check all that apply):**

- Tributary is:  Natural  
 Artificial (man-made). Explain:  
 Manipulated (man-altered). Explain:

**Tributary properties with respect to top of bank (estimate):**

Average width: feet  
Average depth: feet  
Average side slopes: **Pick List**.

**Primary tributary substrate composition (check all that apply):**

- |                                          |                                                    |                                   |
|------------------------------------------|----------------------------------------------------|-----------------------------------|
| <input type="checkbox"/> Silts           | <input type="checkbox"/> Sands                     | <input type="checkbox"/> Concrete |
| <input type="checkbox"/> Cobbles         | <input type="checkbox"/> Gravel                    | <input type="checkbox"/> Muck     |
| <input type="checkbox"/> Bedrock         | <input type="checkbox"/> Vegetation. Type/% cover: |                                   |
| <input type="checkbox"/> Other. Explain: |                                                    |                                   |

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:

Presence of run/riffle/pool complexes. Explain:

Tributary geometry: **Pick List**

Tributary gradient (approximate average slope): %

(c) **Flow:**

Tributary provides for: **Pick List**

Estimate average number of flow events in review area/year: **Pick List**

Describe flow regime:

Other information on duration and volume:

Surface flow is: **Pick List**. Characteristics:

Subsurface flow: **Pick List**. Explain findings:

- Dye (or other) test performed:

Tributary has (check all that apply):

- |                                                                               |                                                                     |
|-------------------------------------------------------------------------------|---------------------------------------------------------------------|
| <input type="checkbox"/> Bed and banks                                        |                                                                     |
| <input type="checkbox"/> OHWM <sup>6</sup> (check all indicators that apply): |                                                                     |
| <input type="checkbox"/> clear, natural line impressed on the bank            | <input type="checkbox"/> the presence of litter and debris          |
| <input type="checkbox"/> changes in the character of soil                     | <input type="checkbox"/> destruction of terrestrial vegetation      |
| <input type="checkbox"/> shelving                                             | <input type="checkbox"/> the presence of wrack line                 |
| <input type="checkbox"/> vegetation matted down, bent, or absent              | <input type="checkbox"/> sediment sorting                           |
| <input type="checkbox"/> leaf litter disturbed or washed away                 | <input type="checkbox"/> scour                                      |
| <input type="checkbox"/> sediment deposition                                  | <input type="checkbox"/> multiple observed or predicted flow events |
| <input type="checkbox"/> water staining                                       | <input type="checkbox"/> abrupt change in plant community           |
| <input type="checkbox"/> other (list):                                        |                                                                     |
| <input type="checkbox"/> Discontinuous OHWM. <sup>7</sup> Explain:            |                                                                     |

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

- |                                                                    |                                                                        |
|--------------------------------------------------------------------|------------------------------------------------------------------------|
| <input type="checkbox"/> High Tide Line indicated by:              | <input type="checkbox"/> Mean High Water Mark indicated by:            |
| <input type="checkbox"/> oil or scum line along shore objects      | <input type="checkbox"/> survey to available datum;                    |
| <input type="checkbox"/> fine shell or debris deposits (foreshore) | <input type="checkbox"/> physical markings;                            |
| <input type="checkbox"/> physical markings/characteristics         | <input type="checkbox"/> vegetation lines/changes in vegetation types. |
| <input type="checkbox"/> tidal gauges                              |                                                                        |
| <input type="checkbox"/> other (list):                             |                                                                        |

(iii) **Chemical Characteristics:**

Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.).

Explain:

Identify specific pollutants, if known:

<sup>6</sup>A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.

<sup>7</sup>Ibid.

(iv) **Biological Characteristics. Channel supports (check all that apply):**

- Riparian corridor. Characteristics (type, average width):
- Wetland fringe. Characteristics:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

2. **Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW**

(i) **Physical Characteristics:**

(a) **General Wetland Characteristics:**

Properties:

Wetland size: \_\_\_\_\_ acres

Wetland type. Explain:

Wetland quality. Explain:

Project wetlands cross or serve as state boundaries. Explain:

(b) **General Flow Relationship with Non-TNW:**

Flow is: **Pick List**. Explain:

Surface flow is: **Pick List**

Characteristics:

Subsurface flow: **Pick List**. Explain findings:

Dye (or other) test performed:

(c) **Wetland Adjacency Determination with Non-TNW:**

Directly abutting

Not directly abutting

Discrete wetland hydrologic connection. Explain:

Ecological connection. Explain:

Separated by berm/barrier. Explain:

(d) **Proximity (Relationship) to TNW**

Project wetlands are **Pick List** river miles from TNW.

Project waters are **Pick List** aerial (straight) miles from TNW.

Flow is from: **Pick List**.

Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) **Chemical Characteristics:**

Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:

Identify specific pollutants, if known:

(iii) **Biological Characteristics. Wetland supports (check all that apply):**

- Riparian buffer. Characteristics (type, average width):
- Vegetation type/percent cover. Explain:
- Habitat for:
  - Federally Listed species. Explain findings:
  - Fish/spawn areas. Explain findings:
  - Other environmentally-sensitive species. Explain findings:
  - Aquatic/wildlife diversity. Explain findings:

3. **Characteristics of all wetlands adjacent to the tributary (if any)**

All wetland(s) being considered in the cumulative analysis: **Pick List**

Approximately ( ) acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)

Size (in acres)

Directly abuts? (Y/N)

Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

### C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

**Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:**

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:
2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:
3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

### D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
  - TNWs: linear feet width (ft), Or, acres.
  - Wetlands adjacent to TNWs: acres.
2. **RPWs that flow directly or indirectly into TNWs.**
  - Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial;
  - Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:



Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).  
 Other non-wetland waters:        acres.  
Identify type(s) of waters:        .

**3. Non-RPWs<sup>8</sup> that flow directly or indirectly into TNWs.**

- Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

- Tributary waters:        linear feet        width (ft).  
 Other non-wetland waters:        acres.  
Identify type(s) of waters:        .

**4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.  
 Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .  
 Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:        .

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.**

- Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area:        acres.

**6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.**

- Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area:        acres.

**7. Impoundments of jurisdictional waters.<sup>9</sup>**

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

- Demonstrate that impoundment was created from "waters of the U.S.," or  
 Demonstrate that water meets the criteria for one of the categories presented above (1-6), or  
 Demonstrate that water is isolated with a nexus to commerce (see E below).

**E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):<sup>10</sup>**

- which are or could be used by interstate or foreign travelers for recreational or other purposes.  
 from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.  
 which are or could be used for industrial purposes by industries in interstate commerce.  
 Interstate isolated waters. Explain:        .  
 Other factors. Explain:        .

**Identify water body and summarize rationale supporting determination:**        .

<sup>8</sup>See Footnote # 3.

<sup>9</sup> To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

<sup>10</sup> Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA Memorandum Regarding CWA Act Jurisdiction Following Rapanos.

Provide estimates for jurisdictional waters in the review area (check all that apply):

- Tributary waters: linear feet width (ft).
- Other non-wetland waters: acres.  
Identify type(s) of waters: .
- Wetlands: acres.

**F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):**

- If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
- Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  - Prior to the Jan 2001 Supreme Court decision in "SWANCC," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
- Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain: .
- Other: (explain, if not covered above): .

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: Open Water 1.76 acres. List type of aquatic resource: .
- Wetlands: 9.98 acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):

- Non-wetland waters (i.e., rivers, streams): linear feet, width (ft).
- Lakes/ponds: acres.
- Other non-wetland waters: acres. List type of aquatic resource: .
- Wetlands: acres.

**SECTION IV: DATA SOURCES.**

**A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):**

- Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: Investigation of Waters of the United States Project Dragonfly, Licking County, Ohio (dated 4 January 2022).
- Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  - Office concurs with data sheets/delineation report.
  - Office does not concur with data sheets/delineation report.
- Data sheets prepared by the Corps:
- Corps navigable waters' study:
- U.S. Geological Survey Hydrologic Atlas:
  - USGS NHD data.
  - USGS 8 and 12 digit HUC maps.
- U.S. Geological Survey map(s). Cite scale & quad name: 1:24K Jersey, Ohio Quad (Exhibit 2 within report).
- USDA Natural Resources Conservation Service Soil Survey. Citation: Licking County, OH (Exhibit 3A within report).
- National wetlands inventory map(s). Cite name: Exhibit 5 within report.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Appendix H - FEMA Floodplain Map ( Exhibit 4 within referenced report).
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): (Within referenced report).  
or  Other (Name & Date): Photographs (within referenced report).
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify): Wetland Data Forms (Appendix B within referenced report).

**B. ADDITIONAL COMMENTS TO SUPPORT JD:**

**Area A (Pond 5)** – Pond 5 captures subsurface flow from an existing trunk tile network, with two direct trunk tile outlets observed. Photos of the trunk tile network riser pipe and example trunk tile network outlet are included. Based on a review of historical aerial photography and topographic data, Pond 5 appears to have been excavated in uplands utilizing original topography and thus would not be considered an impoundment. Historical aeriels also show no evidence of stream channel above or through this area. Pond 5 outlets into the existing Mink St roadway ditch. Flows from the roadway ditch network are carried off-site under Mink St. through a roadway culvert located within the existing highway right-of-way. (see Photos 1 through 4)

**Area B (“L” shaped Area)** – Photos of Area B have been included. Both the upper and lower portion of this area can be characterized as upland habitat where excess soil material and debris has been deposited. Due to this, both areas have been avoided and have become overgrown. No evidence of wetland criteria were observed in this area. Photos of both locations have been included. (see Photos 5 and 6)

**Area C (Trunk Tile Outlet South of Green Chapel Road)** – The existing trunk tile network has collapsed in this area, just south of Green Chapel road, forming a ditch. Before the collapse, the trunk tile network extended through the concrete wing-wall depicted in Photo 7, as evidenced by the original trunk tile outlet. During extreme runoff events some surface flow is observed in an erosion feature located directly above the intact portion of the trunk tile. However, all flow is being captured in the existing trunk tile network during both baseflow and typical rain events. (see Photos 7 and 8)

**Area D (NE Corner along Green Chapel Road)** – An upland data point has been provided for this area based on notes taken during our field visit. This area was successfully farmed this past growing season, as evidenced by a dominance of soy bean stubble and upland vegetation. The photo provided (see Photo 9) represents the current conditions depicting the recently harvested area that was in the process of being plowed prior to the recent snow event/freeze.

**Area E (Avoided and Overgrown Debris Pile)** – As shown in Photo 10, this area is comprised of an overgrown area where debris has been dumped by the existing landowner. No indications of wetland criteria were observed in this area.



PROJECT DRAGONFLY  
SUPPLEMENTAL INFORMATION REFERENCE MAP







**Photo 1 - Area A**  
Pond 5 – Looking north along Mink St. roadway ditch  
(EMH&T, 1/21/2022)



**Photo 2 - Area A**  
Pond 5 – Looking south along Mink St. roadway ditch  
(EMH&T, 1/21/2022)



**Photo 3 - Area A**

Pond 5 – Trunk tile system riser pipe located above Pond 5  
(EMH&T, 12/20/2021)



**Photo 4 - Area A**

Pond 5 – One of the two trunk tile outlets contributing to Pond 5  
(EMH&T, 12/20/2022)





**Photo 5 - Area B**

Top of "L" shaped area along fencerow – vegetated spoil stockpile  
(EMH&T, 1/21/2022)



**Photo 6 - Area B**

Bottom of "L" shaped area – overgrown soil/debris pile  
(EMH&T, 1/21/2022)



**Photo 7 - Area C**

Trunk Tile Blow-out and ditch feature located just south of the existing Green Chapel Road culvert  
(EMH&T, 11/16/2021)



**Photo 8 - Area C**

Clay tile fragments depicting the collapsed portion of existing trunk tile network below the area shown in Photo 7  
(EMH&T, 1/21/2022)





**Photo 9 - Area D**  
NE corner along Green Chapel Road – Upland Data Point Attached  
(EMH&T, 1/21/2022)



**Photo 10 - Area E**  
Overgrown/Avoided area behind farmstead – debris pile  
(EMH&T, 11/4/2021)

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Project Dragonfly City/County: Licking County Sampling Date: 12/27/21  
 Applicant/Owner: New Albany Company State: OH Sampling Point: Upland Point  
 Investigator(s): Acus-Souders Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): None  
 Slope (%): 2 Lat: 40.124131° Long: -82.720909° Datum: UTM17/State Plane South  
 Soil Map Unit Name: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes (Pe) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>    </u> No <u>X</u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>    </u> No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>    </u> No <u>X</u>
Remarks: Upland point located along Green Chapel Road - NW corner of study area. Successfully farmed.	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1. _____					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0.0%</u> (A/B)																
2. _____																					
3. _____																					
4. _____																					
5. _____																					
=Total Cover					<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>2</u></td> <td>x 4 = <u>8</u></td> </tr> <tr> <td>UPL species <u>75</u></td> <td>x 5 = <u>375</u></td> </tr> <tr> <td>Column Totals: <u>77</u> (A)</td> <td><u>383</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>4.97</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>2</u>	x 4 = <u>8</u>	UPL species <u>75</u>	x 5 = <u>375</u>	Column Totals: <u>77</u> (A)	<u>383</u> (B)	Prevalence Index = B/A = <u>4.97</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>0</u>	x 2 = <u>0</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>2</u>	x 4 = <u>8</u>																				
UPL species <u>75</u>	x 5 = <u>375</u>																				
Column Totals: <u>77</u> (A)	<u>383</u> (B)																				
Prevalence Index = B/A = <u>4.97</u>																					
=Total Cover																					
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )																					
1. _____					<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>    </u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2. _____																					
3. _____																					
4. _____																					
5. _____																					
=Total Cover																					
<b>Herb Stratum</b> (Plot size: <u>5</u> )																					
1. <u>Glycine max</u>		70	Yes	UPL	<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
2. <u>Setaria viridis</u>		5	No	UPL																	
3. <u>Cardamine hirsuta</u>		2	No	FACU																	
4. _____																					
5. _____																					
6. _____																					
7. _____																					
8. _____																					
9. _____																					
10. _____																					
77 =Total Cover																					
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )																					
1. _____					<b>Hydrophytic Vegetation Present?</b> Yes <u>    </u> No <u>X</u>																
2. _____																					
=Total Cover																					
Remarks: (Include photo numbers here or on a separate sheet.) No hydrophytic vegetation observed.																					

**SOIL**

Sampling Point: Upland Point

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 4/2	100					Loamy/Clayey	
6-12	10YR 2/1	98	10YR 5/8	2	C	M	Loamy/Clayey	Prominent redox concentrations

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

<sup>2</sup>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<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**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  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Saturation Present? Yes  No  Depth (inches): \_\_\_\_\_  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

Remarks:

None observed





**Photograph 117**  
Wetland 34, facing north.  
(EMH&T, 12/27/2021)



**Photograph 118**  
Wetland 34, facing south.  
(EMH&T, 12/27/2021)





**Photograph 119**  
Wetland 34, facing west.  
(EMH&T, 12/27/2021)



**Photograph 120**  
Wetland 34, facing east.  
(EMH&T, 12/27/2021)

## Background Information

<b>Name:</b> Aaron Acus-Souders	
<b>Date:</b> 12/27/2021	
<b>Affiliation:</b> EMH&T	
<b>Address:</b> 5500 New Albany Road	
<b>Phone Number:</b> 614-775-4511	
<b>e-mail address:</b> aacussouders@emht.com	
<b>Name of Wetland:</b> Wetland 34	
<b>Vegetation Communit(ies):</b> Emergent	
<b>HGM Class(es):</b> Depression	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> See Exhibit 6	
Lat/Long or UTM Coordinate	40.121439/-82.720815
USGS Quad Name	New Albany, OH
County	Licking
Township	Jersey
Section and Subsection	T2N R15W
Hydrologic Unit Code	050400060303
Site Visit	12/27/2021
National Wetland Inventory Map	USFWS 2021
Ohio Wetland Inventory Map	-
Soil Survey	NRCS 2021
Delineation report/map	EMH&T 2022

<b>Name of Wetland:</b> Wetland 34	
<b>Wetland Size (acres, hectares):</b>	0.32 ac
<b>Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.</b> See Exhibit 6	
<b>Comments, Narrative Discussion, Justification of Category Changes:</b>	
<b>Final score :</b> 18.5	<b>Category:</b> 1

## Scoring Boundary Worksheet

**INSTRUCTIONS.** The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
<b>Step 1</b>	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
<b>Step 2</b>	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	
<b>Step 3</b>	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	
<b>Step 4</b>	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	
<b>Step 5</b>	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
<b>Step 6</b>	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

**End of Scoring Boundary Determination. Begin Narrative Rating on next page.**



## Narrative Rating

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

#	Question	Circle one	
1	<b>Critical Habitat.</b> 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	<b>NO</b>  Go to Question 2
2	<b>Threatened or Endangered Species.</b> 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	<b>NO</b>  Go to Question 3
3	<b>Documented High Quality Wetland.</b> 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	<b>NO</b>  Go to Question 4
4	<b>Significant Breeding or Concentration Area.</b> 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	<b>NO</b>  Go to Question 5
5	<b>Category 1 Wetlands.</b> Is the wetland less than 0.5 hectares (1 acre) in size and <b>hydrologically isolated</b> and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES  Wetland is a Category 1 wetland  Go to Question 6	<b>NO</b>  Go to Question 6
6	<b>Bogs.</b> Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES  Wetland is a Category 3 wetland  Go to Question 7	<b>NO</b>  Go to Question 7
7	<b>Fens.</b> 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	<b>NO</b>  Go to Question 8a
8a	<b>"Old Growth Forest."</b> 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	<b>NO</b>  Go to Question 8b

<b>8b</b>	<b>Mature forested wetlands.</b> 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	<b>NO</b> Go to Question 9a
<b>9a</b>	<b>Lake Erie coastal and tributary wetlands.</b> 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	<b>NO</b> Go to Question 10
<b>9b</b>	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	<b>NO</b> Go to Question 9c
<b>9c</b>	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	<b>NO</b> Go to Question 10
<b>9d</b>	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	<b>NO</b> Go to Question 9e
<b>9e</b>	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	<b>NO</b> Go to Question 10
<b>10</b>	<b>Lake Plain Sand Prairies (Oak Openings)</b> 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	<b>NO</b> Go to Question 11
<b>11</b>	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES  Wetland should be evaluated for possible Category 3 status  Complete Quantitative Rating	<b>NO</b> Complete Quantitative Rating



**Table 1. Characteristic plant species.**

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

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

<b>Site:</b> Wetland 34	<b>Rater(s):</b> Aaron Acus-Souders	<b>Date:</b> 12/27/2021
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<b>2</b>	<b>2</b>
max 6 pts.	subtotal

### Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
  - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
  - 10 to <25 acres (4 to <10.1ha) (4 pts)
  - 3 to <10 acres (1.2 to <4ha) (3 pts)
  - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
  - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
  - <0.1 acres (0.04ha) (0 pts)

<b>3</b>	<b>5</b>
max 14 pts.	subtotal

### Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
  - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
  - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
  - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
  - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
  - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
  - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

<b>7</b>	<b>12</b>
max 30 pts.	subtotal

### Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
  - Other groundwater (3)
  - Precipitation (1)
  - Seasonal/Intermittent surface water (3)
  - Perennial surface water (lake or stream) (5)
- 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 only one and assign score.
- >0.7 (27.6in) (3)
  - 0.4 to 0.7m (15.7 to 27.6in) (2)
  - <0.4m (<15.7in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
  - Regularly inundated/saturated (3)
  - Seasonally inundated (2)
  - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
  - Recovered (7)
  - Recovering (3)
  - Recent or no recovery (1)

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input checked="" type="checkbox"/> tile	<input type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other <small>farming</small>

<b>3.5</b>	<b>15.5</b>
max 20 pts.	subtotal

### Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
  - Recovered (3)
  - Recovering (2)
  - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
  - Very good (6)
  - Good (5)
  - Moderately good (4)
  - Fair (3)
  - Poor to fair (2)
  - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
  - Recovered (6)
  - Recovering (3)
  - Recent or no recovery (1)

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

<b>15.5</b>
subtotal this page



<b>Site:</b> Wetland 34	<b>Rater(s):</b> Aaron Acus-Souders	<b>Date:</b> 12/27/2021
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15.5

subtotal first page

<b>0</b>	15.5
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max 10 pts.

subtotal

### Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

<b>3</b>	18.5
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max 20 pts.

subtotal

### Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other \_\_\_\_\_

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

#### Vegetation Community Cover Scale

0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
1	Present and either comprises small part of wetland's 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 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 vegetation and is of high quality

#### Narrative Description of Vegetation Quality

low	Low spp diversity and/or predominance of nonnative or disturbance tolerant native species
mod	Native spp are dominant component of the vegetation, although nonnative and/or disturbance tolerant native spp can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare threatened or endangered spp
high	A predominance of native species, with nonnative spp 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

<b>18.5</b>
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Category 1

**End of Quantitative Rating. Complete Categorization Worksheets.**

## ORAM Summary Worksheet

		<b>circle answer or insert score</b>	<b>Result</b>
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	2
	Metric 2. Buffers and surrounding land use	3	5
	Metric 3. Hydrology	7	12
	Metric 4. Habitat	3.5	15.5
	Metric 5. Special Wetland Communities	0	15.5
	Metric 6. Plant communities, interspersed, microtopography	3	18.5
	TOTAL SCORE	18.5	Category based on score breakpoints 1

**Complete Wetland Categorization Worksheet.**



## Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM</p>
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>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.</p>
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM</p>
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	<p>YES <input checked="" type="radio"/> NO <input type="radio"/></p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>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.</p>
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria</p>	<p>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).</p>
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	<p>YES <input type="radio"/> NO <input checked="" type="radio"/></p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>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.</p>

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

**End of Ohio Rapid Assessment Method for Wetlands.**

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Project Dragonfly City/County: Licking County Sampling Date: 12/27/21  
 Applicant/Owner: New Albany Company State: OH Sampling Point: Wetland 34  
 Investigator(s): Acus-Souders Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Plain Local relief (concave, convex, none): concave  
 Slope (%): 0 Lat: 40.121439 Long: -82.720815 Datum: UTM17/State Plane South  
 Soil Map Unit Name: Carlisle Muck (Ca) NWI classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No      (If no, explain in Remarks.)  
 Are Vegetation     , Soil     , or Hydrology      significantly disturbed? Are "Normal Circumstances" present? Yes X No       
 Are Vegetation     , Soil     , or Hydrology      naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <u>X</u> No <u>    </u> Hydric Soil Present? Yes <u>X</u> No <u>    </u> Wetland Hydrology Present? Yes <u>X</u> No <u>    </u>	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No <u>    </u>
Remarks:	

### VEGETATION – Use scientific names of plants.

Tree Stratum	(Plot size: <u>30</u> )	Absolute % Cover	Dominant Species?	Indicator Status																	
1.					<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>2</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50.0%</u> (A/B)																
2.																					
3.																					
4.																					
5.																					
=Total Cover					<b>Prevalence Index worksheet:</b> <table style="width: 100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td style="text-align: right;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>60</u></td> <td>x 2 = <u>120</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>90</u> (A)</td> <td><u>270</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A = <u>3.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>60</u>	x 2 = <u>120</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>90</u> (A)	<u>270</u> (B)	Prevalence Index = B/A = <u>3.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>60</u>	x 2 = <u>120</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>30</u>	x 5 = <u>150</u>																				
Column Totals: <u>90</u> (A)	<u>270</u> (B)																				
Prevalence Index = B/A = <u>3.00</u>																					
=Total Cover																					
<b>Sapling/Shrub Stratum</b> (Plot size: <u>15</u> )																					
1.					<b>Hydrophytic Vegetation Indicators:</b> <u>    </u> 1 - Rapid Test for Hydrophytic Vegetation <u>    </u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> <u>    </u> 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) <u>    </u> Problematic Hydrophytic Vegetation <sup>1</sup> (Explain) <sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																
2.																					
3.																					
4.																					
5.																					
=Total Cover																					
<b>Herb Stratum</b> (Plot size: <u>5</u> )																					
1.	<u>Echinochloa crus-galli</u>	<u>60</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
2.	<u>Glycine max</u>	<u>30</u>	<u>Yes</u>	<u>UPL</u>																	
3.																					
4.																					
5.																					
6.																					
7.																					
8.																					
9.																					
10.																					
=Total Cover																					
<b>Woody Vine Stratum</b> (Plot size: <u>30</u> )																					
1.					<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No <u>    </u>																
2.																					
=Total Cover																					
Remarks: (Include photo numbers here or on a separate sheet.)																					



**SOIL**

Sampling Point: Wetland 34

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)								
Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>		
0-6	10YR 4/2	100					Loamy/Clayey	
6-12	10YR 2/1	90	10YR 5/8	10	C	M	Loamy/Clayey	Prominent redox concentrations

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

<sup>2</sup>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<sup>3</sup>:**

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

<sup>3</sup>Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

**Restrictive Layer (if observed):**

Type: \_\_\_\_\_  
Depth (inches): \_\_\_\_\_

**Hydric Soil Present?** Yes  No

Remarks:

**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  Depth (inches): 5  
 Water Table Present? Yes  No  Depth (inches): 0  
 Saturation Present? Yes  No  Depth (inches): 0  
 (includes capillary fringe)

**Wetland Hydrology Present?** Yes  No

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

Remarks: