

# Letter of Notification for the Green Chapel Extension 138 kV Transmission Line Project



An **AEP** Company

*BOUNDLESS ENERGY™*

PUCO Case No. 23-0668-EL-BLN

Part 1 of 3

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

Submitted by:  
AEP Ohio Transmission Company, Inc.

July 11, 2023

**LETTER OF NOTIFICATION**

**AEP Ohio Transmission Company, Inc.**

**Green Chapel Extension 138 kV Transmission Line Project**

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

AEP Ohio Transmission Company, Inc. (“AEP Ohio Transco” or 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 Extension 138 kV Transmission Line Project (“Project”) in the City of New Albany in Licking County, Ohio. The Project involves the construction of approximately 2.7 miles of double-circuit 138 kV transmission line from the proposed Green Chapel Station (Case Number 23-0028-EL-BLN) to the existing Jug Street-Corridor 345 kV Transmission Line to provide electricity to multiple customer facilities. The Project also involves a line adjustment at structures 6 & 7 along the Jug Street-Corridor 345 kV Transmission Line. Specifically, the Green Chapel Extension 138 kV Transmission Line will tap into Structure 7 and Structure 6 will be replaced on the existing centerline. The ROW width for the Green Chapel Extension 138 kV Transmission line is 100-feet and the ROW width for the Jug Street-Corridor 345 kV Transmission Line is 150-feet.

The location of the Project (collectively the “Project Area”) is shown on Exhibit 1 and Exhibit 2 in Appendix A.

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

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

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

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

The Project has been assigned PUCO Case No. 23-0668-EL-BLN.

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### **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 (Approved Case No. 23-0028-EL-BLN). 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 transmission line, filed as the Innovation-Green Chapel 138 kV Transmission Line Project will come from Innovation Station (submitted April 13, 2023, Case No. 23-0355-EL-BLN). The second 138 kV transmission line, and the subject of this filing, is the Green Chapel Extension 138 kV Transmission Line, which will come from cutting into the existing Jug Street-Corridor 345 kV Transmission Line. To accommodate the second 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 underneath and will be filed with OPSB separately. 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. The Project was not included in the Company's 2023 Long Term Forecast Report (LTFR) because the solution was not known at the time of filing. However, the Project will be included in the AEP Ohio Transmission Company, Inc. 2023 Supplemental LTFR. The Project was subsequently assigned PJM supplemental number S2857.1-9 (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 Project is in the City of New Albany in Licking County, Ohio. **Exhibit 1** in Appendix A shows the Project on a USGS topographic quadrangle map. **Exhibit 2** in Appendix A shows the Project on 2021 aerial imagery.

### **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.**

Based on the customer's proposed development and existing facilities in the area, the proposed location of the Green Chapel Extension 138 kV Transmission Line is the most suitable location for the Project.

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Other alternatives would impact future development plans and add additional length to the Project without providing additional benefits, as opposed to remaining primarily on developer and customer's property. The Project is located on customer and developer property that is designated for utility corridors. The Project will not impact any delineated wetlands or streams within the proposed Project right-of-way (ROW) as these features can be spanned. The location of the Project minimizes impacts to the community and the environment, while meeting the engineering and construction needs of the customer. The Project also represents the most suitable location and most appropriate solution for meeting 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 Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Ohio Revised Code ("OAC") Section 4906-6-08(A) (1-6). Further, the Company will mail a letter, via first class mail, to affected 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 copy of the LON will be served to the public library in each political subdivision affected by this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

### **B(6) Construction Schedule**

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

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

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

To visit the Project from Columbus, Ohio, take I-270 N and exit east to OH 161. Follow OH 161 E for 12.6 miles to Mink Street. Take Mink Street for 1.2 miles to Jug Street in New Albany. Turn left onto Jug Street and continue 0.5 miles. At the traffic circle, take the first exit and continue on Harrison Road NW for 1.2 miles. Take a slight left onto Clover Valley Road and continue for 1 mile to the proposed Green Chapel Station. The approximate coordinates are 40.121530°N, -82.719634°W.

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**B(8) Property Agreements**

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

A list of properties for which the Company will need to obtain easements/options is provided below.

<b>Property Parcel Number</b>	<b>Agreement Type</b>	<b>Easement or Option Obtained (Yes/No)</b>
095-111864-00.000	New easement	No
095-111570-00.000	New easement	No
095-112158-00.000	New easement	No
095-111762-00.002	New easement	No
095-112218-00.000	New easement	No
095-111480-00.000	New easement	No
095-111480-00.001	New easement	No
095-111762-00.000	New easement	No
095-111492-00.000	New easement	No

The form easement in **Appendix C** represents the easement rights the Company would seek if condemnation proceedings were necessary to construct, operate, and maintain these facilities. The Company does not anticipate the need for condemnation proceedings in this Project.

**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 Extension 138 kV Transmission Line will include the following:

- Voltage: 138 kV
- Conductors: 2x(3) 2-Bundle 1590 kCM FALCON ACSR (54-19)
- Static Wire: 2x(1) 0.646" 96ct OPGW
- Insulators: Polymer
- ROW Width: 100ft
- Structure Type:
  - (1) Double circuit, monopoles, steel Brace Post, 2-pole tangent structures with a direct embed foundation,
  - (12) Double Circuit, Steel monopole, V-String insulators, tangent structures on custom concrete pier with anchor bolt foundation,
  - (4) Double circuit, Steel monopole, Suspension insulators, Running Corner Structure on custom concrete pier with anchor bolt foundation, (6) Double circuit, steel monopole, strain insulator, 2-pole dead-end structure on concrete piers with anchor bolt foundation,

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- (6) Double circuit, steel monopole, strain insulator, 2-pole dead-end structure on concrete piers with anchor bolt foundation.

The Jug Street-Corridor 345 kV Transmission Line Adjustment will include the following:

- Voltage: 345 kV
- Conductors: 2x(3) 2-Bundle 1590 kCM FALCON ACSR (54-19)
- Static Wire: 2x(1) 0.646" 96ct OPGW
- Insulators: Polymer
- ROW Width: 150ft
- Structure Type:
  - (1) Double Circuit, Steel monopole, V-String insulators, tangent structures on custom concrete pier with anchor bolt foundation,
  - (1) Double circuit, steel monopoles, strain insulator, 3-pole dead-end structure on concrete piers with anchor bolt foundation.

### **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.**

There is one occupied residence within 100 feet of the Project. This property is owned by a developer and will be demolished by the developer before the construction of the transmission line will begin. No 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. There will be no occupied residences within 100 feet of the Project at the time of construction.

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

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

The capital cost estimate for the Project, which is comprised of applicable tangible and capital costs, is approximately \$26.1 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 Ecological Impacts**

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

### **B(10)(a)**

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

The Project is in the City of New Albany in Licking County, Ohio. The existing and surrounding land use is composed of agricultural land use with low density residential land uses dispersed throughout; however the Project Area has been experiencing an influx of development in the form of manufacturing facilities and data centers. No places of worship, schools, institutions, hospitals, cemeteries, landmarks, or recreational areas were identified within 1,000 feet of the Project.

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

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

The Project Area is characterized by agricultural land use with low density residential land uses dispersed throughout. The dominant agricultural use appears to be row crops (i.e. soy beans and corn). Large, open agricultural fields are present in the Project Area along all major road corridors including Clover Valley Road, Miller Road, Green Chapel Road, Beech Road, and Jug Street. Approximately 25.5 acres of agricultural land is within the potential disturbance area of the Project. However, the Project Area is rapidly changing with the development of several industrial facilities and data centers.

Based on data received from the Licking County Auditor's office on May 25th, 2023, there are two agricultural district parcels within the potential disturbance area of the Project. Approximately 7.3 acres of agricultural district land is within the potential disturbance area of the Project. One of the two agricultural district parcels is owned by a developer.

### **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 December 16, 2022. A Phase I Archaeological Investigation, including a literature review and field reconnaissance investigation, were completed by the Company's consultant. Two previously identified archaeological sites were identified during survey: OAI #33LI3353 and #33LI3354. These sites were previously recommended not eligible for listing in the NRHP. No new archaeological sites were identified during survey. No further archaeological investigation is considered to be necessary for the Project. The SHPO concurs with this assessment (see Appendix C).

Additionally, a literature review and field survey were conducted as part of the investigations. Twelve 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. In addition, 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**

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHC000006 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 will coordinate with the City of New Albany as required regarding the SWPPP document.

According to wetland delineation surveys completed by the Company's consultant, the Project will impact two identified wetlands which will require an Ohio Environmental Protection Agency Isolated Wetland Permit. The Company's consultant completed stream identification field surveys and identified two streams (one perennial and one ephemeral), however these streams will not be impacted by the Project.

According to the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM), the Project is partially located in a 100-year floodplain (FIRM 39089c0280H). Approximately 0.2 acre of 100-year floodplain is within the Project's potential disturbance area, however, no transmission line structures are planned to be placed within the 100-year floodplain. As such, the Company will not be required to obtain floodplain permits from Licking County for the construction of any structures within these areas.

### **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. ODNR-DOW response was received 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 is provided in Appendix C.

The USFWS 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 stated that if clearing of trees  $\geq 3$  inches diameter breast height (dbh) cannot be avoided, the USFWS recommends that the 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 USFWS's Ohio Field Office. Tree clearing is anticipated to occur between October 1 and March 31.

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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. Tree clearing is anticipated to occur between October 1 and March 31.

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. No in-water work is required for the Project and no impacts to the above listed species will occur.

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 habitat survey was conducted by a qualified surveyor, and based on active farming as well as proximity to roads and residential areas, no harrier nesting habitat is considered to be within the Project area and therefore no impacts are anticipated to the species.

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

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

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) and indicated no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project. The ODNR response was received on November 23, 2022 (Appendix C), and 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 (refer to Appendix D). The Ecological Resource Inventory Report contains detailed information regarding wetlands, waterbodies, wildlife habitat, and other areas of ecological concern.

Wetland delineation and stream identification field surveys were completed within the Project Area on November 22, 2022. The Company's consultant confirmed four previously delineated wetlands (by other consultants) and identified two streams and six upland drainage features. The two streams (one perennial and one ephemeral) identified have an existing OEPA Aquatic Life Use Designation of warm-water habitat (WWH). The company's consultant has preliminarily determined that the assessed streams within the Project survey area appear to be jurisdictional (i.e., waters of the U.S.), however these streams will not be

**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

impacted by the Project. The Project will impact two of the identified wetlands while will require an Ohio EPA Isolated Wetland Permit.

Based on the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRM) Map Number 39089c0280H, effective date 5/2/2007, the Project is located within the 100-year floodplain. Coordination will occur if 100-year floodplain is impacted by the Project.

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

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

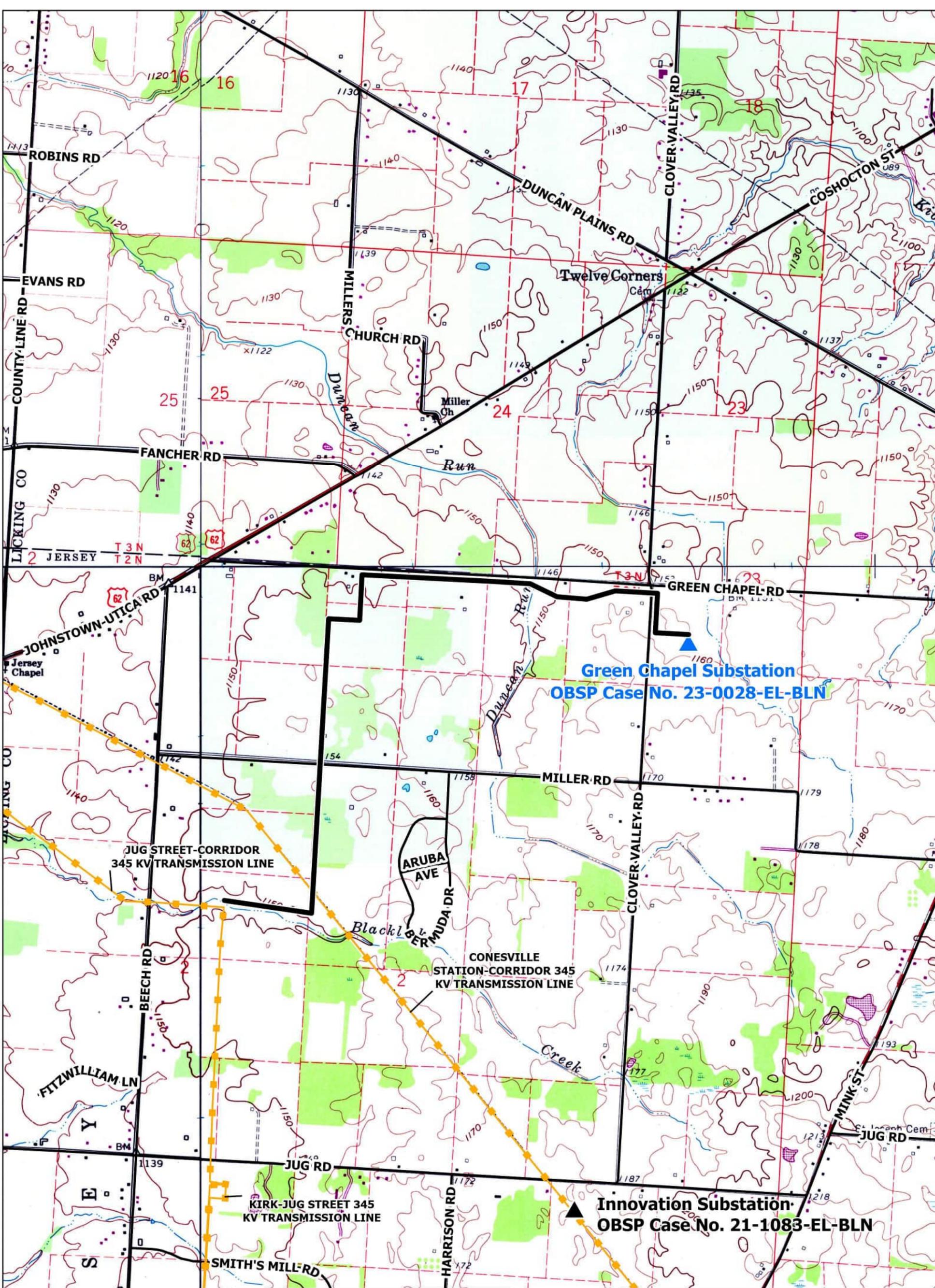
To the best of the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

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**Appendix A**

**Project Maps**



**Green Chapel Substation**  
**OBSP Case No. 23-0028-EL-BLN**

**Innovation Substation**  
**OBSP Case No. 21-1083-EL-BLN**

**Legend**

- ▲ Proposed Substation
- ▲ Existing Substation
- Existing 345 kV Transmission Line
- Roads
- Proposed 138 kV Transmission Line

Base Map Source:  
 USGS Historic Topographic Maps

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

N

5/30/2023

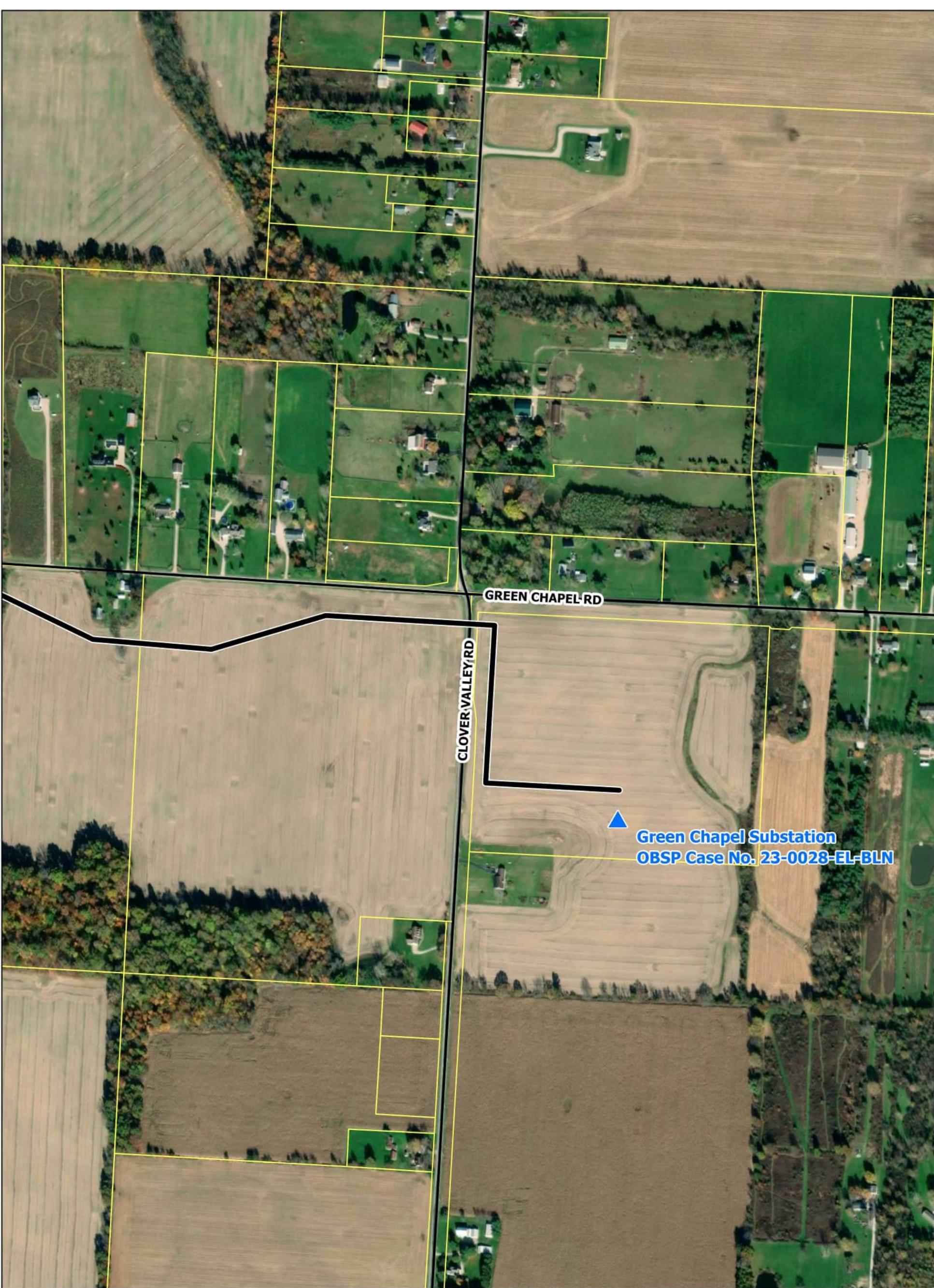


**Exhibit 1**  
**Topographic Overview**

**Green Chapel Extension**  
**138kV Transmission Line Project**  
**Licking County, OH**

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0                      2,500                      5,000  
  
 Feet



**Legend**

-  Proposed Substation
-  Roads
-  Proposed 138 kV Transmission Line
-  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  


5/30/2023

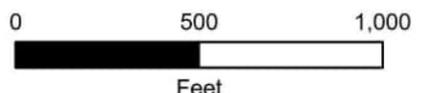


**Exhibit 2**  
**Aerial Overview**  
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**Green Chapel Extension**  
**138kV Transmission Line Project**  
**Licking County, OH**

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0                      500                      1,000  
Feet



**Legend**

-  Roads
-  Proposed 138 kV Transmission Line
-  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  


5/30/2023



**Exhibit 2**  
**Aerial Overview**  
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**Green Chapel Extension  
138kV Transmission Line Project  
Licking County, OH**

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Feet



Legend

-  Roads
-  Proposed 138 kV Transmission Line
-  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  
▲

5/30/2023



**Exhibit 2**  
**Aerial Overview**  
Page 3 of 4



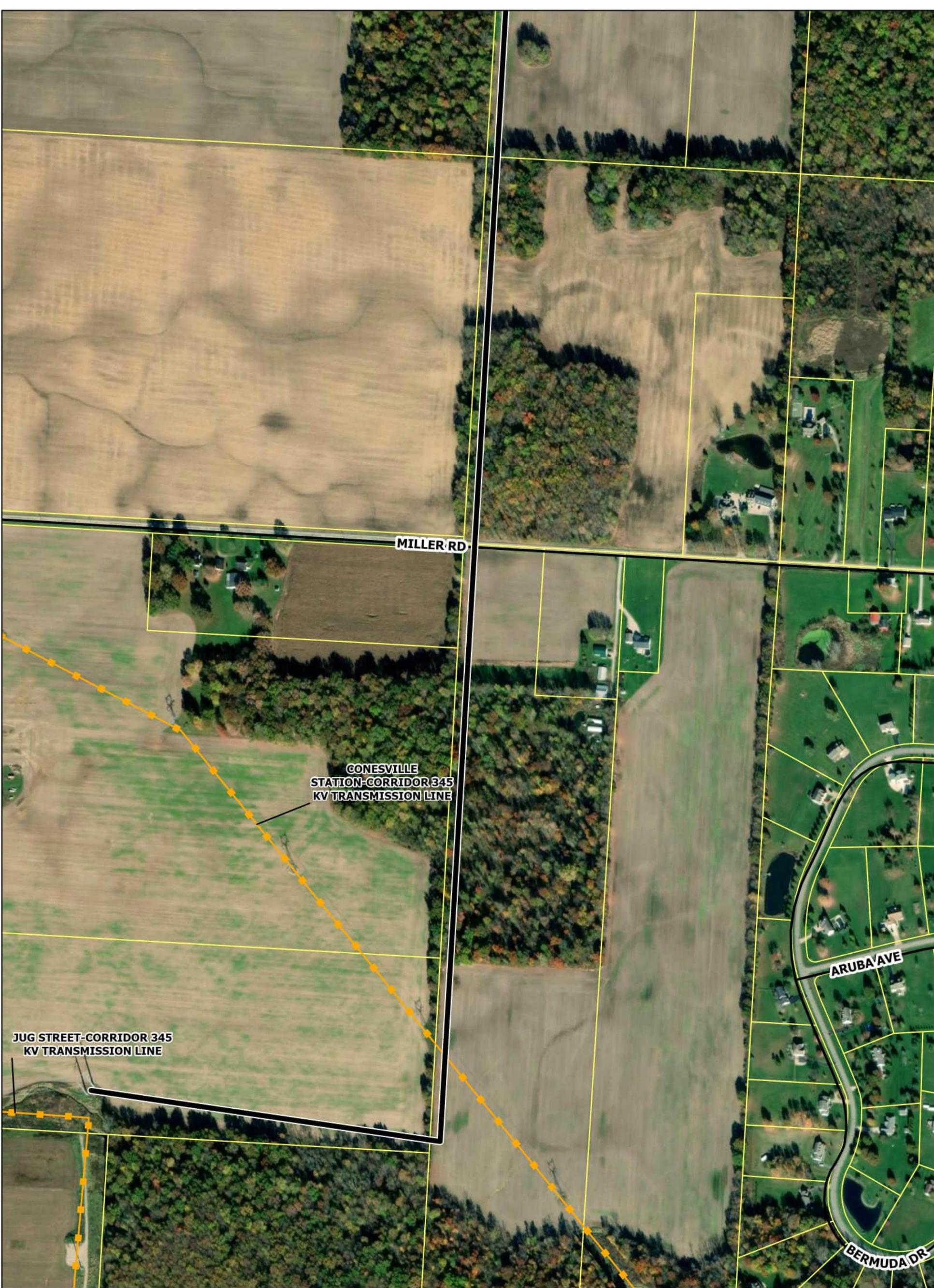
**Green Chapel Extension  
138kV Transmission Line Project  
Licking County, OH**

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0                      500                      1,000



Feet



**Legend**

- Existing 345 kV Transmission Line
- Roads
- Proposed 138 kV Transmission Line
- 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  
▲

5/30/2023



**Exhibit 2**  
**Aerial Overview**  
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**Green Chapel Extension**  
**138kV Transmission Line Project**  
**Licking County, OH**

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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

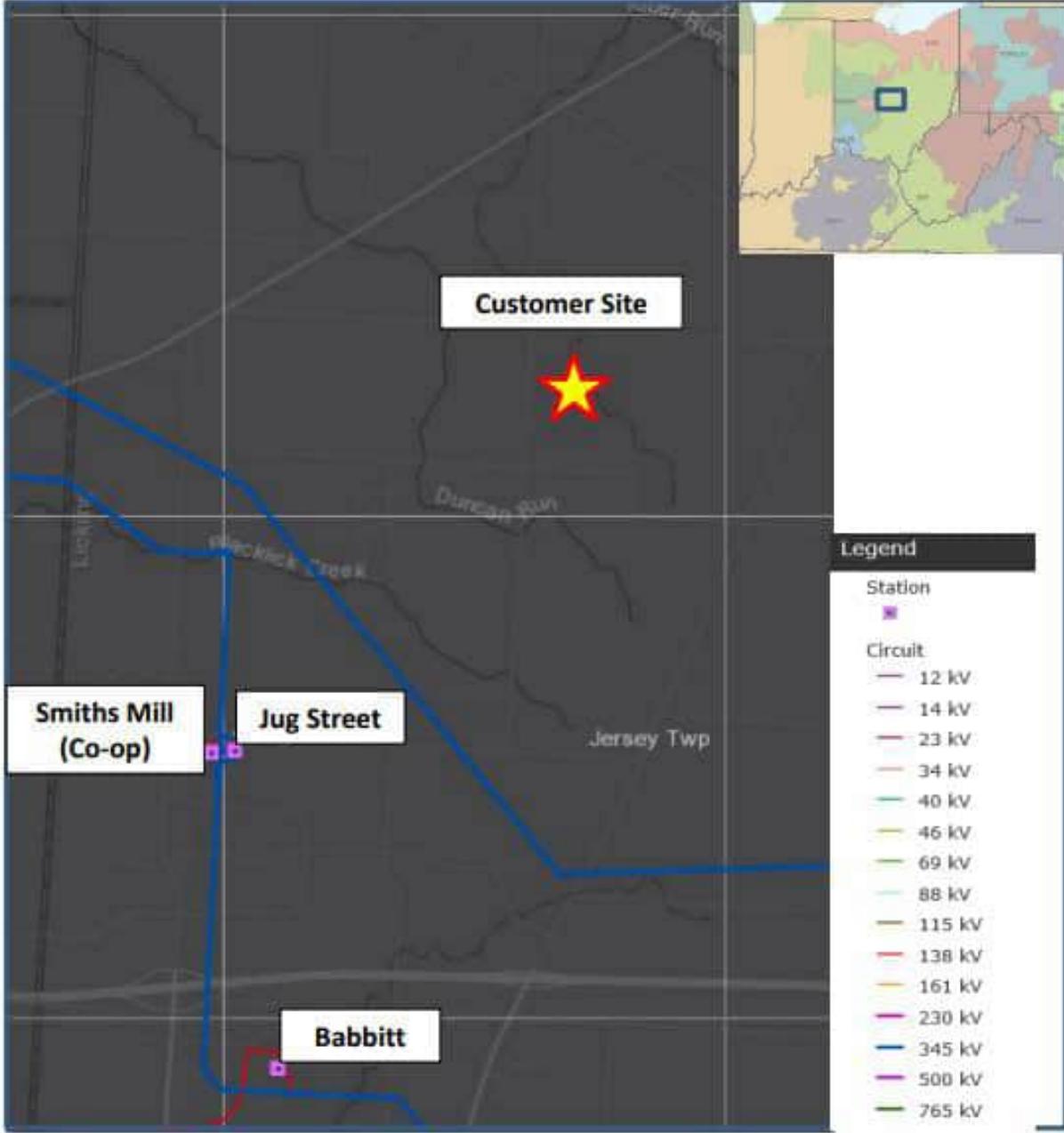
**Specific Assumption Reference:**

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.

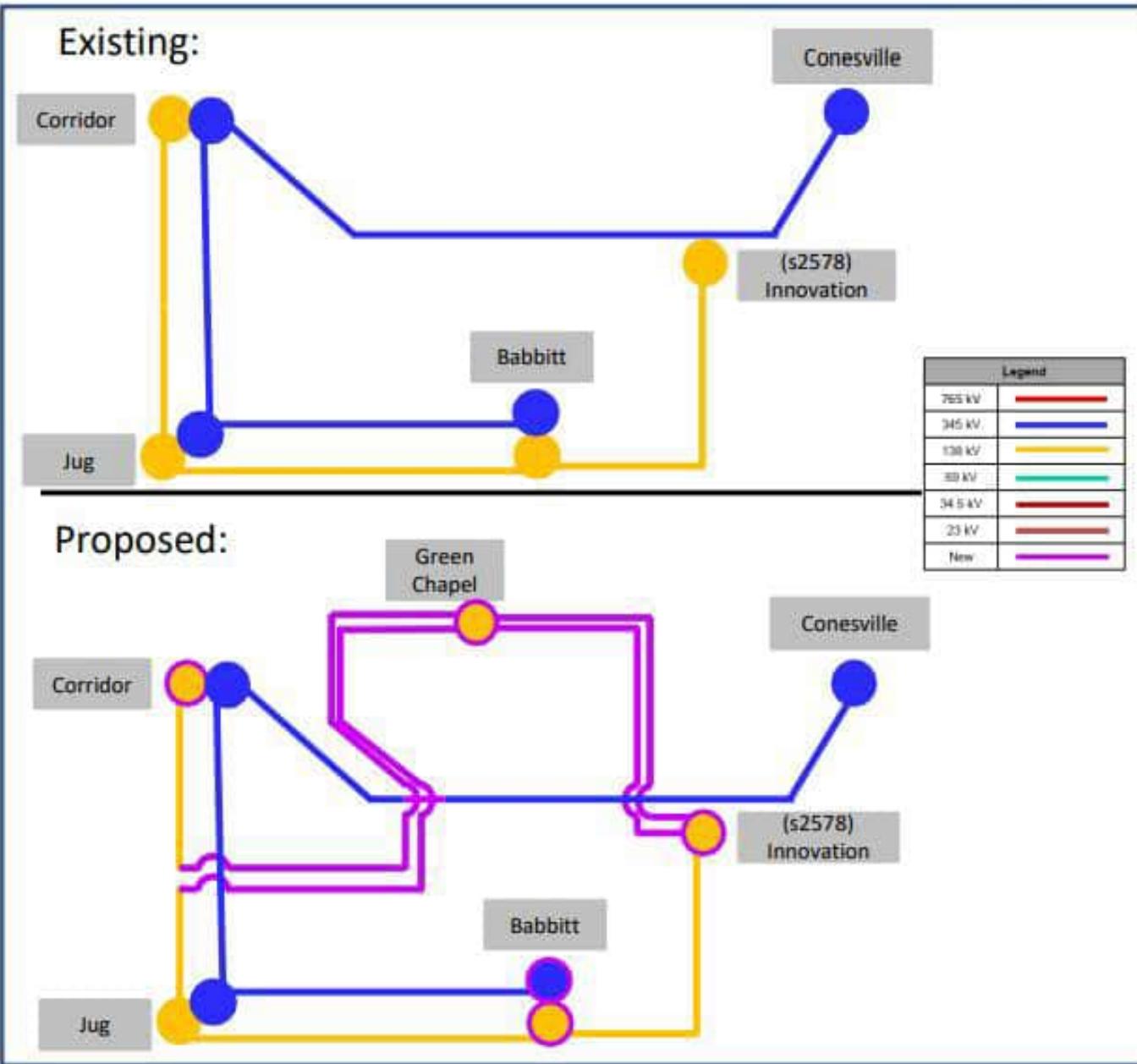


**Need Number:** AEP-2022-OH029

**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**

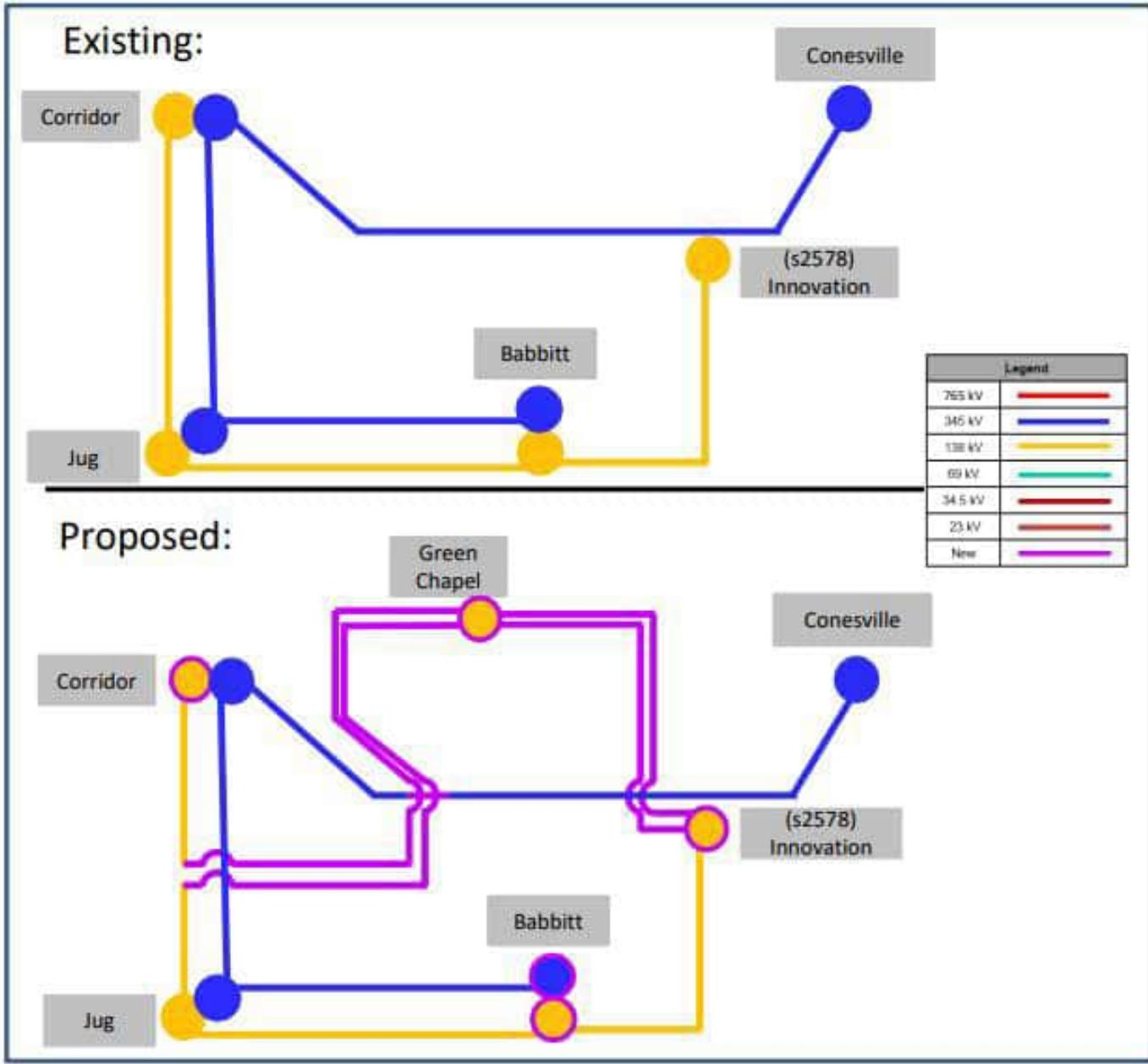
**Alternatives Considered:**

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**



**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

**Appendix C**

**Form Easement**

**Line Name: Green Chapel Extension**  
**Line No.: TLN380:OH403**  
**Easement No.:**

**EASEMENT AND RIGHT OF WAY**

On this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the covenants hereinafter set forth, \_\_\_\_\_ [landowner name and marital status] \_\_\_\_\_, whose address is \_\_\_\_\_ (“Grantor”), whether one or more persons, hereby grants, sells, conveys, and warrants to AEP Ohio Transmission Company, Inc., an Ohio corporation, a unit of American Electric Power, whose principal business address is 1 Riverside Plaza, Columbus, Ohio 43215 (“AEP”), and its successors and affiliates, a permanent easement and right of way (“Easement”) for a single electric transmission line, not to exceed 138 kV, for distribution purposes, and for internal communication purposes related to the transmission of electricity (the “Transmission Line”), being, in, on, over, under, through and across the following described lands of Grantor, situated in the State of Ohio, County of Licking, and Township of \_\_\_\_\_ and being a part of \_\_\_\_\_ [abbreviated legal description] \_\_\_\_\_ (“Grantor’s Property”).

*Contingent provision:* [Spouse of Grantor, if any] join herein for the purpose of releasing all dower rights in regard to the Easement.

Grantor claims title by \_\_\_\_\_ [name of vesting instrument] \_\_\_\_\_ dated \_\_\_\_\_ from \_\_\_\_\_ [name of first grantor] \_\_\_\_\_, recorded on \_\_\_\_\_ at \_\_\_\_\_ [record volume, page] \_\_\_\_\_ in the Licking County Recorder’s Office.

Auditor/Key/Tax Number: \_\_\_\_\_ [Tax Parcel Number] \_\_\_\_\_

The Easement Area is more fully described and depicted on Exhibit "A", a copy of which is attached hereto and made a part hereof ("Easement Area").

**GRANTOR FURTHER GRANTS AEP THE FOLLOWING RIGHTS:**

The right, now or in the future, to construct, reconstruct, operate, maintain, alter, improve, inspect, patrol, protect, repair, remove, replace, upgrade and relocate within the Easement Area, structures and appurtenant equipment necessary for the Transmission Line.

The right, in AEP's discretion, now or in the future, to cut down, trim or remove, and otherwise control, any and all trees, overhanging branches, vegetation or brush situated within the Easement Area and any temporary access roads or temporary workspaces identified on Exhibit "A" outside the Easement Area. Provided, however, that AEP shall not use herbicides or similar products for these purposes on any portions of the Grantor's Property maintained for residential or agricultural use. AEP shall also have the right to cut down, trim or remove trees situated on Grantor's Property which adjoin the Easement Area within the Tree Protection Zone when in the reasonable opinion of AEP those trees are dead, dying, diseased, leaning, or structurally defective and may endanger the safety of, or interfere with the construction, operation or maintenance of AEP's facilities or ingress or egress to, from or along the Easement Area. The Tree Protection Zone extends eighty feet on all sides of the Easement Area depicted in Exhibit A.

AEP shall also have the right of reasonable ingress and egress over, across and upon the Easement Area only, unless additional access routes are depicted in the attached Exhibit A. Provided, however, that in the event access over, across and upon the Easement Area – and access routes, if any, shown in Exhibit A – shall become blocked or otherwise rendered unsafe or hazardous for use, AEP may temporarily access the Easement Area from other points across Grantor's Property, so long as that access is both reasonable and limited to the duration of the interference or safety hazard. AEP shall return the access area to its preexisting condition or pay damages to Grantor.

AEP shall also have the right to use temporary workspaces and temporary access roads outside the Easement Area, if any are shown on Exhibit A, in connection with its initial construction of the Transmission Line. AEP may shift the location of such temporary workspaces, if any, up to twenty (20) feet in any direction, and also shift the location of such temporary access roads, if any, up to twenty (20) feet in any direction, as field conditions or other requirements dictate. Upon completion of the overall Transmission Line project, but in no event later than two (2) years following the start of construction on Grantor's Property, AEP shall remove its equipment from all such temporary workspaces and temporary access roads outside the Easement Area, and AEP's temporary rights outside of the Easement Area shall automatically cease, terminate and revert to Grantor. AEP shall return any such areas to their preexisting condition or pay damages to Grantor as soon as practicable.

**THIS GRANT IS SUBJECT TO THE FOLLOWING CONDITIONS:**

Grantor reserves the right to cultivate annual crops, pasture, construct fences (provided gates are installed that adequately provide AEP the access rights conveyed herein) and roads or otherwise use Grantor's Property encumbered by this Easement in any way not inconsistent with the rights

herein granted. In no event, however, shall Grantor, its heirs, successors, affiliates and assigns plant or cultivate any trees or place, construct, install, erect or permit any temporary or permanent building, structure, improvement or obstruction including but not limited to, storage tanks, billboards, signs, sheds, dumpsters, light poles, water impoundments, above ground irrigation systems, swimming pools or wells, or permit any alteration of the ground elevation, over, or within the Easement Area. AEP may, at Grantor's cost, remove any structure or obstruction if placed within the Easement Area, and may re-grade any alterations of the ground elevation within the Easement Area.

AEP agrees to repair or pay Grantor for actual damages sustained by Grantor to crops, fences, gates, irrigation and drainage systems, drives, or lawns that are permitted herein, when such damages arise out of AEP's exercise of the rights herein granted.

Pursuant to R.C. 163.02, Grantor possesses a right of repurchase pursuant to R.C. 163.211 if AEP decides not to use Grantor's Property for the purpose stated in the appropriation petition and Grantor provides timely notice of a desire to repurchase.

This instrument contains the complete agreement, expressed or implied between the parties herein and shall inure to the benefit of and be binding on their respective successors, affiliates, heirs, executors, and administrators.

This Easement may be executed in counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument.

**Any remaining space on this page left intentionally blank. See next page(s) for signature(s).**

**IN WITNESS WHEREOF**, said Grantor hereunto set their hand(s) and seal(s) as of the last date set forth below.

**GRANTOR**

*SIGNATURE BLOCK FOR A BUSINESS ENTITY / TRUST:*

[name of entity/trust & kind of business association identified]

By: \_\_\_\_\_

Print name: \_\_\_\_\_

Its Authorized Signer

State of Ohio §

§ SS:

County of Licking §

This instrument was acknowledged before me on this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_ by \_\_\_\_\_, the \_\_\_\_\_ [title] \_\_\_\_\_ of \_\_\_\_\_ [name of entity/trust] \_\_\_\_\_, a/an \_\_\_\_\_ [state of incorporation and type of entity/trust] \_\_\_\_\_, on behalf of \_\_\_\_\_ [name of entity/trust] \_\_\_\_\_.

\_\_\_\_\_  
Notary

-----  
*SIGNATURE BLOCK FOR AN INDIVIDUAL:*

\_\_\_\_\_  
[Typed name of individual]

State of Ohio §

§ SS:

County of Licking §

This instrument was acknowledged before me on this \_\_\_\_\_ day of \_\_\_\_\_, 202\_\_ by \_\_\_\_\_ [name of individual] \_\_\_\_\_.

\_\_\_\_\_  
Notary

This instrument prepared by Marland Turner, American Electric Power Service Corporation, 1 Riverside Plaza, Columbus, OH 43215 for and on behalf of AEP Ohio Transmission Company, Inc., a unit of American Electric Power.

When recorded return to: American Electric Power – Transmission Right of Way, 8600 Smith’s Mill Road, New Albany, OH 43054.

**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

**Appendix D**

**Agency Correspondence**



In reply, refer to  
2022-LIC-55796

December 16, 2022

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

**RE: Innovation-Green Chapel 138kV Greenfield Transmission Line Project, Jersey Township, Licking County, Ohio – Addendum 1**

Dear Mr. Weller:

This letter is in response to the correspondence received December 14, 2022 regarding the proposed Innovation-Green Chapel 138kV Greenfield Transmission Line Project, Jersey Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Addendum 1: Phase I Archaeological Investigations for a Transmission Line Easement Shift for the Innovation-Green Chapel 138kV Greenfield Transmission Line Project in Jersey Township, Licking County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2022).

A literature review, visual inspection, surface collection, and shovel test unit excavation was completed as part of the investigations. Two (2) previously identified archaeological sites are located within the project area, Ohio Archaeological Inventory (OAI) #33LI3355-33LI3356. These sites were previously recommended not eligible for listing in the National Register of Historic Places (NRHP). No new archaeological sites were identified during survey. Our office agrees no additional archeological investigation is needed. No additional history architecture properties are included in this addendum project area.

Based on the information provided, we continue to 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. If you have any questions, please contact me at (614) 298-2022, or by e-mail at [khorrocks@ohiohistory.org](mailto:khorrocks@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: 1096056



In reply, refer to  
2022-LIC-55825

September 27, 2022

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

**RE: Green Chapel Extension 138kV Transmission Line Project, Jersey Township, Licking County, Ohio**

Dear Mr. Weller:

This letter is in response to the correspondence received August 31, 2022 regarding the proposed Green Chapel Extension 138kV Transmission Line Project, Jersey Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the 4.2 km (2.6 mi) Green Chapel Extension 138kV Transmission Line 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. Two (2) new archaeological sites were identified during survey, Ohio Archaeological Inventory (OAI) #33LI3353-33LI3354. 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 twelve (12) 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#33LI3353-33LI3354 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 [khorrocks@ohiohistory.org](mailto:khorrocks@ohiohistory.org), or Joy Williams at [jwilliams@ohiohistory.org](mailto:jwilliams@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: 1094863

**Phase I Cultural Resource Management Investigations for the  
4.2 km (2.6 mi) Green Chapel Extension 138kV Transmission  
Line Project in Jersey Township,  
Licking County, Ohio**

By

**Ryan J. Weller  
Scott McIntosh**

Submitted By:

**Ryan J. Weller, P.I.  
Weller & Associates, Inc.  
1395 West Fifth Ave.  
Columbus, OH 43212  
Phone: 614.485.9435 Fax: 614.485.9439  
www.wellercrm.com**

Prepared for:

**American Electric Power  
8600 Smiths Mill Road  
New Albany, OH 43054**

Lead Agency:

**Ohio Power Siting Board**



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**Ryan J. Weller, P.I.**

**August 31, 2022**

## Abstract

In August 2022, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the 4.2 km (2.6 mi) Green Chapel Extension 138kV Transmission Line Project in Jersey Township, Licking County, Ohio. These investigations were conducted for submittal to the Ohio Power Siting Board and for review to the Ohio History Connection. A cultural resources management (CRM) survey was conducted that is reflective of Section 106 of the National Historic Preservation Act to identify any sites or properties relative to this project and to evaluate them in a manner that is similar to that of the National Register of Historic Places (NRHP). This document addresses the archaeological and architectural survey investigations for this transmission line. The work involved a literature review and field reconnaissance investigations. There were two archaeological sites identified including 33LI3353-3354. There were no significant architectural resources identified.

The project pertains to the greenfield installation of what is considered as the Green Chapel Extension 138kV transmission line. This is 30.5 m (100 ft) wide survey corridor that is located in upland area that is transitioning from agricultural to industrial development. The corridor extends in a general northeast-southwest manner. The newly proposed Green Chapel Station is at the northeastern terminus and this will connect with the Jug-Corridor transmission line at the southwestern terminus. The northern part of the corridor extends along the south side of Green Chapel Road with the remainder of the area cutting through undeveloped conditions/farmland.

The literature review that was conducted for this project indicated that there are some minor aspects of the corridor that have been previously investigated. These mostly include other transmission line or electric station work as well as an industrial park (Weller 2017, 2021, 2022; Brown et al. 2022). These previous surveys did not identify any significant cultural resources within the project or its study area. There are no previously recorded cultural resources indicated in the project area and no significant cultural resources indicated in the surrounding study area.

These archaeological and architectural investigations did not result in the identification of any significant cultural resources. There were two previously unrecorded archaeological sites identified during these investigations, 33LI3353-3354. The architectural work did not result in the identification of any significant resources within the project or what was regarded as the area of potential effect. This project does not involve any historic landmarks or significant previously identified resources. No further cultural resource management work is considered to be necessary for this project.

necessary for inclusion in the NRHP under Criterion A or B. The building is typical of others in the area and throughout Ohio, is not the work of a master, and does not exhibit distinctive character-defining features; therefore, the resource is not eligible for inclusion in the NRHP under Criterion C.

### **APE Definition and NRHP Determination**

The APE is a term that must be applied on an individual project basis. The nature of the project or undertaking is considered in determining the APE. This may include areas that are off the property or outside of the actual project's boundaries to account for possible visual impacts. When construction is limited to underground activity, the APE may be contained within the footprint of the project. This report is considerate of the archaeological and architectural aspect of the cultural resource survey. The archaeological APE for this project is considered to be the footprint of the planned transmission line easement.

The project is a corridor that extends through farm fields and former field situations in an area that is rapidly transitioning to a business/industrial setting. The project is a narrow, proposed transmission line corridor that has an easement that is 30.5 m (100 ft) wide and it is 4.2 km (2.6 mi) long. There were two archaeological sites identified and these were not considered to be significant. The architectural APE for this project is considered what is in view of the transmission line within the survey area. The APE is limited by primarily by arboreal shields and distance. None of the architectural resources identified were found to be significant in a manner necessary for inclusion in the NRHP.

### **Recommendations**

In August 2022, Weller & Associates, Inc. conducted Phase I Cultural Resource Management Investigations for the 4.2 km (2.6 mi) Green Chapel Extension 138kV Transmission Line Project in Jersey Township, Licking County, Ohio. These investigations identified two previously unrecorded archaeological sites, 33LI3353-3354; these are not considered to be significant resources. None of the architectural resources identified were found to be significant in a manner necessary for inclusion in the NRHP. A finding of 'no historic properties affected' is considered to be appropriate. No further cultural resource management work is considered to be necessary for this project (36 CFR 800.5).



# Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

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

November 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

# 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 a large initial "P" and "A".

Patrice Ashfield  
Field Office Supervisor

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

**LETTER OF NOTIFICATION FOR THE GREEN CHAPEL EXTENSION 138 KV TRANSMISSION LINE PROJECT**

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**Appendix E**

**Ecological Resources Inventory Report**

# **GREEN CHAPEL EXTENSION PROJECT**

## **LICKING COUNTY, OHIO**

### **ECOLOGICAL REPORT**

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## 1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to build a new 2.7-mile, greenfield 138kV transmission line from the proposed Green Chapel Substation to the interconnection of the Jug Street-Corridor 345 kV transmission line in Licking County, Ohio. The Survey Area associated with this Report for the Project is located on Jersey, Ohio U.S. Geologic Survey 7.5' topographical quadrangle, as displayed on Project Overview Map (**Figure 1**).

Due to the active construction activities by others within the vicinity of the Project, three EMHT survey areas overlap with the AECOM Project survey area. During those investigations, EMHT identified a total of four wetlands (EMHT-Wetland R1, EMHT-Wetland N, EMHT-Wetland M, EMHT-Wetland R2) that overlap with the AECOM Project survey area (**Figure 3**). EMHT-Wetland R2 was reviewed by USACE under file number LRH-2022-557-SCR as Wetland R and is currently undergoing a preapplication review under a Section 401 WQC (DSW401228117P) and Isolated Wetland Permit (DSW401228313W); relevant excerpts from the provided copies are provided in **Appendix F**. The remaining EMHT Wetlands (EMHT-Wetland R1, EMHT-Wetland N, EMHT-Wetland M) are also currently undergoing USACE confirmation, a Jurisdictional Determination (JD) was submitted to the USACE by others on January 26, 2023. As the delineation was completed by others and not under public release, complete copies of the data forms and photographs have not been provided. However, AECOM has field verified the presence of these features and applicable forms have been included and/or supplemented with data provided from EMHT. Only features that intersect the Project Survey Area have been included within this report. Lastly, another JD (LRH-2022-41-MUS) was completed near the tie-in of the transmission line to the proposed Green Chapel Station, a copy of the JD is provided as Appendix F.

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 2.7-mile survey area consisting of a 50-foot buffer on each side of the transmission centerline, composing a Project survey area of approximately 49.3-acres. Prior to conducting field surveys, digital U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) data, and U.S. Geological Survey (USGS) National Hydrography Dataset (NHD), FEMA 100-year

floodplain data (FEMA), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

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

## 2.1 WETLAND DELINEATION

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

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

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

### 2.1.1 WETLAND CLASSIFICATION

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

Cowardin classification of the plants that constitute the uppermost layer of vegetation having 30% or greater coverage is listed.

### **2.1.2 WETLAND ASSESSMENT**

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

## **2.2 STREAM ASSESSMENT**

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines OHWM as “that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas” (USACE, 2005).

### **2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT**

Stream assessments were conducted using the methods described in the OEPA’s *Methods for Assessing Habitat in Flowing Waters: Using OEPA’s Qualitative Habitat Evaluation Index* (Rankin, 2006) and in the OEPA’s *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 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 (OEPA, 2017b) 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 (OEPA, 2017a).

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

**3.0 RESULTS**

On August 23<sup>rd</sup> – 24<sup>th</sup> and November 22<sup>nd</sup>, 2022, AECOM ecologists walked the Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Project survey area, AECOM delineated five upland drainage features and confirmed the delineation of the EMHT wetland and streams. The delineated features with the Project survey area 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, three soil series are mapped within the Project survey area (USDA NRCS 2021a and 2021b). Of these, one soil map unit is identified as hydric, comprising approximately 3% of the mapped unit areas. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Project survey area. Soil map units located in the Project survey area and vicinity are shown on **Figure 2**.

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

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Bennington	BeA	Bennington silt loam, 0 to 2 percent slopes	Drainageways, depressions	Yes*	Pewamo, low carbonate till 8%
	BeB	Bennington silt loam, 2 to 6 percent slopes	Drainageways, depressions	Yes*	Pewamo, low carbonate till 8%
Centerburg	Cen1B1	Centerbug silt loam, 2 to 6 percent slopes	Drainageways, depressions	Yes*	Condit 7%

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

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Pewamo, low carbonate till 85% Condit 9%

Yes\* = Hydric inclusion present

**3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW**

According to NWI data covering the Project location, the Project survey area contains ten ) mapped NWI wetlands (USFWS, 2022). The locations of NWI mapped wetlands in the Project vicinity are shown on **Figure 2**. A summary of NWI-mapped wetlands occurring in the Project survey area and their associated field identified resources is presented in **Table 2**.

**TABLE 2 – NWI DISPOSITION SUMMARY TABLE WITHIN THE PROJECT SURVEY AREA**

NWI Code	NWI Description	Related Field Inventoried Resource (Wetland ID/Stream ID)	Comments
PFO1C	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded	EMHT-Wetland R2	PFO wetland within wooded area and extends on both sides of the survey area
PFO1C	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded		
PSS1F	Palustrine, Scrub-Shrub, Broad-Leaved Deciduous, Semipermanently Flooded		
PFO1A	Palustrine, Forested, Broad-Leaved Deciduous, Temporary Flooded	EMHT-Wetland M	PFO wetland within wooded area and extends on both sides of the survey area
PFO1A	Palustrine, Forested, Broad-Leaved Deciduous, Temporary Flooded	EMHT-Wetland N	PFO wetland within wooded area and extends on both sides of the survey area
PFO1/EM1C	Palustrine, Forested, Broad-Leaved Deciduous, Emergent, Persistent, Seasonally Flooded	EMHT-Wetland R1	PFO wetland within wooded area
PEM1A	Palustrine, Emergent, Persistent, Temporary Flooded	Not field verified	Mapped NWI features not verified in the field
PFO1/SS1A	Palustrine, Forested Broad-Leaved Deciduous, Scrub-Shrub, Broad-Leaved Deciduous, Temporary Flooded		
PFO1C	Palustrine, Forested, Broad-Leaved Deciduous, Seasonally Flooded		
R5UBH	Riverine Unknown Perennial Unconsolidated Bottom Permanently Flooded	S-SRC-002 PER	Perennial Stream Duncan Run

### 3.1.3 DELINEATED WETLANDS

During the field survey, AECOM confirmed the wetland boundaries of four EMHT Wetlands (**Figure 3**). The boundary of EMHT Wetland R2, which lies south of Miller Road NW, was confirmed by USACE (LRH-2-22-557-SCR) and is currently undergoing a preapplication review under a Section 401 WQC (DSW401228117P) and Isolated Wetland Permit (DSW401228313W); relevant excerpts from the provided copies are provided in **Appendix F**. The Project study area which overlaps the JD (LRH-2022-41-MUS) at Green Chapel Station, did not have any overlapping previous and/or new delineated wetlands. A copy of this JD is also provided within **Appendix F**.

An additional EMHT survey boundary also overlaps the Project survey area north of Miller Road NW, which includes EMHT-Wetland R1, EMHT-Wetland M and EMHT-Wetland N, and is currently undergoing USACE confirmation, as a JD was submitted by others on January 26, 2023. A copy of the USACE determination will be provided upon receipt. As the delineation was completed by others and not under public release, complete copies of the USACE determination forms and EMHT photographs have not been provided. However, OEPA ORAM forms completed by EMHT and photographs provided by AECOM are provided within **Appendix A**.

Of the four delineated EMHT wetlands, all four were assigned ORAM Category 2. No Category 3 wetlands were identified within the Project survey area.

All EMHT wetlands within the Project survey area were determined to be isolated. Final jurisdictional status can only be determined by the USACE. The locations and approximate extent of the EMHT wetlands within the Project survey area are shown on **Figure 3**. Details for each EMHT delineated wetland in the Project survey area is provided in **Table 3**. EMHT USACE forms, OEPA ORAM form, and photographs of EMHT-Wetland R2 are provided in **Appendix A**. EMHT OEPA ORAM data forms and AECOM photographs of EMHT-Wetland R1, EMHT-Wetland M and EMHT-Wetland are provided in **Appendix A**. A copy of the USACE jurisdictional determination letter and relevant excerpts from the Section 401 WQC and Isolated Wetland Permit application for EMHT-Wetland R2 is provided in **Appendix F**.

**TABLE 3 – SUMMARY OF EMHT DELINEATED WETLANDS WITHIN THE PROJECT SURVEY AREA**

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM <sup>1</sup>		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)
EMHT – Wetland R2*	40.112912	-82.742601	Yes*	PFO	14.9*	54	2	Str. Undefined (#67 in line) Str. 6	None	Str. Undefined (#67 in line) Str. 6	TBD	TBD	TBD
EMHT – Wetland M	40.116160	-82.742126	Yes	PFO	1.1	47.5	2	Str. Undefined (#73 in line)	None	Str. Undefined (#73 in line)	TBD	TBD	TBD
EMHT – Wetland N	40.117572	-82.742361	Yes	PFO	0.4	48	2	Str. 8	None	Str. 8	TBD	TBD	TBD
EMHT – Wetland R1	40.119746	-82.741799	Yes	PFO	0.8	45	2	None	None	None	TBD	TBD	TBD
<b>Total:</b>					<b>17.2</b>							<b>TBD</b>	<b>TBD</b>

1- As assessed by EHMT; ORAM data forms provided in Appendix A

\*= Reviewed by USACE (LRH-2022-557-SCR) as Wetland R.; additionally, Wetland R1 is referenced as Wetland R within the EMHT JD that is pending response.

### 3.2 STREAM DELINEATION

During the field survey, AECOM delineated 2 streams (one ephemeral and one perennial) within the Project survey area. The ephemeral stream (S-SRC-001) was assessed using the HHEI evaluation form and was classified as a Class 1 PHW stream. Due to having an existing OEPA Aquatic Life Use Designation (OAC-3745-1), which overrules any provisional classification from field habitat assessment results, the perennial stream (S-SRC-002) was assigned the existing designation of WWH and was not assessed utilizing the QHEI/HHEI data form.

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

#### 3.2.1 OEPA STREAM ELIGIBILITY

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

### 3.3 FEMA 100 YEAR FLOODPLAINS

According to the FEMA Map (39089C0280H), two mapped FEMA floodways associated with Duncan Run and Blacklick Creek are listed as Zone A (No Base Flood Elevations) (FEMA, 2011). The extent of FEMA regulated floodplains and floodways are displayed on **Figure 2**.

**TABLE 4 – SUMMARY OF AECOM DELINEATED STREAMS WITHIN THE PROJECT SURVEY AREA**

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Classification / Rating / OAC Designation			Fill Type	Length (LF)
S-SRC-001	40.124569	-82.729230	Ephemeral	UNT to Duncan Run	36	3.5	1.5	HHEI	25	Class I PH	Eligible	TBD	TBD	TBD
S-SRC-002	40.124459	-82.729301	Perennial	Duncan Run	167	15.0	8.0	Chapter 3745-1	-	WWH	Eligible	TBD	TBD	TBD
<b>Total:</b>					<b>203</b>									

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

HUC-12	Watershed	401 WQC Eligibility	Number of Stream Assessments
050600011307	Duncan Run	Eligible	2
050600011503	Blacklick Creek	Eligible	0
050400060301	Raccoon Creek	Eligible	0
<b>Total</b>			<b>2</b>

**3.4 PONDS**

No ponds were delineated within the Project survey area.

**3.5 UPLAND DRAINAGE FEATURES WITHIN THE PROJECT SURVEY AREA**

AECOM identified six upland drainage features within the Project Survey area. The location of the upland drainage features is shown on **Figure 3** and photographs are located in **Appendix C**.

**3.6 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA**

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

**TABLE 6- VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA**

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Agricultural Row-Crop	Includes fields planted in row-crop such as corn, soybean or winter wheat.	28.5	57.8%
Woodlands	Woodlands (floodplain, upland, successional-mixed, etc) are present along the Project survey area. Woody species dominating these areas included: <i>Acer rubrum</i> , <i>Ulmus americana</i> , <i>Lindera benzoin</i> , and <i>Quercus palustris</i> .	6.4	12.9%
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the survey area of the Project in the form of successional old-field communities. These communities are the earliest stages of recolonization by plants following disturbance. This community type is typically short-lived, giving way progressively to shrub and forest communities unless periodically re-disturbed, in which case they remain as old fields. The old-field areas within the study corridors and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	4.7	9.6%
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey area and adjacent areas are frequently mowed grasses and forbs.	3.1	6.2%
Streams/Wetlands	Streams and wetlands were observed both within and beyond the survey area for the Project.	2.6	5.3%
Pasture/Hay Fields	Cattle and/or horse pasture, and hay fields, dominated by seasonally mowed and grazed areas of grasses and forbs.	2.2	4.4%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	1.8	3.6%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with 30% or greater coverage of woody species that are not trees (including sapling trees generally <3" dbh and <20' in height).	0.1	0.3%
<b>Totals:</b>		<b>49.3</b>	<b>100%</b>

### 3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

#### *Protected Species Agency Consultation –*

On October 5, 2022, coordination letters were sent to United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review for the Project for potential impacts to threatened and endangered species.

Responses were received from the USFWS on August 31, 2022, and from the ODNR on September 16, 2022. According to a response letter received from the USFWS, one federal endangered and one federal threatened bat species was identified within range of the Project area. Regarding state threatened and endangered species that may occur within the Project vicinity, six species were listed by the ODNR. Correspondence letters from the USFWS and ODNR for Green Chapel Extension Project are included as **Appendix D. Table 7** provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project area are provided as **Appendix C.**

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
<b>Mammals</b>							
Indiana Bat ( <i>Myotis sodalis</i> )	Endangered	Endangered	<p><u>Summer habitat</u> During spring/summer, bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, these species hibernates in humid mines, caves, and occasionally man-made structures.</p>	<p><u>Summer habitat</u> <b>Yes</b> – Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat.</p> <p><u>Hibernaculum(a)</u> <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.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p><u>Summer habitat</u> If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting (October 1 and March 31). If summer tree clearing is required, additional coordination with the ODNR/USFWS is warranted.</p> <p><u>Hibernaculum(a)</u> In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within <b>Appendix D</b>), a 0.25-mile tree cutting and subsurface disturbance buffer around hibernaculum entrance is recommended.</p>	<p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p>
Northern Long-eared Bat ( <i>Myotis septentrionalis</i> )	Threatened	Threatened*	<p><u>Summer habitat</u> During spring/summer, bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, these species hibernates in humid mines, caves, and occasionally man-made structures.</p>	<p><u>Summer habitat</u> <b>Yes</b> – ODNR commented known records for this 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 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.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p><u>Summer habitat</u> If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting (October 1 and March 31). If summer tree clearing is required, additional coordination with the ODNR/USFWS is warranted.</p> <p>Known presence of species was indicated in ODNR response and additional summer surveys would not constitute presence/absences of this species.</p> <p><u>Hibernaculum(a)</u> In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within <b>Appendix D</b>), a 0.25-mile tree cutting and subsurface disturbance buffer around hibernaculum entrance is recommended.</p>	<p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p> <p>Additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat</p>
Little brown bat ( <i>Myotis lucifugus</i> )	Endangered	NA	<p><u>Summer habitat</u> During spring/summer, bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, these species hibernates in humid mines, caves, and occasionally man-made structures.</p>	<p><u>Summer habitat</u> <b>Yes</b> – Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat.</p> <p><u>Hibernaculum(a)</u> <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.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p><u>Summer habitat</u> If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting (October 1 and March 31). If summer tree clearing is required, additional coordination with the ODNR/USFWS is warranted.</p> <p><u>Hibernaculum(a)</u> In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within <b>Appendix D</b>), a 0.25-mile tree cutting and subsurface disturbance buffer around hibernaculum entrance is recommended.</p>	<p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p>

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

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Avoidance Dates	Agency Comments	Potential Impacts
Tricolored bat ( <i>Perimyotis subflavus</i> )	Endangered	Proposed Endangered	<p><u>Summer habitat</u> During spring/summer, bat species roost in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves.</p> <p><u>Hibernaculum(a)</u> During winter, these species hibernates in humid mines, caves, and occasionally man-made structures.</p>	<p><u>Summer habitat</u> <b>Yes</b> – Within the Project survey area, areas of young successional forest were identified which appear to be potentially suitable summer roosting and foraging habitat.</p> <p><u>Hibernaculum(a)</u> <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.</p>	<p><u>Summer Tree Clearing</u> April 1 – September 30</p>	<p><u>Summer habitat</u> If suitable habitat occurs within the Project survey Area, the USFWS and ODNR DOW recommends seasonal tree cutting (October 1 and March 31). If summer tree clearing is required, additional coordination with the ODNR/USFWS is warranted.</p> <p><u>Hibernaculum(a)</u> In accordance with 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance) (copy of guidance provided within <b>Appendix D</b>), a 0.25-mile tree cutting and subsurface disturbance buffer around hibernaculum entrance is recommended.</p>	<p><u>Summer habitat</u> Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended.</p>
<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> – no lakes, ponds or swamps present. Streams present, but not sufficient size.	<p><u>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.	None
<b>Avian</b>							
Northern Harrier ( <i>Circus hudsonius</i> )	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands of 2-acres or greater in size.	<b>No</b> – Based on field reviews, the Project area does not contain continuous habitat greater than 2-acres; subjected to “edge effect” or increase predation due to proximity of tree lines; and area is highly urbanized/industrial.	April 15 – July 31	Habitat should be avoided during the bird’s nesting period between April 15 through July 31. If habitat will not be impacted, this Project will not likely impact species.	None

\*= Effective March 31, 2023, reclassification to Endangered and 4(d) rule will be removed.

**Protected Species Agency Summary –**

Based on general observations during the ecological survey, forested clearing is anticipated to be limited, due to the active construction by others within the Project area. If tree clearing is required, the ODNR/USFWS recommends implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for Indiana bat, little brown bat, and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. If summer tree clearing is needed, additional coordination will be completed with ODNR/USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2022 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing (2022 Joint Guidance; **Appendix D**) within 0.25-mile of the Project area and no caves, mines, and/or karst features were identified. As per ODNR/USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25-mile of the Project area. Therefore, no further coordination was necessary with either the ODNR and/or USFWS regarding the listed bat species. Results of the desktop habitat assessment has been included within **Appendix E**.

As no in-water work is proposed as part of the Project, no impacts are anticipated to any fish species. Additionally, an absence of potential nesting habitat for northern harrier was identified based on field/desktop review of the Project area. The absence of habitat was identified due to the Project area is associated with a future urban land and/or development areas, close proximity of tree lines contributing to severely fragmented, small and/or isolated patches of old field habitat, and thus lack of continuous habitat. Therefore, no further coordination regarding the listed bird species was warranted regarding this Project.

**4.0 SUMMARY**

During AECOM site investigations, AECOM confirmed the four EMHT wetlands (EMHT-Wetland R1, EMHT-Wetland N, EMHT-Wetland M, EMHT-Wetland R2) as well as identified two streams and six upland drainage features were delineated. All four EMHT wetlands were identified by EMHT as Category 2 wetlands and determined to be isolated. One perennial and one ephemeral stream, assessed as a WWH (OEPA Aquatic Life Use Designation) and a Class 1 PH, respectively, were identified by AECOM and preliminary determined to be jurisdictional (i.e., WOTUS).

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

Indiana bat, northern long eared bat, and/or tricolored bat between April 1 to September 30. However, Northern Long-eared bat is known to occur within the Project area and additional mist net surveys would not constitute presence/absence for this species. Since there is presence of the Northern Long-eared bat, limited summer tree cutting inside of the 0.25-mile buffer for this species could be permitted by further coordinating results of emergent and/or roost surveys with the ODNR.

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

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

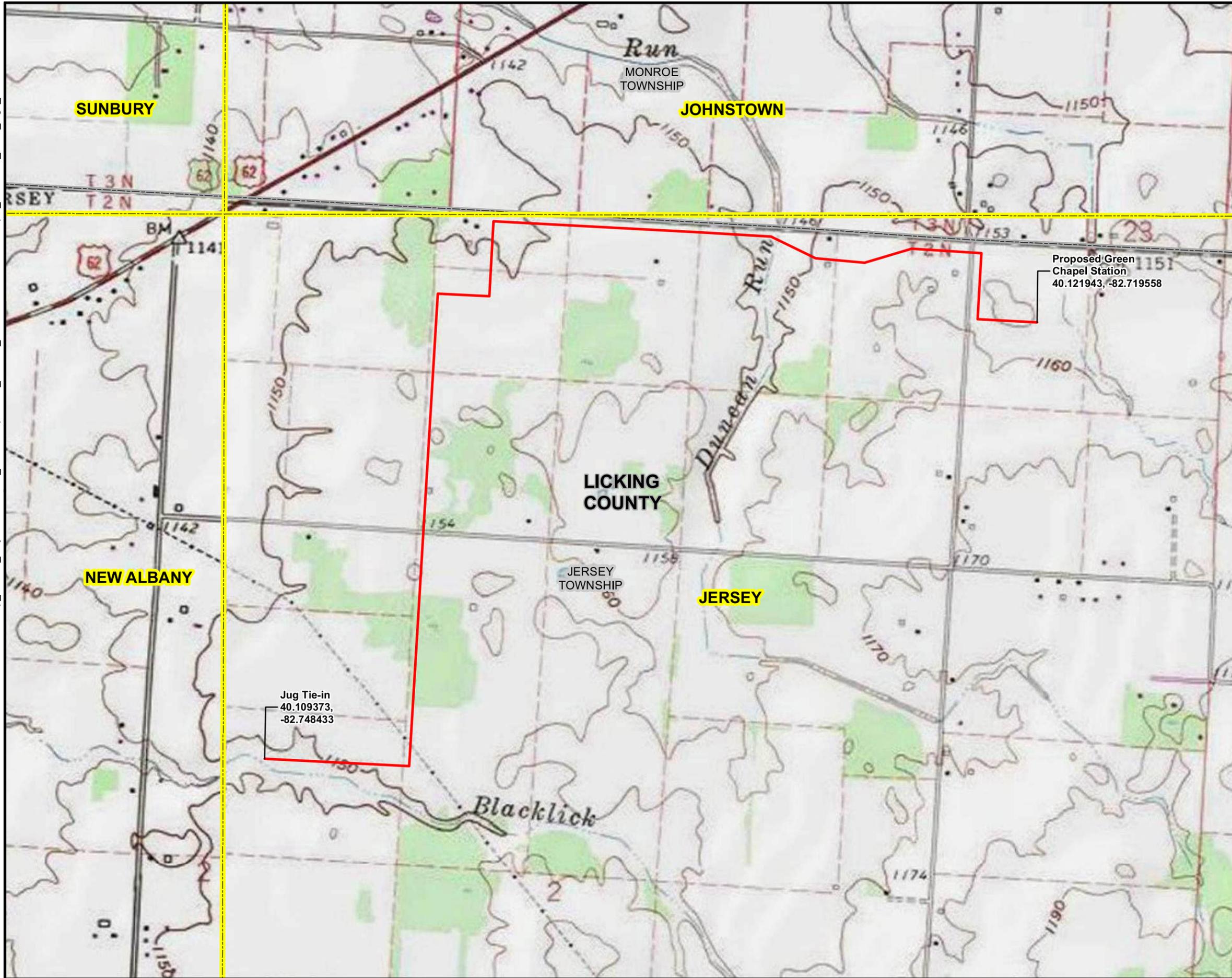
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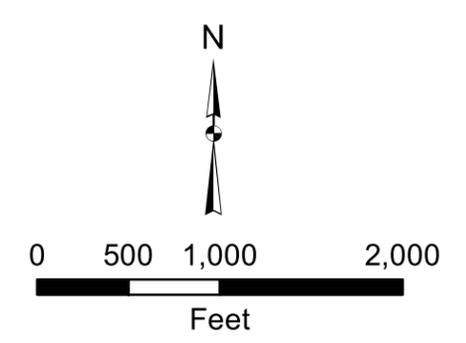


**Legend**

- Green Chapel Extension 138kV Transmission Line
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

Proposed Green Chapel Station  
40.121943, -82.719558

Jug Tie-in  
40.109373, -82.748433



**Green Chapel Extension 138kV Transmission Line Project**

**FIGURE 1  
PROJECT OVERVIEW**

DATE: 2/21/2023	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

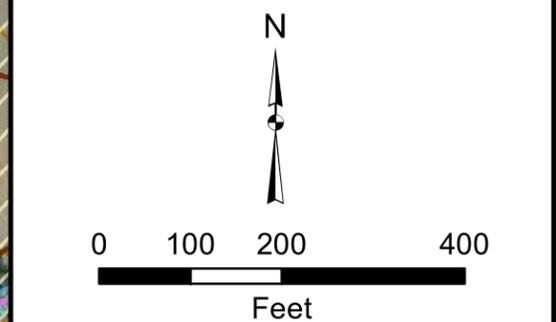


- Legend**
- Green Chapel Extension 138kV Transmission Line
  - Delineated Perennial Stream
  - Delineated Stream by EMHT
  - NHD Stream (USGS)
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - NWI Wetland (USFWS)
  - FEMA Floodplain (Zone A)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

BeB—Bennington silt loam, 2 to 6 percent slopes

Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



Green Chapel Extension 138kV Transmission Line Project

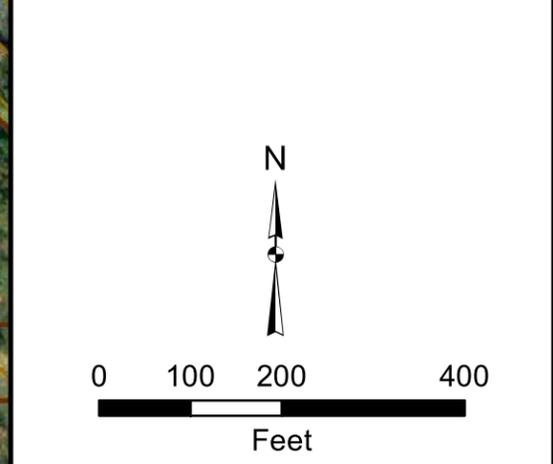
<b>FIGURE 2A SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Green Chapel Extension 138kV Transmission Line
  - - - Upland Drainage
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

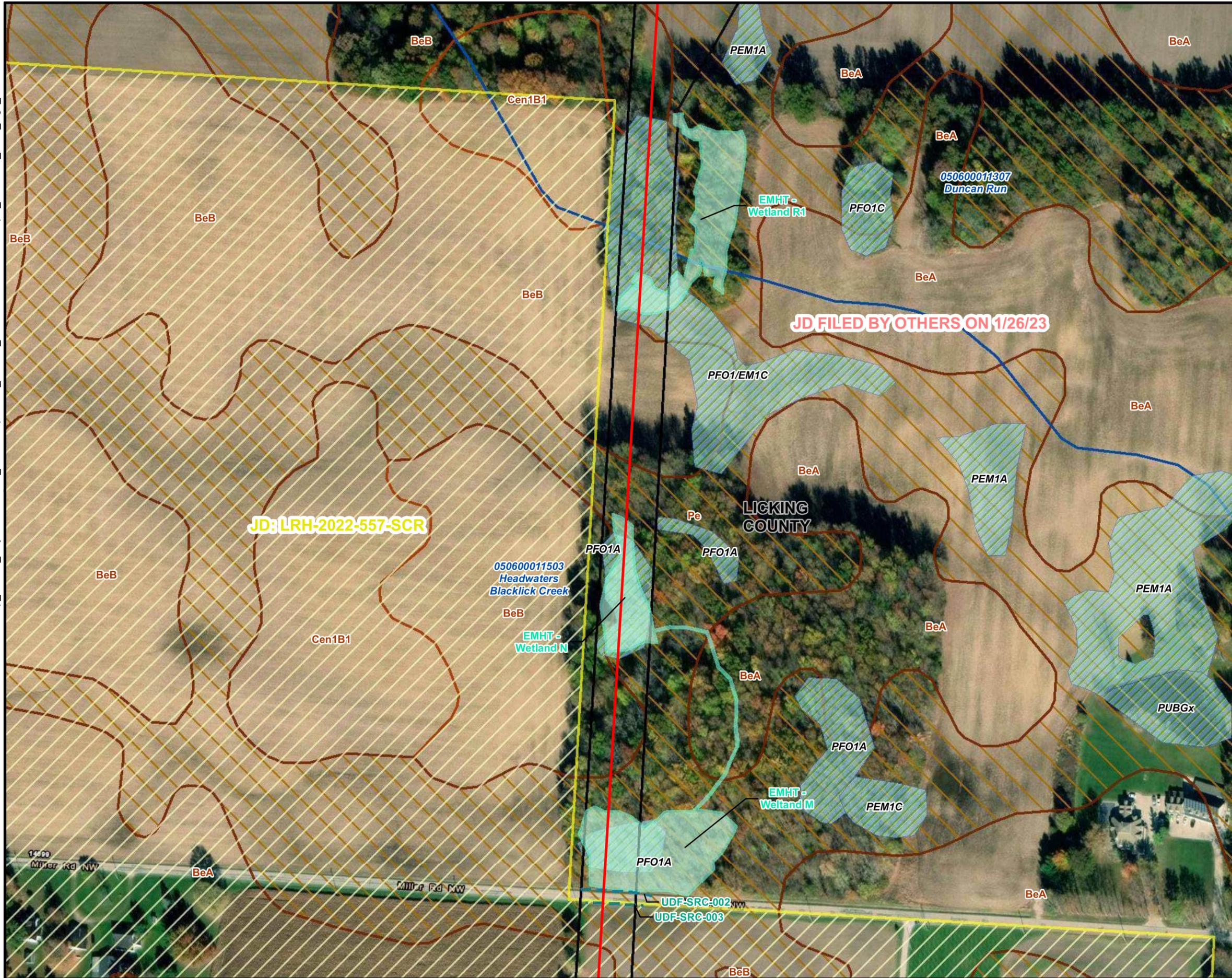
**Soil Map Unit Description**

BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Cen1C2—Centerburg silt loam, 6 to 12 percent slopes, eroded  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

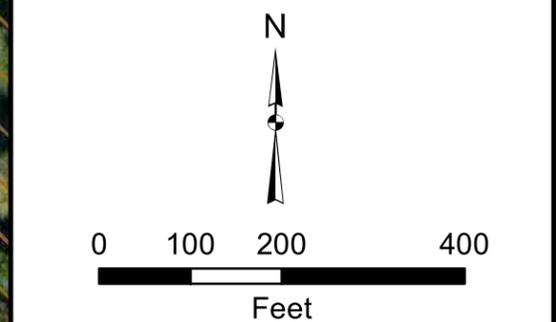


**Green Chapel Extension 138kV Transmission Line Project**

<b>FIGURE 2B SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



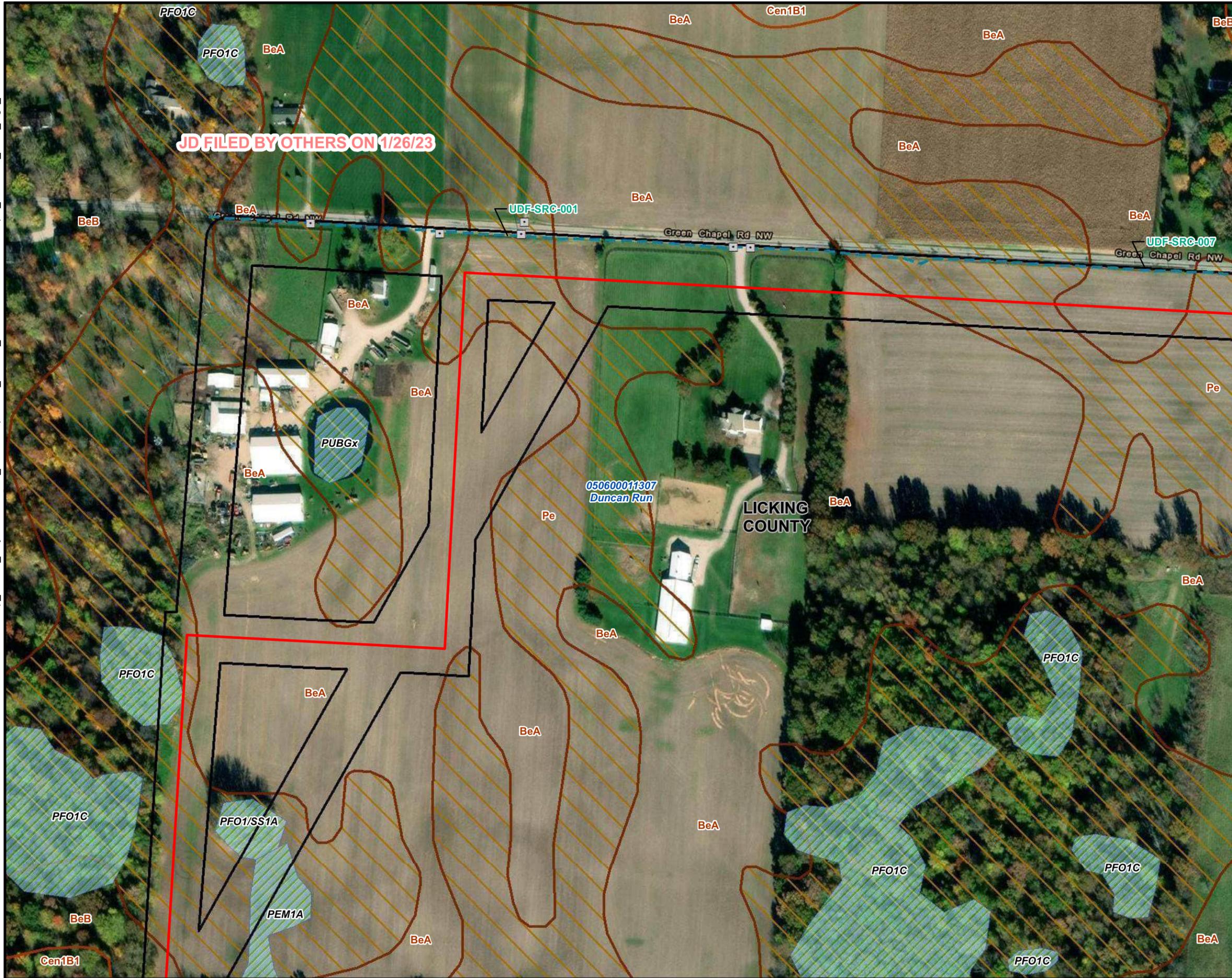
- Legend**
- Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil 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
  - Cen1B1—Centerburg silt loam, 2 to 6 percent slopes
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



**Green Chapel Extension 138kV Transmission Line Project**

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

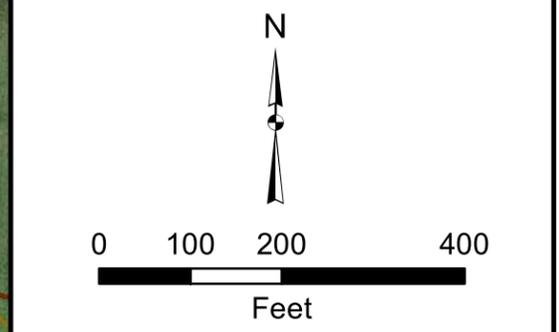
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JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Culvert
  - Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

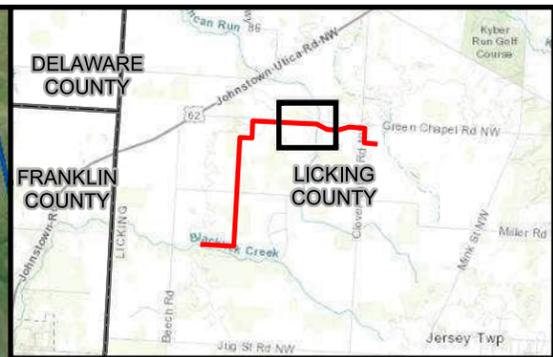
**Soil Map Unit Description**

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



Green Chapel Extension 138kV Transmission Line Project

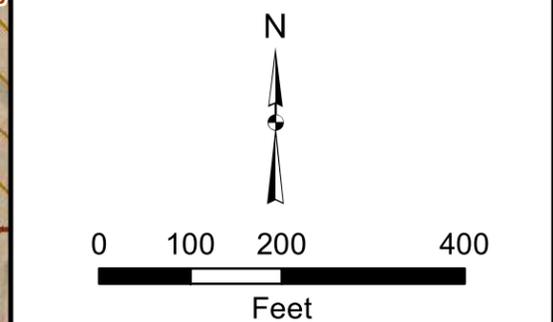
<b>FIGURE 2D SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Culvert
  - Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - Delineated Ephemeral Stream
  - Delineated Perennial Stream
  - NHD Stream (USGS)
  - Project Survey Area
  - NWI Wetland (USFWS)
  - FEMA Floodplain (Zone A)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

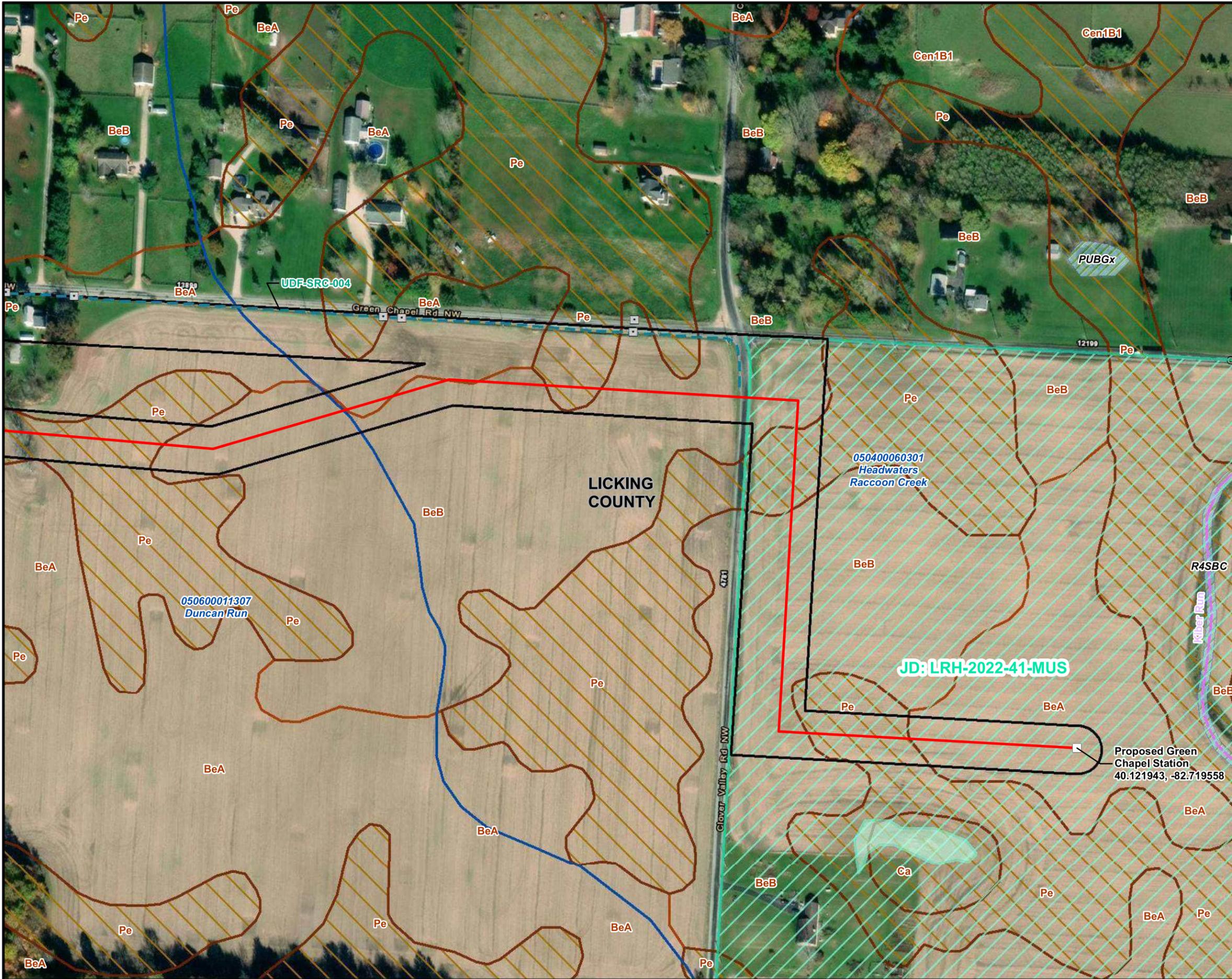
BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



*Green Chapel Extension 138kV  
Transmission Line Project*

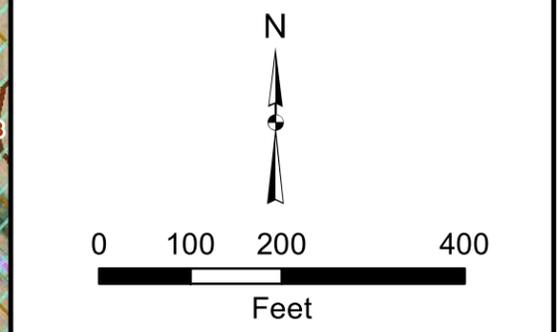
**FIGURE 2E  
SOIL MAP AND  
NATIONAL WETLAND INVENTORY MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Station
  - Culvert
  - Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - NHD Stream (USGS)
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD: LRH-2022-41-MUS)
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

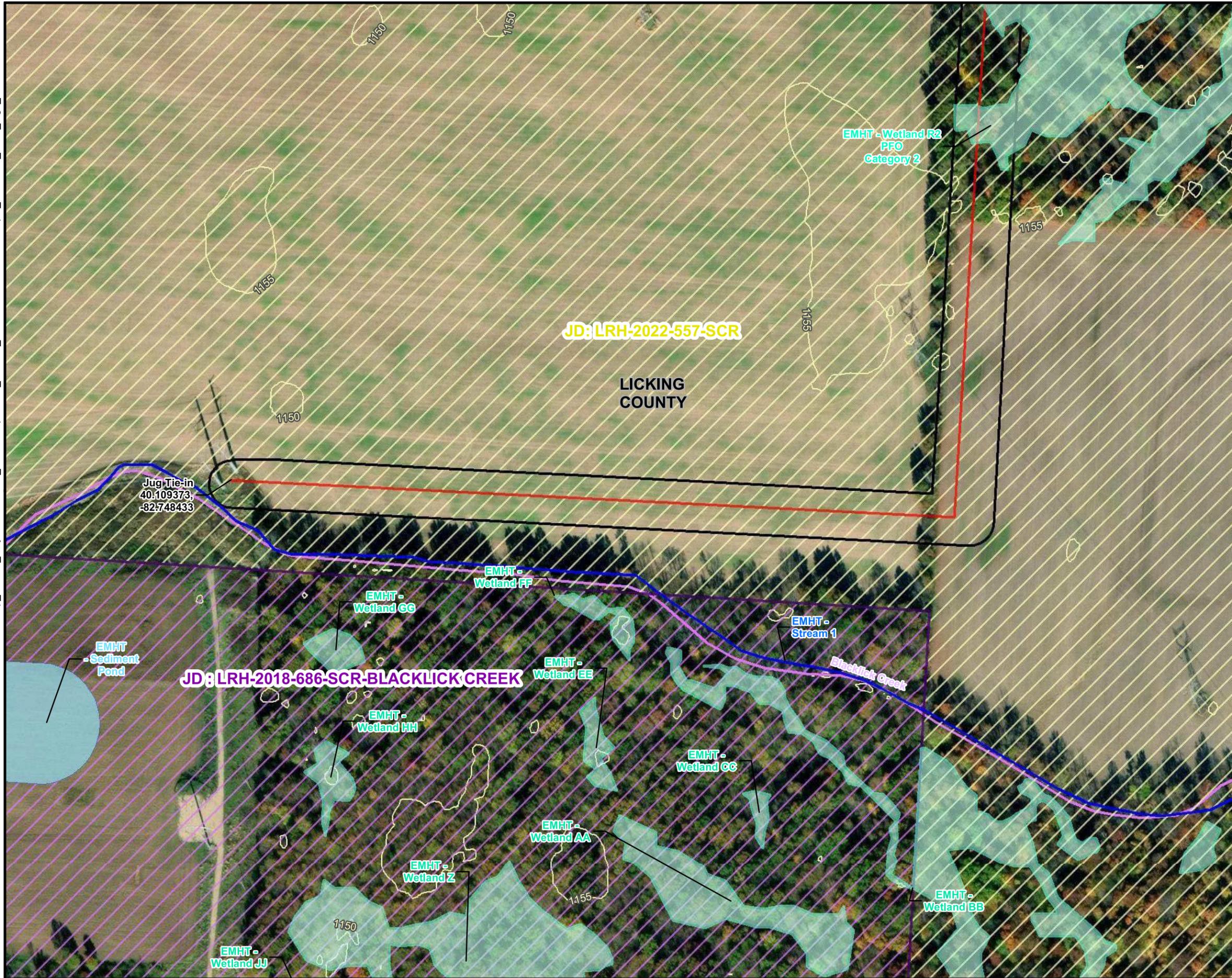
- Soil Map Unit Description**
- BeA—Bennington silt loam, 0 to 2 percent slopes
  - BeB—Bennington silt loam, 2 to 6 percent slopes
  - Ca—Carlisle muck
  - Cen1B1—Centerburg silt loam, 2 to 6 percent slopes
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



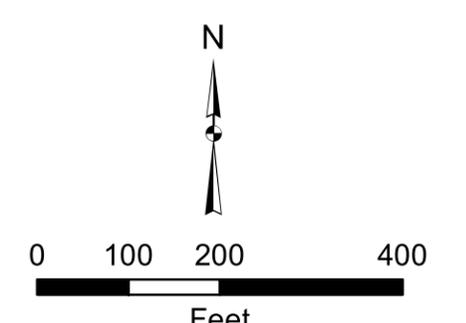
Green Chapel Extension 138kV Transmission Line Project

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

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Green Chapel Extension 138kV Transmission Line
  - Delineated Perennial Stream
  - Delineated Stream by EMHT
  - NHD Stream (USGS)
  - Contour (5-Ft)
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
  - EMHT Project Survey Area (JD : LRH-2022-557-SCR)
  - County Boundary

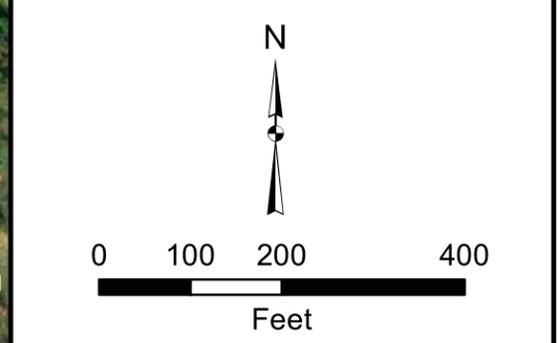


Green Chapel Extension 138kV  
Transmission Line Project

<b>FIGURE 3A WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - Contour (5-Ft)
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - County Boundary



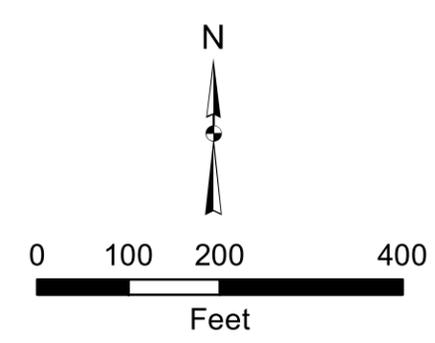
*Green Chapel Extension 138kV  
Transmission Line Project*

**FIGURE 3B  
WETLAND DELINEATION AND  
STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - ▨ Contour (5-Ft)
  - ▭ Delineated Wetland by EMHT
  - ▭ Project Survey Area
  - ▭ EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - ▭ County Boundary



**Green Chapel Extension 138kV Transmission Line Project**

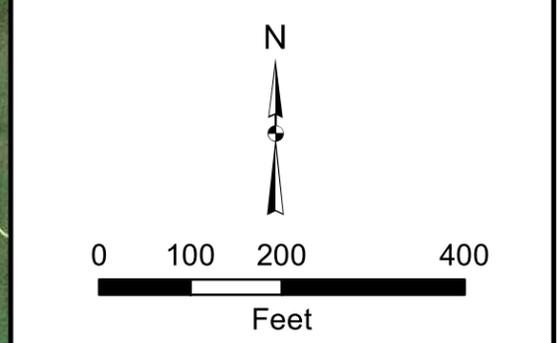
**FIGURE 3C  
WETLAND DELINEATION AND  
STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



**Legend**

- Culvert
- Green Chapel Extension 138kV Transmission Line
- - - Upland Drainage
- Contour (5-Ft)
- ▭ Project Survey Area
- ▭ County Boundary



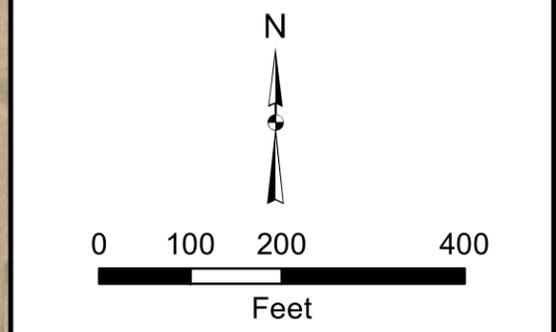
*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 3D WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



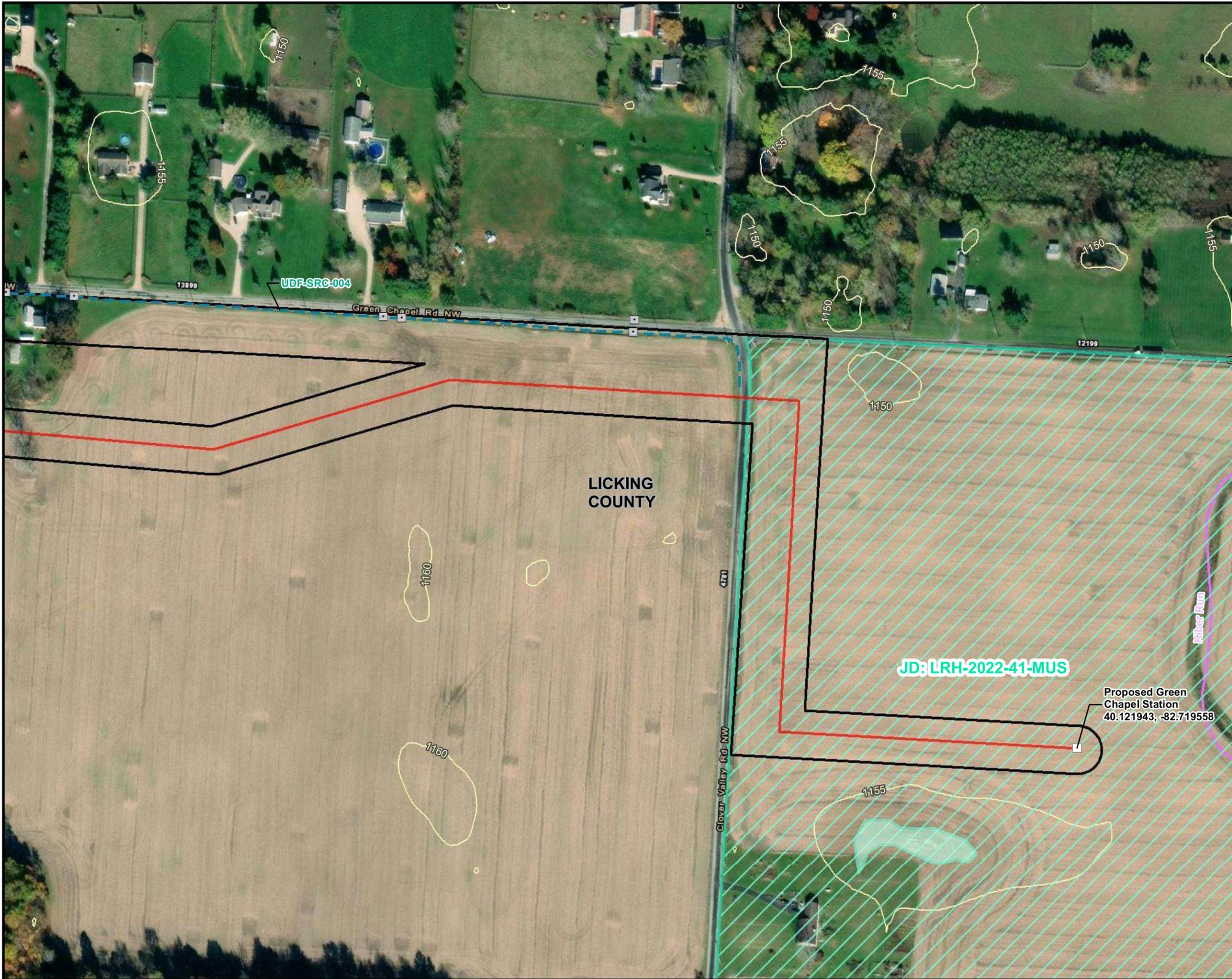
**Legend**

- Culvert
- Green Chapel Extension 138kV Transmission Line
- Upland Drainage
- Delineated Ephemeral Stream
- Delineated Perennial Stream
- NHD Stream (USGS)
- Contour (5-Ft)
- Project Survey Area
- County Boundary

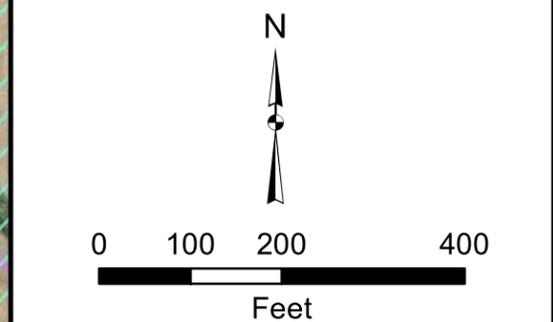


Green Chapel Extension 138kV  
Transmission Line Project

<b>FIGURE 3E WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

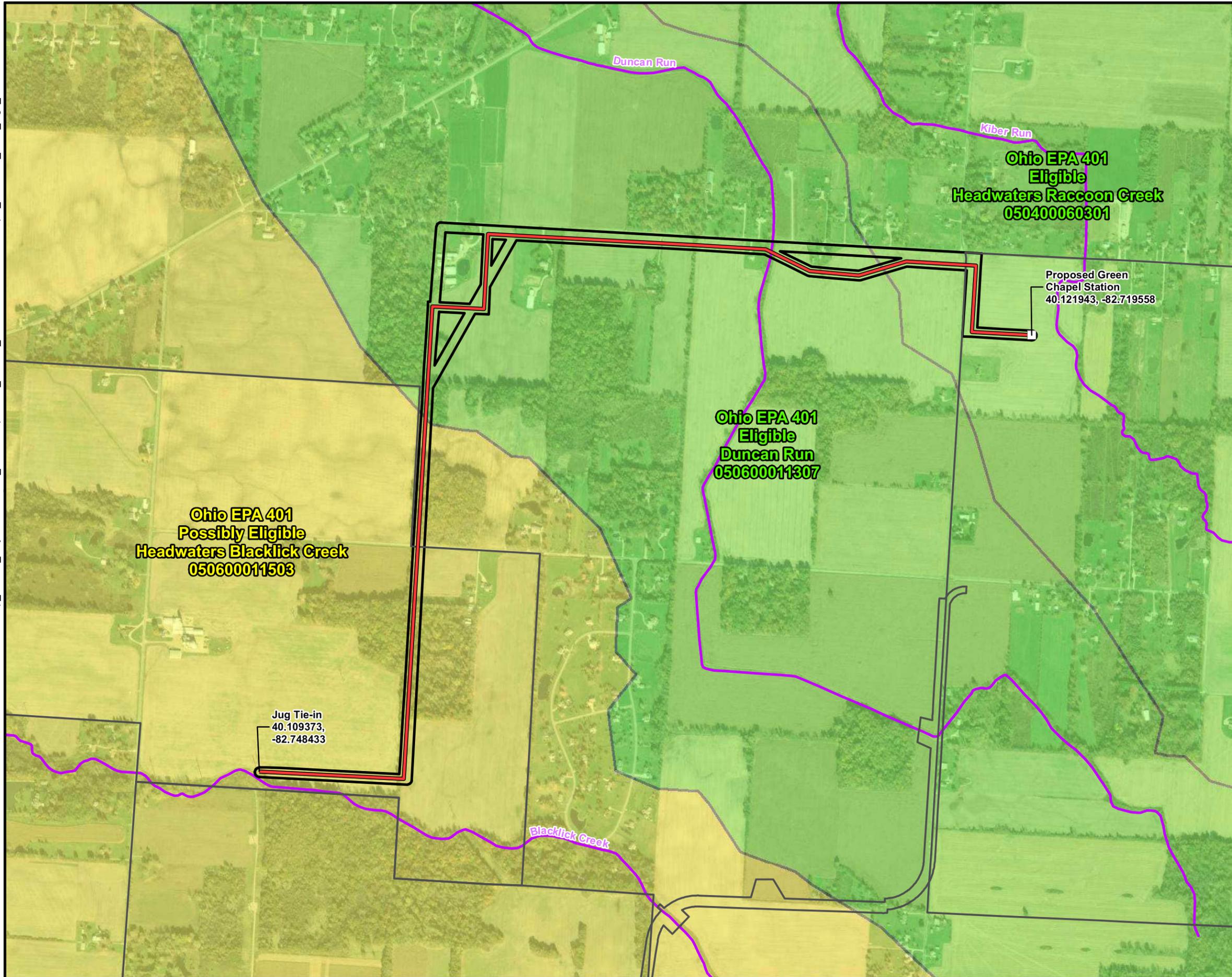


- Legend**
- Station
  - Culvert
  - Green Chapel Extension 138kV Transmission Line
  - Upland Drainage
  - NHD Stream (USGS)
  - Contour (5-Ft)
  - Delineated Wetland by EMHT
  - Project Survey Area
  - EMHT Project Survey Area (JD: LRH-2022-41-MUS)
  - County Boundary



**Green Chapel Extension 138kV Transmission Line Project**

<b>FIGURE 3F WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



**Legend**

- Green Chapel Extension 138kV Transmission Line
- NHD Stream (USGS)
- Project Survey Area
- EMHT Project Survey Area

**OEPA Stream Eligibility:**

- Eligible
- Possibly Eligible

North arrow pointing up.

Scale bar: 0, 500, 1,000, 2,000 Feet

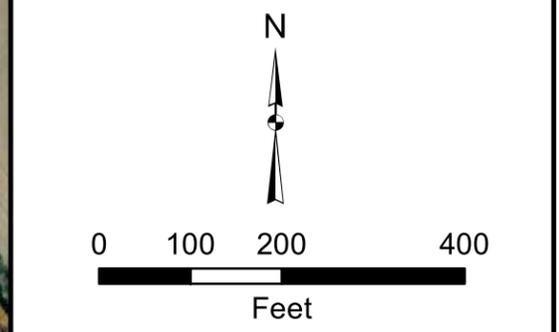
Green Chapel Extension 138kV Transmission Line Project

**FIGURE 4**  
STREAM ELIGIBILITY MAP

DATE: 2/21/2023	1 INCH = 1,000 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Photo Location
  - Green Chapel 138kV Extension Transmission Line
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Old Field
  - Scrub-Shrub
  - Streams/Wetlands
  - Woodlands



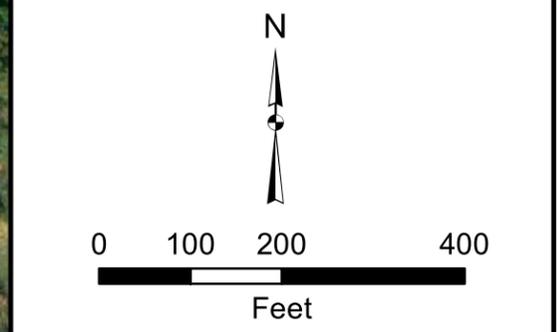
*Green Chapel Extension 138kV  
Transmission Line Project*

**FIGURE 5A  
VEGETATIVE COMMUNITIES  
ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Photo Location
  - Green Chapel 138kV Extension Transmission Line
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Old Field
  - Streams/Wetlands
  - Urban
  - Woodlands



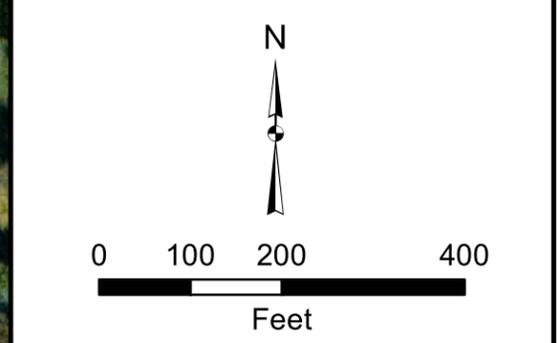
*Green Chapel Extension 138kV  
Transmission Line Project*

**FIGURE 5B  
VEGETATIVE COMMUNITIES  
ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



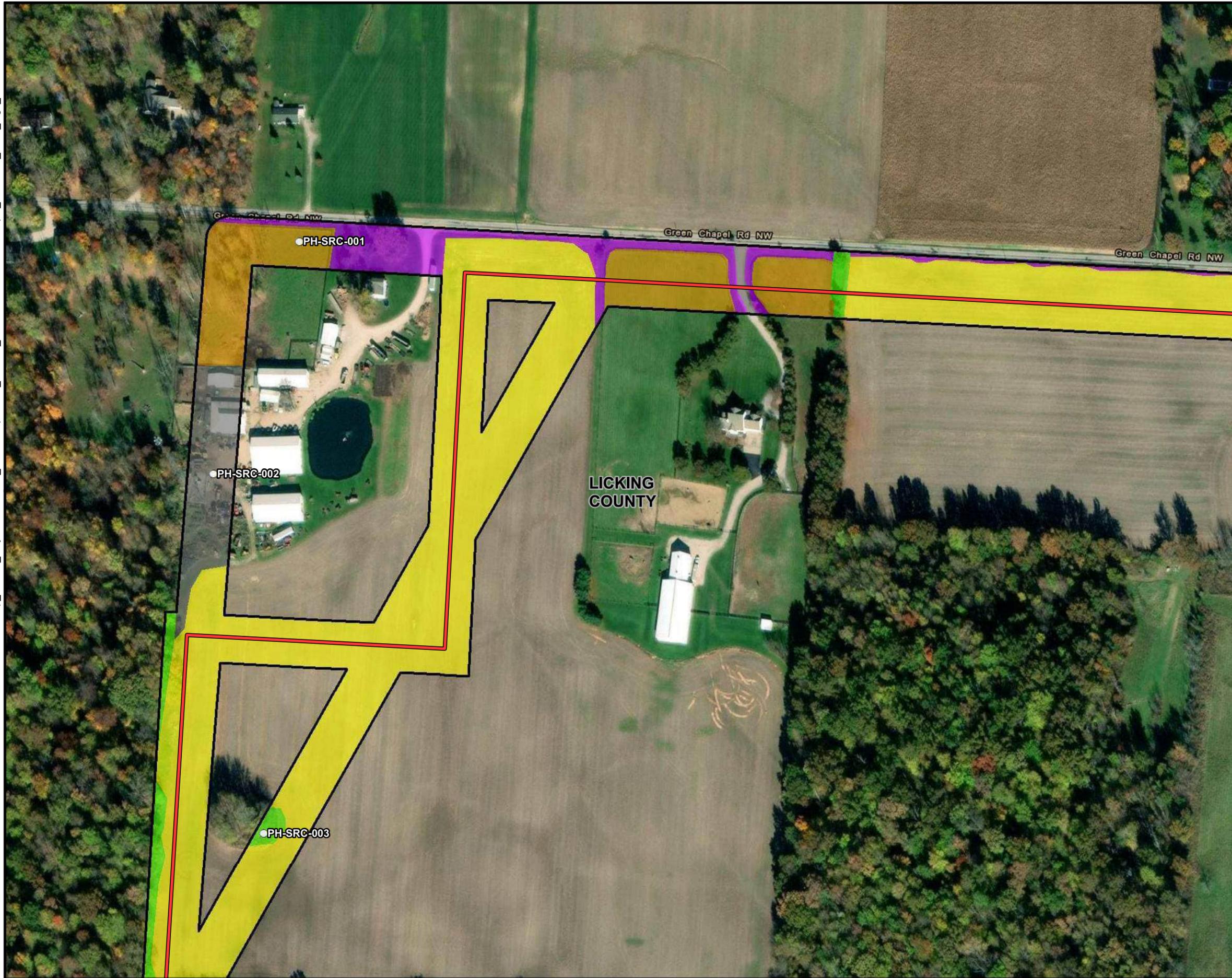
- Legend**
- Green Chapel 138kV Extension Transmission Line
  - Project Survey Area
  - County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Old Field
  - Streams/Wetlands
  - Urban
  - Woodlands



*Green Chapel Extension 138kV  
Transmission Line Project*

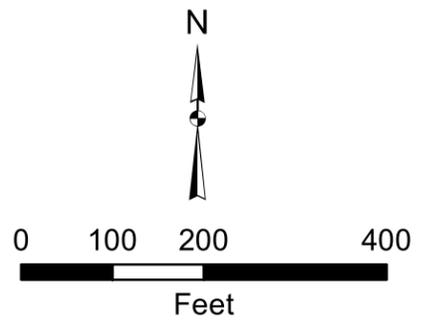
**FIGURE 5C  
VEGETATIVE COMMUNITIES  
ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



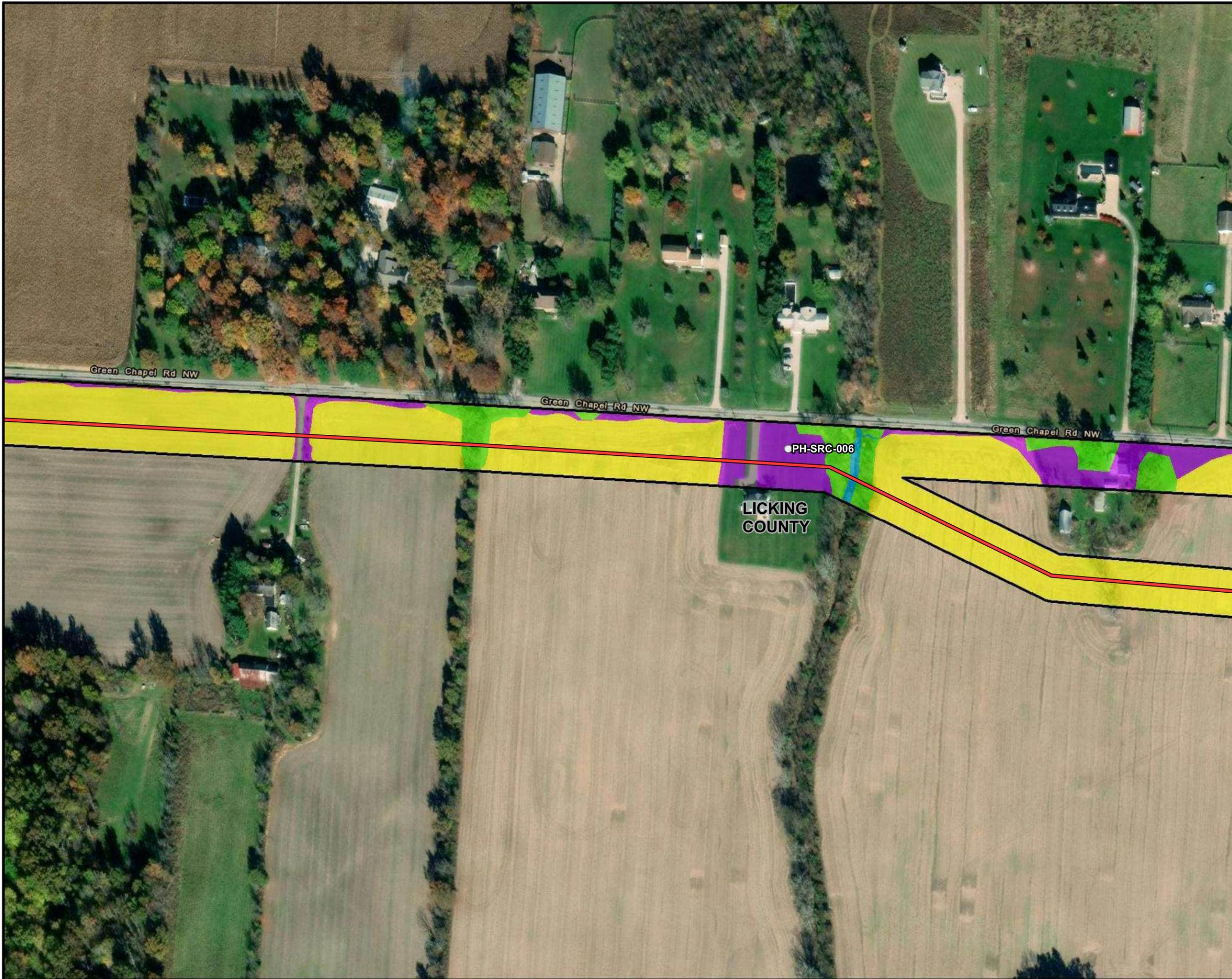
**Legend**

- Photo Location
- Green Chapel 138kV Extension Transmission Line
- ▭ Project Survey Area
- ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
- Landscaped Areas
- Pasture/Hay Fields
- Urban
- Woodlands

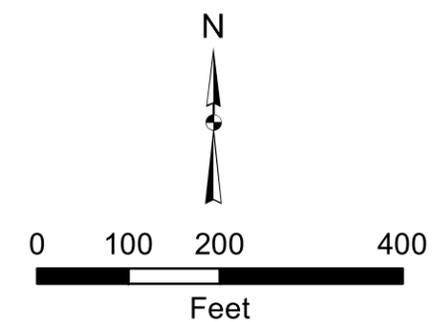


*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 5D VEGETATIVE COMMUNITIES ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

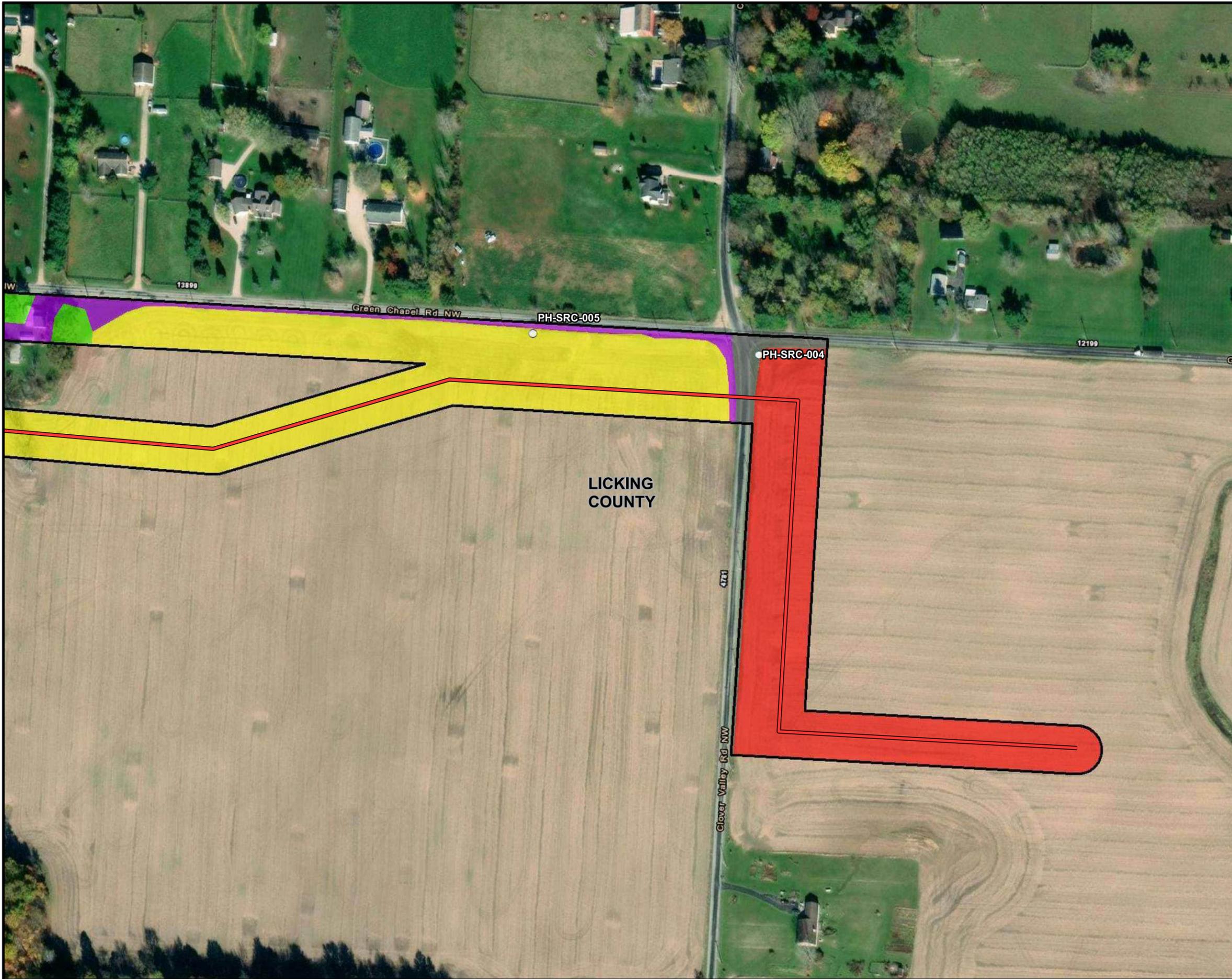


- Legend**
- Photo Location
  - Green Chapel 138kV Extension Transmission Line
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Landscaped Areas
  - Streams/Wetlands
  - Urban
  - Woodlands



THE OHIO TRANSMISSION COMPANY  
 Green Chapel Extension 138kV  
 Transmission Line Project

<b>FIGURE 5E VEGETATIVE COMMUNITIES ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

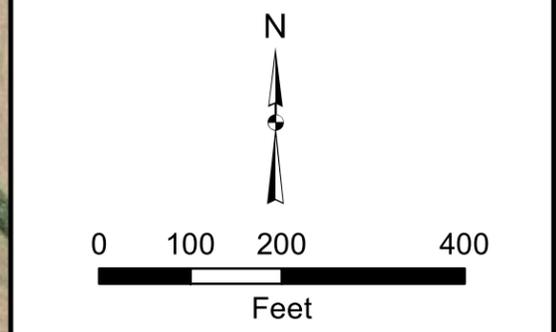


**Legend**

- Photo Location
- Green Chapel 138kV Extension Transmission Line
- ▭ Project Survey Area
- ▭ County Boundary

**Vegetative Community Type**

- Agricultural Row-Crop
- Landscaped Areas
- Old Field
- Urban
- Woodlands



*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 5F VEGETATIVE COMMUNITIES ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

**APPENDIX A**

**WETLAND DATA FORMS AND DELINEATED FEATURE PHOTOGRAPHS**

**U.S. Army Corps of Engineers**  
**WETLAND DETERMINATION DATA SHEET – Midwest Region**  
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024  
 Requirement Control Symbol EXEMPT:  
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Green Chapel Extension Project City/County: Licking County Sampling Date: 08/23/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: EMHT Wetland M  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): concave  
 Slope (%): 2 Lat: 40.116338 Long: -82.742456 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>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: This sample point is representative of of EMHT Wetland M, a PFO wetland. The wetland is located within a forested depression.	

**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>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
1. <u>Acer rubrum</u>		<u>40</u>	<u>Yes</u>	<u>FAC</u>																	
2. <u>Gleditsia triacanthos</u>		<u>5</u>	<u>No</u>	<u>FACU</u>																	
3. _____																					
4. _____																					
5. _____																					
		<u>45</u>	=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: none;"> <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>Lindera benzoin</u>		<u>40</u>	<u>Yes</u>	<u>FACW</u>																	
2. _____																					
3. _____																					
4. _____																					
5. _____																					
		<u>40</u>	=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>Carex grayi</u>		<u>30</u>	<u>Yes</u>	<u>FACW</u>																	
2. <u>Bidens discoides</u>		<u>10</u>	<u>Yes</u>	<u>FACW</u>																	
3. _____																					
4. _____																					
5. _____																					
6. _____																					
7. _____																					
8. _____																					
9. _____																					
10. _____																					
		<u>40</u>	=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. _____																					

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criteria for hydrophytic vegetation was met at the time of investigation.

**SOIL**

Sampling Point: EMHT Wetland M

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>		
0-12	10YR 3/1	85	7.5YR 4/6	15	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:**

- 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:**

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

Multiple attempts were made to excavate beyond 12", each attempt resulting in root refusal.

**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:**

Multiple indicators of wetland hydrology were 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</b> <b>Scoring Boundary Worksheet</b> <b>Narrative Rating</b> <b>Field Form Quantitative Rating</b> <b>ORAM Summary Worksheet</b> <b>Wetland Categorization Worksheet</b>	Ohio EPA, Division of Surface Water Final: February 1, 2001

**Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as 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

<b>Name:</b> Bryan Lombard	
<b>Date:</b> 09-20-2022	
<b>Affiliation:</b> EMH&T	
<b>Address:</b> 5500 New Albany Road, Columbus, Ohio 43054	
<b>Phone Number:</b> (614) 775- 4517	
<b>e-mail address:</b> blombard@emht.com	
<b>Name of Wetland:</b> Wetland M	
<b>Vegetation Communit(ies):</b> Forested	
<b>HGM Class(es):</b> PFO	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> See Delineation Map	
Lat/Long or UTM Coordinate	40.116032, -82.741698
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	9-20-2022
National Wetland Inventory Map	PFO1A
Ohio Wetland Inventory Map	--
Soil Survey	Pewamo
Delineation report/map	EMH&T

Name of Wetland: <b>Wetland M</b>	
Wetland Size (acres, hectares):	1.07 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. NA	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 47.5	Category: 2

## 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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  Go to Question 8b

8b	<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	NO Go to Question 9a
9a	<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	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	<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	NO Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

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

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

Site: 588.7 Acre Site WM

Rater(s): Bryan Lombard

Date: 09-20-2022

2	2
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)

6	8
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)

12	20
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 checked="" 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>Logging</small>

10.5	30.5
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 checked="" 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

30.5
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subtotal this page

<b>Site:</b> 588.7 Acre Site WM	<b>Rater(s):</b> Bryan Lombard	<b>Date:</b> 09-20-2022
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30.5

subtotal first page

5	35.5
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)

12	47.5
max 20 pts.	subtotal

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

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

- High (5)
- Moderately high(4)
- Moderate (3)
- Moderately low (2)
- 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
- 2 Coarse woody debris >15cm (6in)
- 1 Standing dead >25cm (10in) dbh
- 1 Amphibian breeding pools

#### Vegetation Community Cover Scale

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

47.5
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Category 2

**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 NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	2
	Metric 2. Buffers and surrounding land use	6	8
	Metric 3. Hydrology	12	20
	Metric 4. Habitat	10.5	30.5
	Metric 5. Special Wetland Communities	5	35.5
	Metric 6. Plant communities, interspersions, microtopography	12	47.5
	TOTAL SCORE	47.5	Category based on score breakpoints 47.5

**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</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</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</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</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</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</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</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</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</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>NO</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</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</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.**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT WETLAND M</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing North	

<b>EMHT WETLAND M</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT WETLAND M</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing South	

<b>EMHT WETLAND M</b>	
<b>Date:</b> August 2, 2022	
<b>Description:</b> PFO Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>EMHT WETLAND M</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing Soil	

**U.S. Army Corps of Engineers**  
**WETLAND DETERMINATION DATA SHEET – Midwest Region**  
 See ERDC/EL TR-10-16; the proponent agency is CECW-CO-R

OMB Control #: 0710-0024, Exp:11/30/2024  
 Requirement Control Symbol EXEMPT:  
 (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Green Chapel Extension Project City/County: Licking County Sampling Date: 08/23/2022  
 Applicant/Owner: American Electric Power, Ohio State: OH Sampling Point: EMHT Wetland N  
 Investigator(s): Spencer Chronister and Alexander Hrishenko Section, Township, Range: T2N R15W  
 Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave  
 Slope (%): 2 Lat: 40.117652 Long: -82.742341 Datum: NAD83  
 Soil Map Unit Name: Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes NWI classification: PFO1A  
 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: This sample point is representative of EMHT Wetland N, a PFO wetland. The wetland is located within a forested depression.	

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

Tree Stratum	(Plot size: <u>30' Radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer rubrum</u>		<u>40</u>	<u>Yes</u>	<u>FAC</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>    3    </u> (A) Total Number of Dominant Species Across All Strata: <u>    3    </u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. _____					
3. _____					
4. _____					
5. _____					
		<u>40</u>	<u>=Total Cover</u>		
Sapling/Shrub Stratum	(Plot size: <u>15' Radius</u> )				
1. <u>Cephalanthus occidentalis</u>		<u>10</u>	<u>Yes</u>	<u>OBL</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. _____					
		<u>10</u>	<u>=Total Cover</u>		
Herb Stratum	(Plot size: <u>5' Radius</u> )				
1. <u>Carex grayi</u>		<u>5</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. _____					
3. _____					
4. _____					
5. _____					
6. _____					
7. _____					
8. _____					
9. _____					
10. _____					
		<u>5</u>	<u>=Total Cover</u>		
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. _____					
			<u>    </u>	<u>=Total Cover</u>	

Remarks: (Include photo numbers here or on a separate sheet.)  
 The criteria for hydrophytic vegetation was met at the time of investigation.

**SOIL**

Sampling Point: EMHT Wetland N

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>		
0-12	10YR 4/1	80	7.5YR 4/6	20	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:**

- 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:**

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

Multiple attempts were made to excavate beyond 12", each attempt resulting in root refusal.

**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:**

Multiple indicators of wetland hydrology were 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</b> <b>Scoring Boundary Worksheet</b> <b>Narrative Rating</b> <b>Field Form Quantitative Rating</b> <b>ORAM Summary Worksheet</b> <b>Wetland Categorization Worksheet</b>	Ohio EPA, Division of Surface Water Final: February 1, 2001

**Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as 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

<b>Name:</b> Bryan Lombard	
<b>Date:</b> 9-20-2022	
<b>Affiliation:</b> EMH&T	
<b>Address:</b> 5500 New Albany Road, Columbus, Ohio 43054	
<b>Phone Number:</b> (614) 775-4517	
<b>e-mail address:</b> blombard@emht.com	
<b>Name of Wetland:</b> Wetland N	
<b>Vegetation Communit(ies):</b> Forested	
<b>HGM Class(es):</b> PFO	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> See Delineation Map	
Lat/Long or UTM Coordinate	40.117401, -82.742155
USGS Quad Name	Jersey, Ohio
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	9-20-2022
National Wetland Inventory Map	PFO1A
Ohio Wetland Inventory Map	--
Soil Survey	Pewamo
Delineation report/map	EMH&T

Name of Wetland: <b>Wetland N</b>	
Wetland Size (acres, hectares):	0.42 acre
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. NA	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 48	Category: 2

## 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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  Go to Question 8b

8b	<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	NO Go to Question 9a
9a	<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	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	<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	NO Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

**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</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 viridicarinarum</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.**

<b>Site:</b> 588.7 Acre Site WN	<b>Rater(s):</b> Bryan Lombard	<b>Date:</b> 9-20-2022
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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>6</b>	<b>8</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>12</b>	<b>20</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>Logging</small>

<b>12</b>	<b>32</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. Logging
- 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.

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 checked="" 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>32</b>
subtotal this page

<b>Site:</b> 588.7 Acre Site WN	<b>Rater(s):</b> Bryan Lombard	<b>Date:</b> 9-20-2022
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32

subtotal first page

5	37
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)

11	48
max 20 pts.	subtotal

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

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 1  Emergent
- 1  Shrub
- 2  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
- 2  Coarse woody debris >15cm (6in)
- 1  Standing dead >25cm (10in) dbh
- 1  Amphibian breeding pools

#### Vegetation Community Cover Scale

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

48
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Category 2

**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 NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	2
	Metric 2. Buffers and surrounding land use	6	8
	Metric 3. Hydrology	12	20
	Metric 4. Habitat	12	32
	Metric 5. Special Wetland Communities	5	37
	Metric 6. Plant communities, interspersions, microtopography	11	48
	TOTAL SCORE	48	Category based on score breakpoints 2

**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</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</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</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</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</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</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</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</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</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>NO</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</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</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.**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>EMHT WETLAND N</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing North	

<b>EMHT WETLAND N</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT WETLAND N</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing South	

<b>EMHT WETLAND N</b>	
<b>Date:</b> August 22, 2022	
<b>Description:</b> PFO Facing West	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>EMHT WETLAND N</b>		
<b>Date:</b> August 22, 2022		
<b>Description:</b> PFO Facing Soil		

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

**Instructions**

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as 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

<b>Name:</b> Bryan Lombard	
<b>Date:</b> 9-21-2022	
<b>Affiliation:</b> EMH&T	
<b>Address:</b> 5500 New Albany Road, Columbus, Ohio 43054	
<b>Phone Number:</b> (614) 775-4517	
<b>e-mail address:</b> blombard@emht.com	
<b>Name of Wetland:</b> Wetland R	
<b>Vegetation Communit(ies):</b> Forested	
<b>HGM Class(es):</b> PFO	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> See Delineation Map	
Lat/Long or UTM Coordinate	40.120138, -82.741479
USGS Quad Name	Jersey, Ohio
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03/13-07
Site Visit	9-21-2022
National Wetland Inventory Map	PFO1A
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T



## 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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  Go to Question 8b

8b	<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	NO Go to Question 9a
9a	<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	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	<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	NO Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

**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</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 viridicarinarum</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.**

<b>Site:</b> 588.7 Acre Site WR	<b>Rater(s):</b> Bryan Lombard	<b>Date:</b> 9-21-2022
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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>11</b>	<b>16</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	
<ul style="list-style-type: none"> <li><input type="checkbox"/> ditch</li> <li><input checked="" type="checkbox"/> tile</li> <li><input type="checkbox"/> dike</li> <li><input type="checkbox"/> weir</li> <li><input type="checkbox"/> stormwater input</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> point source (nonstormwater)</li> <li><input type="checkbox"/> filling/grading</li> <li><input type="checkbox"/> road bed/RR track</li> <li><input type="checkbox"/> dredging</li> <li><input type="checkbox"/> other _____</li> </ul>

<b>13</b>	<b>29</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	
<ul style="list-style-type: none"> <li><input type="checkbox"/> mowing</li> <li><input type="checkbox"/> grazing</li> <li><input type="checkbox"/> clearcutting</li> <li><input type="checkbox"/> selective cutting</li> <li><input type="checkbox"/> woody debris removal</li> <li><input type="checkbox"/> toxic pollutants</li> </ul>	<ul style="list-style-type: none"> <li><input type="checkbox"/> shrub/sapling removal</li> <li><input type="checkbox"/> herbaceous/aquatic bed removal</li> <li><input type="checkbox"/> sedimentation</li> <li><input type="checkbox"/> dredging</li> <li><input checked="" type="checkbox"/> farming</li> <li><input type="checkbox"/> nutrient enrichment</li> </ul>

<b>29</b>
subtotal this page

# Letter of Notification for the Green Chapel Extension 138 kV Transmission Line Project



An **AEP** Company

*BOUNDLESS ENERGY™*

PUCO Case No. 23-0668-EL-BLN

Part 2 of 3

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

Submitted by:  
AEP Ohio Transmission Company, Inc.

July 11, 2023

<b>Site:</b> 588.7 Acre Site WR	<b>Rater(s):</b> Bryan Lombard	<b>Date:</b> 9-21-2022
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29

subtotal first page

<b>5</b>	<b>34</b>
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>11</b>	<b>45</b>
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.

- Vegetated hummocks/tussucks
- Coarse woody debris >15cm (6in)
- Standing dead >25cm (10in) dbh
- 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>45</b>
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Mod. Category 2

**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	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES	NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES	NO	If yes, Category 1.
	Question 6. Bogs	YES	NO	If yes, Category 3.
	Question 7. Fens	YES	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES	NO	If yes, Category 3
Question 11. Relict Wet Prairies	YES	NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2		2
	Metric 2. Buffers and surrounding land use	3		5
	Metric 3. Hydrology	11		16
	Metric 4. Habitat	13		29
	Metric 5. Special Wetland Communities	5		34
	Metric 6. Plant communities, interspersions, microtopography	11		45
	TOTAL SCORE	45		Category based on score breakpoints 2

**Complete Wetland Categorization Worksheet.**

## Wetland Categorization Worksheet

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

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

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

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT WETLAND R1</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  PFO  Facing North



<b>EMHT WETLAND R1</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  PFO  Facing West



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT WETLAND R1</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  PFO  Facing South



<b>EMHT WETLAND R1</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  PFO  Facing East



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>EMHT WETLAND R1</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> PFO Facing Soil



**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: North Beech Corridor City/County: Jersey TWP/ Licking Sampling Date: 6-20-2022  
 Applicant/Owner: The New Albany Company State: OH Sampling Point: WR-1  
 Investigator(s): Bryan Lombard, EMH&T Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): wooded depression Local relief (concave, convex, none): Concave  
 Slope (%): 3 Lat: 40.113853° Long: -82.742752° Datum: \_\_\_\_\_  
 Soil Map Unit Name: pewamo/bennington silt loam NWI classification: PFO/PEM

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

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

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status																																	
1. <u>Acer saccharinum</u>	60	Yes	FACW	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																																
2. <u>Ulmus americana</u>	40	Yes	FACW																																	
3. _____																																				
4. _____																																				
5. _____																																				
	100 =Total Cover																																			
Sapling/Shrub Stratum (Plot size: <u>15'</u> )																																				
1. <u>Lindera benzoin</u>	10	Yes	FACW	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td style="text-align: right;">Total % Cover of:</td> <td></td> <td style="text-align: right;">Multiply by:</td> <td></td> </tr> <tr> <td>OBL species</td> <td align="center"><u>25</u></td> <td>x 1 =</td> <td align="center"><u>25</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>145</u></td> <td>x 2 =</td> <td align="center"><u>290</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td>x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>0</u></td> <td>x 4 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>0</u></td> <td>x 5 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>170</u> (A)</td> <td></td> <td align="center"><u>315</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A =</td> <td></td> <td align="center"><u>1.85</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>25</u>	x 1 =	<u>25</u>	FACW species	<u>145</u>	x 2 =	<u>290</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>0</u>	x 4 =	<u>0</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>170</u> (A)		<u>315</u> (B)	Prevalence Index = B/A =			<u>1.85</u>
Total % Cover of:		Multiply by:																																		
OBL species	<u>25</u>	x 1 =	<u>25</u>																																	
FACW species	<u>145</u>	x 2 =	<u>290</u>																																	
FAC species	<u>0</u>	x 3 =	<u>0</u>																																	
FACU species	<u>0</u>	x 4 =	<u>0</u>																																	
UPL species	<u>0</u>	x 5 =	<u>0</u>																																	
Column Totals:	<u>170</u> (A)		<u>315</u> (B)																																	
Prevalence Index = B/A =			<u>1.85</u>																																	
2. _____																																				
3. _____																																				
4. _____																																				
5. _____																																				
	10 =Total Cover																																			
Herb Stratum (Plot size: <u>5'</u> )																																				
1. <u>Carex sp.</u>	25	Yes	OBL	<b>Hydrophytic Vegetation Indicators:</b> _____ 1 - Rapid Test for Hydrophytic Vegetation <u>X</u> 2 - Dominance Test is >50% <u>X</u> 3 - Prevalence Index is ≤3.0 <sup>1</sup> _____ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ 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>Cinna arundinacea</u>	20	Yes	FACW																																	
3. <u>Impatiens capensis</u>	10	No	FACW																																	
4. <u>Urtica dioica</u>	5	No	FACW																																	
5. _____																																				
6. _____																																				
7. _____																																				
8. _____																																				
9. _____																																				
10. _____																																				
	60 =Total Cover																																			
Woody Vine Stratum (Plot size: <u>15'</u> )																																				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____																																
2. _____																																				
	=Total Cover																																			

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

**SOIL**

Sampling Point: WR-1

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>		
0-9	10YR 2/1	95	10YR 3/4	5	C	M	Loamy/Clayey	
9-12	10YR 2/1	80	10YR 3/4	20	C	M	Loamy/Clayey	Distinct 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:	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 checked="" type="checkbox"/> Depleted Matrix (F3)	
<input type="checkbox"/> Redox Dark Surface (F6)	
<input type="checkbox"/> Depleted Dark Surface (F7)	
<input type="checkbox"/> Redox Depressions (F8)	

<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 _____
---	--

Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

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

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: North Beech Corridor City/County: Jersey TWP/ Licking Sampling Date: 6-20-2022  
 Applicant/Owner: The New Albany Company State: OH Sampling Point: UPR-1  
 Investigator(s): Bryan Lombard, EMH&T Section, Township, Range: \_\_\_\_\_  
 Landform (hillside, terrace, etc.): planted corn field Local relief (concave, convex, none): Convex  
 Slope (%): 6 Lat: 40.114147° Long: -82.742757° Datum: \_\_\_\_\_  
 Soil Map Unit Name: bennington silt loam NWI classification: \_\_\_\_\_

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

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

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

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

<u>Tree Stratum</u> (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																			
<u>Sapling/Shrub Stratum</u> (Plot size: <u>15'</u> )				<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center">Total % Cover of:</td> <td align="center">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>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>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>100</u></td> <td>x 5 = <u>500</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>500</u> (B)</td> </tr> <tr> <td align="center" colspan="2">Prevalence Index = B/A = <u>5.00</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>0</u>	x 4 = <u>0</u>	UPL species <u>100</u>	x 5 = <u>500</u>	Column Totals: <u>100</u> (A)	<u>500</u> (B)	Prevalence Index = B/A = <u>5.00</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>0</u>	x 4 = <u>0</u>																			
UPL species <u>100</u>	x 5 = <u>500</u>																			
Column Totals: <u>100</u> (A)	<u>500</u> (B)																			
Prevalence Index = B/A = <u>5.00</u>																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
	=Total Cover																			
<u>Herb Stratum</u> (Plot size: <u>5'</u> )				<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 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>Zea mays</u>	<u>100</u>	<u>Yes</u>	<u>UPL</u>																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
8. _____	_____	_____	_____																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
	100 =Total Cover																			
<u>Woody Vine Stratum</u> (Plot size: <u>15'</u> )				<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
	=Total Cover																			
Remarks: (Include photo numbers here or on a separate sheet.) planted corn field																				

**SOIL**

Sampling Point: UPR-1

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>		
0-12	10YR 3/2	100						

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

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

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

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

<p><b>Restrictive Layer (if observed):</b></p> <p>Type: _____</p> <p>Depth (inches): _____</p>	<p><b>Hydric Soil Present?</b>      Yes <input type="checkbox"/>      No <input checked="" type="checkbox"/></p>
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Remarks:  
 This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. ([http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs142p2\\_051293.docx](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx))

**HYDROLOGY**

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

Remarks:

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

### Instructions

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

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as 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

<b>Name:</b> Bryan Lombard	
<b>Date:</b> 6/20/2022	
<b>Affiliation:</b> EMH&T	
<b>Address:</b> 5500 New Albany Road, Columbus, Ohio 43054	
<b>Phone Number:</b> (614) 775-4517	
<b>e-mail address:</b> blombard@emht.com	
<b>Name of Wetland:</b> Wetland R	
<b>Vegetation Communit(ies):</b> Forested	
<b>HGM Class(es):</b> PFO	
<b>Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.</b> See Delineation Map	
Lat/Long or UTM Coordinate	40.13061°; -82.742033°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	6/20/2022
National Wetland Inventory Map	
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	Exhibit 6

Name of Wetland: <b>Wetland R</b>	
Wetland Size (acres, hectares):	14.85 acres
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Delineation Map.	
Comments, Narrative Discussion, Justification of Category Changes: NA	
Final score : 54	Category: 2

## 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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  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	NO  Go to Question 8b

8b	<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	NO Go to Question 9a
9a	<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	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	<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	NO Go to Question 11
11	<b>Relict Wet Prairies.</b> Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

**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</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 viridicarinarum</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.**

<b>Site:</b> North Beech Corridor Wetland R	<b>Rater(s):</b> Bryan Lombard, EMH&T	<b>Date:</b> 6/20/2022
---	---------------------------------------	------------------------

<b>4</b>	<b>4</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>7</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>12</b>	<b>19</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 checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input checked="" type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input checked="" type="checkbox"/> other _____

logging road  
excavated pond  
tributary area mostly  
agricultural runoff

logging road  
farming  
excavated pond

<b>12</b>	<b>31</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 checked="" type="checkbox"/> mowing	<input checked="" 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 checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input checked="" type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

<b>31</b>
subtotal this page

<b>Site:</b> North Beech Corridor Wetland R	<b>Rater(s):</b> Bryan Lombard, EMH&T	<b>Date:</b> 6/20/2022
---	---------------------------------------	------------------------

31

subtotal first page

0	36
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)

18	54
max 20 pts.	subtotal

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

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic bed
- 2  Emergent
- 1  Shrub
- 3  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.

- 2  Vegetated hummocks/tussucks
- 3  Coarse woody debris >15cm (6in)
- 1  Standing dead >25cm (10in) dbh
- 3  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

Phalaris  
Multiflora rosa

54
----

Category 2

**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 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	4	4
	Metric 2. Buffers and surrounding land use	3	7
	Metric 3. Hydrology	12	19
	Metric 4. Habitat	12	31
	Metric 5. Special Wetland Communities	5	36
	Metric 6. Plant communities, interspersions, microtopography	18	54
	TOTAL SCORE	54	Category based on score breakpoints <b>Category 2</b>

**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</p> <p>Wetland is categorized as a Category 3 wetland</p>	<p>NO</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</p> <p>Wetland should be evaluated for possible Category 3 status</p>	<p>NO</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</p> <p>Wetland is categorized as a Category 1 wetland</p>	<p>NO</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</p> <p>Wetland is assigned to the appropriate category based on the scoring range</p>	<p>NO</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</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>NO</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</p> <p>Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form</p>	<p>NO</p> <p>Wetland is assigned to category as determined by the ORAM.</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>

<b>Final Category</b>			
Choose one	Category 1	Category 2	Category 3

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



**Photograph 69**  
View of Wetland R facing north.  
(EMH&T 6/17/22)



**Photograph 70**  
View of Wetland R facing south.  
(EMH&T 6/17/22)



**Photograph 71**  
View of Wetland R facing east.  
(EMH&T 6/17/22)



**Photograph 72**  
View of Wetland R facing west.  
(EMH&T 6/17/22)

**APPENDIX B**

**AECOM OEPA Stream Data Forms & Delineated Features Photographs**



# Headwater Habitat Evaluation Index Field Form

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

**25**

SITE NAME/LOCATION Green Chapel Extension  
 SITE NUMBER S-SRC-001 RIVER BASIN Scioto RIVER CODE N/A DRAINAGE AREA (mi<sup>2</sup>) 0.000232  
 LENGTH OF STREAM REACH (ft) 36 LAT 40.124569 LONG -82.729230 RIVER MILE N/A  
 DATE 08/24/2022 SCORER Spencer Chronister COMMENTS Ephemeral

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

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

<p><b>1. SUBSTRATE (Estimate percent of every type present). Check ONLY two predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A &amp; B</b></p> <table border="1"> <thead> <tr> <th>TYPE</th> <th>PERCENT</th> <th>TYPE</th> <th>PERCENT</th> </tr> </thead> <tbody> <tr> <td><input type="checkbox"/> Bldr Slabs [16 pts]</td> <td>0%</td> <td><input checked="" type="checkbox"/> SILT [3 pt]</td> <td>90%</td> </tr> <tr> <td><input type="checkbox"/> BOULDER (&gt;256 mm) [16 pts]</td> <td>0%</td> <td><input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> BEDROCK [16 pts]</td> <td>0%</td> <td><input type="checkbox"/> FINE DETRITUS [3 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> COBBLE (65-256 mm) [12 pts]</td> <td>0%</td> <td><input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]</td> <td>10%</td> </tr> <tr> <td><input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]</td> <td>0%</td> <td><input type="checkbox"/> MUCK [0 pts]</td> <td>0%</td> </tr> <tr> <td><input type="checkbox"/> SAND (&lt;2 mm) [6 pts]</td> <td>0%</td> <td><input type="checkbox"/> ARTIFICIAL [3 pts]</td> <td>0%</td> </tr> </tbody> </table> <p>Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock <b>0.00%</b>                  (A) <b>3</b> (B) <b>2</b>                  SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: <b>3</b> TOTAL NUMBER OF SUBSTRATE TYPES: <b>2</b></p>		TYPE	PERCENT	TYPE	PERCENT	<input type="checkbox"/> Bldr Slabs [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	90%	<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	0%	<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%	<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	0%	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	10%	<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	0%	<input type="checkbox"/> MUCK [0 pts]	0%	<input type="checkbox"/> SAND (<2 mm) [6 pts]	0%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%	<p><b>HHEI Metric Points</b> Substrate Max = 40 <b>5</b> A + B</p>
TYPE	PERCENT	TYPE	PERCENT																											
<input type="checkbox"/> Bldr Slabs [16 pts]	0%	<input checked="" type="checkbox"/> SILT [3 pt]	90%																											
<input type="checkbox"/> BOULDER (>256 mm) [16 pts]	0%	<input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	0%																											
<input type="checkbox"/> BEDROCK [16 pts]	0%	<input type="checkbox"/> FINE DETRITUS [3 pts]	0%																											
<input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	0%	<input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	10%																											
<input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	0%	<input type="checkbox"/> MUCK [0 pts]	0%																											
<input type="checkbox"/> SAND (<2 mm) [6 pts]	0%	<input type="checkbox"/> ARTIFICIAL [3 pts]	0%																											
<p><b>2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):</b></p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> &gt; 30 centimeters [20 pts]</td> <td><input type="checkbox"/> 5 cm - 10 cm [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> &gt; 22.5 - 30 cm [30 pts]</td> <td><input checked="" type="checkbox"/> &lt; 5 cm [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> &gt; 10 - 22.5 cm [25 pts]</td> <td><input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]</td> </tr> </tbody> </table> <p>COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): <b>2.54</b></p>		<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]	<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5 pts]	<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]	<p><b>Pool Depth Max = 30</b> <b>5</b></p>																						
<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> 5 cm - 10 cm [15 pts]																													
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input checked="" type="checkbox"/> < 5 cm [5 pts]																													
<input type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0pts]																													
<p><b>3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box):</b></p> <table border="1"> <tbody> <tr> <td><input type="checkbox"/> &gt; 4.0 meters (&gt; 13') [30 pts]</td> <td><input checked="" type="checkbox"/> &gt; 1.0 m - 1.5 m (&gt; 3' 3" - 4' 8") [15 pts]</td> </tr> <tr> <td><input type="checkbox"/> &gt; 3.0 m - 4.0 m (&gt; 9' 7" - 13') [25 pts]</td> <td><input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]</td> </tr> <tr> <td><input type="checkbox"/> &gt; 1.5 m - 3.0 m (&gt; 4' 8" - 9' 7") [20 pts]</td> <td></td> </tr> </tbody> </table> <p>COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): <b>1.07</b></p>		<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]	<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]	<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		<p><b>Bankfull Width Max=30</b> <b>15</b></p>																						
<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]																													
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤ 3' 3") [5 pts]																													
<input type="checkbox"/> > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]																														

This information must also be completed

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

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

COMMENTS Stream mostly confined to culvert, except for 17' reach at confluence

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

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

COMMENTS \_\_\_\_\_

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

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

**STREAM GRADIENT ESTIMATE**

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

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

QHEI PERFORMED?  Yes  No QHEI Score \_\_\_\_\_ (If Yes, Attach Completed QHEI form)

**DOWNSTREAM DESIGNATED USE(S)**

<input checked="" type="checkbox"/> WWH Name: <u>Duncan Run</u>	Distance from Evaluated Stream <u>0.003 Miles</u>
<input type="checkbox"/> CWH Name: _____	Distance from Evaluated Stream _____
<input type="checkbox"/> EWH Name: _____	Distance from Evaluated Stream _____

**MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.**

USGS Quadrangle Name: Jersey NRCS Soil Map Page: N/A NRCS Soil Map Stream Order: N/A  
 County: Licking Township/City: Jersey Township

**MISCELLANEOUS**

Base Flow Conditions? (Y/N):  Y Date of last precipitation: 08/22/2022 Quantity: 0.48"

Photo-documentation Notes: \_\_\_\_\_

Elevated Turbidity? (Y/N):  N Canopy (% open): 35%

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

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

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

Additional comments/description of pollution impacts: \_\_\_\_\_

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

**BIOLOGICAL OBSERVATIONS**

(Record all observations below)

Fish Observed? (Y/N)  N Species observed (if known): \_\_\_\_\_

Frogs or Tadpoles Observed? (Y/N)  N Species observed (if known): \_\_\_\_\_

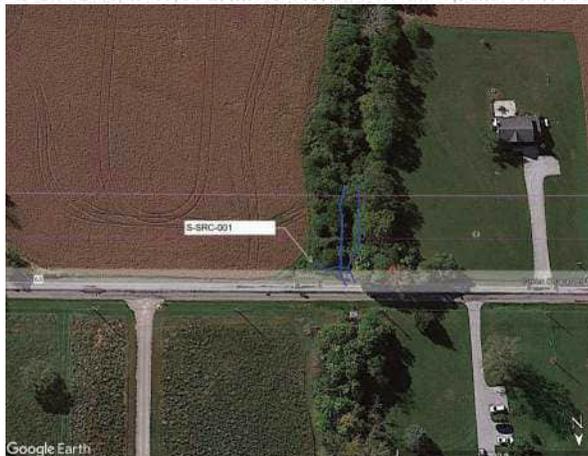
Salamanders Observed? (Y/N)  N Species observed (if known): \_\_\_\_\_

Aquatic Macroinvertebrates Observed? (Y/N)  N Species observed (if known): \_\_\_\_\_

Comments Regarding Biology: \_\_\_\_\_

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

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



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>S-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Ephemeral Facing Upstream



<b>S-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Ephemeral Facing Downstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
----------------------------	---	---------------------------------

<b>S-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Ephemeral Facing Substrate



<b>S-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Perennial Facing Upstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>S-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Perennial Facing Downstream



<b>S-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Perennial Facing Substrate



**APPENDIX C**

**UPLAND DRAINAGE FEATURES AND HABITAT PHOTOGRAPHIC RECORD**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Pasture/Hay Field Facing East



<b>PH-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Pasture/Hay Field Facing West



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Urban Area Facing North



<b>PH-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Urban Area Facing South



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-003</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Woodlands Facing North



<b>PH-SRC-003</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Woodlands Facing South



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-004</b>	
<b>Date:</b> August 23, 2022	
<b>Description:</b> Old Field Facing East	

<b>PH-SRC-004</b>	
<b>Date:</b> August 23, 2022	
<b>Description:</b> Old Field Facing South	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-005</b>	
<b>Date:</b> August 24, 2022	
<b>Description:</b> Agricultural Row-Crop Facing South	

<b>PH-SRC-005</b>	
<b>Date:</b> August 24, 2022	
<b>Description:</b> Agricultural Row-Crop Facing East	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-006</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Landscaped Area Facing North



<b>PH-SRC-006</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Landscaped Area Facing South



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-007</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Woodlands Facing North



<b>PH-SRC-007</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Agriculture Row-Crop Facing South



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-008</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Woodlands  Facing North



<b>PH-SRC-008</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Woodlands  Facing South

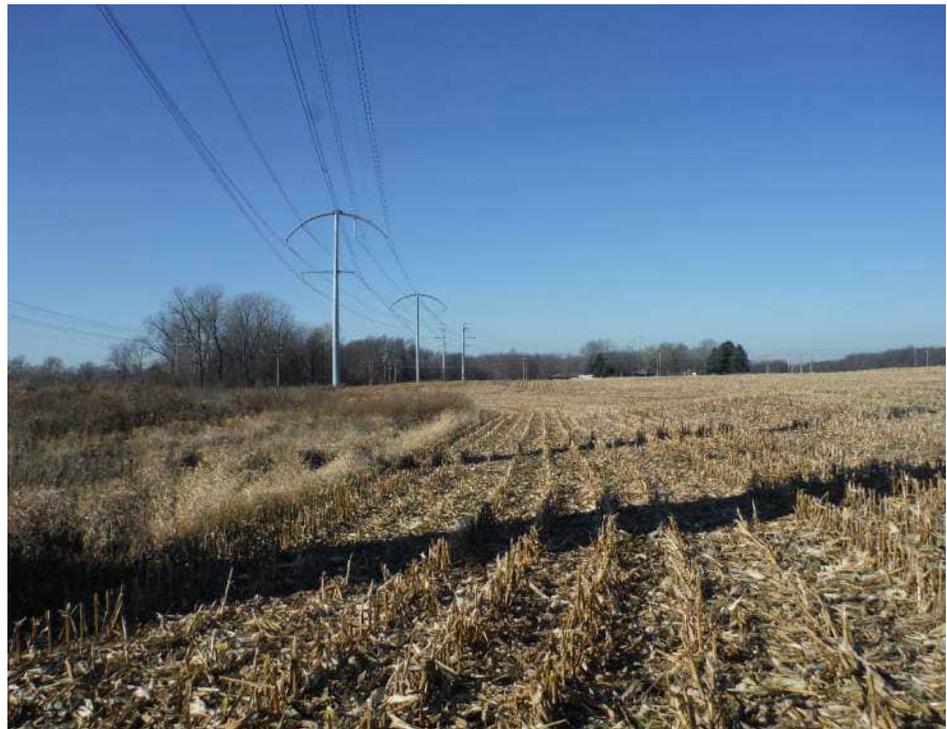


<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-SRC-009</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Agriculture Row-Crops Facing East



<b>PH-SRC-009</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Agriculture Row-Crops Facing West



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-001</b>	
<b>Date:</b> August 23, 2022	
<b>Description:</b>  Upland Drainage Feature  Facing Upstream	

<b>UDF-SRC-001</b>	
<b>Date:</b> August 23, 2022	
<b>Description:</b>  Upland Drainage Feature  Facing Downstream	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-001</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Substrate



<b>UDF-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Upstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Downstream



<b>UDF-SRC-002</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Substrate



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-003</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Upstream



<b>UDF-SRC-003</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Downstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-003</b>
<b>Date:</b> August 23, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Substrate



**No available photos of UDF-SRC-004**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-005</b>
<b>Date:</b> August 23, 2022
<b>Description:</b> Collapsed Drain Tile Outfall  Facing Substrate



**No available photos of UDF-SRC-006**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-007</b>
<b>Date:</b> August 24, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Upstream



<b>UDF-SRC-007</b>
<b>Date:</b> August 24, 2022
<b>Description:</b>  Upland Drainage Feature  Facing Downstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-SRC-007</b>
<b>Date:</b> August 24, 2022
<b>Description:</b> Upland Drainage Feature  Facing Substrate



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



# 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:** 22-0842; AEP Green Chapel Extension Project

**Project:** The proposed project involves the construction of a new 2.6-mile, greenfield 138kV transmission line, including a potential 0.4 mile reroute, from the proposed Green Chapel Substation to the interconnection of the Jug Street-Corridor 345 kV transmission line.

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

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

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

# 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: 2022-0077203

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 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  $\geq$  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

October 5, 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 Extension 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 Extension Project (Project) located in Licking County, Ohio. The Project consists of the construction of a new 2.6-mile, greenfield 138kV transmission line, and potential 0.4 mile reroute, from the proposed Green Chapel Substation to the interconnection of the Jug Street-Corridor 345 kV transmission line in Licking County, Ohio. The Project Study Area is located on 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,

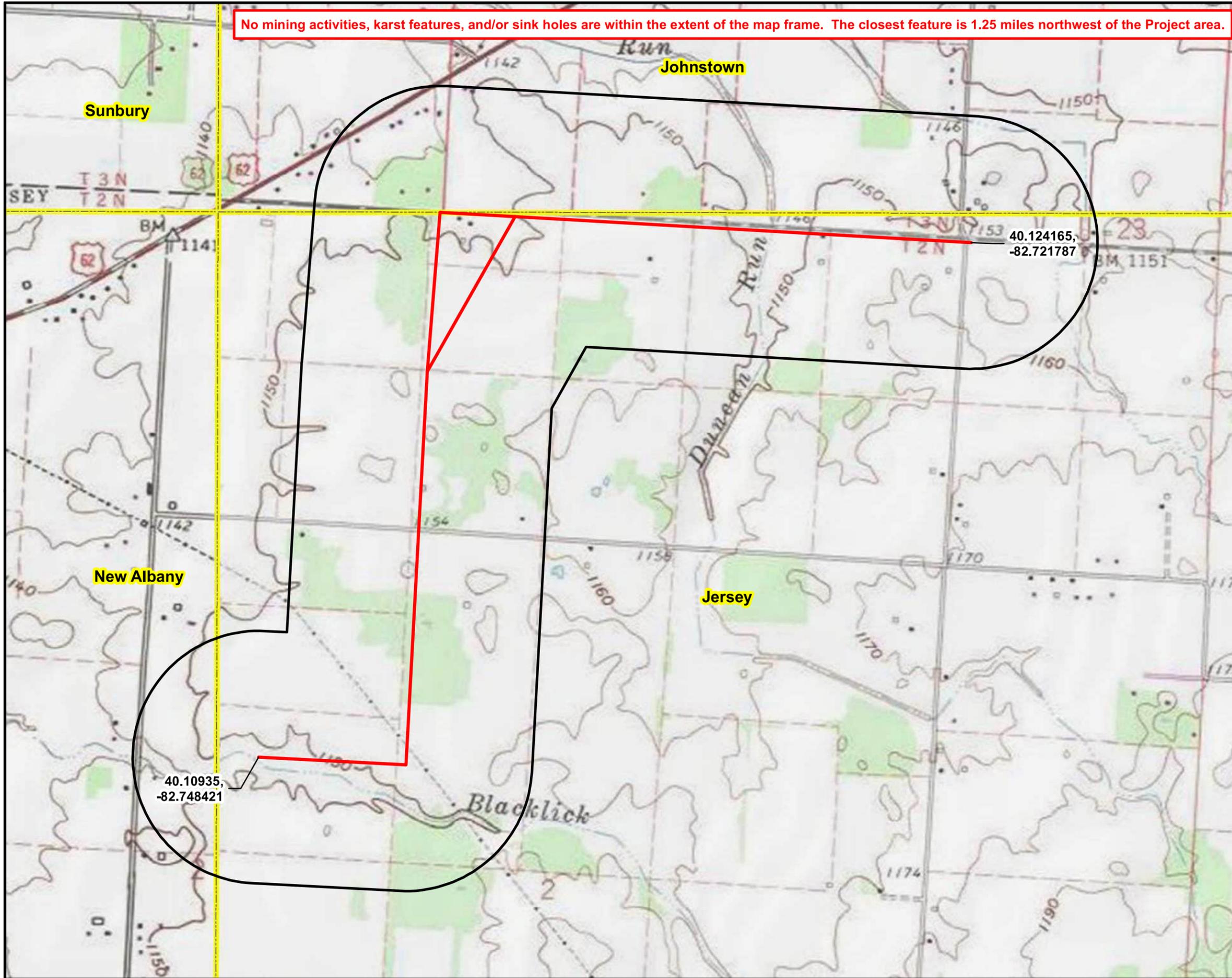
Brian Miller  
Project Manager IV  
Phone: (412-667-9172); [brian.miller@aecom.com](mailto:brian.miller@aecom.com)

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™

Date Saved: 8/19/2022  
Document Path: X:\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\Ext2\_MXD\1\_Agency\_Coordination0\_ODNR\GreenChapelExt\_Fig1\_Topo\_Overview.mxd

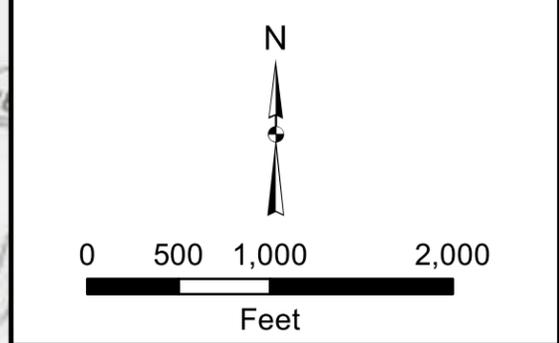


No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.25 miles northwest of the Project area.



**Legend**

- Green Chapel Extension & Reroute
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- County Boundary



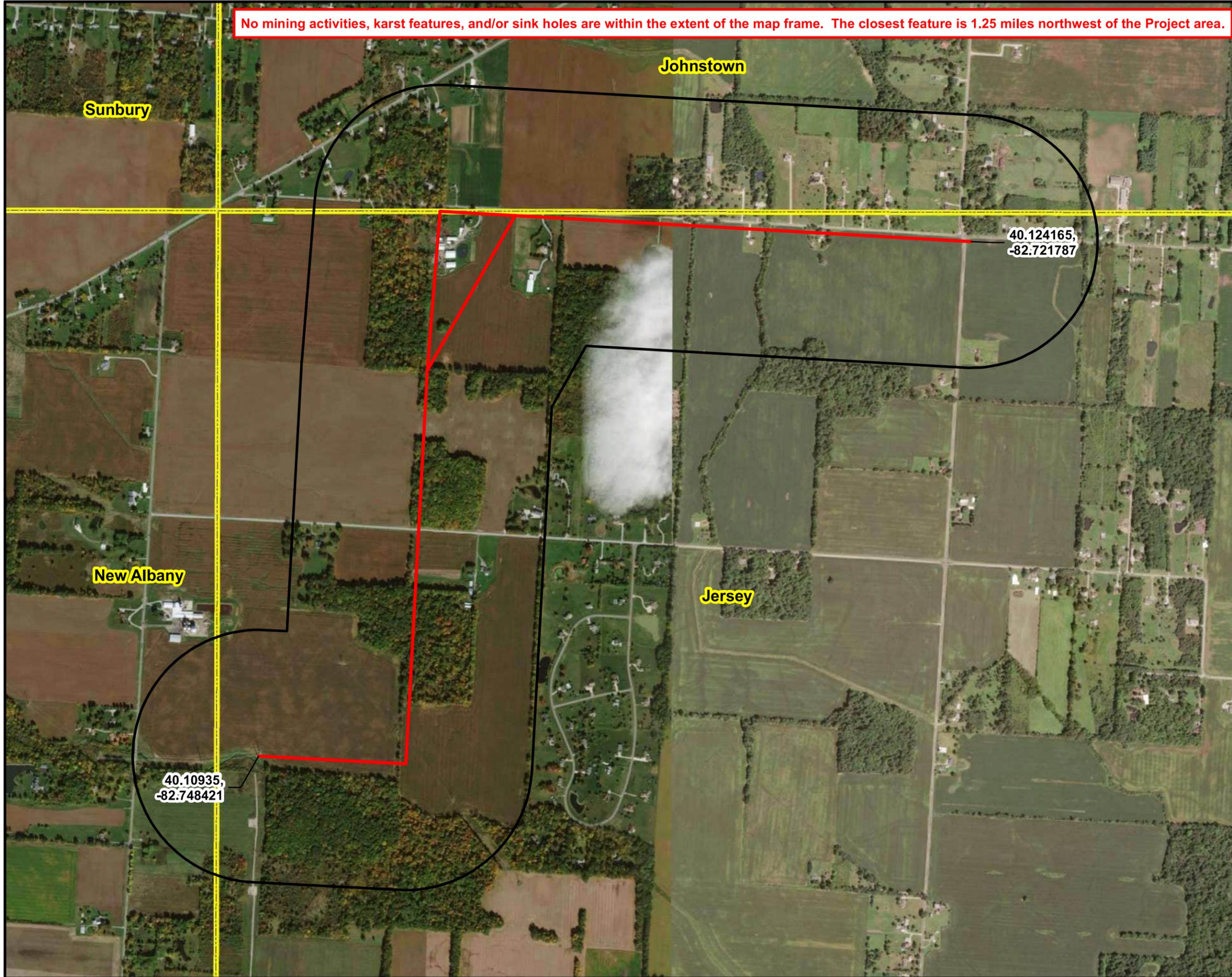
**AEP** Green Chapel Extension  
Transmission Line Project

**FIGURE 1**  
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 8/19/2022	1 INCH = 1,000 FEET
CREATED BY: NAB	CHECKED BY: JH
JOB NO.: 60683729	<b>AECOM</b>

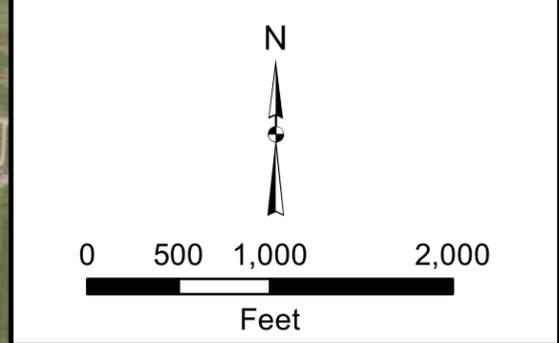
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No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 1.25 miles northwest of the Project area.



**Legend**

- Green Chapel Extension & Reroute
- Quarter Mile Review Boundary
- Ohio USGS 7.5' Topographic Quadrangle
- County Boundary



**AEP** Green Chapel Extension  
Transmission Line Project

**FIGURE 2**  
AERIAL PROJECT OVERVIEW

DATE: 8/19/2022	1 INCH = 1,000 FEET
CREATED BY: NAB	CHECKED BY: JH
JOB NO.: 60683729	<b>AECOM</b>

**APPENDIX F**

**EMHT PERMITTING EXCERPTS FOR WETLAND R2**

**OHIO EPA 401 WQC APPLICATION EXCERPT**

**(DSW401228117P)**

**JULY 21, 2022**

**PAGES 1-8 OF ORIGINAL DOCUMENT**

July 21, 2022

**Re: North Beech Corridor 672-Acre Site  
Permit - Intermediate  
Application and Support  
401 Wetlands  
Licking County  
DSW401228117P**



**DSW 401 Water Quality Certification Pre-application**  
**Division of Surface Water**  
**401 Water Quality Certification and Isolated Wetland Permitting Unit**

**Instructions:**

Filling out a pre-application form is an informal first step in the Section 401 WQC and/or Isolated Wetland Permitting process. It provides the opportunity to present and discuss details of your project while it is in its early planning stages. At a minimum, you must indicate your meeting purpose and complete Sections 1, 2 and 3 Please fill out Section 4 to the degree possible given your unique constraints on time and resources. More detailed instructions are provided in the Instructions for filling out the Pre-application meeting request form.

**Meeting Purpose** (Please state what you hope to accomplish at the pre-application meeting)

The purpose of the pre-application submittal is to request an ORAM verification for a large, 14.85-acre wetland (Wetland R) located with a recently delineated study area. Per recent, ongoing conceptual planning, a portion of this wetland may be impacted by future development. We are seeking Ohio EPA concurrence on the ORAM score of Wetland R to support the conceptual planning process. We are only seeking verification of Wetland R; the other wetland ORAMs will be provided at a later date.

**Questions** (Please list any specific questions you have regarding the 401 WQC process)

None.

**Mail or E-mail completed request form and supporting information to:**

**Ohio EPA**

**Division of Surface Water**

**401 Water Quality Certification and Isolated Wetland Permitting Unit**

**P.O. Box 1049**

**Columbus, OH 43216-1049**

**Email Address: [EPA401Webmail@epa.ohio.gov](mailto:EPA401Webmail@epa.ohio.gov)**

**Section 1: Applicant and Consultant/Agent Information**

	Applicant	Agent
<b>Company/Agency Name:</b>	MBJ Holdings, LLC	EMH&T
<b>Contact Name:</b>	Dick Roggenkamp	Robert Milligan
<b>Title:</b>	Dir Real Estate	Dir Env Services
<b>Address:</b>	8000 Walton Parkway, Suite 120, New Albany, OH 43054	5500 New Albany Road, Columbus, OH 43054
<b>Phone:</b>	(614) 939-8040	(614) 775-4515
<b>Alternate Phone:</b>		
<b>FAX Number:</b>		
<b>Email Address:</b>	droggenkamp@newalbanycompany.com	rmilligan@emht.com

**Statement of Authorization:**

<b>Applicant Name:</b> Brent Bradbury	<b>Title:</b> CFO
<b>Signature:</b> Electronically submitted by NEWALBANYCO	<b>Date:</b> Electronically submitted on 07/21/2022

**Section 2: Project Information**

<b>Project Name:</b> North Beech Corridor 672-Acre Site	
<b>Coordinates LATITUDE:</b> 40.115124 <b>LONGITUDE:</b> -82.752606	
<b>Project Address:</b> Beech Road, Johnstown, OH 43031	
<b>Project Location Description:</b> The approximately 672-acre study area (North Beech Corridor) is located east and west of Beech Road, north and south of Miller Road, and south and east of U.S. 62 (Johnstown Road) in Plain Township, Franklin County and Jersey Township, Licking County, Ohio.	
<b>ZIP Code(s):</b> 43031	
<b>County:</b>	<b>Township:</b>
Franklin	Plain
Licking	Jersey
<b>8 or 12 Digit HUC Number:</b>	<b>Watershed Name:</b>
050600011503	Headwaters Blacklick Creek

**Corps District:** Huntington**Identify the criteria used to select the project site, including stream and wetland impact avoidance and minimization:**

N/A. This study area is in early, conceptual planning stages.

**Attachments (Check all documents/items that have been submitted):** Site Map with boundaries

Upload File(s): Exhibit 6 - Delineation Map\_Reduced.pdf, Exhibit 1 - Location Map.pdf

 Site maps for alternative locations considered during site selection Site identified on USGS topographic map

Upload File(s): Exhibit 2 - USGS.pdf

 Proposed project footprint (including proposed construction limits) Shape File**SECTION 3: Project Information****Description of Project:****Proposed Project Schedule (Include construction start date and other dates pertinent to the project):**

**Description of Project Purpose and Need:**

**Section 4: Investigation of Water Resources and Permitting Considerations**

**Check all documents/items that have been submitted.**

- Have you taken photographs of the site?
- Photographs attached

- Did you review a NRCS Soil Survey for this project?
- NRCS Soil Survey attached

- Did you review USGS Stream Stats for this project?
- USGS Stream Stats attached

- Did you review a National Wetlands Inventory Map (NWI) for this project?
- NWI Map attached

- Have you delineated the water resources on the site?
- Wetland Delineation attached

Upload File(s): North Beech Corridor Delineation Report.pdf

- Have you submitted the delineation to the U.S. Army Corps of Engineers?

- Have you received a Jurisdictional Determination?
- Jurisdictional Determination attached

- Did you review OAC rules 3745-1-08 to 3745-1-32 and/or 3745-1-53 for each of the water bodies on site to determine if it has a designated use?
- OAC rules attached

- Have you performed habitat assessments on the streams on site?
- Habitat Assessment Score Sheets attached

- Have you conducted ORAM assessments and made proposed category assignments for the wetlands on site?
- 10-page ORAM form attached

Upload File(s): Wetland R - 10 Page ORAM.pdf

- Have you performed any other analysis (e.g., biological)?
- Other Analysis attached

- Do you have an Avoidance and Minimization Plan?
- Avoidance/Minimization Plan attached

- Have you selected a Mitigation Site?
- Mitigation Site Map attached

- Do you have a conceptual Mitigation and Monitoring Plan?
- Conceptual Mitigation and Monitoring Plan attached

- Are you familiar with Ohio EPA's 401 Water Quality application requirements?

- Have you read Ohio EPA's Integrated Wetland Assessment Program. Part 6?

(Standardized Monitoring Protocols and Performance Standards for Ohio Mitigation Wetlands. 2004)

- Are you familiar with the Wetland Water Quality Standards, Ohio Administrative Code rules 3745?

(Rules 3745-1-50 to 54 and the Isolated Wetland Statute, Ohio Revised Code 6111.02 to 6111.029)

**Have you determined if other permits are necessary for the project? Check all that apply:**

- Individual 404 Permit

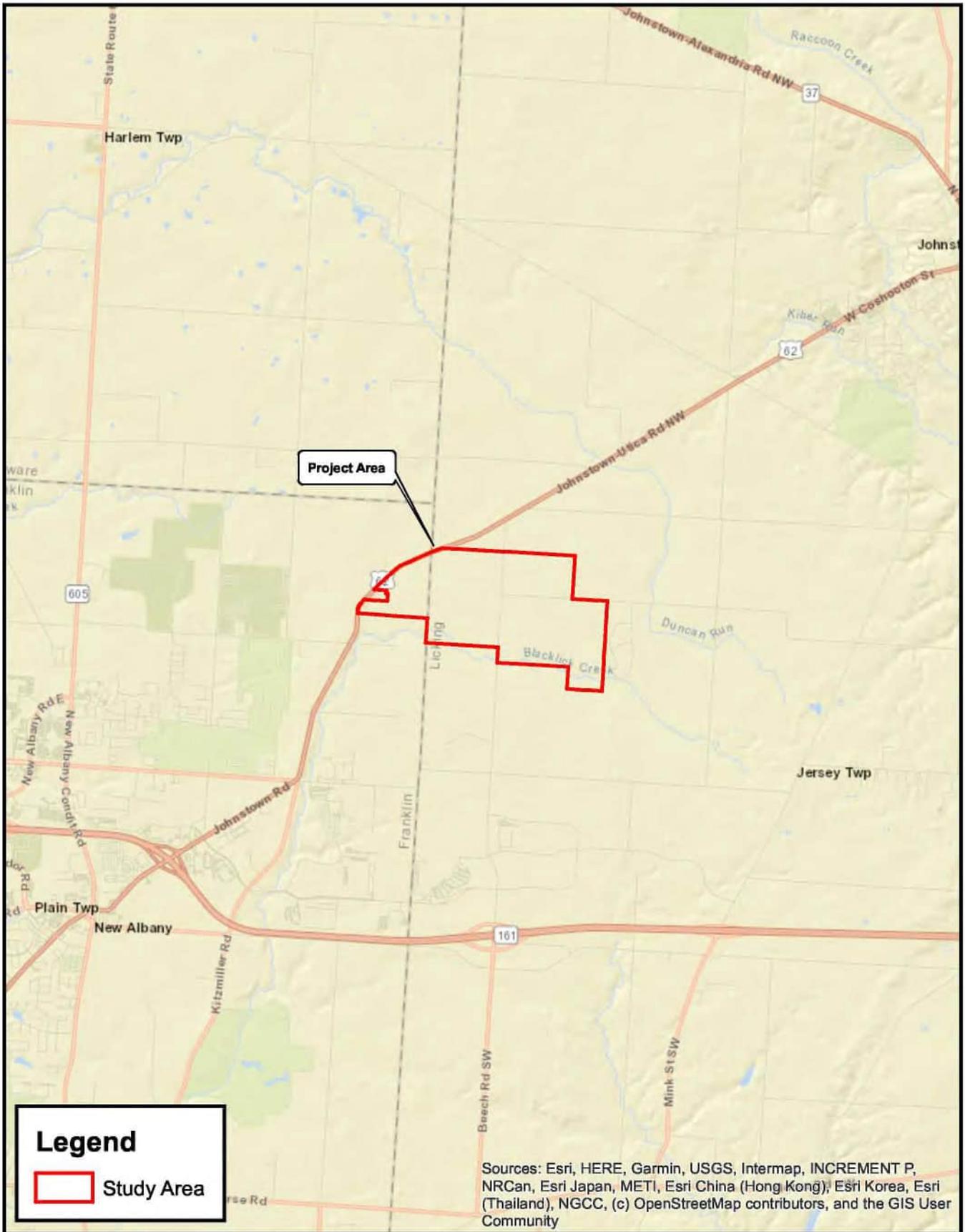
- Nationwide Permit
- Section 9 Permit
- Section 10 Permit
- Isolated Wetland Permit
- NPDES Permit
- Permit to Install
- ODNR Permit
- Regional General Permit

**Notes:**

The information requested in this form is based on the requirements in Ohio Revised Code 6111.30 and 6111.021, and Administrative Code Chapter 3745-32. Applicants should be familiar with the contents of these laws and regulations prior to completing this request form. Additional information is available at [www.epa.ohio.gov/dsw/401/index.aspx](http://www.epa.ohio.gov/dsw/401/index.aspx) or by calling (614) 644-2001

**For Internal Ohio EPA Use**

<b>Date Received:</b>	<b>Coordinator:</b>
<b>Ohio EPA ID #:</b>	<b>USACE PN #:</b>
<b>Site Visit (Y/N):</b>	



Project Area

**Legend**

Study Area

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

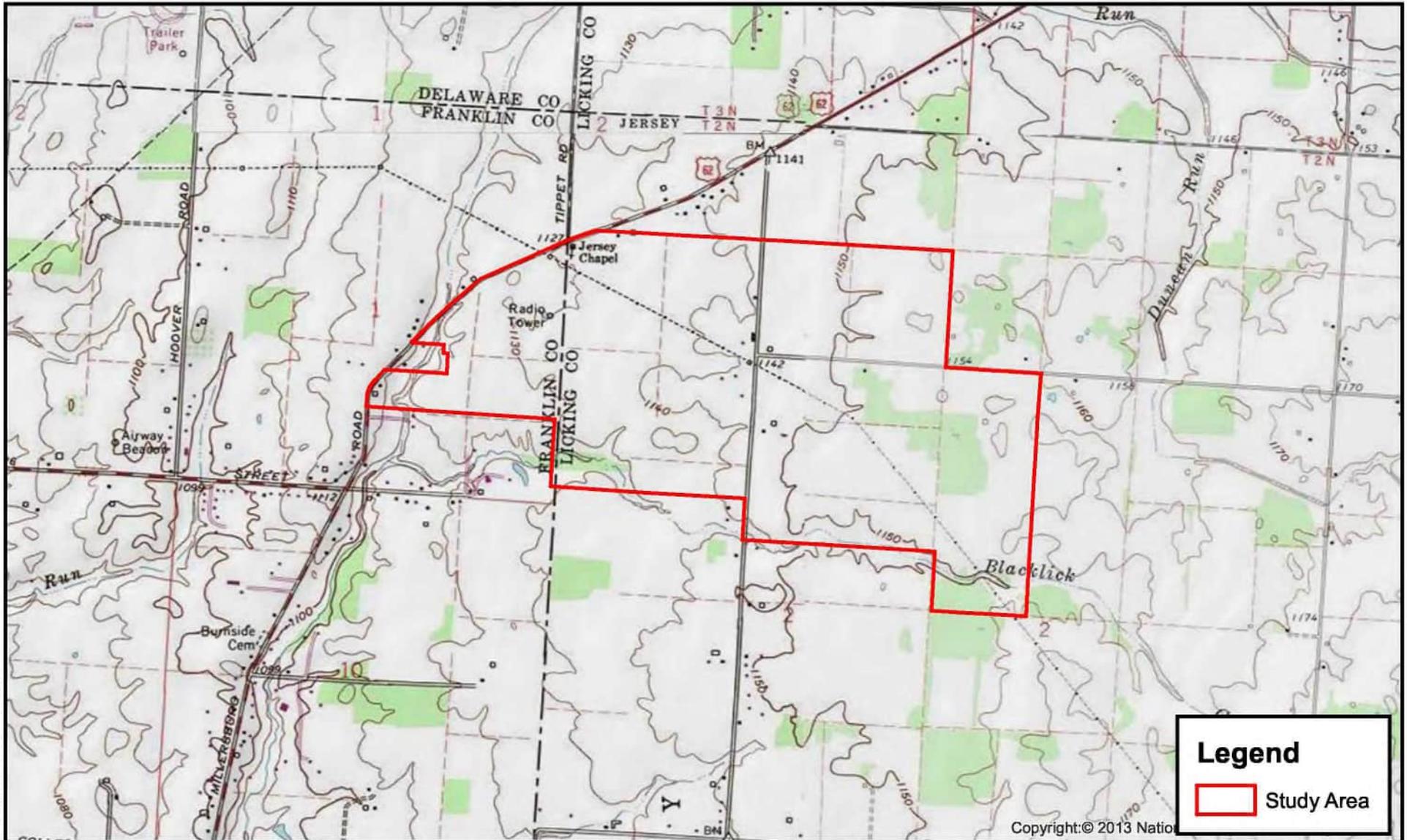
Path: J:\20220557\GIS\Exhibit 1 - Location Map.mxd

**EMHT**  
 &  
 Engineers • Surveyors • Planners • Scientists  
 5500 New Albany Road, Columbus, OH 43054  
 Phone: 614.775.4500 Toll Free: 888.775.3648  
 emht.com

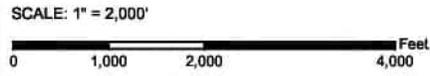
PLAIN & JERSEY TOWNSHIPS, FRANKLIN & LICKING COUNTIES, OHIO

**North Beech Corridor Site  
 Location Map  
 Exhibit 1**





**EMHT**  
 Engineers • Surveyors • Planners • Scientists  
 5500 New Albany Road, Columbus, OH 43054  
 Phone: 614.775.4500 Toll Free: 888.775.3648  
 emht.com



PLAIN & JERSEY TOWNSHIPS, FRANKLIN & LICKING COUNTIES, OHIO

**North Beech Corridor Site  
USGS Topographic Map  
Exhibit 2**

**Legend**

Study Area



Source: USGS Jersey (Pub. 1975) & New Albany (Pub. 1983) Quad Maps



**OHIO EPA ISOLATED WETLAND PERMIT (LEVEL 3) APPLICATION EXCERPT**

**(DSW401228313W)**

**NOVEMBER 18, 2022**

**PAGES 1-28 OF ORIGINAL DOCUMENT**

November 18, 2022

**Re: North Beech Corridor East  
Permit - Intermediate  
Application and Support  
401 Wetlands  
Licking County  
DSW401228313W**



# Isolated Wetland Permit Application (Level Three)

## Division of Surface Water

*(For impacts greater than 3 acres of Category 2 isolated wetlands and any amount of Category 3 isolated wetlands)*

### Section 1: Applicant and Consultant/Agent Information

	Applicant	Consultant/Agent
<b>Company/Agency Name:</b>	MBJ Holdings, LLC	EMH&T
<b>Address:</b>	8000 Walton Parkway, Suite 120, New Albany, OH 43054	5500 New Albany Road, Columbus, OH 43054
<b>Contact Name/Title:</b>	Brent Bradbury/CFO	Heather Dardinger/Sr Env Scientist
<b>Contact Phone:</b>	(614) 939-8000	(614) 775-4523
<b>Alternate Phone:</b>		(614) 561-3503
<b>Contact FAX:</b>		
<b>Contact Email:</b>	BBradbury@newalbanycompany.com	hdardinger@emht.com
<b>Technical Contact:</b>	Richard Roggenkamp	
<b>Technical Phone:</b>	(614) 939-8000	
<b>Technical Email:</b>	droggenkamp@newalbanycompany.com	

### Section 2: Project Information

**A. Project Name:** North Beech Corridor East

**B. Has Pre-Application Coordination occurred?**  Yes  No

**401 Pre-application Reviewer:** Lamoreaux **Date of 401 Pre-application Meeting:** 07/29/2022

**C. Brief Project Description:** Construction of a 4.7 million-square foot data center facility, including 11 data center buildings, generator pads, two office buildings, substation, paved parking areas, site entrances and drives, stormwater basins, and associated infrastructure. The construction of the proposed development will provide expanded facility space for an undisclosed, confidential user.

**D. Construction Start Date:** 04/01/2023 **End Date:** 12/31/2028

**E. Is any portion of the activity complete now?**  Yes  No

**Is this an "After-The-Fact" permit application?**  Yes  No

**Description of completed activities and its impact on the waters of the state.:**

**F. Coordinates LATITUDE:** 40.116611 **LONGITUDE:** -82.746283

**G. Project Address:** Beech Road NW, Johnstown, OH 43031

**Location Description:** The 156.6-acre permit area is located east of Beech Road NW and north and south of Miller Road in Jersey Township, Licking County, Ohio.

**ZIP Code(s):** 43031

<b>County(ies):</b>	<b>Township(s):</b>
Licking	Jersey

<b>H. 8 or 12 Digit HUC Number:</b>	<b>I. Watershed Name:</b>
050600011503	Headwaters Blacklick Creek
050600011307	Duncan Run

**J. U.S. Army Corps of Engineers District:** Huntington

#### K. Proposed Impacts to Isolated Wetlands:

- |  |                                       |                                       |  |
|--|---------------------------------------|---------------------------------------|--|
| <input type="checkbox"/> Beach Nourishment | <input type="checkbox"/> Blasting     | <input type="checkbox"/> Breakwater   | <input type="checkbox"/> Bulkhead        |
| <input type="checkbox"/> Bridge/Culvert    | <input type="checkbox"/> Dam          | <input type="checkbox"/> Dredge       | <input checked="" type="checkbox"/> Fill |
| <input type="checkbox"/> Groin/Jetty       | <input type="checkbox"/> Levees/Berms | <input type="checkbox"/> Mine Through | <input type="checkbox"/> Revetment       |

- Bank Stabilization       Stream Channelization       Stream Relocation       Water Body Crossing  
 Weirs       Other

**Other (Identify):** Clearing

**L. Other water related permits issued or required include:**

- Individual 404 Permit  
 Individual 401 WQC  
 Nationwide Permit  
 Section 9 Permit  
 Section 10 Permit  
 NPDES Permit      **Permit Type: General**      **Will be Submitted on: 03/01/2023**  
 Permit to Install  
 Regional General Permit  
 ODNR Permit  
 Oil & Gas Storm Water General Permit

**M. Are there other aquatic resources on the project site?**

- Perennial Streams       Intermittent Streams       Ephemeral Streams       Non-Isolated Wetlands       Lakes/Ponds

**Section 3: Fees**

**Are you exempt from fees?**       Yes       No (If YES, leave fee section blank)

**Is this an After the Fact (ATF) application?**       Yes       No

**If YES, double the fees. Maximum fees of \$10,000**

<b>Application Fee =</b>		<b>\$200.00</b>
<b>Review Fees</b>		
<b>Wetland Acres Impacted</b>	5.09 x \$500.00 =	<b>\$2,545.00</b>
	Total Review Fees =	<b>\$0.00</b>
	<b>Total Fees (\$200 Application Fee + Total Review Fees) =</b>	<b>\$2,745.00</b>
	<b>Due at the time of application submittal =</b>	<b>\$2,745.00</b>

**PLEASE MAKE FEE CHECK PAYABLE TO: "TREASURER, STATE OF OHIO"**

**Section 4: Submitted Documentation**

**Check all documents/items that have been submitted.**

- Proposed Project Mapping

Upload File(s): NBC East Exhibits 1-9.pdf

- Wetland Delineation Report

Upload File(s): North Beech Corridor Delineation Report REV 10.5.2022.pdf

- Wetland categorization (including 10-page ORAM sheets)

Upload File(s): Wetland R - 10 Page ORAM opt.pdf

- Site Photographs

Upload File(s): NBC East IWP3 Photos.pdf

- US Army Corps of Engineers Jurisdictional Determination

Upload File(s): 2022-557-SCR\_AJD-PJD FLAT.pdf

- Proposed Mitigation Plan

Upload File(s): Rocky Fork\_Pooled Wetland Mitigation Balance Sheet\_REV 11-07-2022.pdf, Avis Road\_Pooled Wetland Mitigation Balance Sheet\_REV 11-07-22.pdf

**Additional IWP Level 3 Information**

Please provide information indicating whether high quality waters, as defined in rule 3745 -1-05 of the Administrative Code, are to be avoided by the proposed filling of the isolated wetland(s):

General high quality waters, as identified in OAC 3745-1-05, include wetlands categorized as Category 2 or 3. Ohio EPA describes Category 2 wetlands as wetlands that "support moderate wildlife habitat, or hydrological or recreational functions, and are dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species." Based on the ORAM evaluation of the isolated wetland to be impacted within the project area, the wetland is a forested, Category 2 wetland and as such may be considered a general high quality water. However, Wetland R exists within an active agricultural setting, and is surrounded by a narrow buffer. Its limited hydrology, consisting primarily of agricultural runoff, has been impaired by modifications including farm tiling, a logging road, and an excavated pond (located offsite to the east). The mature, forested wetland habitat is only partially recovered from logging/clearing activities and adjacent farming, and invasive reed canary grass and multiflora rose are present in small amounts.

Proposed Project Antidegradation Analysis

Upload File(s): North Beech Corridor East Level 3 IWP Report.pdf

Ohio Department of Natural Resources - Natural Heritage Database Request

Upload File(s): North Beech Corridor East ODNR ER letter\_11112022.pdf

United States Fish and Wildlife Service - Threatened and Endangered Species Coordination

Upload File(s): USFWS Response 22-032 no project code.pdf, USFWS Response Email 11-15-2022.pdf

**Section 5: Applicant and Agent Signature**

Application is hereby made for an Isolated Wetland Permit. I certify that the information provided on this form and all attachments related to this project are true and accurate to the best of my knowledge.

**Applicant Name:**  
Brent Bradbury

**Title:**  
CFO

**Signature:**  
Electronically submitted by NEWALBANYCO

**Date:**  
Electronically submitted on 11/18/2022



**Application for an Isolated Wetland Permit - Proposed Wetland Impacts and Mitigation**  
**Division of Surface Water**  
**401 Water Quality Certification and Isolated Wetland Permitting Unit**

Section 1: Wetlands Onsite and Proposed Impacts										
Wetland ID	ORAM Score	Category	Cat. Verified by Ohio EPA?	Ohio EPA Reviewer who Verified	Size (Acres)			Proposed Impacts (Acres)		
					Forest	None	Total	Forest	None	Total
Wetland R	54.0	2	Yes	Lamoreaux	5.09	0.00	5.09	5.09	0.00	5.09
Wetland Acreage Totals					5.09	0.00	5.09	5.09	0.00	5.09
Totals: Category 1 Wetlands					0.00	0.00	0.00	0.00	0.00	0.00
Totals: Category 2 Wetlands					5.09	0.00	5.09	5.09	0.00	5.09
Totals: Category 3 Wetlands					0.00	0.00	0.00	0.00	0.00	0.00
Section 2: Proposed Wetland Mitigation (Check All That Apply) Preferred Alternative										
<input type="checkbox"/> <b>Wetland Mitigation Bank</b> Mitigation Bank: _____ Other Mitigation Bank: _____ Number of Forested Credits: _____ Type of Credits (if applicable): _____ Number of Non-Forested Credits: _____ Type of Credits (if applicable): _____ <input type="checkbox"/> <b>Proof of Reservation?</b>										
<input type="checkbox"/> <b>In-Lieu Fee Program</b> ILF Sponsor: _____ Other ILF Sponsor: _____ Number of Wetland Credits: _____ <input type="checkbox"/> <b>Proof of Reservation?</b>										
<input type="checkbox"/> <b>On-Site Permittee-Responsible Mitigation</b> <input type="checkbox"/> <b>Restoration/Creation</b> Type of Wetland: _____ Acres: _____ <input type="checkbox"/> <b>Preservation</b> Type of Wetland: _____ Acres: _____ <input type="checkbox"/> <b>Enhancement</b> Type of Wetland: _____ Acres: _____ <input type="checkbox"/> <b>Other</b>										
<b>Other Description:</b>										
<input checked="" type="checkbox"/> <b>Off-Site Permittee-Responsible Mitigation</b> <input checked="" type="checkbox"/> <b>Restoration/Creation</b> Type of Wetland: <u>Forested</u> Acres: <u>12.73</u> <input type="checkbox"/> <b>Preservation</b> Type of Wetland: _____ Acres: _____ <input type="checkbox"/> <b>Enhancement</b> Type of Wetland: _____ Acres: _____ <input type="checkbox"/> <b>Other</b>										

**Other Description:**



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**North Beech Corridor East**

Application for Level 3 Isolated Wetland Permit

MBJ Holdings, LLC

November 21, 2022

[emht.com](http://emht.com)

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## **1.0 INTRODUCTION**

An application for an Individual Level 3 Isolated Wetland Permit from the Ohio Environmental Protection Agency (Ohio EPA) has been prepared by EMH&T on behalf of MBJ Holdings, LLC for impacts to isolated wetlands associated with a proposed data center facility known as "North Beech Corridor East" (to be undertaken by an undisclosed, confidential end user). The 156.6-acre permit area is located east of Beech Road NW, and north and south of Miller Road in Jersey Township, Licking County, Ohio. The site is in the process of being annexed to the City of New Albany.

The permit area contains a portion of one (1) non-jurisdictional, isolated wetland (5.09 acres onsite). An Investigation of Waters of the U.S. for a larger study area encompassing the 156.6-acre permit area was submitted for verification by the USACE. The 672-acre delineation study area included both potential jurisdictional and isolated features; however, only one (1) non-jurisdictional feature was found on the North Beech Corridor East site. An Approved Jurisdictional Determination (JD) was issued for the non-jurisdictional features identified in the delineation report on August 8, 2022 (Appendix A).

Under the requested Isolated Wetland Permit, MBJ Holdings, LLC requests authorization to impact 5.09 acres of forested, Category 2 wetland. In order to provide a complete Individual Level 3 Isolated Wetland Permit application, this report provides the following:

- a description of the site;
- a description of the size and location of the isolated wetlands;
- a wetland categorization;
- an evaluation of the potential to affect endangered species;
- a description of avoidance measures;
- an antidegradation analysis;
- a description of the post-development stormwater plan, including water quality improvement measures; and
- a compensatory wetland mitigation plan.

To compensate for the proposed isolated wetland impact, MBJ Holdings, LLC proposes to provide permittee-responsible mitigation through the use of forested wetland credit at the Avis Road and Rocky Fork Pooled Wetland Mitigation Sites. The proposed mitigation plan is further discussed in Section 8.

□

**2.0 SITE DESCRIPTION**

As shown on Exhibit 1, the site is located north and south of Miller Road NW, east of Beech Road NW, and west of Bermuda Drive in Jersey Township, Licking County, Ohio. The site generally consists of active agricultural fields, a forested woodlot, and a portion of a maintained farmstead. The surrounding land is primarily agricultural; areas to the east between Clover Valley Road and Mink Street, south of Green Chapel Road, are under development as an Intel semiconductor manufacturing plant.

As shown on Exhibit 2, the project area lies between approximately 1,150 feet and 1,160 feet in elevation (National Geodetic Vertical Datum) according to the United States Geological Survey (USGS) 7.5' Series *New Albany, Ohio* quadrangle (USGS, 1983) and *Jersey, Ohio* quadrangle (USGS, 1975). No drainageways, wetland symbols, or open water symbols were noted.

According to the *Web Soil Survey* for Licking County, Ohio (USDA-NRCS, 2022) as shown on Exhibit 3A, the site contains four (4) soil types. These soils are listed below in Table 1 along with their hydric status. According to the *Hydric Soils List* for Licking County, Ohio, Pewamo silty clay loam is listed as a hydric soil (USDA-NRCS, 2022). The remaining soils on the site are non-hydric with hydric inclusions. The historical Soil Survey of Licking County, Ohio (USDA, 1992) did not show any drainageways, open waters, or wetland symbols within the project area (Exhibit 3B).

**TABLE 1  
Mapped Onsite Soils**

<b>Mapped Soil Unit</b>	<b>Hydric Status</b>	<b>Hydric Inclusions %</b>	<b>Location of Hydric Inclusions</b>
Bennington silt loam, 0 to 2 percent slopes (BeA)	Partially hydric	Condit (5%) Pewamo (3%)	Drainageways, Depressions
Bennington silt loam, 2 to 6 percent slopes (BeB)	Partially hydric	Condit (3%) Pewamo (3%)	Drainageways, Depressions
Centerburg silt loam, 2 to 6 percent slopes (Cen1B1)	Partially hydric	Condit (4%) Marengo (3%)	Drainageways, depressions
Pewamo silty clay loam (Pe)	Hydric	--	--

The United States Fish and Wildlife Service’s (USFWS) National Wetlands Inventory Map (NWI) was also reviewed for the project area (USFWS, 2022). As shown on Exhibit 4, four (4) features were mapped entirely or partially within the project area, including: one (1) palustrine, emergent, persistent, temporarily flooded wetland (PEM1A); two (2) palustrine, forested, broad-leaved deciduous, seasonally flooded wetlands (PFO1C); and one palustrine, forested, broad-leaved deciduous/emergent, persistent, seasonally flooded wetland (PFO1/EM1C). Three additional NWI wetlands, including one (1) PFO1C and two (2) palustrine, forested, broad-leaved deciduous, temporarily flooded (PFO1A) wetland, are shown touching the eastern site boundary.

As shown on Exhibit 5, the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) was reviewed for the study area (FEMA, 2015). The entirety of the project area lies within Zone X (unshaded), which are areas mapped outside the 500-year floodplain.

□

### **3.0 DELINEATION INVESTIGATION RESULTS**

The location and extent of potential waters and wetlands on the 156.6-acre North Beech Corridor East site were delineated by EMH&T in June 2022 as part of a larger (672-acre) study area. A delineation report was submitted to the USACE on June 30, 2022 for review and verification. The USACE issued Approved and Preliminary Jurisdictional Determinations (JD) for the 672-acre study area on August 8, 2022. The JD is attached in Appendix A, and the delineation is provided in Appendix B.

Within the 156.6-acre permit area, EMH&T identified one (1) isolated wetland (Wetland R). Wetland R is a forested wetland encompassing 14.85 acres in total. Approximately 5.09 acres of this wetland is present within the permit area; the remaining 9.76 acres extends offsite to the east within a contiguous woodlot. No other isolated or potential jurisdictional features were identified within the project area. The location and extent of Wetland R is indicated on Exhibit 6.

□

#### **4.0 WETLAND HABITAT ASSESSMENT**

The Ohio Wetland Rapid Assessment Method (ORAM) version 5.0 was developed by the Ohio EPA for use in determining wetland quality (Mack, 2001). The ORAM seeks to determine whether wetlands are rated as Category 1, 2, or 3 based on the State of Ohio Wetland Water Quality Standards adopted in 1998. Category 1 represents the lowest quality wetland, Category 2 is a moderate quality wetland, and Category 3 is the highest quality wetland. The ORAM asks a series of questions regarding wetland functions and characteristics and scores each wetland based on the answers provided.

The ORAM dataform for Wetland R is provided in Appendix C. Wetland R received an ORAM score of 54, classifying it as a Category 2 wetland. The ORAM category was verified by Mr. Matthew Lamoreaux of Ohio EPA on August 4, 2022 following a site visit conducted on July 29, 2022.

Wetland R exists within an active agricultural setting, surrounded by a narrow buffer. Its limited hydrology, consisting primarily of agricultural runoff, has been impaired by modifications including farm tiling, a logging road, and an excavated pond (located offsite to the east). The mature, forested wetland habitat is partially recovered from logging/clearing activities and adjacent farming. Emergent, shrub, and forested vegetation communities are present within the wetland, which has moderate horizontal interspersion and a variety of microtopography. Invasive *Phalaris arundinacea* (reed canary grass) and *Rosa multiflora* (multiflora rose) are present in small amounts. Wetland R is a moderate-quality wetland, and is not a unique or rare resource.

□

## **5.0 POTENTIAL IMPACTS TO RARE, THREATENED OR ENDANGERED SPECIES**

### **5.1 Federally-Listed Threatened and Endangered Species**

EMH&T reviewed the USFWS Information for Planning and Consultation (IPaC) website for listed species and critical habitat that “may be present” within the permit area. There are two (2) listed species that may occur within the permit area:

- Indiana bat (*Myotis sodalis*) – Endangered
- Northern long-eared bat (*Myotis septentrionalis*) – Threatened

An approximately 12-acre woodlot is present with the permit area, however, the majority of the permit area is non-forested, consisting of active agricultural fields and a maintained farmstead. The woodlot will be cleared in order to accommodate the proposed development. In regards to the federally-listed bat species, a mist-net presence/probable absence (P/A) survey for a larger area encompassing the North Beech Corridor East project site was conducted and submitted to the USFWS for review on August 15, 2022. The USFWS provided comments and recommendations based on their review of the bat survey on August 16, 2022 (22-032 No IPaC Project Code). The USFWS indicated that, “Tree clearing on the site at any time of the year is unlikely to result in adverse impacts to Indiana bats and will not result in any unauthorized incidental take of northern long-eared bats.” Due to the project type, size, and location, the USFWS did not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.

Due to the lack of suitable habitat within or adjacent to the permit area, the data center facility is not likely to adversely affect any other federally listed species. Upfront coordination with the USFWS was initiated by EMH&T concerning possible impacts to threatened and endangered species by a coordination letter submitted on November 11, 2022. The USFWS response, received November 15, 2022, confirmed that the previously provided comment letter dated August 16, 2022 is still valid for the subject project (Appendix D).

### **5.2 State-Listed Threatened and Endangered Species**

The ODNR was contacted for information available concerning the presence of other state listed endangered, threatened, and proposed species or their habitat. A request was made to provide information through a formal Environmental Review (ER) through the Office of Real Estate and Land Management on November 11, 2022. The ODNR response is pending and will be provided to Ohio EPA upon receipt.

In response to coordination of the bat survey initiated on August 15, 2022, the ODNR noted that although no listed bat species were found during the survey, the project is within an existing buffer for state endangered northern long-eared bat buffer. Therefore, the ODNR Division of Wildlife recommended tree cutting should not occur between April 1 and October 1. Limited tree cutting may be allowed during this period after further consultation, if necessary. Therefore, winter tree clearing (clearing between October 1 and March 31) will be implemented in order to minimize the impact to listed bats.

□

## 6.0 PROPOSED POTENTIAL DEVELOPMENT

The purpose of the proposed development is to construct a data center facility, including multiple data center buildings and generator pads, office buildings, electrical substations, paved parking areas, site entrances and drives, stormwater basins, and associated infrastructure. The construction of the proposed development will provide expanded facility space for an undisclosed, confidential user.

The development will include eleven (11) data center buildings that are each approximately 414,724 square feet in size. Each data center building will require the construction of an associated generator pad. As shown on Exhibit 7, the data center buildings will be spaced tightly together to maximize the efficient usage of the project site. In addition, two (2) 11-acre electrical substations will be constructed on the site to provide the necessary power to the data centers. Two (2) approximately 52,272-square foot office buildings will be also constructed. Two (2) stormwater basins will be constructed to manage stormwater runoff for the proposed facility. The project will also include the construction of two (2) secure entrances and internal access roads and parking to serve the data center facility. The proposed development features will be divided between the portions of the project area north and south of Miller Road NW, as illustrated on Exhibit 7. The proposed project also includes the establishment of a 150-foot wide electrical easement, to run along the northern and eastern project boundaries. Any associated public roadway and other utility improvements located outside of the permit area are separate single and complete projects and are not discussed herein.

While the exact timing of construction has not been determined, the end user anticipates that construction of the data center project will commence upon or soon after the isolated wetland permit issuance in 2023 and be completed by 2028. The proposed mitigation will be provided prior to the requested isolated wetland impacts.

As described in the following Antidegradation Analysis, several development alternatives, both onsite and offsite, were considered. As a result of this analysis, **the end user is requesting authorization of the proposed "Preferred Alternative" (Alternative A)**. Construction of the proposed data center in accordance with Alternative A would require grading across the majority of the site and would necessitate impacts to the entirety of the onsite portion of Wetland R (5.09 acres total). Approximately 3.84 acres will be filled for the construction of an 11-acre electrical substation, an adjacent stormwater basin, a proposed access road, and associated grading. The remaining 1.25 acre of Wetland R would be impacted to establish the eastern electrical transmission line. This impact would involve clearing the existing wetland in the electrical easement, which would convert the forested habitat to emergent wetland. Some fill for the installation of electrical poles would also occur within the easement. This wetland conversion will be considered as a permanent impact for the purpose of calculating mitigation requirements for Alternative A.

□

## **7.0 ALTERNATIVES ANALYSIS**

An antidegradation analysis is required to be performed as part of the Level 3 Isolated Wetland Permit review, pursuant to Ohio Revised Code 6111.12 and Ohio Administrative Code 3745-1-05. This analysis includes a discussion of three (3) alternative proposals referred to as the Preferred Alternative, Minimal Degradation Alternative and Non-Degradation Alternative, as provided below.

Each alternative includes a discussion of the expected magnitude of the lowering of water quality associated with each scenario. As required by the antidegradation rule, the anticipated impact of the proposed lowering of water quality on aquatic life and wildlife and the overall aquatic community structure and function is included. In addition, mitigative techniques are also discussed.

### **7.1 Proposed Project Description**

On behalf of a confidential end user, MBJ Holdings, LLC is seeking permit authorization for North Beech Corridor East, a proposed data center facility in Jersey Township, Licking County, Ohio. The proposed data center facility is planned to be built on 156.6 acres of land located east of Beech Road NW, and north and south of Miller Road NW in Jersey Township, Licking County, Ohio. Construction of the proposed project will provide a total of eleven (11)  $\pm 414,724$ -square foot data center buildings, as well as two (2) supporting 11-acre electrical substations and two (2)  $\pm 52,272$  square foot office buildings, as described in the following sections.

#### **7.1.1 Preferred Plan (Alternative A)**

The Preferred Plan (Alternative A), as shown on Exhibit 7, provides for the construction of eleven (11) data center buildings, two (2) 52,272-square foot office buildings, and two (2) supporting 11-acre electrical substations within the proposed development footprint. An associated 150-foot wide electrical easement will be established along the northern and eastern site boundaries. Site development will also include paved generator pads, parking lots and internal roadways, two secure entrance structures, utility infrastructure and stormwater facilities including two retention basins. Alternative A provides for approximately 4.56 million square feet of data center space.

Impacts to 5.09 acres of isolated, Category 2, forested wetland are associated with Alternative A. The proposed isolated wetland impacts include:

- Placement of fill within  $\pm 3.84$  acres of Wetland R for the construction of an 11-acre electrical substation and an adjacent stormwater basin;
- Clearing and conversion of  $\pm 1.25$  acre of forested Wetland R to emergent wetland habitat for the establishment of an electrical/access easement. Some minimal areas of fill will also be necessary for the placement of electrical poles within the easement; and
- Placement of fill within  $\pm 0.12$  acre of Wetland R for construction of an access drive off of Miller Road on the southern half of the site (this fill impact occurs within the  $\pm 1.25$  acres of clearing).

### 7.1.2 Minimal Impact Alternative (Alternative B)

The Minimal Impact Alternative (Alternative B), shown on Exhibit 8, is based upon Alternative A with a few differences. Impacts to isolated wetlands have been reduced by reconfiguring the layout of the southern half of the project area. Alternative B positions the electrical substation approximately 600 feet further to the west and 400 feet to the north compared to the Alternative A, so as to avoid the majority of Wetland R. Consequently, the stormwater basin in this area is relocated to the southwestern corner of the site. To accommodate these layout changes, one data center has been removed from the development plan, and the placement of the remaining data centers and attendant parking lot on this portion of the site has been reconfigured.

As a result of these changes, the impacts to isolated wetlands would be reduced from those proposed under Alternative A. A total of 1.90 acres of isolated wetland impact would occur under Alternative B; 3.19 acre of isolated wetland would be avoided. The wetland impact includes placement of fill within  $\pm 0.65$  acres of Wetland R for the construction and grading of the electrical substation, and clearing and conversion of  $\pm 1.25$  acre of forested Wetland R to emergent wetland habitat for the establishment of the electrical transmission line easement.

As stated previously, implementation of Alternative B would require the removal of one 414,724 square foot data center building. This loss would have a substantial impact on the operations of the overall data center facility, as it removes 9% of the data storage capacity of the project, and would also reduce the number of permanent jobs provided by the project (as discussed in Section 7.5). While the overall construction costs of Alternative B would be reduced due to the loss of one building, the cost of the access road off of Miller Road would increase due to the additional length of roadway needed to reach the relocated substation (approximately 280 linear feet). Similarly, approximately 600 feet of additional electrical line would be needed to connect the relocated substation to the electrical easement to the east.

Given the size and scope of the planned development, it is not possible to implement the proposed development on the site without impacting Wetland R. The proposed layout under Alternative B is practicable for the proposed development and has the least adverse impact on waters of the state; however, the loss of a data center represents significant detriment to the project's economics, permanent job creation, and associated tax revenue (discussed further in Section 7.5).

### 7.1.3 Non-Degradation Alternative

Due to the location of the onsite resources and the required minimum size of the development, it is not possible to construct the development on the site without impacting isolated wetlands. Accordingly, a non-degradation alternative plan has not been developed. The "non-degradation alternative" would result in abandonment of the industrial development by the end user.

## 7.2 **Offsite Alternative**

Significant investment has been made to date in planning for the site. Of particular importance, the end user has invested in this site due to its location in close proximity to two (2) existing AEP 345-kV electric transmission lines. Access to the 345-kV transmission system is critical to serve the load of the proposed data center development. One of these 345-kV transmission lines currently crosses

the southwest corner of the project area. This line will be relocated, positioned along the eastern and northern project boundary, in order to accommodate the proposed development. Access to this power supply was the key factor in site selection.

For the purpose of the required antidegradation analysis, MBJ Holdings, LLC evaluated offsite alternatives in or near the City of New Albany. There are few viable options of sufficient size with the appropriate characteristics to support the potential development proposed herein. For the evaluation of off-site alternatives, available properties were evaluated based on the certain minimum criteria, including:

- 1) Sites that were within the City of New Albany or contiguous to the corporate limits (i.e., able to be annexed to New Albany);
- 2) Sites that were at least 140 acres in size or larger to accommodate the proposed development;
- 3) Sites with sufficient access to the interstate (State Route 161); and
- 4) Sites with available utilities or potential to develop sufficient utilities, including access to one or more electric transmission lines.

Using these criteria, one additional site was identified and considered. This Offsite Alternative (Exhibit 9) is approximately 140 acres in size, located southwest of the Green Chapel Road and Clover Valley Road intersection, approximately 0.5 mile east of the chosen site. The site is comprised of agricultural fields ( $\pm 110$  acres), forest and scrub/shrub areas ( $\pm 25$  acres) and rural residential lots ( $\pm 7$  acres). Duncan Run flows south to north within a narrow riparian corridor across the western half of the site. The site has been annexed and is located within the corporate limits of the City of New Albany. Access to 161 is available via Green Chapel Road to either Mink Street or US 62. The site would require significant expansion of utilities in order to support the proposed use.

The primary practical issue with the Offsite Alternative is the necessary expansion of electric utilities, and the lack of secondary utility feeds to provide redundancy. A 138-kV transmission line is proposed to be installed along Green Chapel Road on the Offsite Alternative, which could potentially serve the data center complex. However, the single 138-kV transmission line is far inferior as compared to the access to the 345-kV transmission lines provided on the chosen site. It does not support the load of the proposed data center development. Other planned 345-kV transmission line extensions planned in the area, i.e., along Clover Valley Road to the east, have been dedicated for other uses, most significantly the Intel Semiconductor Manufacturing Facility. Finally, the Offsite Alternative, in addition to other property, is currently under an option contract to a third party. That contract would have to be modified or terminated in order to make the Offsite Alternative available for the Project.

Moreover, there are water resources and forested habitat located on the Offsite Alternative, including approximately 3.3 acres of isolated wetlands, 2,646 linear feet of stream, and approximately 25 acres of forest. While the wetland impacts associated with the Offsite Alternative would be less than the Preferred Plan (3.3 acres versus 5.09 acres), the Offsite Alternative would also require significant impacts to streams. The required area and configuration for the proposed data center facility would require impacts to 2,292 linear feet of Stream 1 (Duncan Run) and 243 linear feet of an ephemeral tributary (2,535 linear feet total). This represents a loss of 96% of the stream channel on the Offsite Alternative. No streams will be impacted under

the Preferred Plan. In addition, all of the forested habitat on the Offsite Alternative (25 acres) would be cleared for development of the site. This is twice as much as the ±12 acres of forest that would be cleared for the Preferred Plan. If implemented on the Offsite Alternative, the development would result in greater impacts as compared to the chosen site.

As such, the Offsite Alternative was determined to be impracticable for the proposed potential development. Development of the Offsite Alternative would pose significant logistical and economic challenges, and would be more environmentally damaging. There are no other properties available within the greater New Albany area that both meet the potential development criteria and would have lesser impacts to water resources as compared to the chosen site.

### **7.3 Onsite Avoidance/Minimization**

It is not practical to avoid Wetland R, as the user has specific requirements for the site footprint, which requires grading across the entirety of the permit area. Alternative B shows how the project could be made smaller and partially meet the user's needs. This alternative reduces impacts by modifying the placement of one of the electrical substations and a stormwater basin, avoiding 3.19 acres of Wetland R. This layout does not conform to the user's development requirements, however, as it necessitates the removal of one of the 11 data center buildings planned for the site. Decreasing the overall data center space in this manner would render the proposed project economically infeasible and cause the end user to abandon the project.

### **7.4 Magnitude of the Proposed Lowering of Water Quality**

#### **7.4.1 Preferred Plan**

**Isolated Wetland Habitat Impacts:** Under Alternative A, water quality and wetland habitat would be impacted through the loss of 5.09 acres of Category 2 isolated wetland on the 156.6-acre permit area. Since the resources onsite are not unique or rare natural systems, the functions and values of the impacted isolated wetlands can be replaced through the proposed mitigation (see Section 8).

**Impacts to Wetland Biota:** EMH&T did not conduct a biological assessment of the wetland on this site. Wetland R was assessed a mid-range ORAM score of 54. Such moderate quality isolated wetlands are common to Ohio and not regionally scarce. Wetland R has been influenced by agriculture runoff from surrounding farm fields and logging activities. While the wetland was found to contain pools that could potentially support amphibian breeding, this development's impacts on amphibians and macroinvertebrates are expected to be minimal, as the majority (9.76 acres) of the wetland continues offsite to the east and will not be impacted by the project. Displaced fauna could feasibly relocate to the larger offsite portion of Wetland R and continue to reproduce in this area.

**Quality of Aquatic Community:** The overall quality of the aquatic community in the isolated wetland is expected to be of low to moderate quality. This expectation is based on the current surrounding land uses, historic disturbances to the wetland, and the fact that the resource to be impacted is not unique or rare within the locality or the state. Wetland R will be permanently filled, resulting in the elimination of aquatic life from the affected portion. Approximately 9.76 acres of

Wetland R extends offsite onto the adjacent woodlot to the east, however, which would provide potential refuge for displaced wetland fauna.

**Impacts to Terrestrial Biota:** Construction and grading activities would impact vegetation through removal of existing trees and shrubs within portions of the permit area. Herbaceous ground cover would also be impacted by site grading; however, the majority of this ground cover consists of row crops. As described in Section 5, no impacts are anticipated to occur to state or federal threatened/endangered terrestrial species (i.e., listed bat and bird species) as none are known to exist on the site and/or suitable habitat for such species is not present on the site. Few terrestrial biota, including birds, amphibians, reptiles, small mammals, etc. that are common to Central Ohio, are expected to be disturbed or displaced during construction. These wildlife species could potentially re-colonize to habitat located on adjacent parcels.

**Recreational Impacts:** The size and quality of the existing surface waters on the site make recreational opportunities such as fishing and swimming effectively non-existent. The area could potentially support wildlife observation and passive recreation; however, the site is privately owned and actively farmed. As such, it is not currently used for any recreational activities.

**Human Health Impacts:** Since the surface waters at the site are not used for direct contact recreation or as a direct source of drinking water, no impacts are expected to occur to human health.

**Social and Economic Impacts:** No direct loss of jobs is anticipated due to the potential additional development of the subject property as it does not support any commercial or industrial economic activity. The industrial development may have an indirect impact on agricultural activities since portions of the site are currently being actively farmed.

#### 7.4.2 Minimal Impact Alternative

Construction of Alternative B would impact a total of 1.90 acres of Category 2 isolated wetland. In general, the same impacts to biota, recreation, human health, and social/economic activity discussed for Alternative A applies to Alternative B. The impacts to wetland habitat and aquatic communities would be less under Alternative B, as a portion of onsite Wetland R (3.19 acres) would be avoided.

### 7.5 **Technical Feasibility and Cost Effectiveness**

#### 7.5.1 Preferred Plan

Alternative A is the most technically feasible and cost-effective design for optimizing land use on the site. Alternative A was developed based on maximizing the number of individual data center buildings that could be constructed on the site, while allowing space for the large electrical substations required to support the overall facility. The proposed layout and dimensions of the data center buildings, electrical substations, and office buildings are based on the size requirements dictated by the end user. The building sizes in turn have determined the sizes of the parking lots and stormwater facilities required.

### 7.5.2 Minimal Impact Alternative

Alternative B is less technically feasible and cost-effective as compared to Alternative A. In regard to technical feasibility, Alternative B requires a longer access roadway to reach the relocated substation, as well as additional electrical line to connect the substation to the electrical easement. Alternative B is also less cost-effective due to the removal of one data center building. This loss would have a substantial impact on the operations of the overall data center facility, as it removes 9% of the data storage capacity of the project. The economic benefits associated with Alternative B are expected to be reduced compared to Alternative A, as the site would lose one data center building and the jobs and associated tax revenue associated with that building (discussed further in Section 7.6).

## 7.6 **Economic Considerations**

### 7.6.1 Preferred Plan

Alternative A provides for the development of a data center complex including 11 data center buildings, two (2) 52,272-square foot office buildings, and two (2) supporting 11-acre electrical substations. This plan provides approximately 4.7 million square feet of building space and represents a total investment of over \$3.4 billion. The proposed potential development would include installation of paved generator pads, parking lots and internal roadways, two (2) secure entrance structures, utility infrastructure and stormwater facilities including two (2) retention basins within the proposed development footprint. Alternative A would create an estimated 330 new permanent jobs. During the development and construction period, an estimated 350 temporary (construction) jobs would be provided.

The new permanent positions could potentially result in an estimated annual payroll of approximately \$26.4 million, while the new temporary jobs could potentially result in another \$24.5 million of annual payroll. Using these assumptions, the total estimated annual payroll taxes for the new permanent positions would be approximately \$5.3 million, and the state and local income taxes would be approximately \$1.5 million. The estimated annual payroll taxes (federal, state and local) for the temporary jobs would be approximately \$6.3 million. The potential property taxes generated from the proposed business park, which would be based on the taxable real estate, would exceed \$19.2 million annually. The potential projected social and economic benefits described for Alternative A are shown in the Social & Economic Justification (SEJ) Table in Appendix E. The potential jobs and the associated tax revenues would have significant, positive social and economic impacts for the surrounding area.

### 7.6.2 Minimal Impact Alternative

Alternative B would require the removal of one data center building from the overall development plan. This would reduce the total building area by 414,724 square feet, for a site total of approximately 4.3 million square feet. Consequently, the total project investment and construction cost would be reduced to approximately \$3.1 billion and \$2.3 billion, respectively. Alternative B would result in a 9% (-30) reduction in new permanent jobs, due to the loss of one data center. Consequently, the estimated annual payroll taxes, state taxes, and local taxes would also be reduced by approximately 9%, as detailed in Appendix E. Similarly, the estimated annual local

property taxes would drop by approximately \$1.7 million with the loss of one data center. This equates to a total projected loss of over \$2.3 million in tax revenue annually. The number of temporary jobs and the associated tax revenue would remain the same as under the Alternative A.

## **7.7 Cumulative Impact**

### **7.7.1 Land Uses in 12-Digit HUC**

The majority of the permit area is located in the Headwaters Blacklick Creek subbasin of the Upper Scioto River (HUC: 05060001-15-03). A small portion of the northeast corner of the site is mapped within the Duncan Run subbasin of the Upper Scioto River (05060001-13-07).

The Headwaters Blacklick Creek subwatershed encompasses 48.88 square miles of land extending from north of State Route 161 to south of Interstate 70. This subwatershed includes eastern New Albany and significant portions of Blacklick and Reynoldsburg. There are approximately 98 miles of stream located within the subwatershed, and approximately 0.43% of the subwatershed is comprised of wetlands according to the U.S. EPA EnviroAtlas. According to the Headwater of Blacklick Creek Nine-Element Nonpoint Source Implementation Strategic Plan (NPS-IS Plan) (Franklin Soil and Water Conservation District, 2016), the watershed is comprised of approximately 12% impervious cover (e.g., residential and commercial development), 23% agricultural cover (e.g., pasture and row crop), and 24% forest. The balance is open space. Agricultural land uses within the watershed are expected to decline with development growth anticipated along the State Route 161 corridor.

The Duncan Run subwatershed encompasses 16.79 square miles of land north of New Albany and east of Hoover Reservoir within the Upper Scioto River watershed. The U.S. EPA EnviroAtlas indicates that there are approximately 24.4 miles of stream within the Duncan Run subwatershed, and approximately 0.17% of the subwatershed is comprised of wetlands. According to the Ohio EPA Integrated Water Quality Report for 2020 (Ohio EPA, 2020), the subwatershed is comprised of approximately 75.4% agricultural land use (e.g., row crops and pasture), 18.4% forest, 5.8% developed land use (e.g., residential and commercial development), and 0.5% other land uses.

### **7.7.2 Water Resources in 12-Digit HUC**

The primary water resource in HUC 05060001-15-03 is Blacklick Creek, which flows in a southeast to northwesterly direction just to the south of the southern project boundary. Blacklick Creek is designated as WWH per Ohio Administrative Code (OAC) 3745-1-09; the headwaters in proximity to the project site are in non-attainment of that use designation per the Total Maximum Daily Loads for the Big Walnut Creek Watershed (Ohio EPA, 2005). This is primarily due to nutrient loading and organic enrichment from HSTS and dairy cow operations. There are approximately 98.5 miles of stream located within the subwatershed according to the U.S. EPA EnviroAtlas. According to the EnviroAtlas, approximately 0.3% of the subwatershed is comprised of wetlands.

The primary water resource in HUC 05060001-13-07 is Duncan Run. Duncan Run originates within the eastern portion of the New Albany Tech Park project site, flowing north from Wetland R and then eventually west for approximately 13 miles to its confluence with Hoover Reservoir (Big Walnut Creek). Duncan Run is designated as warmwater habitat (WWH) per Ohio Administrative Code

(OAC) 3745-1-09. Per the *Total Maximum Daily Loads for the Big Walnut Creek Watershed* (Ohio EPA, 2005), Duncan Run is in non-attainment of its WWH use designation. Ohio EPA indicates that the biological communities in Duncan Run are most significantly impacted by nutrient loading, siltation and pathogens stemming from home sewage treatment systems (HSTS) and agriculture, as well as habitat alternation stemming from channelization and removal of riparian vegetation.

### 7.7.3 Known Past, Present and Future Activities

The Headwaters Black Creek and Duncan Run subwatersheds have been historically dominated by agricultural land uses. Within the headwaters of Blacklick Creek and the southern portion of the Duncan Run subwatershed, agriculture is expected to decline as commercial and residential development expands along State Route 161 east of New Albany. The New Albany International Business Campus, located off Beech Road north of State Route 161, has continued to expand over the past several years and provided thousands of jobs to the area economy. To date, the business campus is estimated to have created over 21,000 jobs and represents over \$9 billion in total investment. Similarly, the Intel Semiconductor Manufacturing Facility, Facebook NAO Data Center, Google New Albany Data Center, Amazon New Albany Fulfillment Center and Amgen Biomanufacturing Plant are currently under construction. These developments collectively represent \$22.1 billion in additional investment, and are anticipated to employ more than 4,200 permanent workers when complete.

Nearly 5,200 acres of ground have been developed in association with the business campus and other commercial/industrial projects, mostly in the Headwaters Blacklick Creek subwatershed. However, stream and wetland impacts within these developed areas were minimized by avoiding and preserving the highest quality stream and wetland features. For those surface water impacts that were unavoidable, the mitigation completed has resulted in an increase of wetland acreage. The development also removed over 3,800 acres from active agricultural use, eliminating nonpoint source pollution from nutrient runoff.

Beyond the recent commercial and industrial development efforts, agricultural fields and cattle pasture continue to comprise the majority of the subwatershed areas. The historical and ongoing agricultural activities have significantly altered local stream, riparian and wetland habitats and have contributed to nonpoint source pollutant loading. Drainage across the majority of the subwatersheds is influenced by drain tiles and most of the local waterways have been ditched and channelized, contributing to sedimentation and nonpoint source pollutant loading. HSTS on rural estates also contribute to nutrient pollution.

South of State Route 161, the Black Creek watershed is dominated by urban and suburban residential developments of Blacklick and Reynoldsburg. This urbanization has had attendant impacts on surface water resources, and the associated increase in impervious cover has contributed to increased stormwater runoff and pollutant loading. Due to the high rates of forecasted population growth within the next several years and associated land use impacts, the Blacklick Creek watershed has been identified by Ohio EPA as a "Rapidly Developing Watershed." Rapidly developing watersheds are subject to increased permit requirements and an accelerated implementation schedule under the Ohio EPA National Pollutant Discharge Elimination System (NPDES) Phase II General Permits. This provides protection for water quality, habitat and aquatic life within the watershed.

Despite significant population growth and ongoing agricultural activities, Ohio EPA has determined that fish and aquatic communities are in fair condition within the Blacklick Creek watershed. The Big Walnut Creek Watershed TMDL (Ohio EPA, 2005) reported that approximately 62% of Blacklick Creek is in full attainment of WWH aquatic life use goals. Those segments found to be in non-attainment are located in the headwaters north of Morse Road. The biological communities in the headwaters are most significantly impacted by failing HSTS and dairy cow operations. The same TMDL study found that the entirety of Duncan Run is in non-attainment of its WWH aquatic life use goals due to habitat alteration, siltation, pathogens and nutrients attributed to physical channel alteration, agricultural activities and failing HSTS.

The proposed development will remove approximately 145 acres of land from active agricultural production, precluding future impacts related to agricultural land uses. Sanitary sewer service, which will be extended to the site, will also lead to removal of HSTS. The development will significantly increase impervious cover across the permit area, but as discussed in Section 7.8, onsite stormwater facilities will be employed to effectively address potential adverse water quality and quantity impacts.

## **7.8 Indirect Impacts**

Construction of Alternative A would result in the loss of 5.09 acres of forested, Category 2 isolated wetland to allow for the development of the proposed data center. Under Alternative B, isolated wetland impacts would be reduced to 1.90 acres. The ecological and hydrological functions of the onsite wetland would be reduced by the proposed development under both alternatives.

In regard to off-site impacts, the majority of the areas both upstream and downstream of the site have been previously impacted by agricultural practices. Downstream surface water resources could be indirectly impacted by changes to the onsite surface contours and drainage, and elimination of wetlands. However, as the wetland to be impacted is hydrologically isolated, such downstream, indirect impacts are expected to be de minimis. Moreover, sediment and erosion controls during construction would protect downstream resources from development-related stormwater runoff, as described below.

## **7.9 Stormwater Management Plans**

### **7.9.1 Construction Stormwater Management Plans**

Best Management Practices (BMPs) for sediment and erosion control would be implemented at all times during the construction of any portion of the proposed development. These BMPs may include silt fence, compost filter sock, sediment traps, temporary and permanent seeding and mulching, construction road stabilization, temporary inlet protection, and wet basins with skimmers installed for construction and post-construction use. The proposed basins will function as temporary sediment basins during construction and may be converted to permanent wet basins following construction.

A stormwater permit and Stormwater Pollution Prevention Plan (SWPPP) for construction activities would be prepared for the site development, following the requirements of the National Pollutant Discharge Elimination Systems program and the Ohio EPA Stormwater Program. Appropriate, site-

specific Best Management Practices (BMPs) will be included in construction plans to decrease erosion and sedimentation during and after construction of the proposed development including the placement of sediment fence and/or compost filter sock inside impact areas. All sediment controls that would be utilized would be kept in place during construction activities and would remain until the site has been stabilized. All areas disturbed during construction would be seeded to encourage the establishment of a vegetative cover and decrease erosion potential. No area shall be left unstabilized if no additional disturbance is anticipated in the next 14 days, in which case erosion controls shall be applied within seven days of the most recent disturbance.

### **7.9.2 Post-Construction Stormwater Management Plans**

Post-construction stormwater control on the site would rely upon structural controls that include two (2) wet retention basins constructed within the 156.6-acre permit area, as shown on Exhibit 7. The basins would serve to remove pollutants from stormwater runoff, reduce downstream erosion, and provide flood control. Runoff from the site would be routed to these storage facilities, which will provide quantity and quality control as required by state and local requirements, before discharging to the Blacklick Creek headwaters (HUC 05060001-15-03).

The stormwater retention basins would detain the post-development stormwater runoff and discharge the runoff at or below the pre-developed peak discharge rates. The stormwater retention basins would provide extended detention time for the purposes of meeting post-construction water quality design criteria. The basin outlet structures would be designed to provide a minimum 24 hour drain time per the Ohio EPA's General Permit requirements for post-construction water quality. The proposed permanent wet basins may be used as temporary sediment basins during construction to manage sediment runoff resulting from land disturbing activities. Skimmers would be attached to the permanent wet basin outlet structures to provide the proper 48-hour drawdown. □

## **8.0 PROPOSED MITIGATION PLAN**

In order to proceed with the Preferred Plan (Alternative A), authorization for the fill of 5.09 acres of isolated, Category 2, forested wetland is requested. To compensate for this proposed impact, permittee-responsible mitigation (PRM) pooled mitigation credits will be utilized from MBJ Holdings' Avis Road and Rocky Fork Pooled Mitigation Sites.

The Avis Road Pooled Wetland Mitigation Site is located north of Morse Road, east of Avis Road, and west of Babbit Road in Plain Township, Franklin County, Ohio. The Rocky Fork Pooled Wetland Mitigation Site is located northwest of E. Dublin-Granville Road and Harlem Road in the City of New Albany, Franklin County, Ohio. Both pooled mitigation sites are positioned within the Upper Scioto River watershed (HUC 05060001).

### **8.1 Mitigation Ratios**

Per Ohio Administrative Code (OAC) 3745-1-54, the proposed 5.09 acres of impact to Category 2, forested wetland associated with Alternative A will be mitigated at a ratio of 2.5:1.

### **8.2 Required Mitigation**

Based on the proposed 5.09 acres of isolated, Category 2, forested wetland impact under the Alternative A and the mitigation ratio of 2.5:1 specified in OAC 3745-1-54 for the usage of PRM credits, a total of 12.73 wetland mitigation credits are required for the North Beech Corridor East project.

### **8.3 Proposed Mitigation**

Compensatory mitigation for the proposed isolated wetland impacts will be accomplished via the use of pooled wetland mitigation credit at the Avis Road and Rocky Fork Pooled Mitigation Sites. The Avis Road site was authorized in association with the Rasmisel & Smith Project Level 2 Isolated Wetland Permit (OEPA ID 217323W) and a USACE Nationwide Permit (LRH-2020-537-SCR). Details regarding the mitigation site were provided in the Avis Road Pooled Wetland Mitigation Site Final Mitigation Plan, dated December 6, 2021. The Avis Road site currently has a balance of 9.67 acres of forested mitigation credit. A total of 9.67 acres of forested credit will be utilized, as shown on the updated balance sheet (Appendix F).

The remainder of the required wetland mitigation (3.06 acres) will occur at the Rocky Fork Pooled Mitigation Site. The Rocky Fork site currently has a balance of 3.74 acres of forested mitigation credit. This pooled wetland mitigation site was authorized in association with Project Jug Street (LRH-2018-686-SCR; OEPA ID 196304). Details regarding the Rocky Fork Pooled Mitigation Site were provided in the Rocky Fork Pooled Mitigation Site Mitigation Plan, which was submitted and reviewed in association with the aforementioned Project Jug Street 404/401 Permit. An updated balance sheet is provided in Appendix F.

## 9.0 CONCLUSIONS

This permit application requests authorization to impact 5.09 acres of isolated wetland on a 156.6-acre permit area located in Jersey Township, Licking County, Ohio. This document provides information to address permit application requirements for a Level 3 Isolated Wetland Permit. The wetland to be filled will allow for the construction of a proposed data center facility for an undisclosed, confidential end user. Construction of the proposed project will provide a total of approximately 4.6 million square feet of data center space, two 52,272-square foot office buildings, and two supporting 11-acre electrical substations.

Due to the location of the onsite resource and the required minimum size of the development, it is not possible to construct the data center facility on the site without wetland impacts. Under the Preferred Plan, Alternative A, the project requires impacts to 5.09 acres of Category 2 isolated wetlands. **MBJ Holdings, LLC is requesting authorization for the proposed Preferred Plan, Alternative A.** To mitigate for impacts to the isolated wetlands under Alternative A, pooled mitigation credits will be utilized from MBJ Holdings' Avis Road (9.67 acres) and Rocky Fork (3.06 acres) pooled mitigation sites.

□

## 10.0 REFERENCES

Flood Emergency Management Agency (FEMA). 2007. *Flood Insurance Rate Map for Licking County, Ohio and Unincorporated Areas*. Map number 39089C0280H. Available online: <http://msc.fema.gov/portal>.

Franklin Soil and Water Conservation District. 2016. *Headwaters of Blacklick Creek Nine-Element Nonpoint Source Implementation Strategic Plan*. Available online: [http://epa.ohio.gov/Portals/35/nps/319docs/BlacklickCreekHeadwatersV1\\_0.pdf](http://epa.ohio.gov/Portals/35/nps/319docs/BlacklickCreekHeadwatersV1_0.pdf)

Ohio Environmental Protection Agency (Ohio EPA). 2005. *Total Maximum Daily Loads for the Big Walnut Creek Watershed*. Ohio Environmental Protection Agency, Division of Surface Water, Columbus, Ohio. Available online: [http://www.epa.ohio.gov/portals/35/tmdl/BWC\\_Final%20081505.pdf](http://www.epa.ohio.gov/portals/35/tmdl/BWC_Final%20081505.pdf)

United States Department of Agriculture - Natural Resources Conservation Service (USDA-NRCS). 2019. NRCS Soil Survey Geographic Database and Web Soil Survey. Available online: <http://websoilsurvey.nrcs.usda.gov/app/>.

United States Department of Agriculture - Natural Resources Conservation Service. USDA-NRCS. 2022. *State Soil Data Access (SDA) Hydric Soils List*. Available online from the website of the Natural Resources Conservation Service: [https://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcseprd1316619.html#reportref](https://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcseprd1316619.html#reportref).

United States Department of Agriculture - Soil Conservation Service (USDA-SCS). 1992. *Soil Survey of Licking County, Ohio*. Available online: <https://www.nrcs.usda.gov/wps/portal/nrcs/surveylist/soils/survey/state/?statelid=OH>

United States Department of the Interior, Fish and Wildlife Service (USFWS). 2022. National Wetland Inventory Map. Available online: <https://www.fws.gov/wetlands/Data/Mapper.html>.

United States Geological Service (USGS). 1975. *Jersey, Ohio Quadrangle, 7.5 Minute Series (Topographic)*. Maps prepared by the U.S. Geological Survey and revised in cooperation with State of Ohio Agencies. For sale from the U.S. Geological Survey, Reston, Virginia 22092.

**USACE APPROVED AND PRELIMIARY JURISDICTIONAL DETERMINATION LETTER**

**(LRH-2022-557-SCR)**

**AUGUST 8, 2022**



REPLY TO  
ATTENTION OF

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

August 8, 2022

Regulatory Division  
North Branch  
LRH-2022-557-SCR

**APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATIONS**

Mr. 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, North Beech Corridor, Plain/Jersey Townships, Franklin/Licking Counties, Ohio*, completed by EMH&T and submitted to this office on July 1, 2022 with additional information received on July 11, 2022. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources and an approved jurisdictional determination for the non-jurisdictional features on the approximate 672-acre site. The JD review area is located east and west of Beech Road, north and south of Miller Road, and south and east of U.S. 62 (Johnstown Road) Plain/Jersey Townships, Franklin and Licking Counties, Ohio at approximately 40.11512 latitude, -82.75260 longitude. On-site waters flow to Blacklick Creek, an indirect tributary of the Scioto River, a traditional navigable water of the United States. We have assigned the following file number to your PCN: LRH-2022-557-SCR. Please reference this file number on all future correspondence related to this subject proposal.

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 DA permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

***Preliminary Jurisdictional Determination***

Based upon a review of the information provided, this office has determined 5.78 acres of nine (9) wetlands (Wetland H, I, K, L, M, S, T, U, and V) and 6,276 linear feet (0.805 acre) of five (5) streams (Streams 1-5) are located within the preliminary JD boundary. The aquatic resources identified above and on the enclosed preliminary JD form 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 above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find a copy of the preliminary JD form. If you agree with the findings of this preliminary JD and understand your options regarding the same, please sign and date the preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to Cecil Cox of the North Branch at [cecil.m.cox@usace.army.mil](mailto:cecil.m.cox@usace.army.mil) 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 information provided and other information available to us, the 672-acre site contains one (1) Grass Swale (1,883 linear feet), five (5) Ponds (totaling 0.66 acre), and 14 Wetlands (totaling 29.37 acres). Grass Swale 1 does not carry a relatively permanent flow of water, lacks consistent ordinary high-water marks, sediment sorting, defined bed and banks, or wetland characteristics. 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. Wetlands A-G, J, N-R, and Pond Fringe are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. Wetlands A-G, J, N-R, and Pond Fringe would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Therefore, Grass Swale, Ponds 1-5, and Wetlands A-G, J, N-R, and Pond Fringe are not jurisdictional waters of the United States. However, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state 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 water determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on July 22, 2022 and August 4, 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 approved JD for the subject site within the approved JD boundary. 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:

Regulatory Administrative Appeals Officer  
United States Army Corps of Engineers  
Great Lakes and Ohio River Division  
550 Main Street, Room 10780  
Cincinnati, Ohio 45202-3222  
Phone: (513) 684-2699  
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.

If you have any questions concerning the above, please contact 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,



Andrew J. Wendt  
Regulatory Project Manager  
North Branch

Enclosures

cc:

Bryan Lombard via email

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

**BACKGROUND INFORMATION**

A. **REPORT COMPLETION DATE FOR PJD:** 13-JUL-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, North Beech Corridor JD, LRH-2022-00557-SCR

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: Plain/Jersey Townships  
 Center coordinates of site (lat/long in degree decimal format):  
 Lat.: 40.115124° Long.: -82.752606°  
 Universal Transverse Mercator: 17  
 Name of nearest waterbody: Blacklick Creek

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

- Office (Desk) Determination. Date: 13 July 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	40.112127	-82.761369	4781 feet	Non-wetland waters	Section 404
Stream 2	40.117132	-82.768715	1137 feet	Non-wetland waters	Section 404
Stream 3	40.112544	-82.762072	67 feet	Non-wetland waters	Section 404
Stream 4	40.111902	-82.761505	81 feet	Non-wetland waters	Section 404
Stream 5	40.107134	-82.738898	210 feet	Non-wetland waters	Section 404
Wetland H	40.114849	-82.770699	1.86 acres	Wetland	Section 404
Wetland I	40.111667	-82.762484	0.24 acres	Wetland	Section 404
Wetland K	40.112348	-82.761342	0.22 acres	Wetland	Section 404
Wetland L	40.112381	-82.762633	0.08 acres	Wetland	Section 404
Wetland M	40.112048	-82.76178	0.33 acres	Wetland	Section 404
Wetland S	40.107245	-82.742229	1.61 acres	Wetland	Section 404
Wetland T	40.107131	-82.741373	0.1 acres	Wetland	Section 404
Wetland U	40.107223	-82.740148	1.02 acres	Wetland	Section 404
Wetland V	40.106198	-82.73905	0.32 acres	Wetland	Section 404

<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

- 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 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: The applicant, New Albany Company, has submitted a Investigation of Waters of the United States, North Beech Corridor, Plain and Jersey Townships, Franklin/Licking Counties, Ohio, completed by EMH&T and submitted to this office on 1 July 2022 with additional information received on 11 July 2022.
- Map: Delineation Map Exhibit 6 of submitted report.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
- Office concurs with data sheets/delineation report.

<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

- 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.
- USGS 8 and 12 digit HUC maps. 050600011503 – Headwaters Blacklick Creek.
- U.S. Geological Survey map(s). Cite scale & quad name: 7.5' New Albany and Jersey, Ohio Quads Exhibit 2 of submitted report.
- Natural Resources Conservation Service Soil Survey. Citation: Exhibit 3A of submitted report.
- National wetlands inventory map(s). Cite name: Exhibit 5 of submitted report.
- State/local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: Exhibit 4 of submitted report.
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Exhibit 1 of submitted report.  
 or  Other (Name & Date): Photos within submitted report.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**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>  
DIR. of REAL ESTATE

<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): July 13, 2022**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Huntington District, North Beech Corridor, LRH-2022-557-SCR**

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

State: Ohio County/parish/borough: Franklin and Licking City: Plain and Jersey Townships

Center coordinates of site (lat/long in degree decimal format): Lat. 40.11512° N, Long. -82.75260° W.

Universal Transverse Mercator:

Name of nearest waterbody: Blacklick Creek

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

Name of watershed or Hydrologic Unit Code (HUC): 050600011503 - Headwaters Blacklick 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: 13 July 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 approximate 262-acre approved JD review area contains one (1) Grass Swale (1,883 linear feet), five (5) Ponds (totaling 0.66 acre), and 14 Wetlands (totaling 29.37 acres) that have been evaluated for possible jurisdiction. Grass swale 1 does not carry a relatively permanent flow of water, lacks consistent ordinary high-water marks, sediment sorting, defined bed and banks, or wetland characteristics. 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.**

<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.

**Wetlands A-G, J, N-R, and Pond Fringe are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. Wetlands A-G, J, N-R, and Pond Fringe would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. The closest stream is approximately 0.2 mile south of Wetland R, approximately 0.1 mile west of Wetlands B, C, D, and J, and approximately 0.15 mile south of Wetlands A, E, F, G, N, O, P, Q, and Pond Fringe. This office has determined that Grass Swale, Ponds 1-5, and Wetlands A-G, J, N-R, and Pond Fringe 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: Ponds 1-5, 0.66 acres.
- Other non-wetland waters: linear feet acres. List type of aquatic resource: .
- Wetlands: Wetlands A-G, J, N-R, and Pond Fringe, 29.37 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: 1,883 linear feet acres. List type of aquatic resource: Grass Swale 1.
- 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, North Beech Corridor, Plain and Jersey Townships, Franklin and Licking Counties, Ohio, completed by EMH&T and submitted to this office on 1 July 2022 with additional information received on 11 July 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: 7.5' New Albany and Jersey, Ohio Quads Exhibit 2 of submitted report.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Exhibit 3A of submitted report.
- National wetlands inventory map(s). Cite name: Exhibit 5 of submitted report.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Exhibit 4 of submitted report.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Exhibit 1 and 6 of submitted report.  
or  Other (Name & Date): Photos within submitted report.
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

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

**USACE APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATION LETTER**

**(LRH-2022-41-MUS)**

**February 15, 2022**



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)

# Letter of Notification for the Green Chapel Extension 138 kV Transmission Line Project



An **AEP** Company

*BOUNDLESS ENERGY™*

PUCO Case No. 23-0668-EL-BLN

Part 3 of 3

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

Submitted by:  
AEP Ohio Transmission Company, Inc.

July 11, 2023

**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):

Silts  Sands  Concrete  
 Cobbles  Gravel  Muck  
 Bedrock  Vegetation. Type/% cover:  
 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):

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

High Tide Line indicated by:  Mean High Water Mark indicated by:  
 oil or scum line along shore objects  survey to available datum;  
 fine shell or debris deposits (foreshore)  physical markings;  
 physical markings/characteristics  vegetation lines/changes in vegetation types.  
 tidal gauges  
 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:** .

# **GREEN CHAPEL EXTENSION PROJECT**

## **LICKING COUNTY, OHIO**

### **ADDENDUM 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  
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Project #: 60690401

March 2023

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FIGURE 2	Soil Map Unit and National Wetland Inventory Map
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FIGURE 4	Stream Eligibility Map
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APPENDIX A	EMHT Wetland USACE Forms & Delineated Features Photographs (combined per wetland)
APPENDIX B	EMHT QHEI form & AECOM photographs for Blacklick Creek
APPENDIX C	Upland Drainage Features and Habitat Photographic Record
APPENDIX D	Pond Photographic Record
APPENDIX E	EHMT Permitting Excerpts

## 1.0 INTRODUCTION

American Electric Power Ohio Transmission Company (AEP Ohio Transco) is proposing to build a new 2.7-mile, greenfield 138kV transmission line from the proposed Green Chapel Substation to the interconnection of the Jug Street-Corridor 345 kV transmission line in Licking County, Ohio, which was covered in the March 2022 Ecological Report (herein referred to as the “March 2023 – Original Report”). Since the March 2023 – Original Report, the Project Survey Area was expanded. The Addendum Project Survey Area, totaling approximately 50.2-acres, was requested to account for associated pull pads and access roads. AECOM completed an additional ecological survey for the areas identified within the Addendum Project Survey Area. The Addendum Project Survey Area is located on the New Albany and Jersey, Ohio U.S. Geologic Survey 7.5’ topographical quadrangle as displayed on Project Overview Map (**Figure 1**).

Due to the active construction activities by others within the vicinity of the Project, four EMHT survey areas overlap with the AECOM Addendum Project survey area (**Figure 3**). During those investigations, EMHT identified one perennial stream (EMHT-Stream 1, Blacklick Creek) and two wetlands (EMHT-Wetland U and EMHT-Wetland V) that overlap with the AECOM Addendum Project survey area. EMHT-Stream 1 and EMHT-Wetland U and V have been confirmed by USACE under the following file number: LRH-2022-557-SCR. Additionally, another previous JD (LRH-2018-686-SCR-Blacklick Creek) was completed along the portion of the Addendum Project survey area associated with the access road that originates off of Jug Street Road NW and extends north to the southern edge of the tie-in to Green Chapel Extension 138kV and Jug-Kirk 345kV transmission lines. None of the previously identified resources associated with this JD overlap the Addendum Project survey area (**Appendix E**).

The purpose of the field survey was to assess the presence of wetlands and other “waters of the United States” (WOTUS) that occur within the Addendum Project Survey Area. 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

A comprehensive methodology of the field surveys and data reviews completed for this report are included within the March 2023 - Original Report (AECOM, 2023) and a brief summary of the delineation and agency coordination methodology has been provided below.

The field survey was conducted within an approximately 150-foot-wide right-of-way (ROW) centered on the Conesville-Corridor 345kV Transmission Line and the Jug St-Corridor 345kV Transmission Line, as well as associated pull pads and access road, which composes the Addendum Project survey area of approximately 50.2-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.

Delineations were conducted in accordance with the procedures outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (1987 Manual) (Environmental Laboratory, 1987), and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE, 2010). In addition, any wetlands were classified using the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM) (Mack, 2001). 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).

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 Addendum Project survey area was assigned a general classification based upon the principal land characteristics and vegetation cover of the location.

Initial coordination from the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the United States Fish and Wildlife Service (USFWS) Ohio Ecological Services Field Office soliciting comments on the proposed Project. Responses were received in September and August 2022, respectively. Based on review of the online resources and the Addendum Project survey areas abutting the previous review areas, no further threatened and/or endangered species coordination was warranted. The original assessment completed in the March 2023-Original Report (AECOM, 2023) does not need revised and/or edited.

### 3.0 RESULTS

On January 17<sup>th</sup> -18<sup>th</sup>, 2023, AECOM ecologists walked the Addendum Project survey area to conduct the wetland delineation, stream assessment and habitat survey. Within the Addendum Study Area, AECOM delineated two ponds, extended EMHT-Stream 1 (EMHT-Stream 1-EXT 1) and confirmed the boundaries of EMHT-Wetland U and EMHT-Wetland V. The locations and approximate extent of the wetlands and streams identified within the Addendum Project survey area and March 2023-Original Report are shown on **Figure 3**. EMHT USACE data forms and wetland photographs of features that overlap with of the Addendum Survey Area are provided as **Appendix A**; EMHT Stream form and AECOM photographs of

Blacklick Creek are provided as **Appendix B**. Data forms, photographs, tables, and additional information on delineated features within the original Project survey area are contained within the March 2023-Original Report (AECOM, 2023). The delineated features within the Addendum Project survey area are discussed in detail in the following sections.

**3.1 WETLAND DELINEATION**

**3.1.1 PRELIMINARY SOILS EVALUATION**

According to the USDA/NRCS Web Soil Survey, three soil series are mapped within the Addendum Project Survey Area (USDA NRCS 2021a and 2021b). Of these, one soil map unit is identified as hydric, comprising approximately 39.1% of the mapped unit areas. **Table 1** below provides a detailed overview of all soil series and soil map units present within the Addendum Project survey area. Soil map units located in the Addendum Project survey area and vicinity are shown on **Figure 2**.

**TABLE 1 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE ADDENDUM 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	Ground moraines, Depressions, Drainageways	Yes*	Pewamo (3%), Condit (3%)
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Drainageways, depressions	Yes*	Condit 4% Marengo 3%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, depressions	Yes	Condit 9% Pewamo, low carbonate till 85%

Yes\* = Hydric inclusions present

**3.1.2 NATIONAL WETLAND INVENTORY MAP REVIEW**

According to NWI data covering the Project location, the Addendum Project survey area contains three mapped NWI wetlands (USFWS, 2022). The locations of NWI mapped wetlands in the Project vicinity are shown on **Figure 2**. A summary of NWI-mapped wetlands occurring in the Addendum Project survey area and their associated field identified resources is presented in **Table 2**.

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

NWI Code	NWI Description	Related Field Inventoried Resource (Wetland ID/Stream ID)	Comments
PEM1A	Palustrine, Emergent, Persistent, Temporary Flooded	Not present during investigations	Located in an area of active construction. Due to site conditions, the feature could not be confirmed.
PUBGx	Palustrine, Unconsolidated Bottom, Intermittently Exposed	P-MRK-001	Pond adjacent to Blacklick Creek and drains the creek through an overflow pipe
R5UBH	Riverine, Unknown Perennial, Unconsolidated Bottom, Permanently Flooded	EMHT-Stream 1, EMHT-Stream 1- EXT 1, and EMHT-Stream 1- EXT 2	Blacklick Creek, Perennial Stream

**3.1.3 DELINEATED WETLANDS**

During the field survey, AECOM confirmed the wetland boundaries of two EMHT Wetlands. The boundaries of EMHT Wetland U and V were approved by USACE (LRH-2-22-557-SCR) as jurisdictional and a copy of the jurisdictional determination is provided in **Appendix F**.

The locations and approximate extent of the EMHT wetlands within the Addendum Project survey area are shown on **Figure 3**. Details for previous and new delineated wetlands within the Project area are provided in **Table 3**. Features that were extended or newly identified are highlighted yellow within **Table 3**. No Ohio EPA ORAM forms or score were provided for EMHT-Wetland U or EMHT-Wetland V. EMHT USACE forms and photographs of each wetland that overlaps with the Addendum Project survey area are provided in **Appendix A**. A copy of the USACE jurisdictional determination letter for EMHT-Wetland U and V is provided in **Appendix E**.

**TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN ADDENDUM PROJECT SURVEY AREA**

Wetland ID	Location		Isolated ?	Habitat Type	Delineated Area (acre)	ORAM <sup>1</sup>		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)
EMHT – Wetland R2	40.112912	-82.742601	Yes	PFO	14.9	54	2	Str. Undefined (#67 in line) Str. 6	None	Str. Undefined (#67 in line) Str. 6	TBD	TBD	TBD
EMHT – Wetland M	40.116160	-82.742126	Yes	PFO	1.1	47.5	2	Str. Undefined (#73 in line)	None	Str. Undefined (#73 in line)	TBD	TBD	TBD
EMHT – Wetland N	40.117572	-82.742361	Yes	PFO	0.4	48	2	Str. 8	None	Str. 8	TBD	TBD	TBD
EMHT – Wetland R1	40.119746	-82.741799	Yes	PFO	0.8	45	2	None	None	None	TBD	TBD	TBD
EMHT- Wetland U	40.106801	-82.740143	No	PFO/PEM	1.07	N/A	N/A	Str. 216	None	None	TBD	TBD	TBD
EMHT- Wetland V	40.106331	-82.739116	No	PFO/PEM	0.31	N/A	N/A	Str. 216	None	None	TBD	TBD	TBD
<b>Total:</b>					<b>18.58</b>							<b>TBD</b>	<b>TBD</b>

1- As assessed by EHMT; ORAM data forms provided in Appendix A. N/A = Not provided.

### 3.2 STREAM DELINEATION

During the field survey, AECOM confirmed the location of EMHT-Stream 1 and extended EMHT-Stream 1 (Blacklick Creek), identified by EMHT-Stream 1-EXT 1, within the Addendum Project survey area (**Figure 3**). Blacklick Creek does not have an existing OEPA Aquatic Life Use Designation (OAC-3745-1) and was assessed by EMHT utilizing a QHEI data form (**Appendix B**).

Final jurisdictional status of EMHT-Stream 1 (Blacklick Creek) was determined by the USACE under the file number LRH-2022-557-SCR (**Appendix F**). A summary of the previously delineated features is provided in **Table 4**. Features that were extended are highlighted yellow within **Table 4**. EMHT QHEI data form and AECOM photographs of the Blacklick Creek is provided in **Appendix B**.

#### 3.2.1 OEPA STREAM ELIGIBILITY

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

### 3.3 FEMA 100 YEAR FLOODPLAINS

According to the FEMA Map (39089C0280H), one mapped FEMA floodways associated with Blacklick Creek are listed as Zone A (No Base Flood Elevations) (FEMA, 2011). The extent of FEMA regulated floodplains and floodways are displayed on **Figure 2**.

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

Stream ID	Location		Stream Type	Stream Name	Delineated Length (feet)	Bankfull Width (feet)	OHWM Width (feet)	Field Evaluation			Ohio EPA 401 Eligibility	Stream Crossing?	Proposed Impacts	
	Latitude	Longitude						Method	Score	Classification / Rating / OAC Designation			Fill Type	Length (LF)
S-SRC-001	40.124569	-82.729230	Ephemeral	UNT to Duncan Run	36	3.5	1.5	HHEI	25	Class I PH	Eligible	TBD	TBD	TBD
S-SRC-002	40.124459	-82.729301	Perennial	Duncan Run	167	15.0	8.0	Chapter 3745-1	-	WWH	Eligible	TBD	TBD	TBD
EMHT-Stream 1	40.108799	-82.745348	Perennial	Blacklick Creek	4497	12	8	QHEI	45	Fair	Possibly Eligible	TBD	TBD	TBD
EMHT-Stream 1-EXT 1	40.109575	-82.754293	Perennial	Blacklick Creek	733	12	8	QHEI	45	Fair	Possibly Eligible	TBD	TBD	TBD
<b>Total:</b>					<b>5,433</b>							<b>TBD</b>	<b>TBD</b>	

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

HUC-12	Watershed	401 WQC Eligibility	Number of Streams
050400060401	Headwaters Blacklick Creek	Possibly Eligible	1
<b>Total</b>			<b>1</b>

**3.4 UPLAND DRAINAGE FEATURES**

Three upland drainage features (UDF-MRK-001, UDF-MRK-002 and UDF-MRK-003) were identified within the Addendum Survey Area. Based on the site investigation, the UDF lacked a significant nexus to a jurisdictional WOTUS. Photographs of the upland drainage feature is provided in **Appendix C** and locations are depicted on **Figure 3**.

**3.5 PONDS**

Two ponds (P-MRK-001 and P-MRK-002) were identified within the Addendum Project Survey Area. The location and extent of the features are displayed on **Figure 3** and photographs of each pond feature is provided in **Appendix D**.

**3.6 VEGETATIVE COMMUNITIES**

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of woody and herbaceous lands, as described in **Table 6** below, are present within the Project survey area and includes: agricultural row-crop, old field, urban, stream/wetlands, scrub-shrub, woodlands, and landscaped areas. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5** and representative photographs are provided as **Appendix C**.

**TABLE 6- VEGETATIVE COMMUNITIES WITHIN THE ADDENDUM PROJECT SURVEY AREA**

<b>Vegetative Community</b>	<b>Description</b>	<b>Approximate Acreage Within the Project Survey Area</b>	<b>Approximate Percentage Within the Project Survey Area</b>
Agricultural Row-Crop	Includes fields planted in row-crop such as corn, soybean or winter wheat.	25.2	50.3%
Landscaped	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Addendum Project survey area and adjacent areas are frequently mowed grasses and forbs.	7.3	14.5%
Old Field	Herbaceous cover exists alongside roads, field borders, and abandoned fields within the addendum 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 survey areas and adjacent areas are infrequently mowed areas of grasses, forbs, and occasional shrubs.	11.4	22.6%
Pasture/Hay Field	Cattle and/or horse pasture, and hay fields, dominated by seasonally mowed and grazed areas of grasses and forbs.	0.2	0.5%
Scrub-Shrub	Scrub-shrub habitats represent the successional stage between old-field and second growth forest, and often emerge in recently harvested forests responding to the lightness of the remaining canopy. Dominant species consist of herbaceous communities similar to that of old field habitat with 30% or greater coverage of woody species that are not trees (including sapling trees generally <3" dbh and <20' in height).	0.4	0.8%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	3.1	6.2%
Wetlands/Streams	Streams and wetlands were observed both within and beyond the addendum survey area for the Project.	1.7	3.4%
Woodlands	Woodlands (floodplain, upland, successional-mixed, etc) are present along the Addendum Project survey area. Woody species dominating these areas included: <i>Acer rubrum</i> , <i>Ulmus americana</i> , <i>Lindera benzoin</i> , and <i>Quercus palustris</i> .	0.9	1.7%
<b>Totals:</b>		<b>50.2</b>	<b>100%</b>

### 3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

#### *Protected Species Agency Consultation –*

Within the March 2023-Original Report, a total of six species were identified within range of the Project. Of these six species, four bat species were identified as displaying summer roosting habitat within the original Project survey area. Regarding the Addendum Project Survey Area, the current land use does include forested habitat that could serve as summer roosting habitat for the identified bat species. The lake chubsucker (state threatened), the Project will not result in-stream work, therefore, no further coordination required. Lastly, the Addendum Project Survey Area was revised for the presence of northern harrier. Due to the lack of large open wetland area and/or grasslands greater than 2-acres in size. Additionally, several tree lines and edge habitats that border the Addendum Project Survey Area contribute to the “edge effect” or increase predation that make these areas less favorable for the ground nesting bird species. Lastly, the area of the Project is undergoing extensive industrial development that make the area less favorable due to change of landuse within development areas as well as noise for neighboring activities. Therefore, suitable habitat for the northern harrier was not identified within the Project area.

Based on review of the online resources and the Addendum Project survey areas abutting the previous review areas, no further threatened and/or endangered species coordination was warranted. A species list and overall assessment of the potential for rare, threatened and endangered species, is provided within the March 2023-Original Report (AECOM,2023).

## 4.0 SUMMARY

The ecological survey of the Addendum Survey Area identified a total of two ponds, confirmed the boundary of one EMHT stream, extended one EMHT stream feature, and confirmed the boundaries of two EMHT Wetlands. The EMHT wetlands within the Addendum Project survey area have been confirmed by USACE as jurisdictional WOTUS (LRH-2022-557-SCR). The confirmed and extended EMHT stream (Blacklick Creek) was identified as perennial and assessed by EMHT utilizing a QHEI data form. The EMHT Stream within the Addendum Project survey area have been confirmed by USACE as jurisdictional WOTUS (LRH-2022-557-SCR). No wetlands and/or streams identified within LRH-2018-686-SCR-Blacklick Creek are located within the Addendum Project survey area.

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

The information contained in this wetland delineation report is for a survey area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not

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

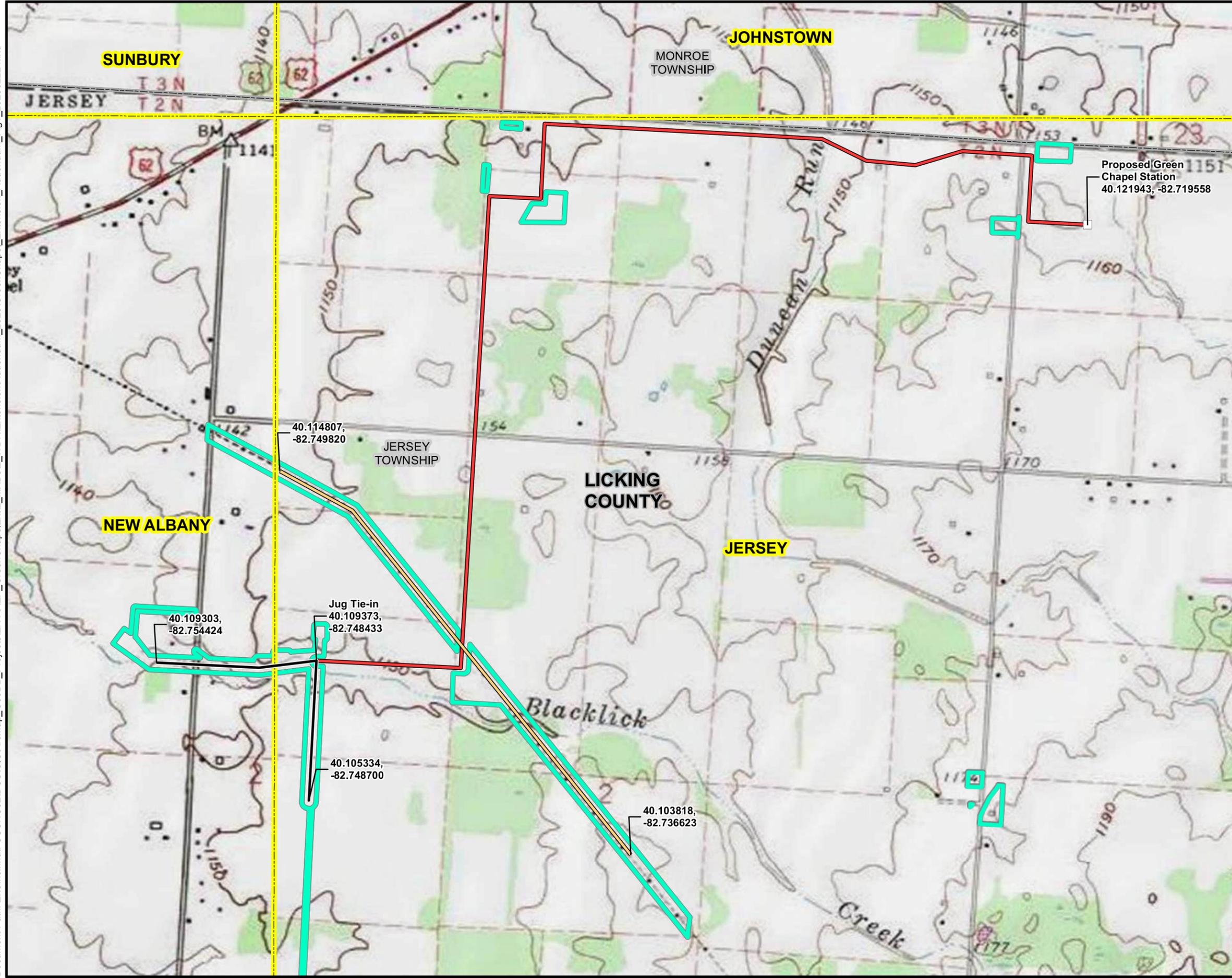
The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due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

## 5.0 REFERENCES

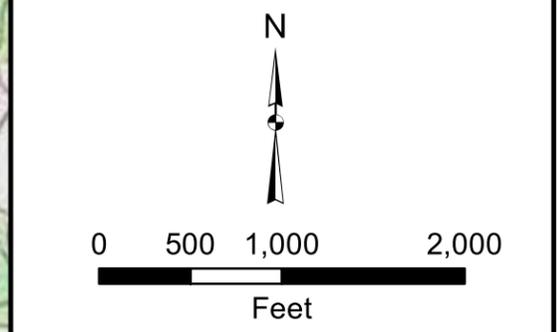
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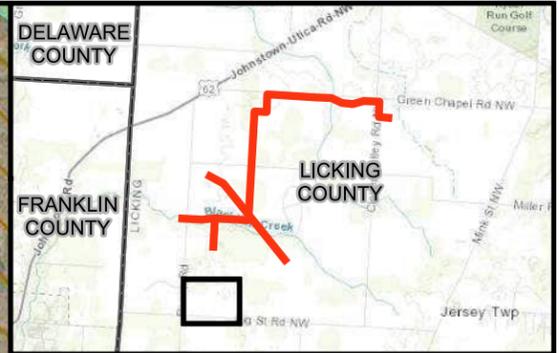
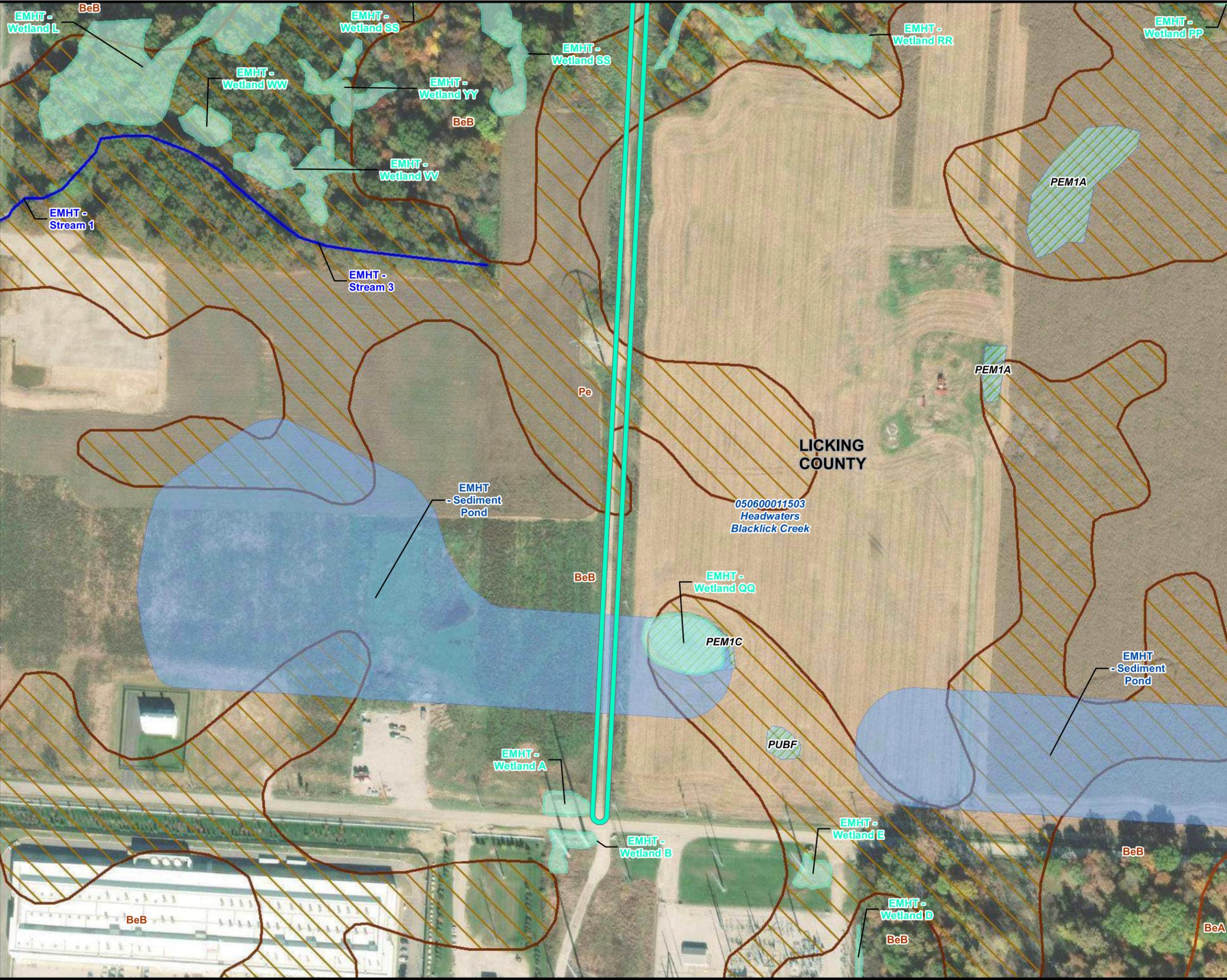
- Legend**
- Station
  - Conesville - Corridor 345kV Transmission Line
  - Green Chapel 138kV Extension Transmission Line
  - Jug St - Corridor 345kV Transmission Line
  - Addendum Project Survey Area
  - Ohio USGS 7.5' Topographic Quadrangle
  - Township Boundary
  - County Boundary



*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 1 PROJECT OVERVIEW</b>	
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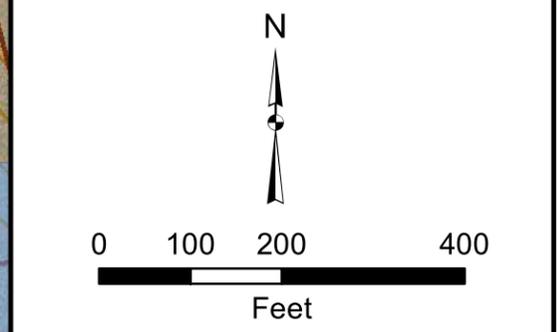


**Legend**

- Delineated Stream by EMHT
- Delineated Pond by EMHT
- Delineated Wetland by EMHT
- Project Survey Area
- Addendum Project Survey Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County Boundary
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

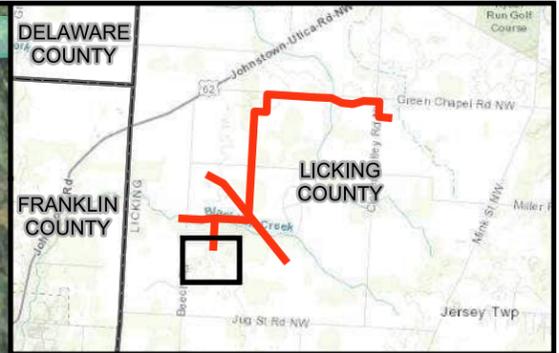
- BeA—Bennington silt loam, 0 to 2 percent slopes
- BeB—Bennington silt loam, 2 to 6 percent slopes
- Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



Green Chapel Extension 138kV  
Transmission Line Project

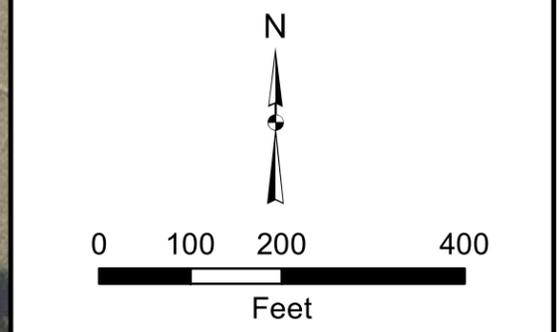
<b>FIGURE 2A SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
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JOB NO. 60683729	<b>AECOM</b>

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- Legend**
- Jug St - Corridor 345kV Transmission Line
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)
- Soil Map Unit Description**
- BeA—Bennington silt loam, 0 to 2 percent slopes
  - BeB—Bennington silt loam, 2 to 6 percent slopes
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

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

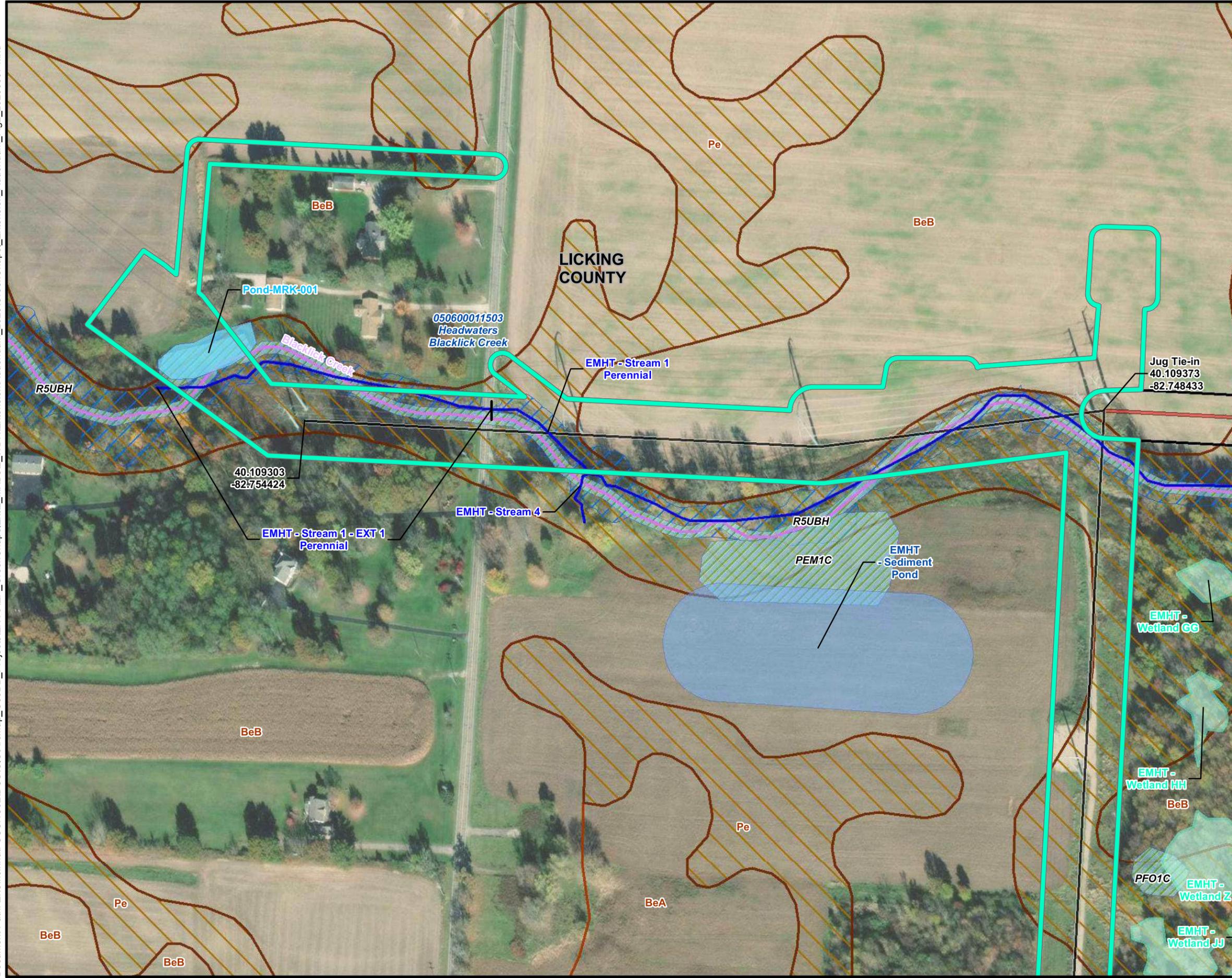


Green Chapel Extension 138kV  
 Transmission Line Project

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

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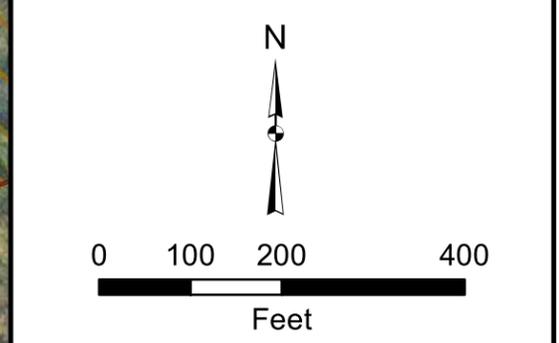
- Legend**
- Delineated Pond
  - Delineated Stream by EMHT
  - NHD Stream (USGS)
  - Green Chapel 138kV Extension Transmission Line
  - Jug St - Corridor 345kV Transmission Line
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - FEMA Floodplain (Zone A)
  - HUC 12 (USGS)
  - County Boundary
  - 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

Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

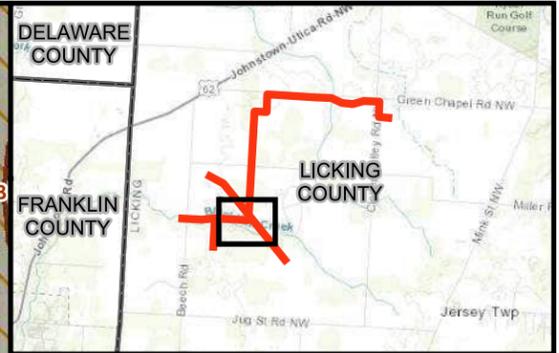
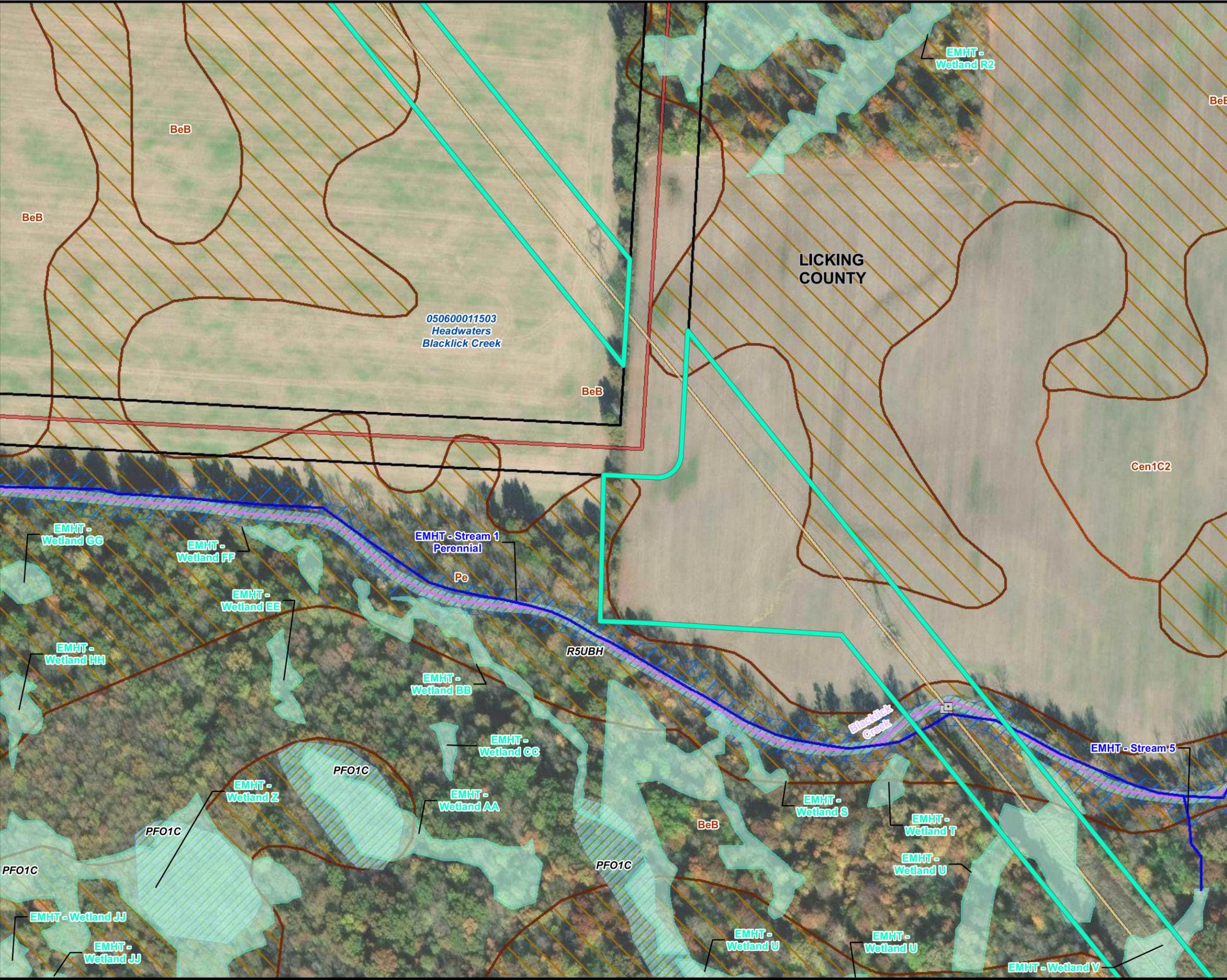


Green Chapel Extension 138kV  
Transmission Line Project

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

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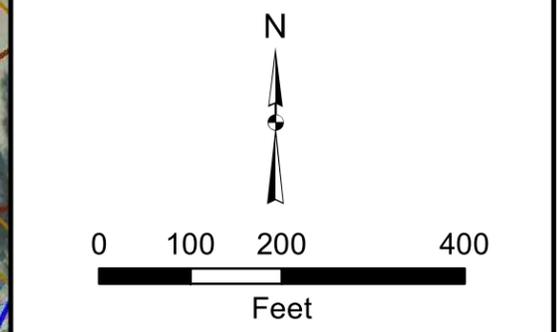
- Legend**
- Culvert
  - Delineated Stream by EMHT
  - NHD Stream (USGS)
  - Conesville - Corridor 345kV Transmission Line
  - Green Chapel 138kV Extension Transmission Line
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - FEMA Floodplain (Zone A)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

BeB—Bennington silt loam, 2 to 6 percent slopes

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

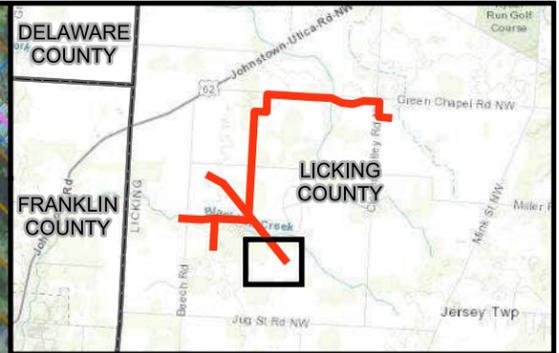
Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



Green Chapel Extension 138kV  
Transmission Line Project

<b>FIGURE 2D SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
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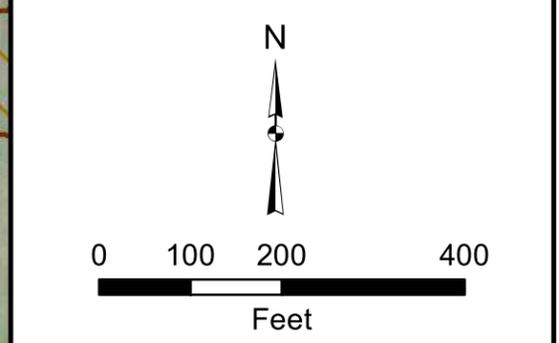


**Legend**

- Delineated Pond
- Addendum Upland Drainage
- Delineated Stream by EMHT
- NHD Stream (USGS)
- Conesville - Corridor 345kV Transmission Line
- Delineated Pond by EMHT
- Delineated Wetland by EMHT
- Project Survey Area
- Addendum Project Survey Area
- NWI Wetland (USFWS)
- FEMA Floodplain (Zone A)
- HUC 12 (USGS)
- County Boundary
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

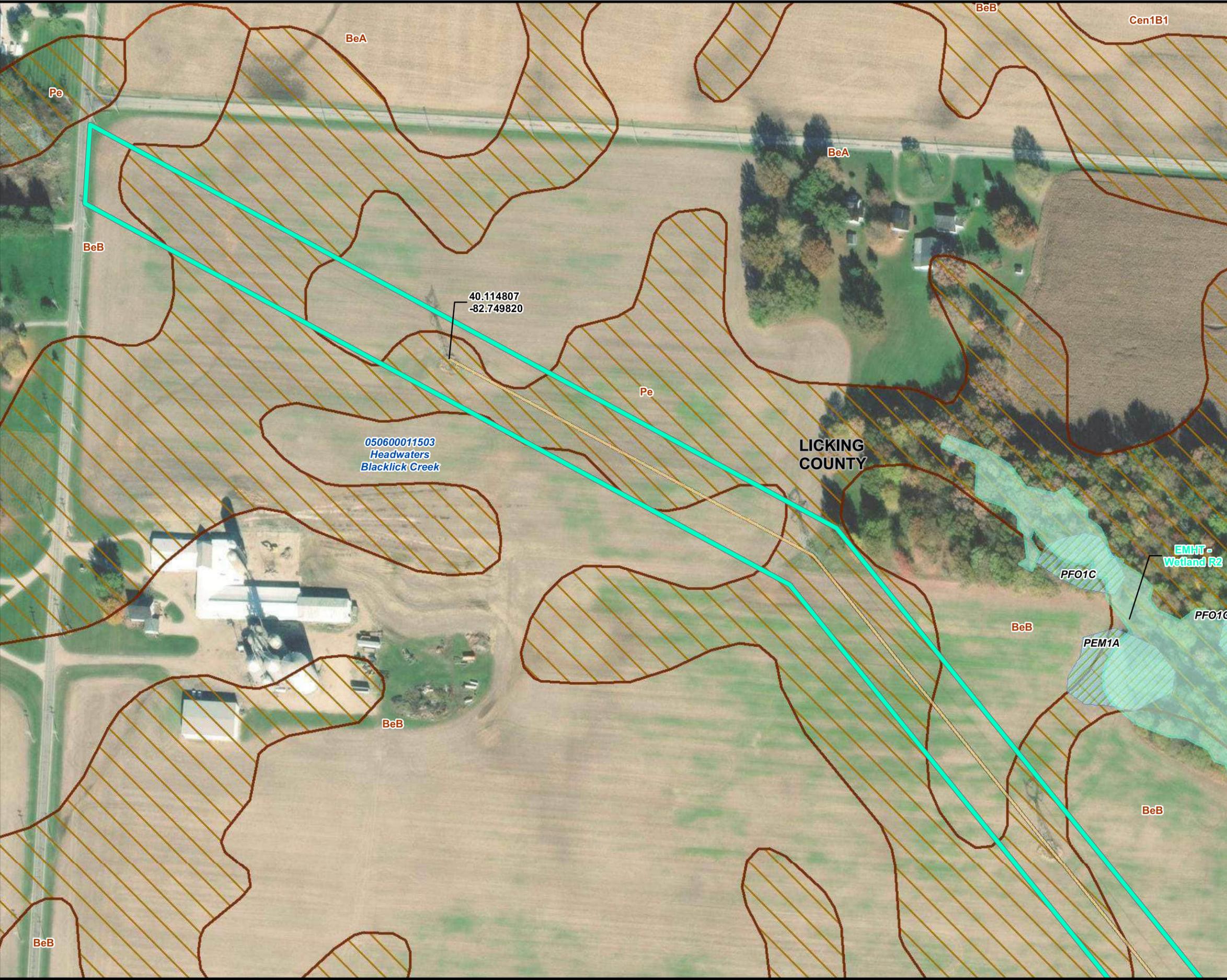
BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Cen1B1—Centerburg silt loam, 2 to 6 percent slopes  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



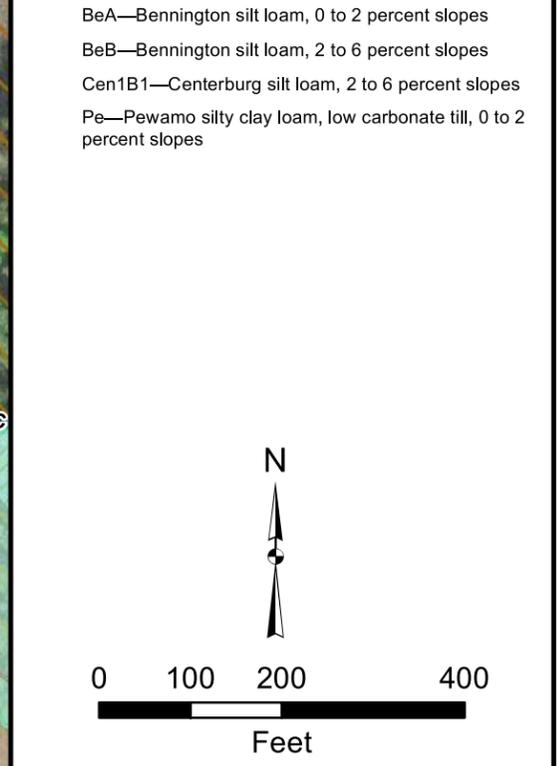
Green Chapel Extension 138kV  
 Transmission Line Project

<b>FIGURE 2E SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
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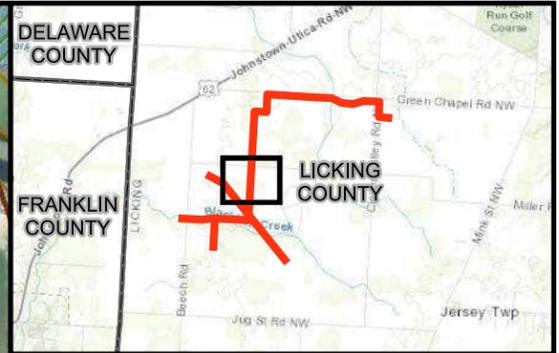
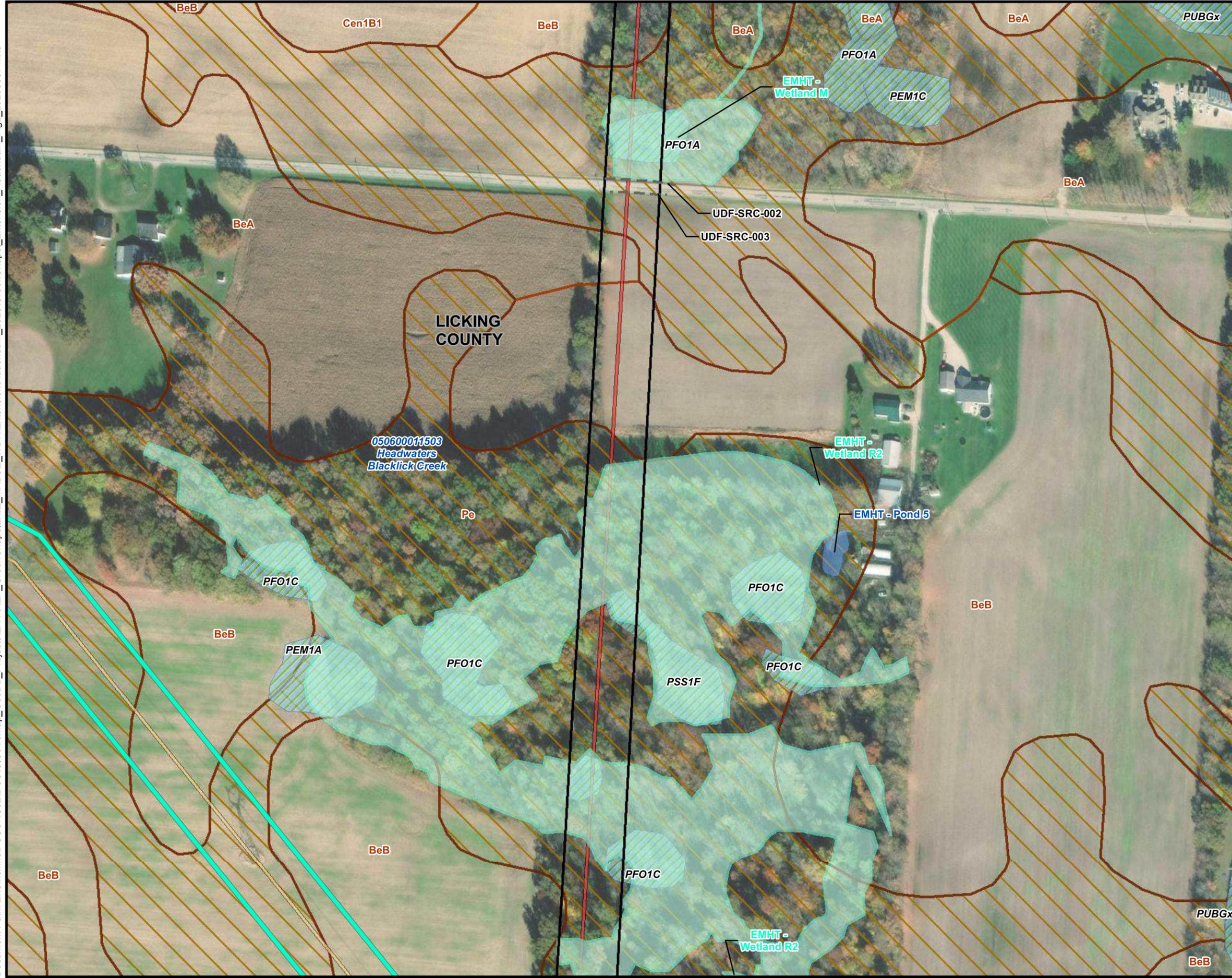
- Legend**
- Conesville - Corridor 345kV Transmission Line
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)
- Soil Map Unit Description**
- BeA—Bennington silt loam, 0 to 2 percent slopes
  - BeB—Bennington silt loam, 2 to 6 percent slopes
  - Cen1B1—Centerburg silt loam, 2 to 6 percent slopes
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



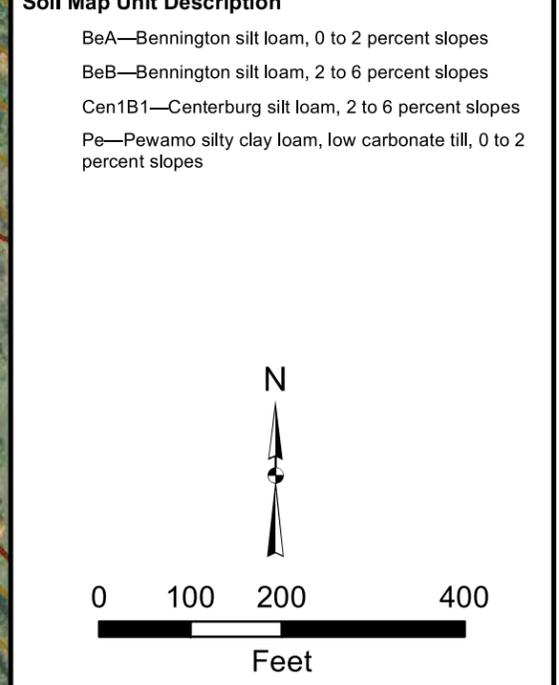
Green Chapel Extension 138kV Transmission Line Project

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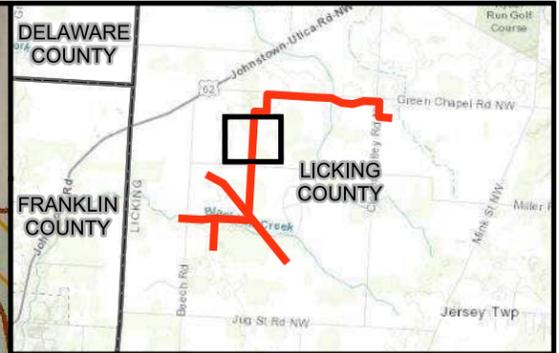
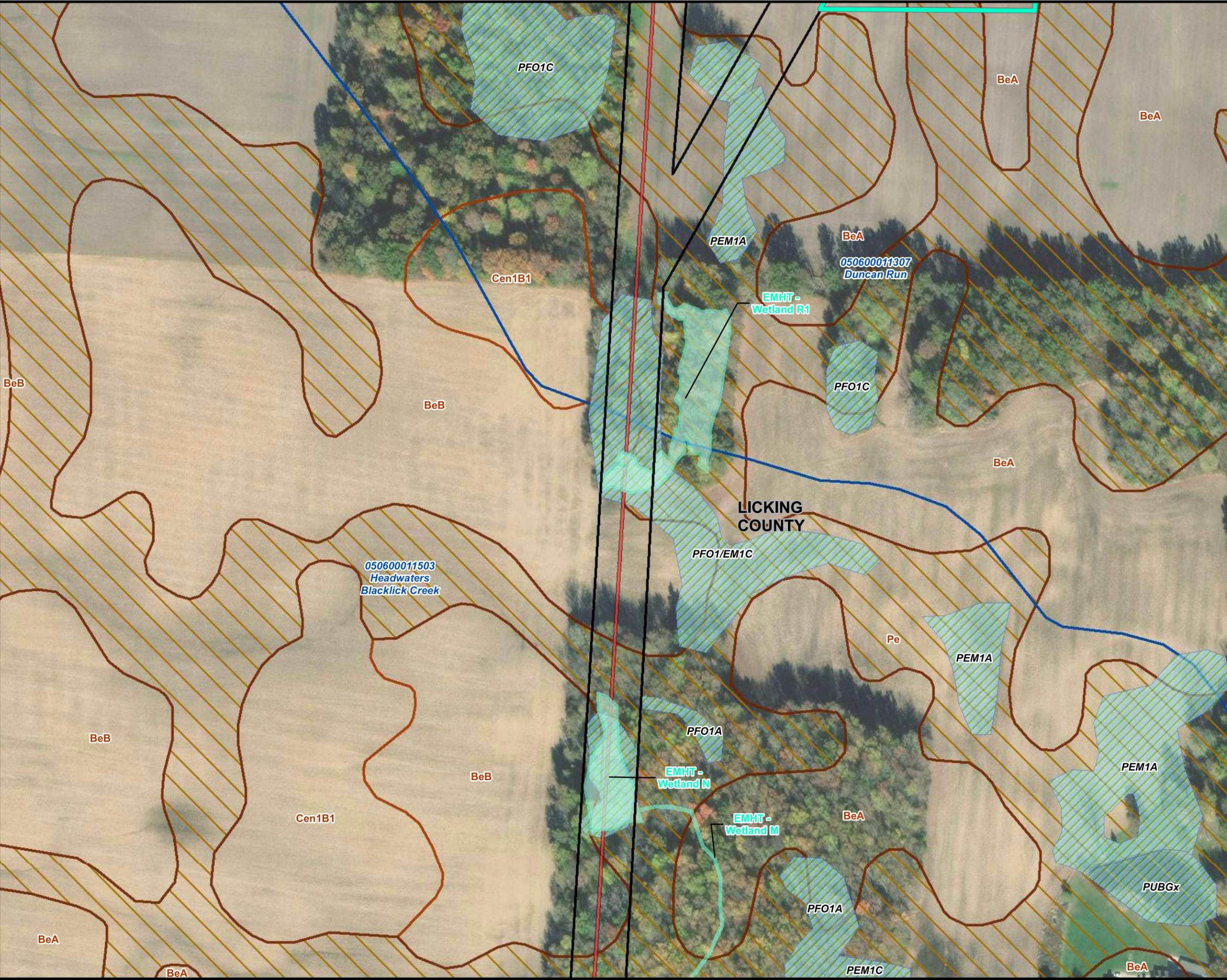
- Legend**
- Upland Drainage
  - Conesville - Corridor 345kV Transmission Line
  - Green Chapel 138kV Extension Transmission Line
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)
- Soil Map Unit Description**
- BeA—Bennington silt loam, 0 to 2 percent slopes
  - BeB—Bennington silt loam, 2 to 6 percent slopes
  - Cen1B1—Centerburg silt loam, 2 to 6 percent slopes
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



Green Chapel Extension 138kV  
 Transmission Line Project

<b>FIGURE 2G SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
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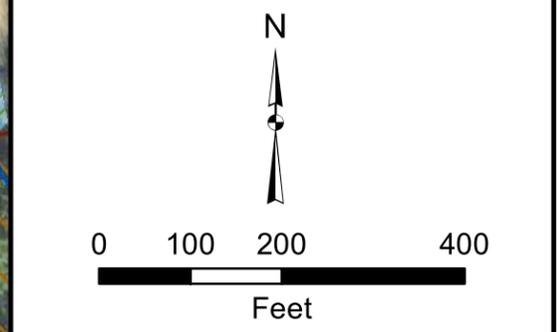


**Legend**

- Green Chapel 138kV Extension Transmission Line
- Delineated Wetland by EMHT
- Project Survey Area
- Addendum Project Survey Area
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- County Boundary
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

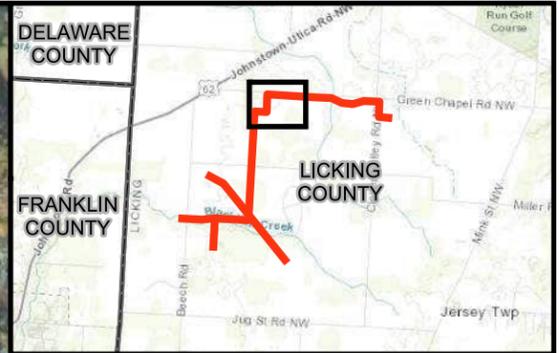
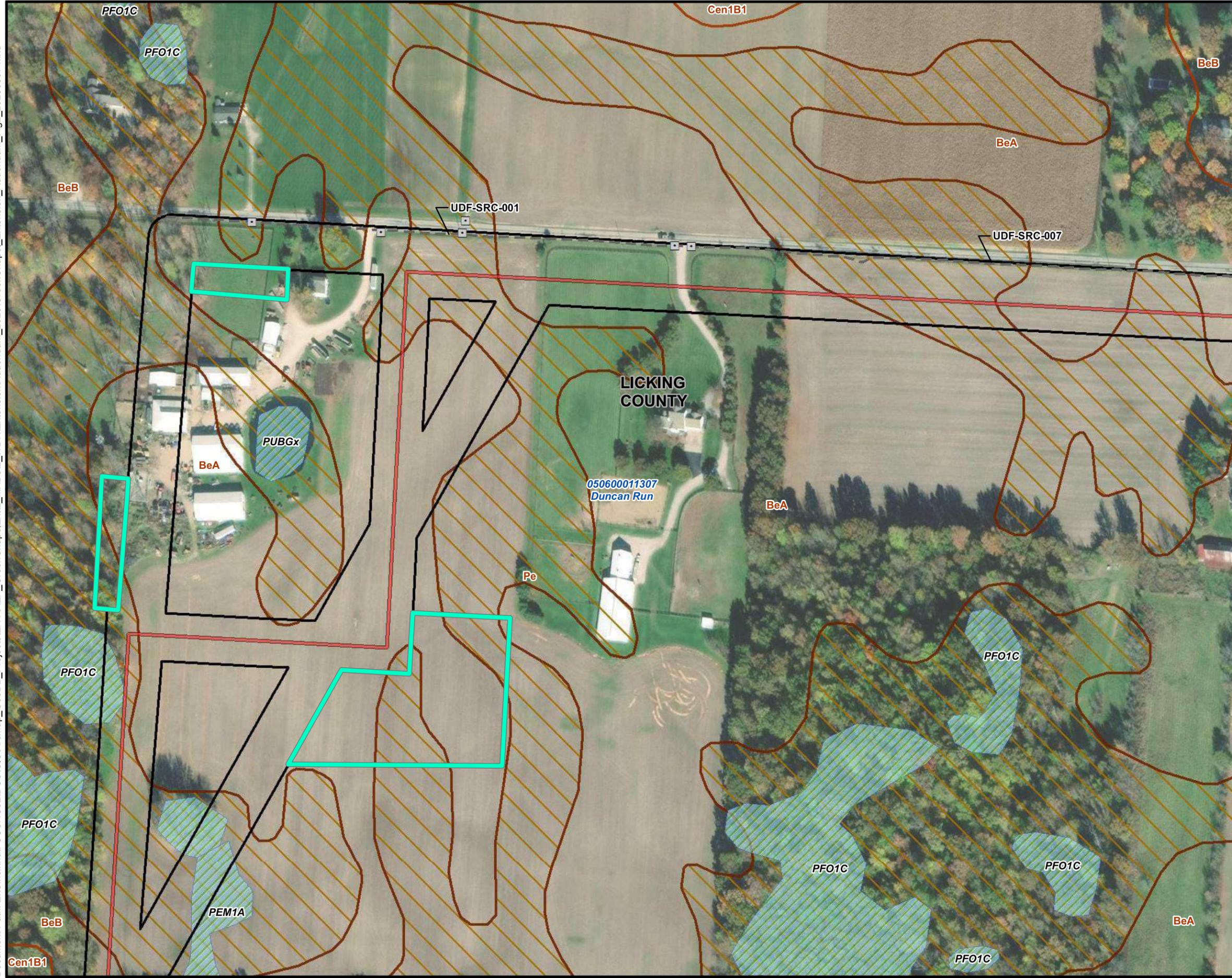
- BeA—Bennington silt loam, 0 to 2 percent slopes
- BeB—Bennington silt loam, 2 to 6 percent slopes
- Cen1B1—Centerburg silt loam, 2 to 6 percent slopes
- Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 2H SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
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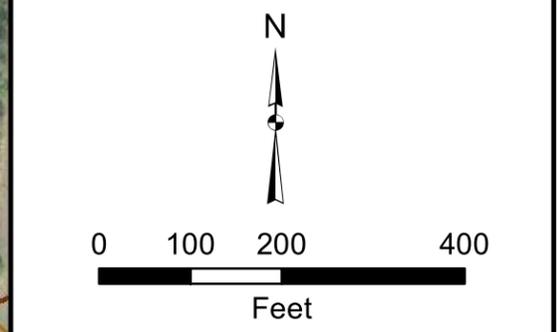
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- Legend**
- Culvert
  - Upland Drainage
  - Green Chapel 138kV Extension Transmission Line
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

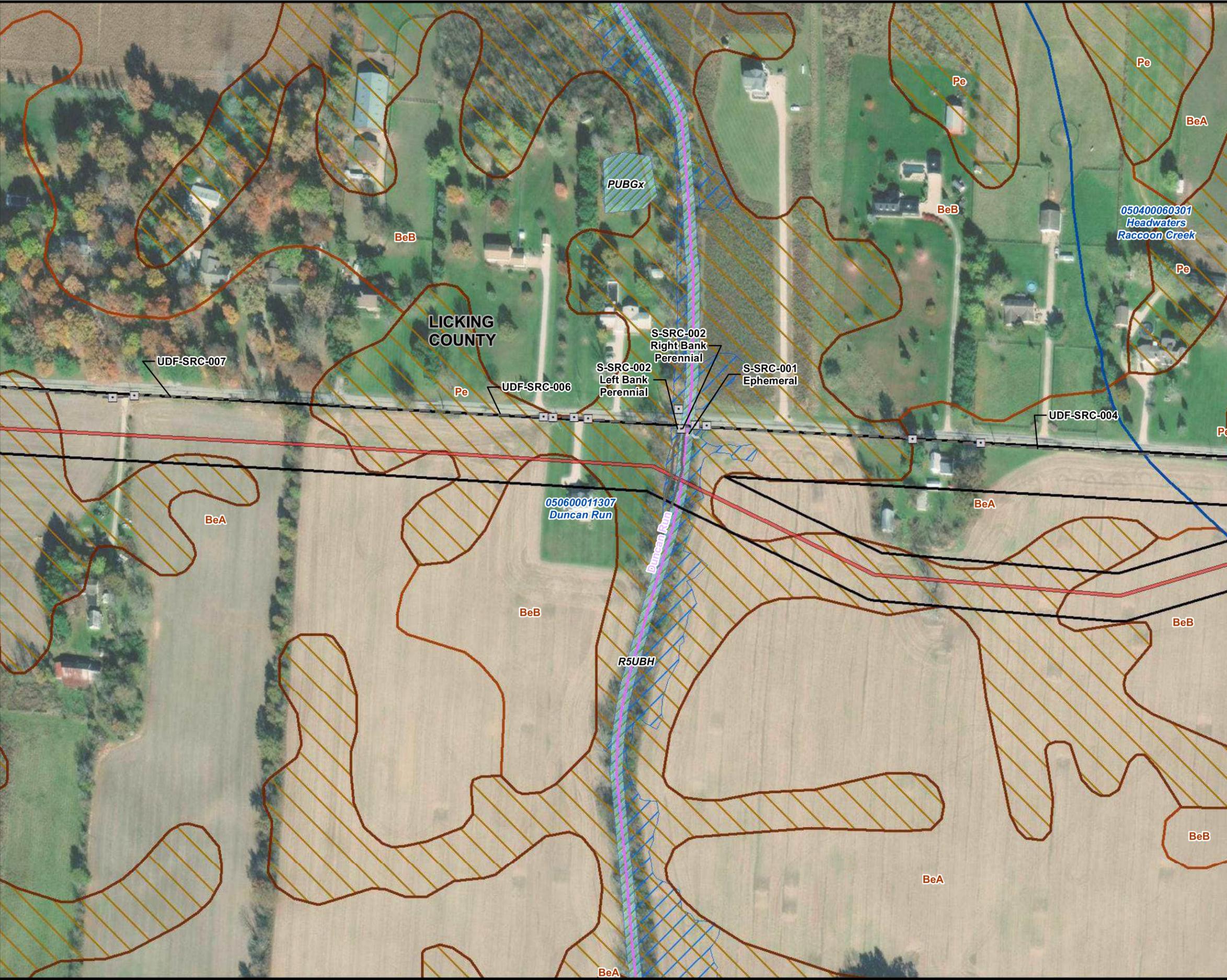
BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Cen1B1—Centerburg silt loam, 2 to 6 percent slopes  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



Green Chapel Extension 138kV  
 Transmission Line Project

<b>FIGURE 21</b>	
<b>SOIL MAP AND</b>	
<b>NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

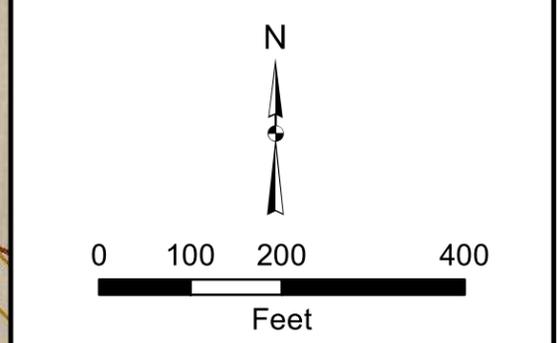
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- Legend**
- Culvert
  - Upland Drainage
  - Delineated Ephemeral Stream
  - Delineated Perennial Stream
  - NHD Stream (USGS)
  - Green Chapel 138kV Extension Transmission Line
  - Project Survey Area
  - NWI Wetland (USFWS)
  - FEMA Floodplain (Zone A)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)

**Soil Map Unit Description**

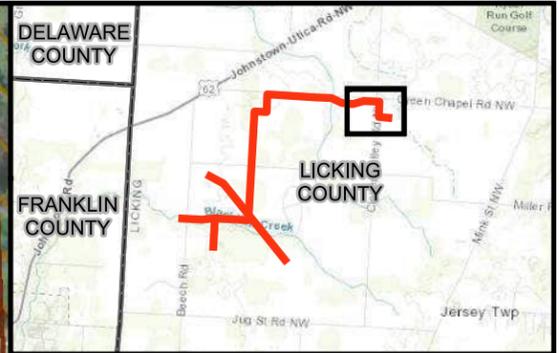
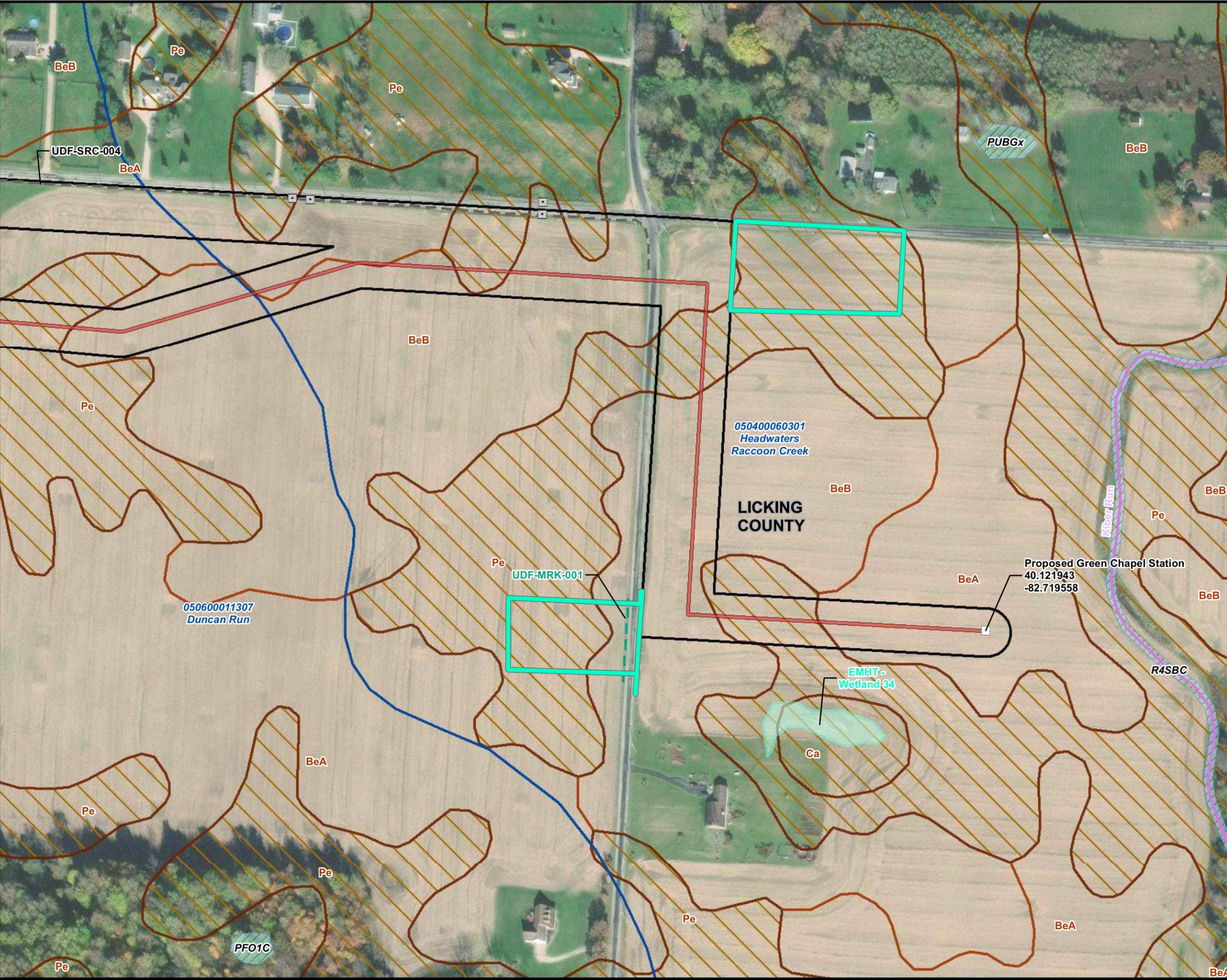
BeA—Bennington silt loam, 0 to 2 percent slopes  
 BeB—Bennington silt loam, 2 to 6 percent slopes  
 Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



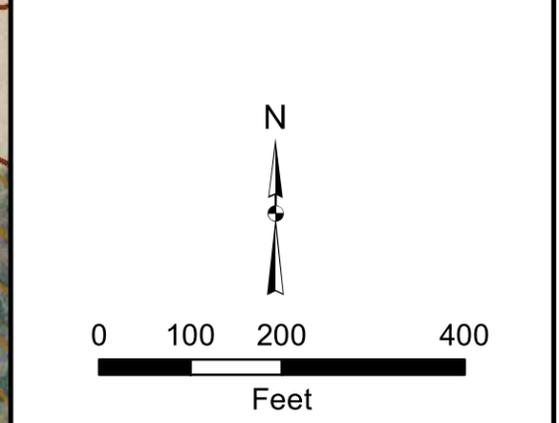
*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 2J SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
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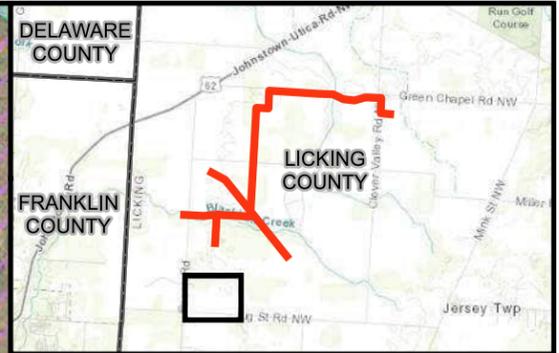
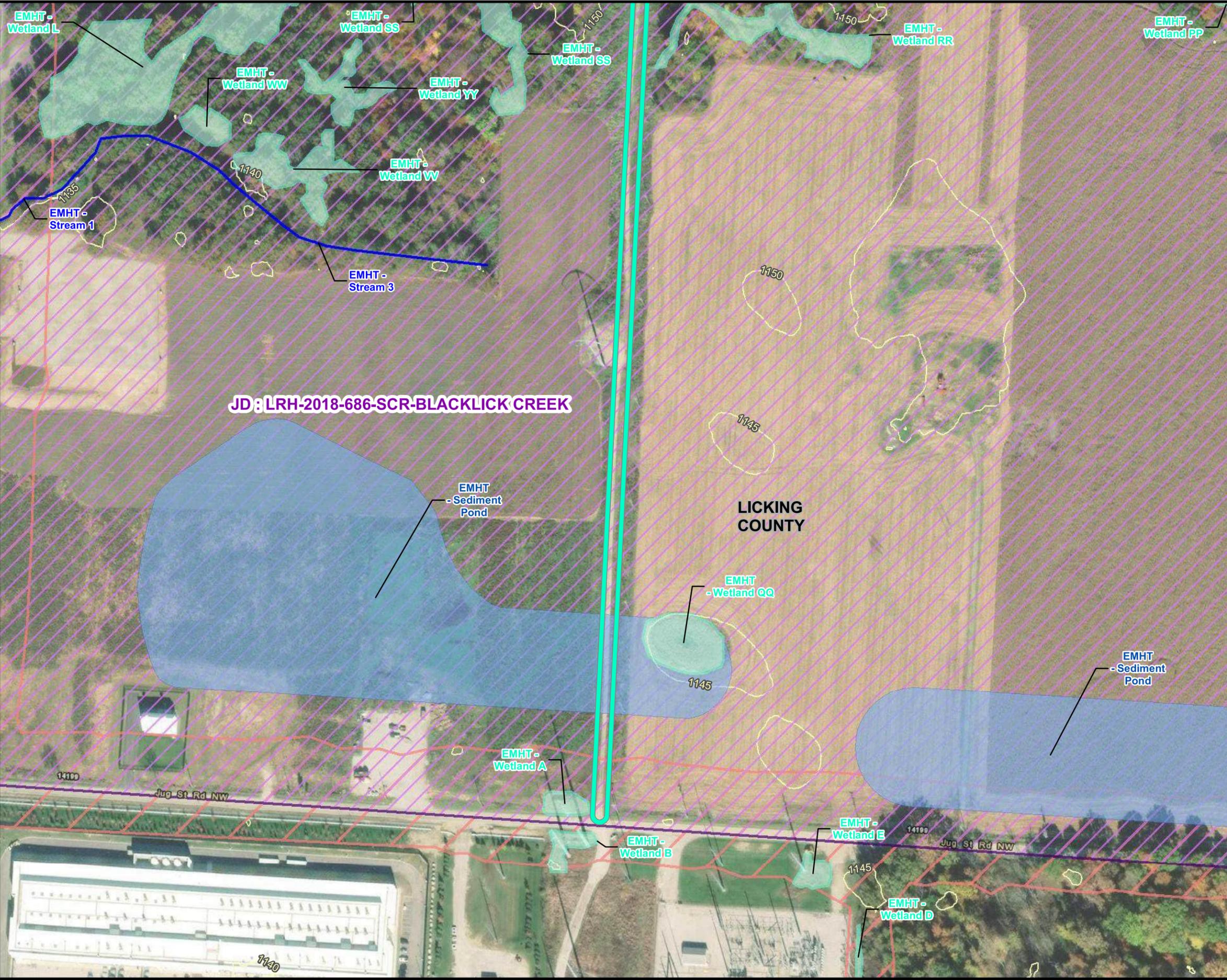
- Legend**
- Station
  - Culvert
  - Addendum Upland Drainage
  - Upland Drainage
  - NHD Stream (USGS)
  - Green Chapel 138kV Extension Transmission Line
  - Delineated Wetland by EMHT
  - Project Survey Area
  - Addendum Project Survey Area
  - NWI Wetland (USFWS)
  - HUC 12 (USGS)
  - County Boundary
  - SSURGO Soil Map Unit (NRCS)
  - Hydric SSURGO Soil Map Unit (NRCS)
- Soil Map Unit Description**
- BeA—Bennington silt loam, 0 to 2 percent slopes
  - BeB—Bennington silt loam, 2 to 6 percent slopes
  - Ca—Carlisle muck
  - Pe—Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes



**Green Chapel Extension 138kV  
Transmission Line Project**

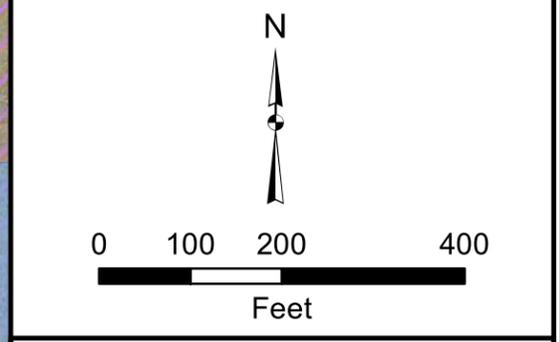
<b>FIGURE 2K SOIL MAP AND NATIONAL WETLAND INVENTORY MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
Document Path: Z:\Cincinnati\USCN02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapelExt2\_MXD\2\_WDR\Extension\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig3\_20230222.mxd



**Legend**

- Delineated Stream by EMHT
- Contour (5-Ft)
- Delineated Pond by EMHT
- Delineated Wetland by EMHT
- EMHT Project Survey Area
- EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
- Project Survey Area
- Addendum Project Survey Area
- County Boundary

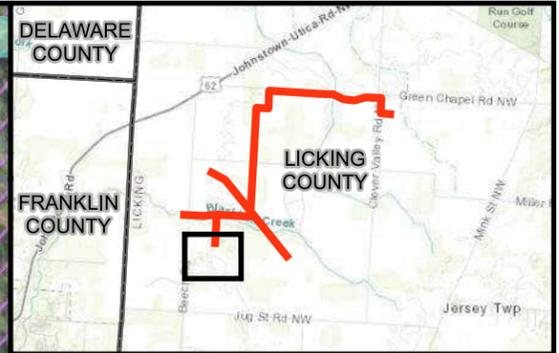
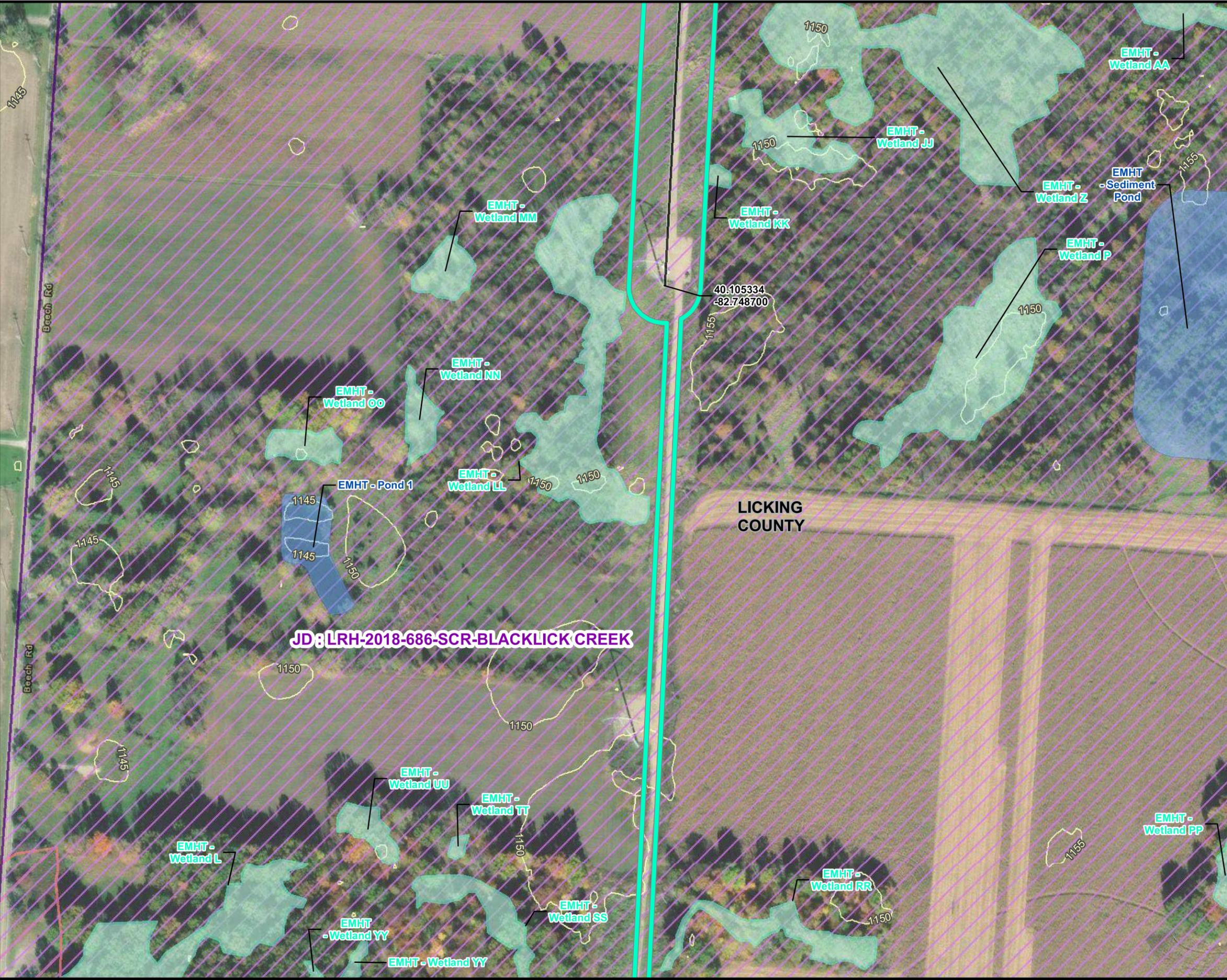


Green Chapel Extension 138kV  
Transmission Line Project

**FIGURE 3A**  
**WETLAND DELINEATION AND**  
**STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
 Document Path: Z:\Cincinnati-USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapelExt2\_MXD\2\_WDR\Extensions\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig3\_20230222.mxd



**Legend**

- Contour (5-Ft)
- Jug St - Corridor 345kV Transmission Line
- Delineated Pond by EMHT
- Delineated Wetland by EMHT
- EMHT Project Survey Area
- EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
- Project Survey Area
- Addendum Project Survey Area
- County Boundary

N

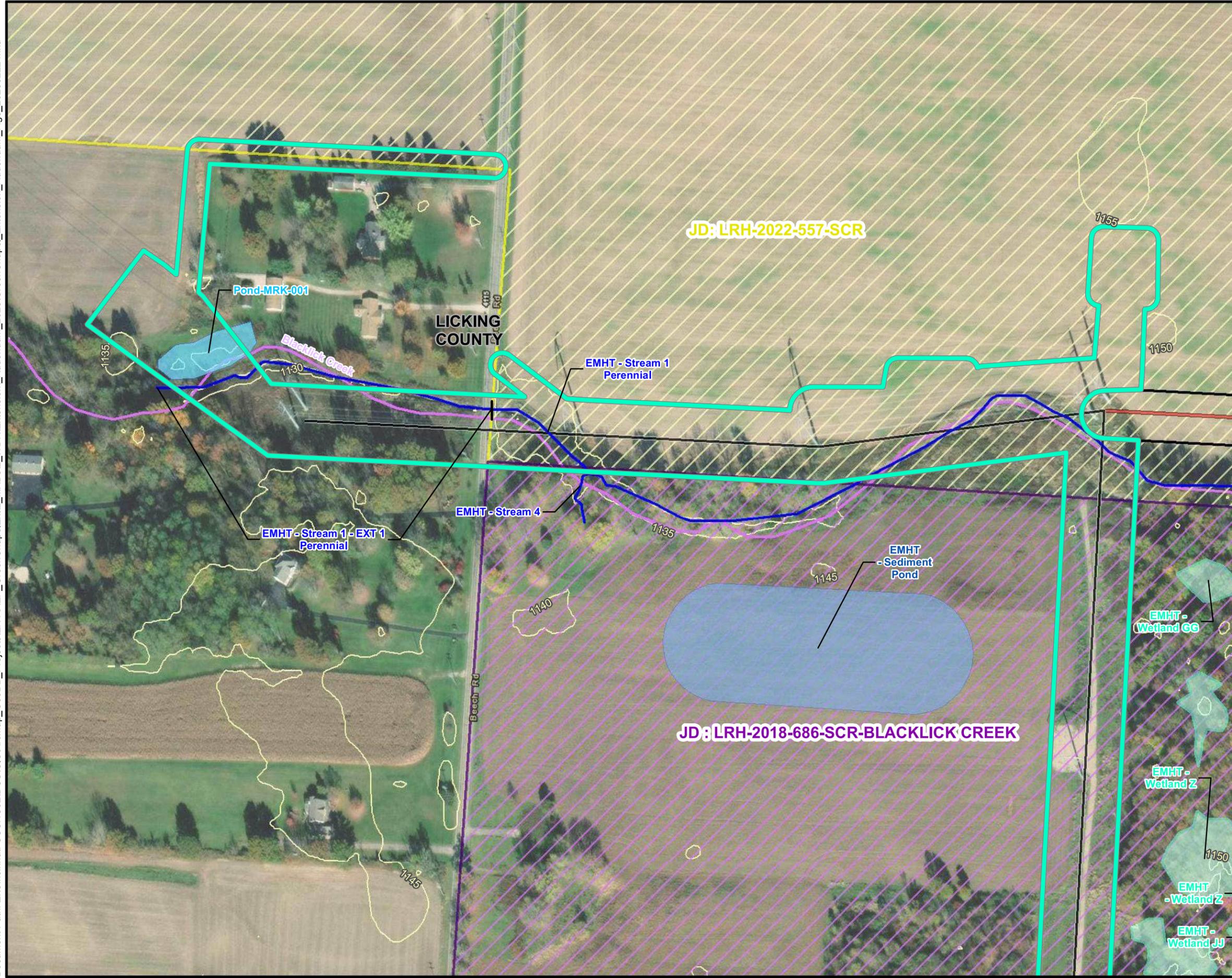
0 100 200 400

Feet

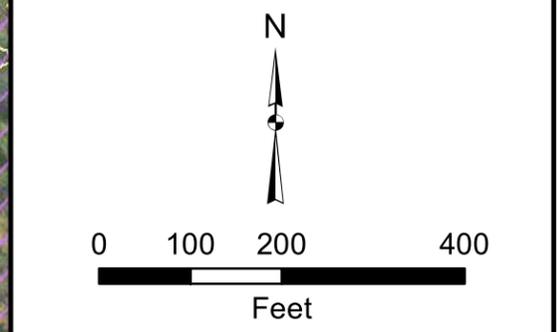
*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 3B WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
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- Legend**
- Delineated Pond
  - Delineated Stream by EMHT
  - NHD Stream (USGS)
  - Contour (5-Ft)
  - Green Chapel 138kV Extension Transmission Line
  - Jug St - Corridor 345kV Transmission Line
  - Delineated Pond by EMHT
  - Delineated Wetland by EMHT
  - EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - Project Survey Area
  - Addendum Project Survey Area
  - County Boundary

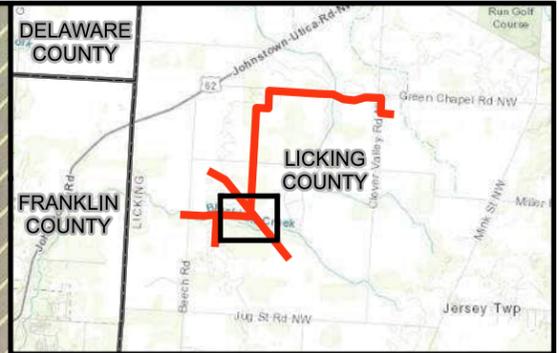
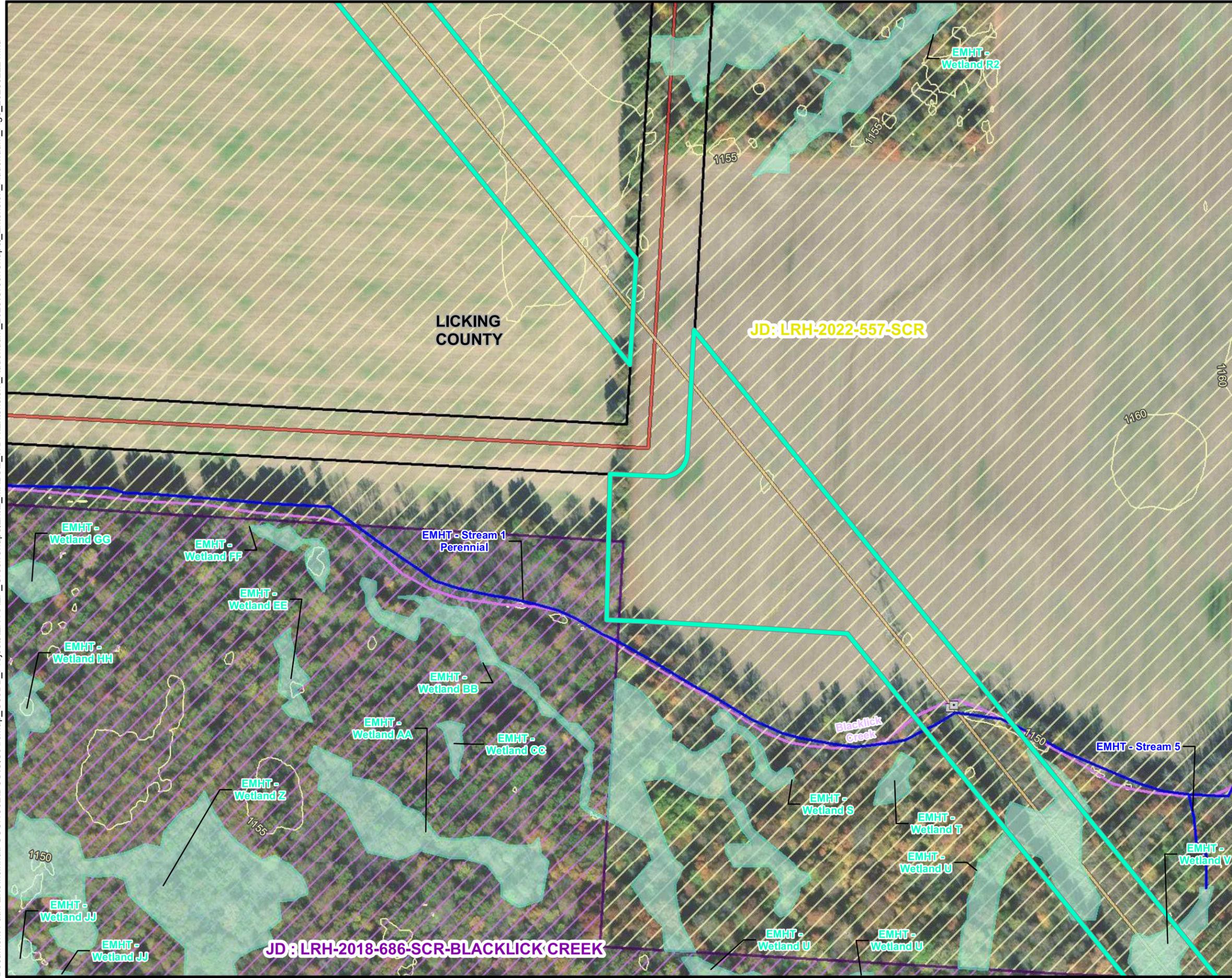


Green Chapel Extension 138kV  
 Transmission Line Project

**FIGURE 3C  
 WETLAND DELINEATION AND  
 STREAM ASSESSMENT MAP**

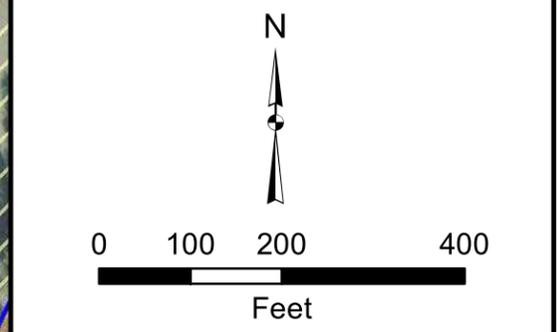
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
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**Legend**

- Culvert
- Delineated Stream by EMHT
- NHD Stream (USGS)
- Contour (5-Ft)
- Conesville - Corridor 345kV Transmission Line
- Green Chapel 138kV Extension Transmission Line
- Delineated Wetland by EMHT
- EMHT Project Survey Area (JD : LRH-2018-686-SCR-Blacklick Creek)
- EMHT Project Survey Area (JD: LRH-2022-557-SCR)
- Project Survey Area
- Addendum Project Survey Area
- County Boundary



Green Chapel Extension 138kV  
 Transmission Line Project

<b>FIGURE 3D WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

JD: LRH-2018-686-SCR-BLACKLICK CREEK

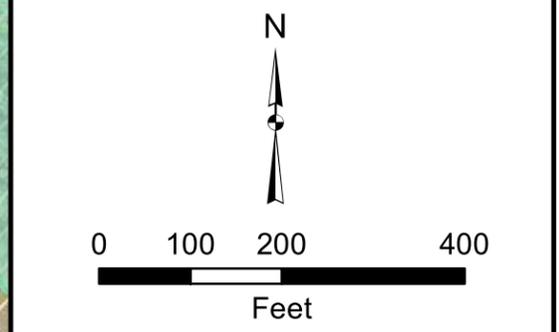
JD: LRH-2022-557-SCR



Date Saved: 2/28/2023  
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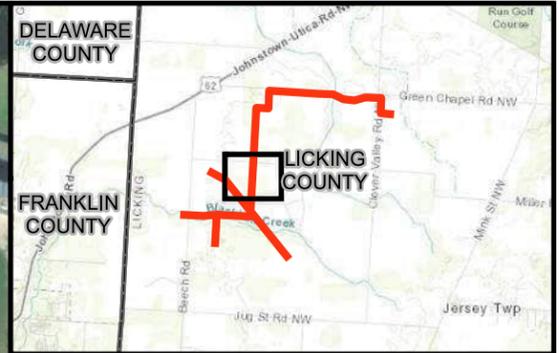
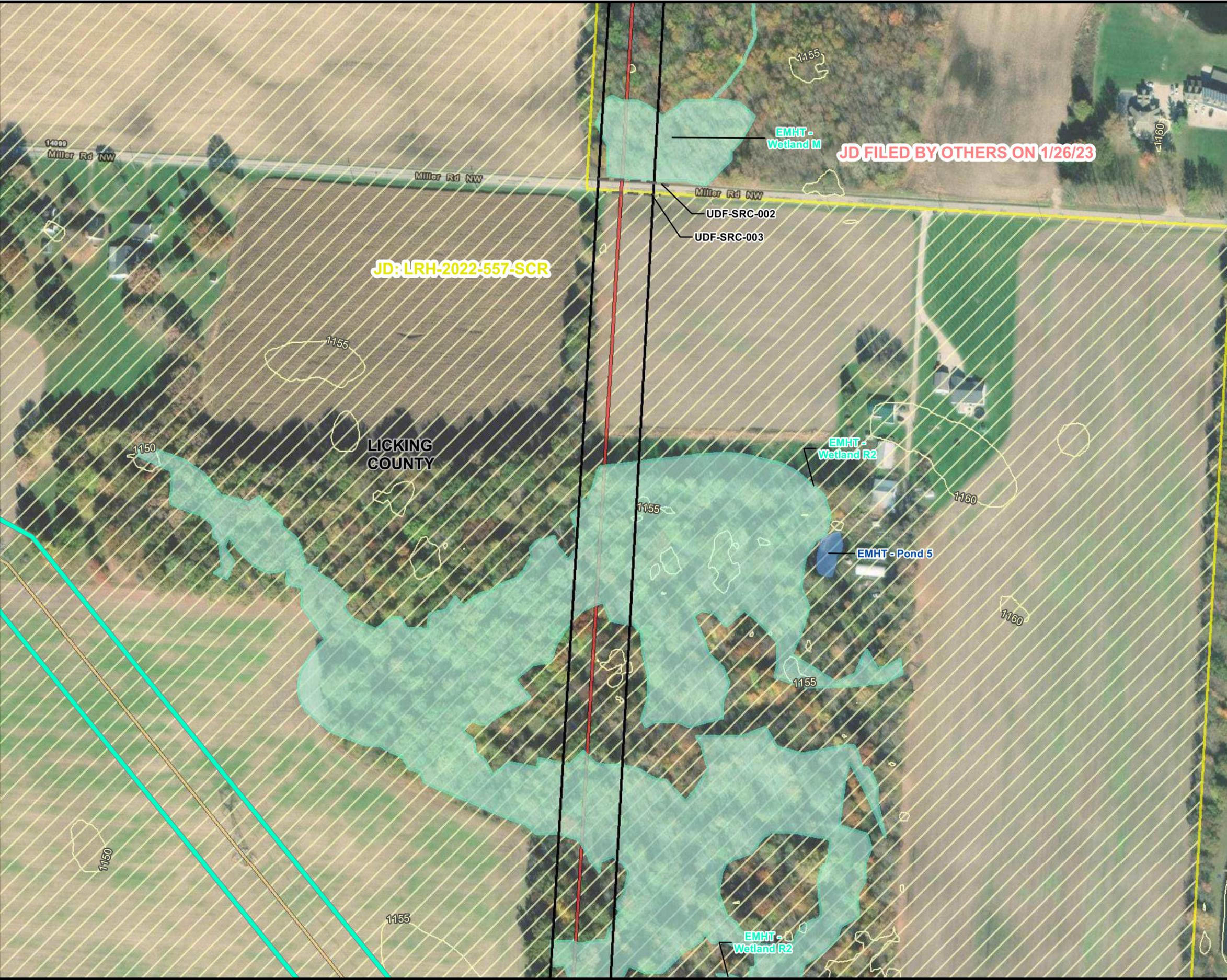
- Legend**
- Contour (5-Ft)
  - Conesville - Corridor 345kV Transmission Line
  - Delineated Wetland by EMHT
  - EMHT Project Survey Area (JD: LRH-2022-557-SCR)
  - Project Survey Area
  - Addendum Project Survey Area
  - County Boundary



**Green Chapel Extension 138kV  
Transmission Line Project**

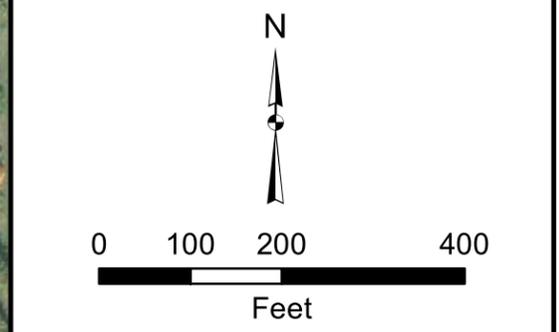
<b>FIGURE 3F WETLAND DELINEATION AND STREAM ASSESSMENT MAP</b>	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
Document Path: Z:\Cincinnati\USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\Map\_Extension\_2023\WDR\Extension\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig3\_20230222.mxd



**Legend**

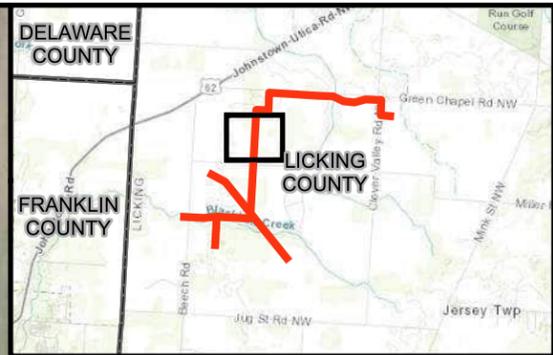
- Upland Drainage
- Contour (5-Ft)
- Conesville - Corridor 345kV Transmission Line
- Green Chapel 138kV Extension Transmission Line
- Delineated Pond by EMHT
- Delineated Wetland by EMHT
- EMHT Project Survey Area (JD: LRH-2022-557-SCR)
- Project Survey Area
- Addendum Project Survey Area
- County Boundary



Green Chapel Extension 138kV  
Transmission Line Project

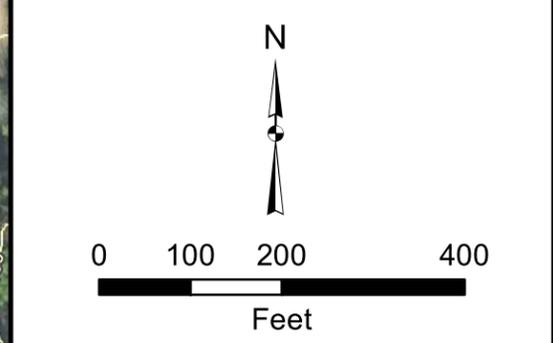
AECOM TRANSPORTATION COMPANY	
FIGURE 3G WETLAND DELINEATION AND STREAM ASSESSMENT MAP	
DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	AECOM

Date Saved: 2/28/2023  
Document Path: Z:\Cincinnati\USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\Ext2\_MXD\2\_WDR\Extension\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig3\_20230222.mxd



**Legend**

- Contour (5-Ft)
- Green Chapel 138kV Extension Transmission Line
- Delineated Wetland by EMHT
- EMHT Project Survey Area (JD: LRH-2022-557-SCR)
- Project Survey Area
- Addendum Project Survey Area
- County Boundary

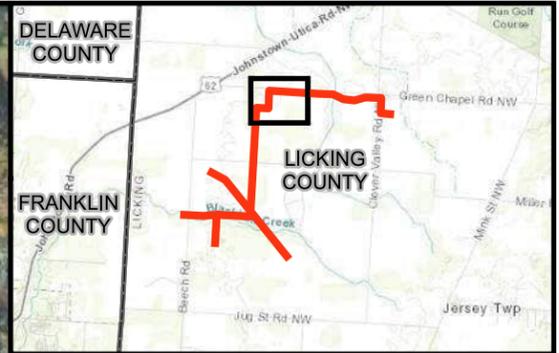
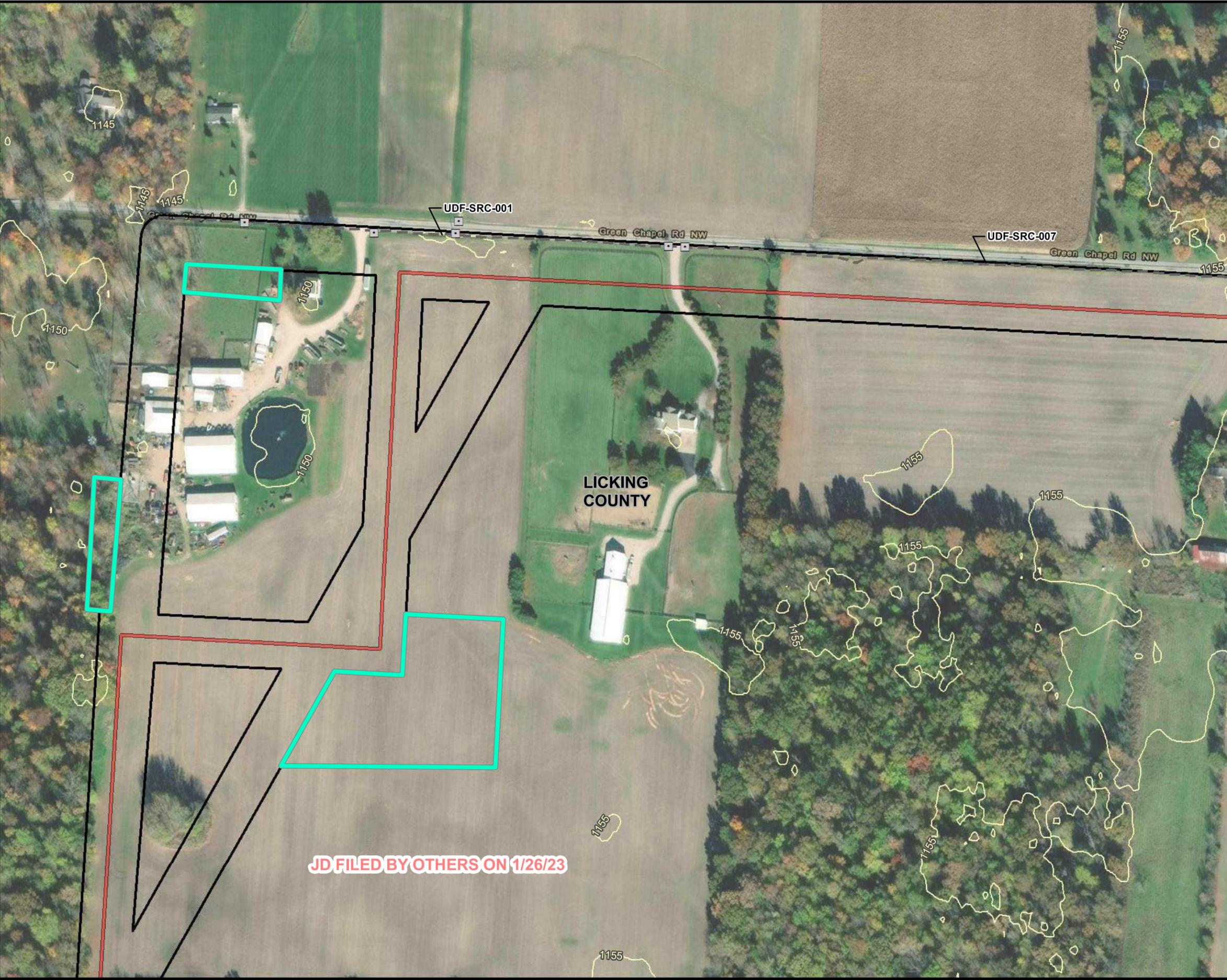


Green Chapel Extension 138kV  
Transmission Line Project

**FIGURE 3H**  
WETLAND DELINEATION AND  
STREAM ASSESSMENT MAP

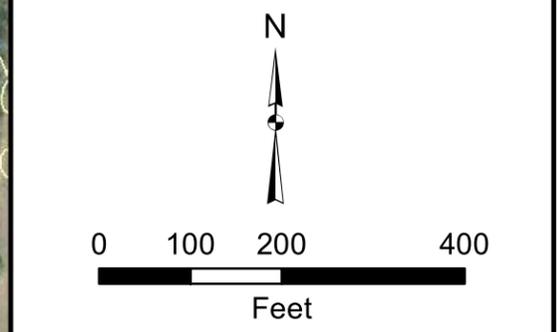
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**Legend**

- Culvert
- - - Upland Drainage
- Contour (5-Ft)
- Green Chapel 138kV Extension Transmission Line
- ▭ Project Survey Area
- ▭ Addendum Project Survey Area
- ▭ County Boundary

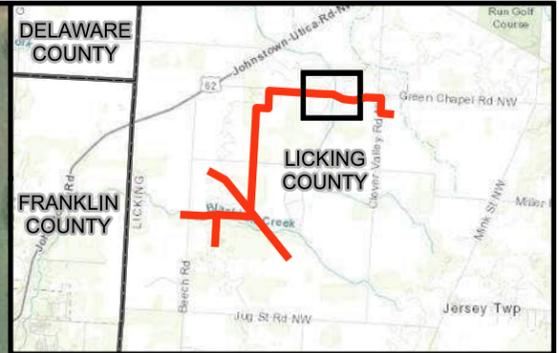
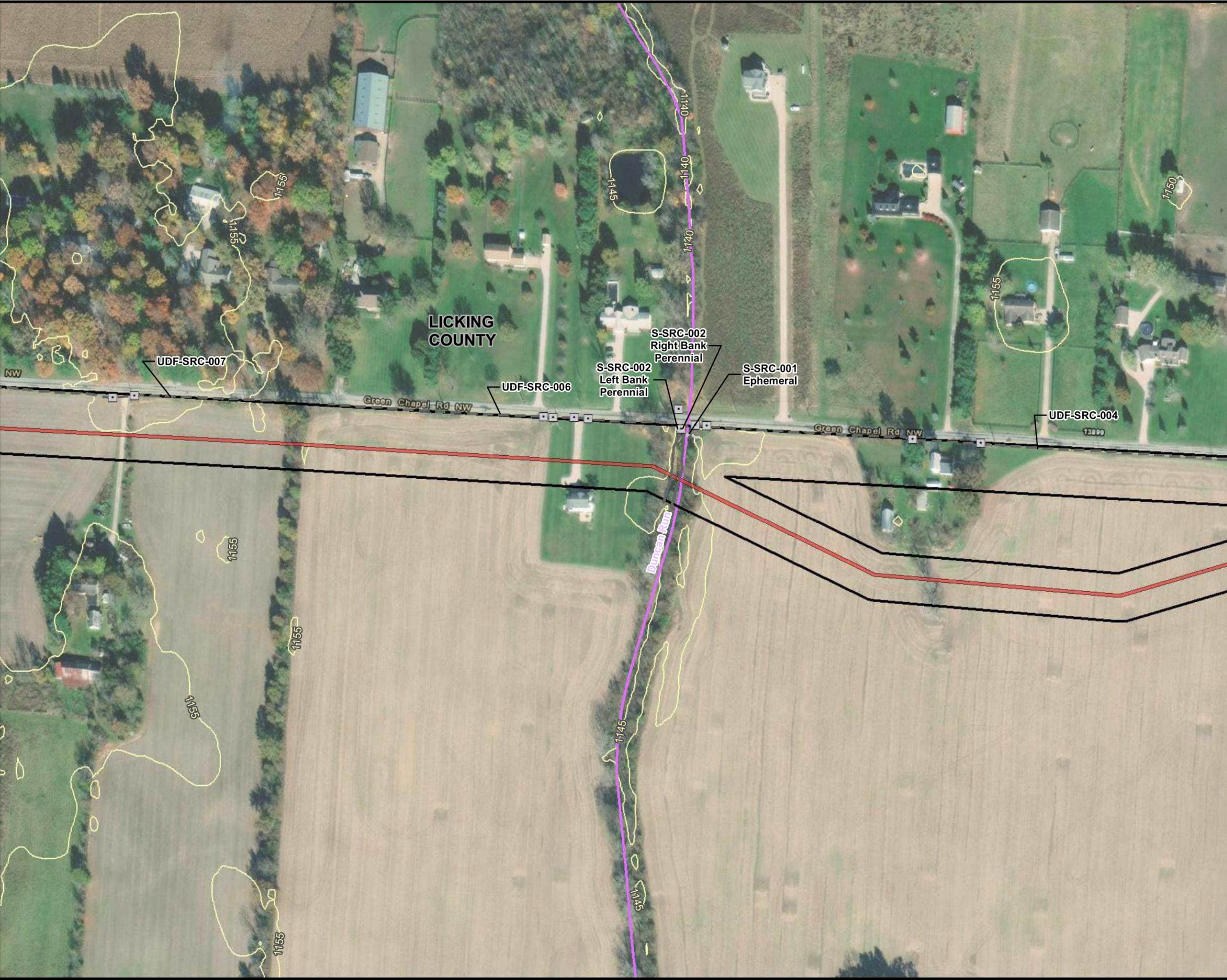


**Green Chapel Extension 138kV  
 Transmission Line Project**

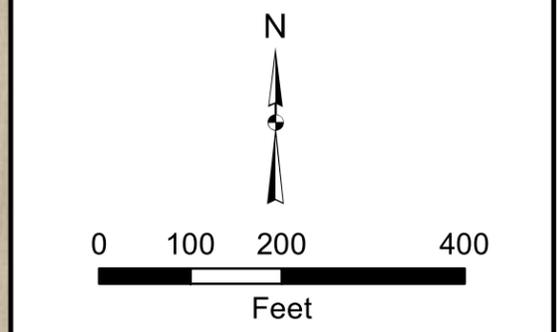
**FIGURE 3I  
 WETLAND DELINEATION AND  
 STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
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- Legend**
- Culvert
  - Upland Drainage
  - Delineated Ephemeral Stream
  - Delineated Perennial Stream
  - NHD Stream (USGS)
  - Contour (5-Ft)
  - Green Chapel 138kV Extension Transmission Line
  - Project Survey Area
  - County Boundary

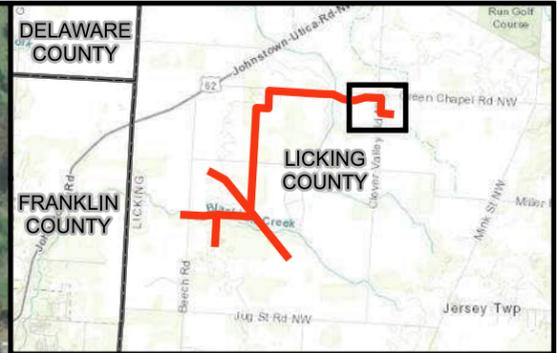
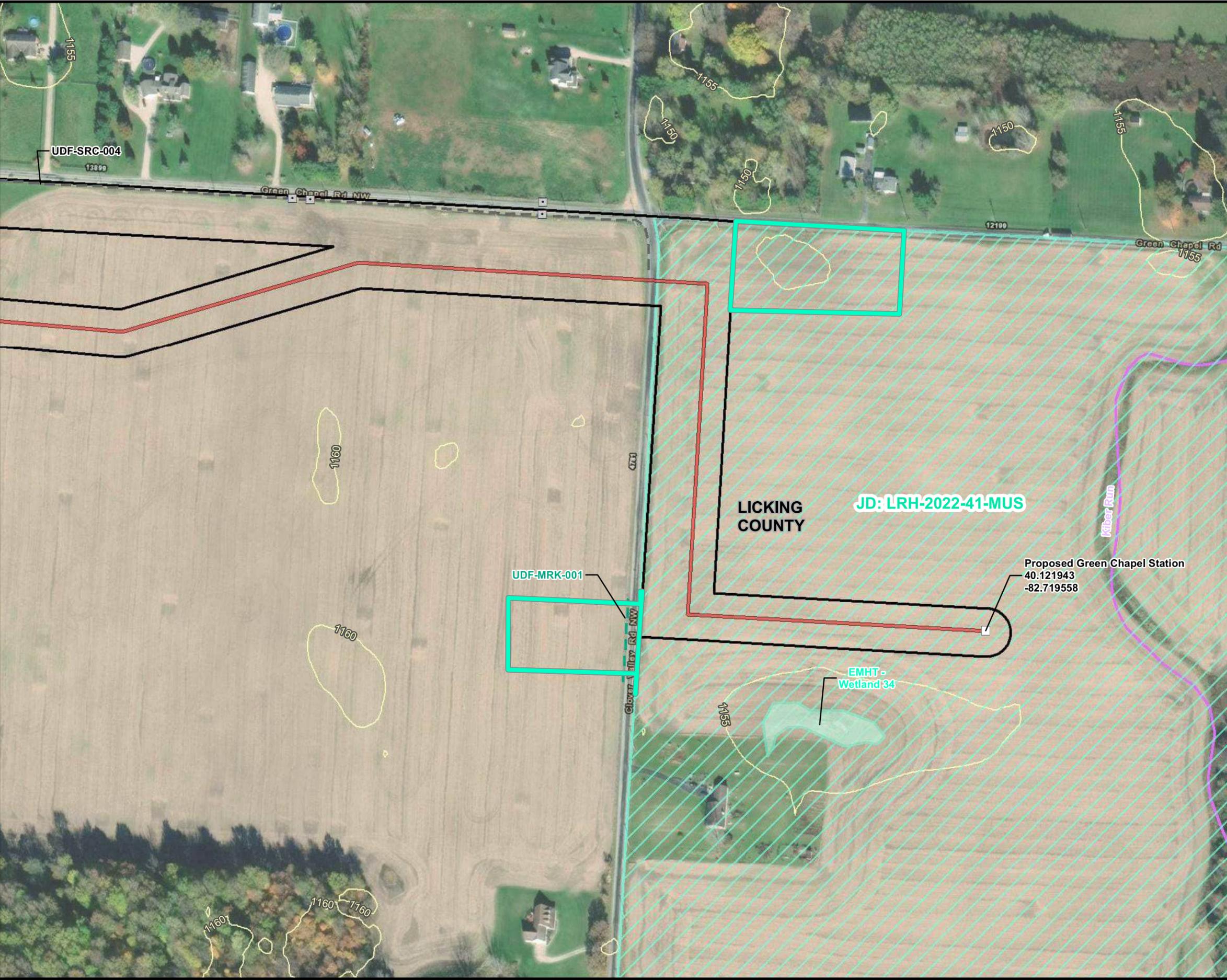


Green Chapel Extension 138kV  
 Transmission Line Project

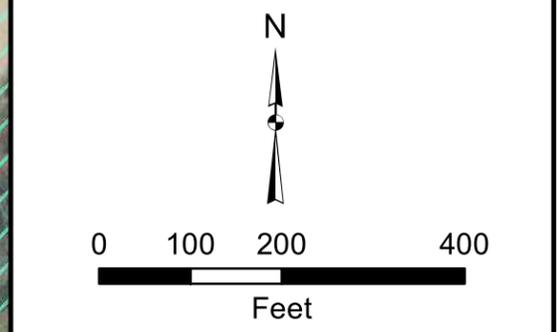
**FIGURE 3J  
 WETLAND DELINEATION AND  
 STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/28/2023  
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- Legend**
- Station
  - Culvert
  - Addendum Upland Drainage
  - Upland Drainage
  - NHD Stream (USGS)
  - Contour (5-Ft)
  - Green Chapel 138kV Extension Transmission Line
  - Delineated Wetland by EMHT
  - EMHT Project Survey Area (JD: LRH-2022-41-MUS)
  - Project Survey Area
  - Addendum Project Survey Area
  - County Boundary

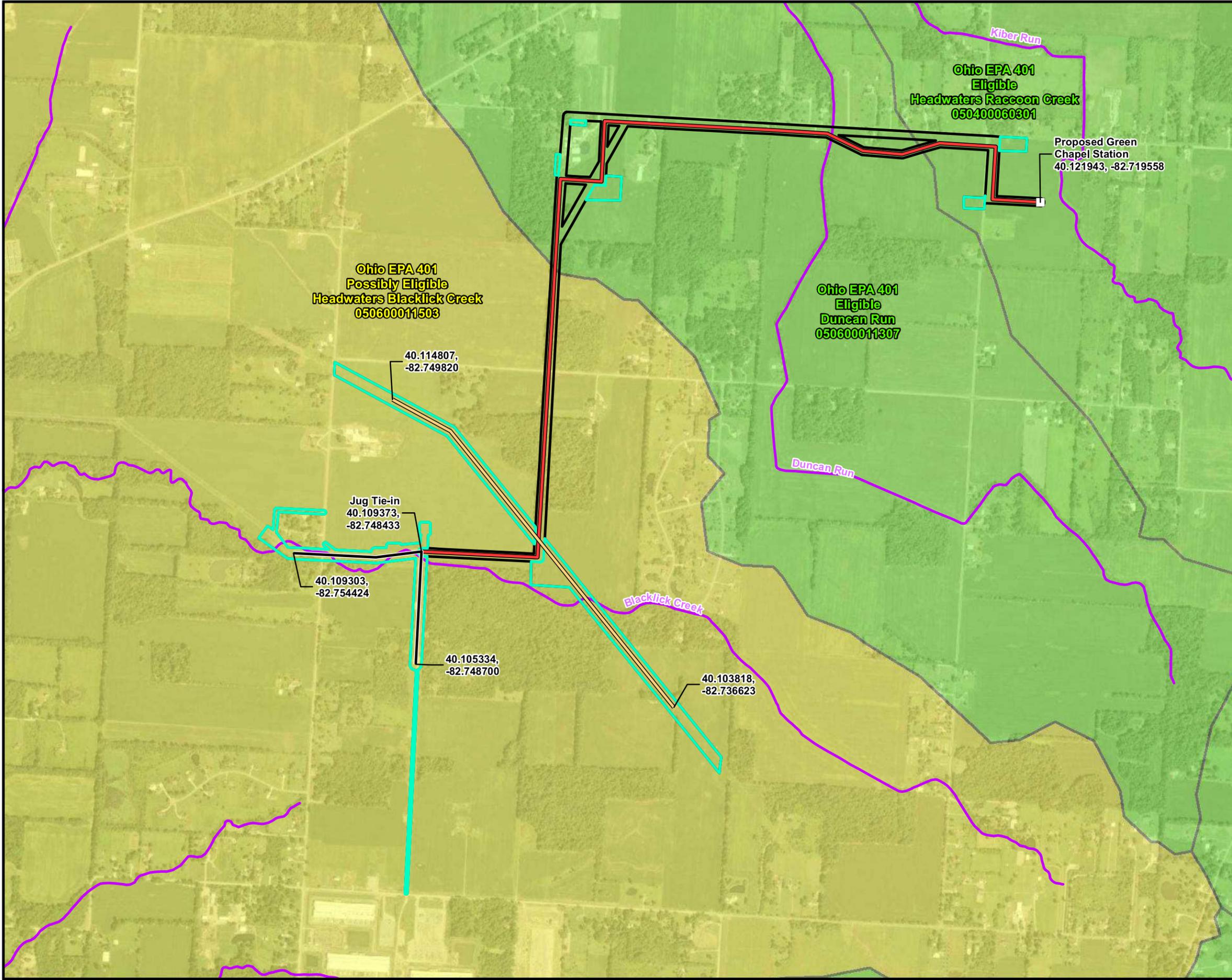


*Green Chapel Extension 138kV  
Transmission Line Project*

**FIGURE 3K  
WETLAND DELINEATION AND  
STREAM ASSESSMENT MAP**

DATE: 2/28/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 2/23/2023  
Document Path: Z:\Cincinnati\USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapelExt2\_MXD\2\_WDR\Extensions\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig4\_20230222.mxd

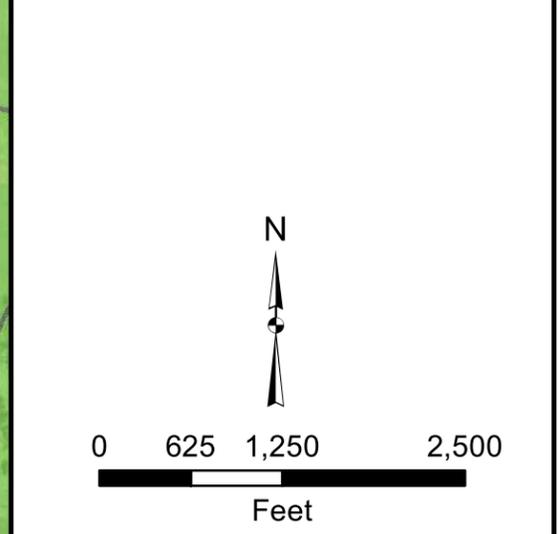


**Legend**

- Conesville - Corridor 345kV Transmission Line
- Green Chapel 138kV Extension Transmission Line
- Jug St - Corridor 345kV Transmission Line
- NHD Stream (USGS)
- Addendum Project Survey Area
- Project Survey Area

**OEPA Stream Eligibility:**

- Eligible
- Possibly Eligible



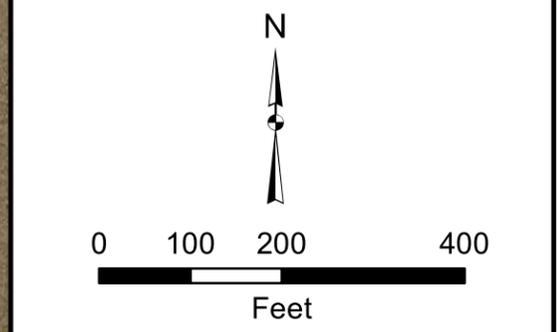
Green Chapel Extension 138kV Transmission Line Project

**FIGURE 4**  
**STREAM ELIGIBILITY MAP**

DATE: 2/23/2023	1 INCH = 1,250 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

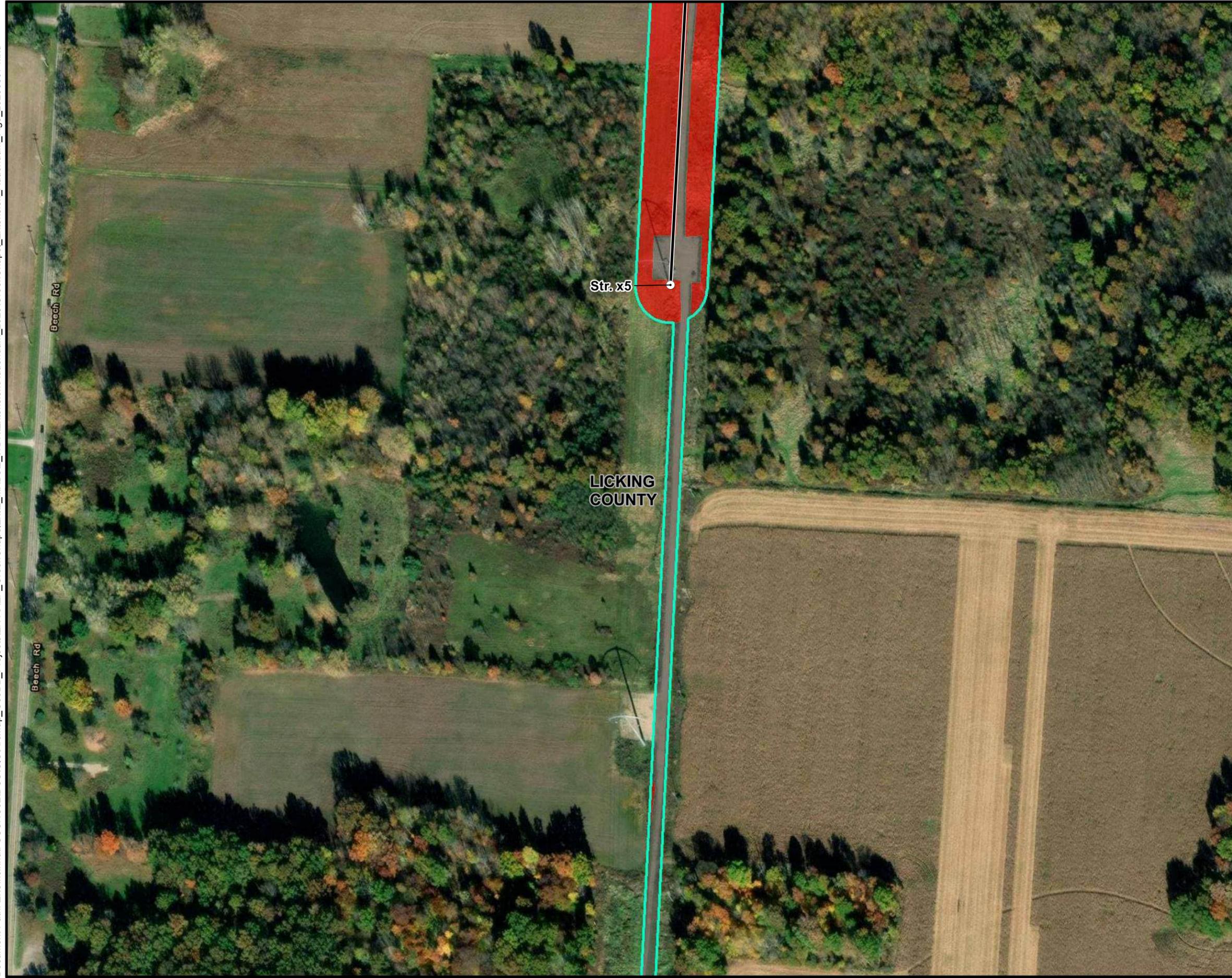


- Legend**
- Photo Location
  - ▭ Addendum Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Urban



*Green Chapel Extension 138kV  
 Transmission Line Project*

<b>FIGURE 5A          VEGETATIVE COMMUNITIES          ASSESSMENT MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

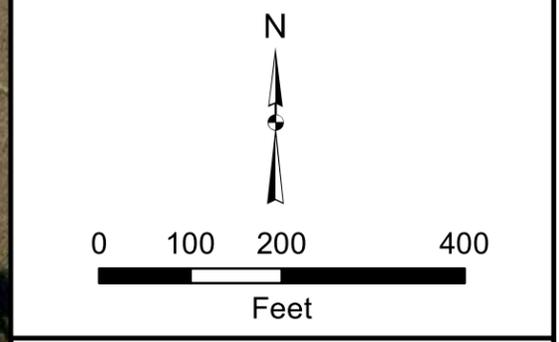


**Legend**

- Structure
- Jug St - Corridor 345kV Transmission Line
- ▭ Addendum Project Survey Area
- ▭ County Boundary

**Vegetative Community Type**

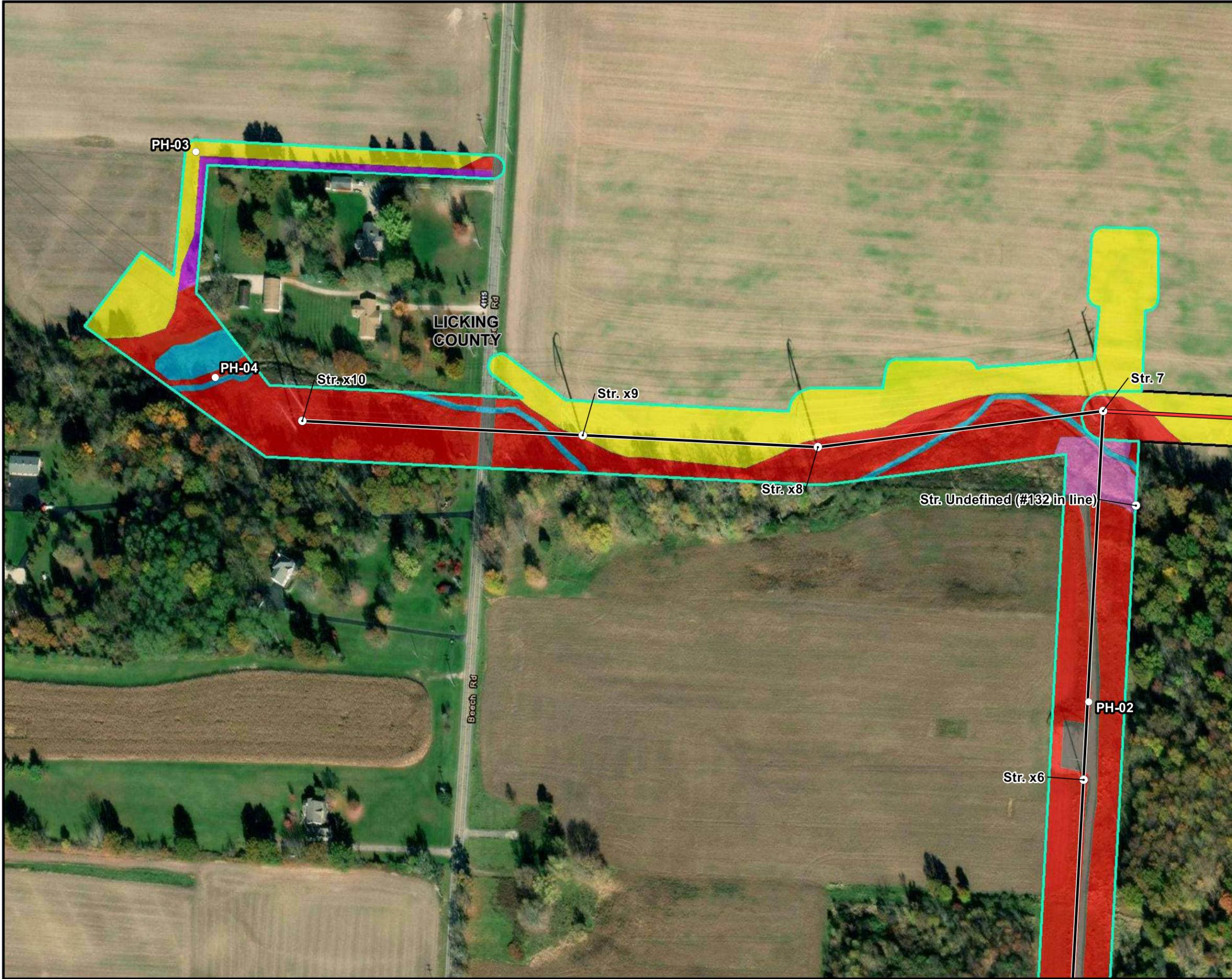
- ▭ Old Field
- ▭ Urban



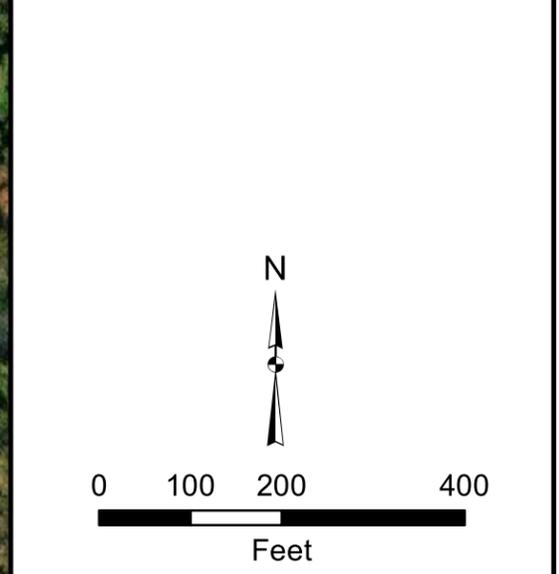
*Green Chapel Extension 138kV  
 Transmission Line Project*

**FIGURE 5B  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP**

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Photo Location
  - Structure
  - Green Chapel 138kV Extension Transmission Line
  - Jug St - Corridor 345kV Transmission Line
  - ▭ Addendum Project Survey Area
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Landscaped Areas
  - Old Field
  - Scrub-Shrub
  - Streams/Wetlands
  - Urban



Green Chapel Extension 138kV  
 Transmission Line Project

**FIGURE 5C**  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
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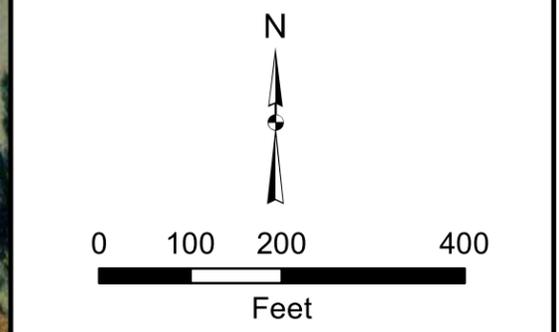


**Legend**

- Photo Location
- Structure
- Conesville - Corridor 345kV Transmission Line
- Green Chapel 138kV Extension Transmission Line
- ▭ Addendum Project Survey Area
- ▭ Project Survey Area
- ▭ County Boundary

**Vegetative Community Type**

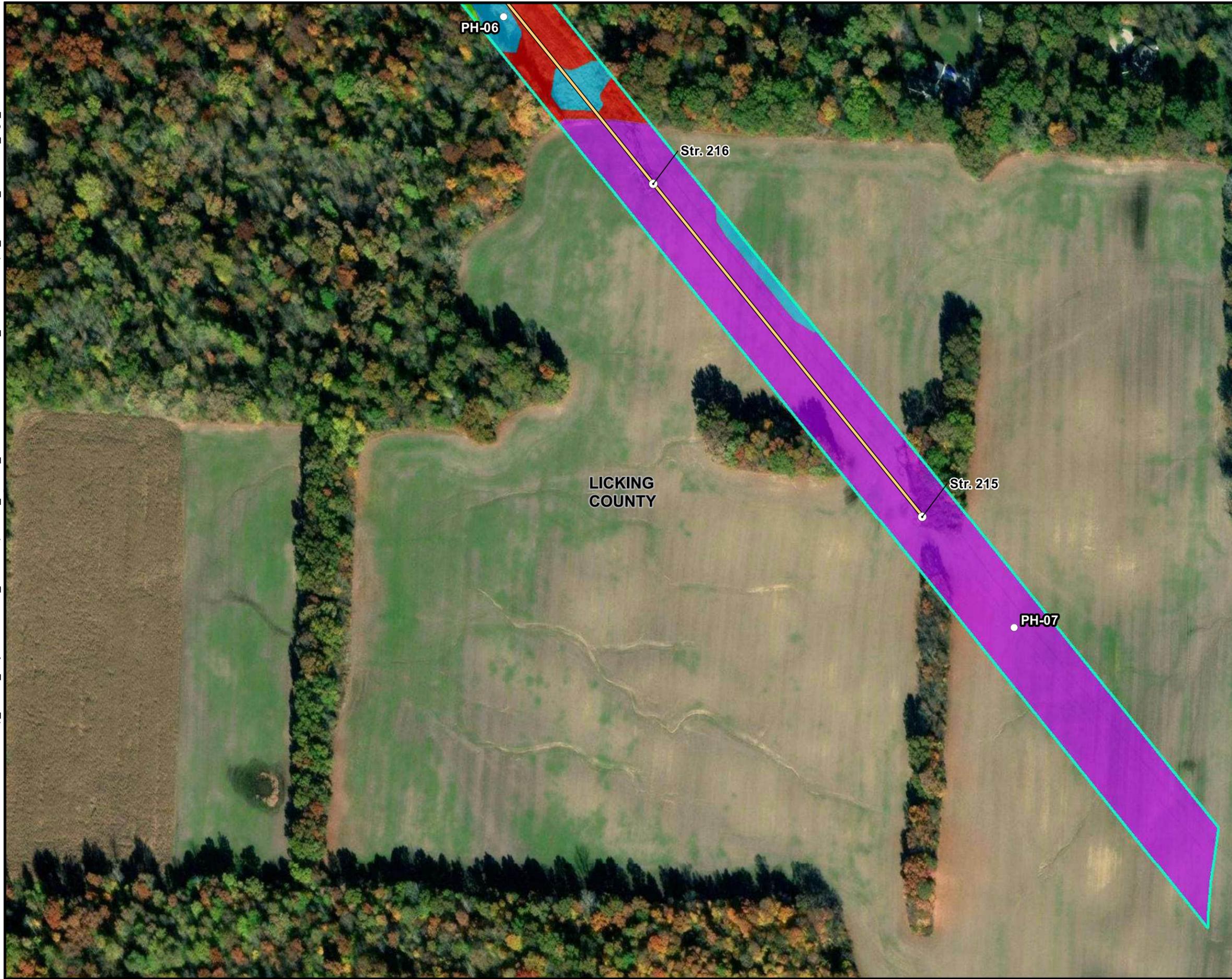
- Agricultural Row-Crop
- Old Field
- Scrub-Shrub
- Streams/Wetlands
- Woodlands



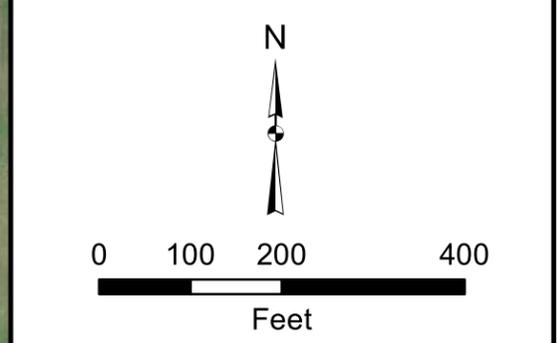
*Green Chapel Extension 138kV  
 Transmission Line Project*

**FIGURE 5D  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP**

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>



- Legend**
- Photo Location
  - Structure
  - Conesville - Corridor 345kV Transmission Line
  - ▭ Addendum Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Landscaped Areas
  - Old Field
  - Streams/Wetlands
  - Woodlands



*Green Chapel Extension 138kV  
 Transmission Line Project*

**FIGURE 5E  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP**

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
Document Path: Z:\Cincinnati-USNCN02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig5\_20230307.mxd

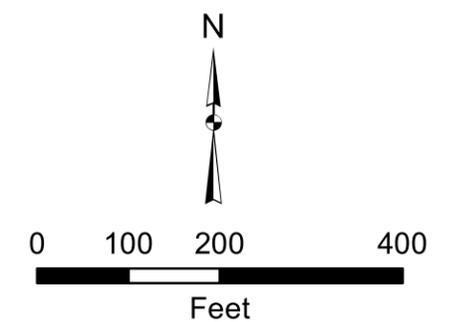


**Legend**

- Photo Location
- Structure
- Conesville - Corridor 345kV Transmission Line
- ▭ Addendum Project Survey Area
- ▭ County Boundary

**Vegetative Community Type**

- Agricultural Row-Crop

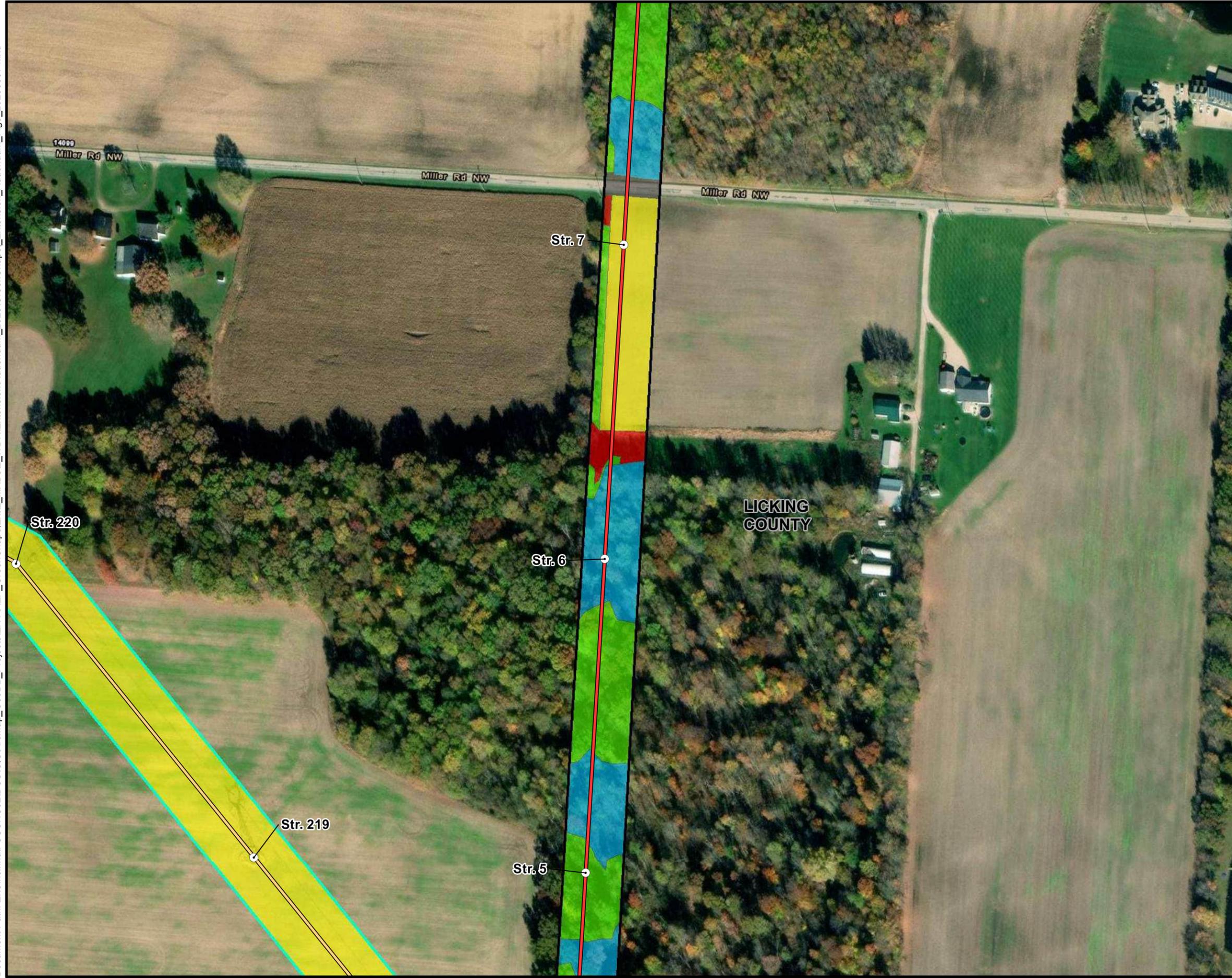


 Green Chapel Extension 138kV Transmission Line Project

**FIGURE 5F**  
VEGETATIVE COMMUNITIES  
ASSESSMENT MAP

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
 Document Path: Z:\Cincinnati\USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapelExt2\_MXD\2\_WDR\Extensions\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig5\_20230307.mxd

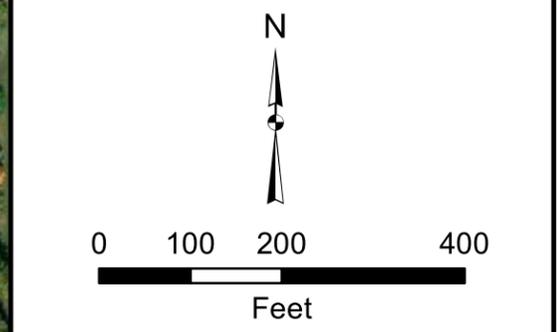


**Legend**

- Structure
- Conesville - Corridor 345kV Transmission Line
- Green Chapel 138kV Extension Transmission Line
- Addendum Project Survey Area
- Project Survey Area
- County Boundary

**Vegetative Community Type**

- Agricultural Row-Crop
- Old Field
- Streams/Wetlands
- Urban
- Woodlands

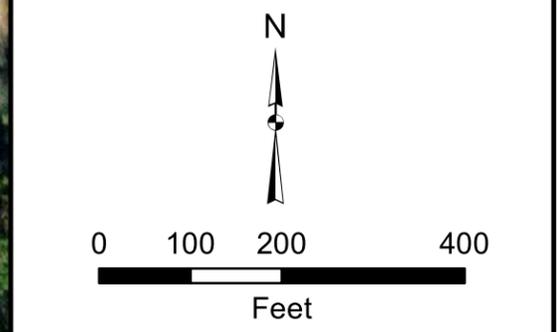


*Green Chapel Extension 138kV  
Transmission Line Project*

<b>FIGURE 5G VEGETATIVE COMMUNITIES ASSESSMENT MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

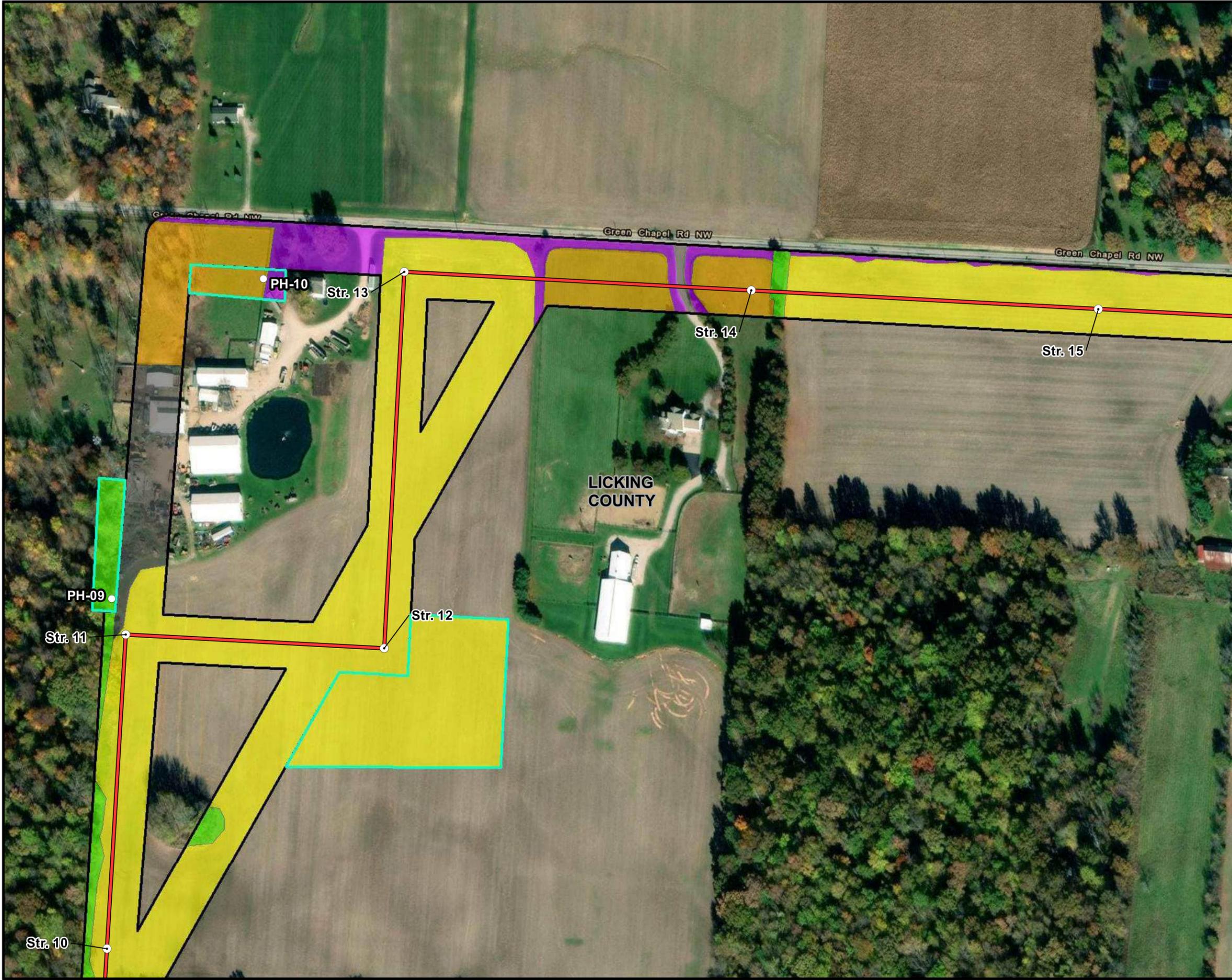


- Legend**
- Structure
  - Green Chapel 138kV Extension Transmission Line
  - Addendum Project Survey Area
  - Project Survey Area
  - County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Streams/Wetlands
  - Woodlands



*Green Chapel Extension 138kV  
 Transmission Line Project*

<b>FIGURE 5H          VEGETATIVE COMMUNITIES          ASSESSMENT MAP</b>	
DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

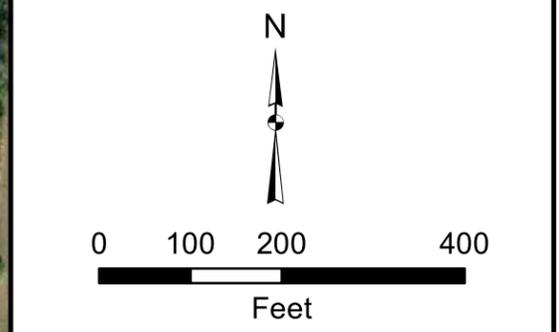


**Legend**

- Photo Location
- Structure
- Green Chapel 138kV Extension Transmission Line
- ▭ Addendum Project Survey Area
- ▭ Project Survey Area
- ▭ County Boundary

**Vegetative Community Type**

- Agricultural Row-Crop
- Landscaped Areas
- Pasture/Hay Fields
- Urban
- Woodlands

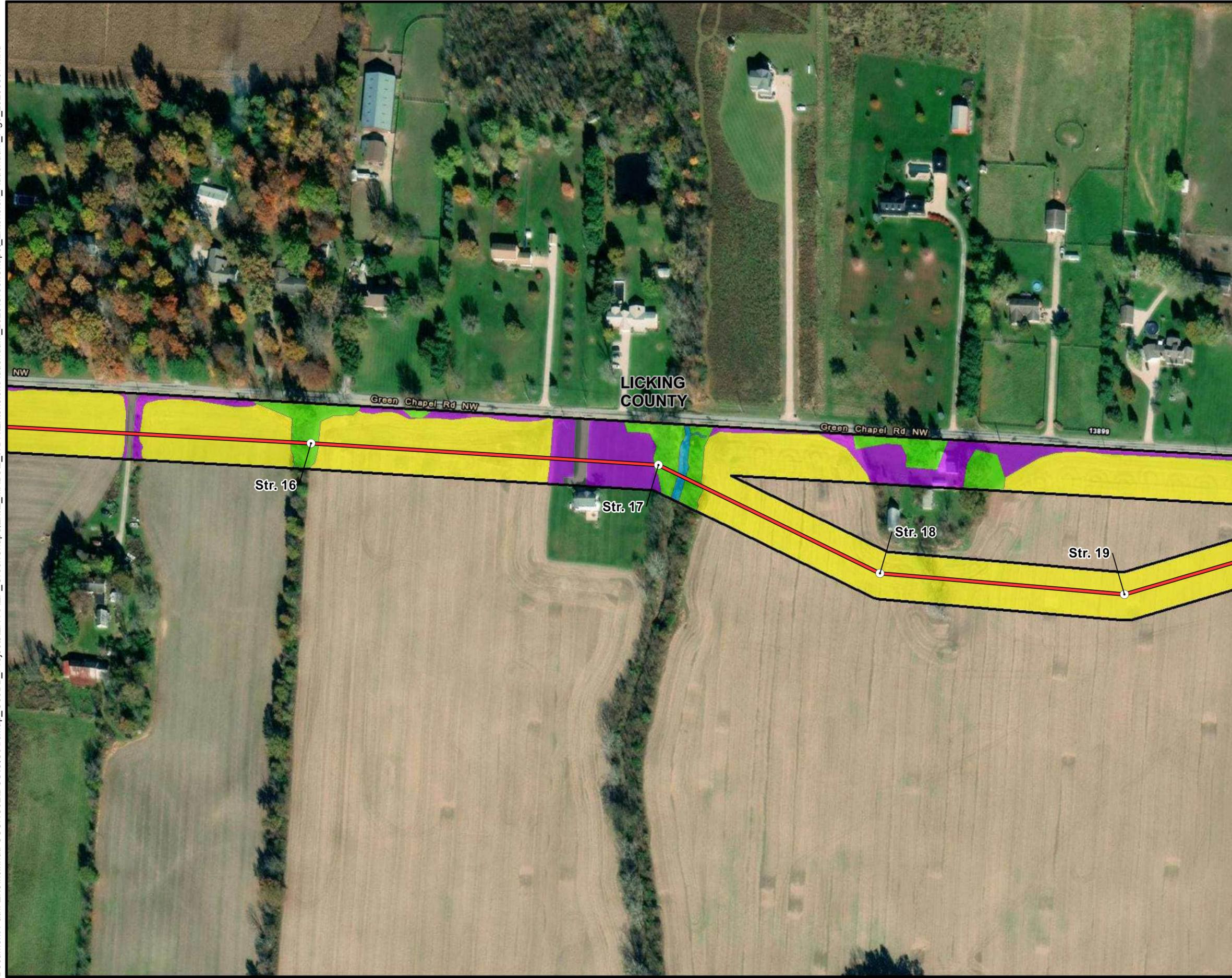


Green Chapel Extension 138kV  
 Transmission Line Project

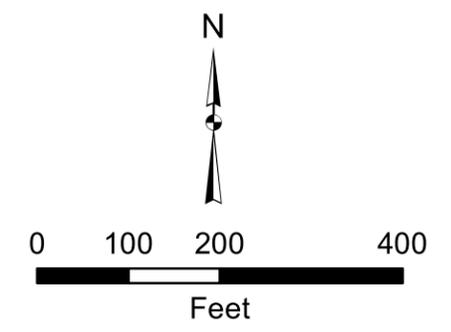
**FIGURE 5I**  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
 Document Path: Z:\Cincinnati\USCN02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\GreenChapel\_Extension\_Addendum\_Fig5\_20230307.mxd



- Legend**
- Structure
  - Green Chapel 138kV Extension Transmission Line
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Landscaped Areas
  - Streams/Wetlands
  - Urban
  - Woodlands

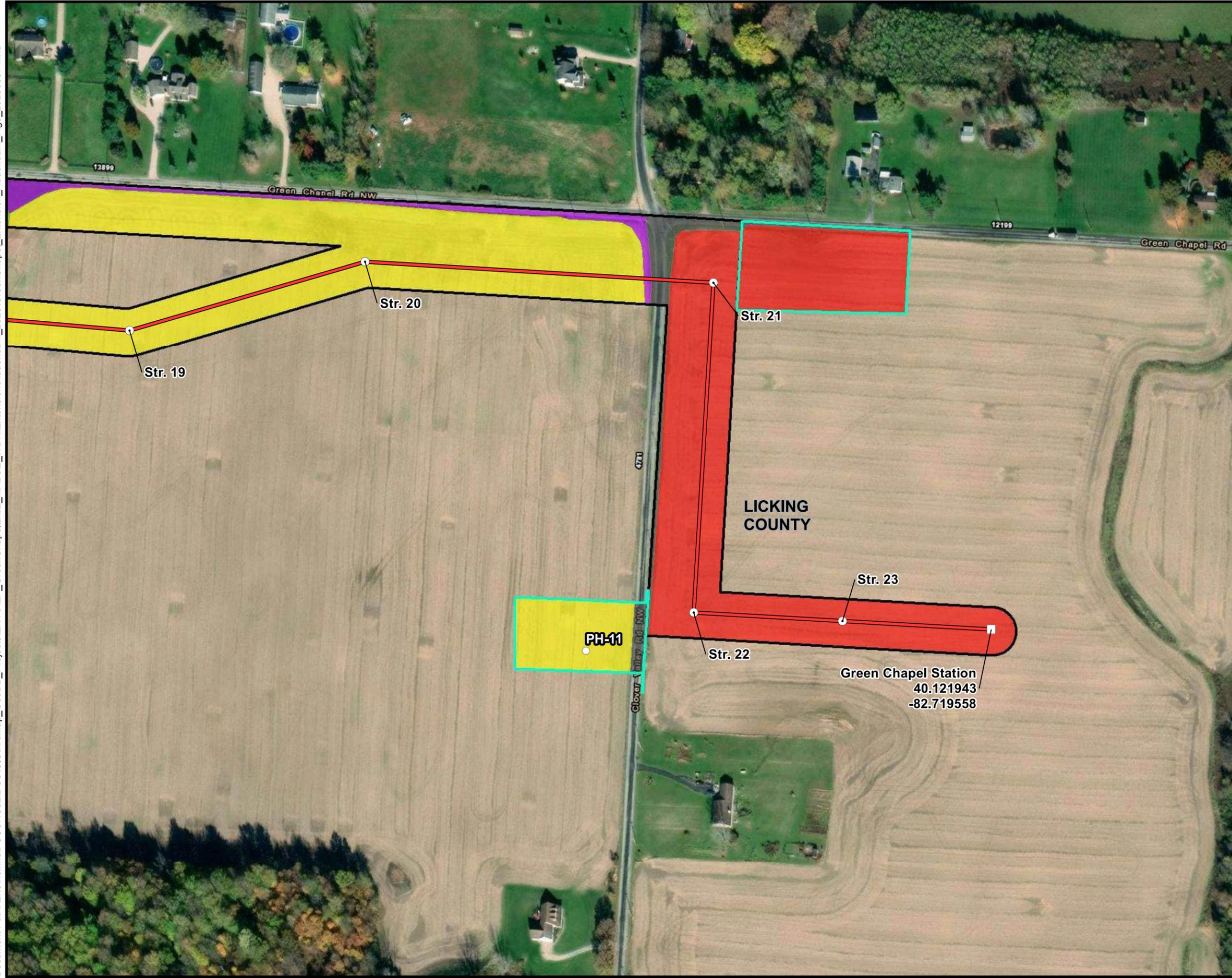


*Green Chapel Extension 138kV  
 Transmission Line Project*

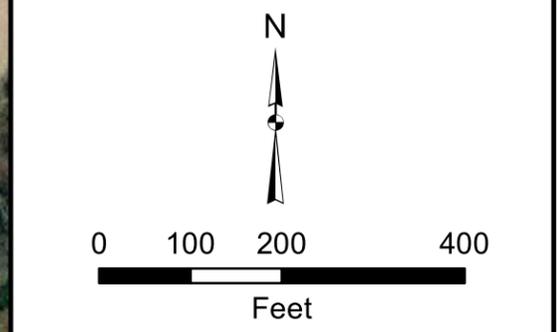
**FIGURE 5J  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP**

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

Date Saved: 3/7/2023  
 Document Path: Z:\Cincinnati\USCNC02\DCS\GIS\ArcMap\_GeoDB\_Projects\ENVAEP\_GreenChapel\Addendum\_2023\GreenChapel\_Extension\_Addendum\_Fig5\_20230307.mxd



- Legend**
- Photo Location
  - Structure
  - Station
  - Green Chapel 138kV Extension Transmission Line
  - ▭ Addendum Project Survey Area
  - ▭ Project Survey Area
  - ▭ County Boundary
- Vegetative Community Type**
- Agricultural Row-Crop
  - Landscaped Areas
  - Old Field
  - Urban
  - Woodlands



Green Chapel Extension 138kV  
 Transmission Line Project

**FIGURE 5K**  
 VEGETATIVE COMMUNITIES  
 ASSESSMENT MAP

DATE: 3/7/2023	1 INCH = 200 FEET
CREATED BY: PMH	CHECKED BY: HLA
JOB NO. 60683729	<b>AECOM</b>

**APPENDIX A**

**EMHT WETLAND USACE FORMS & DELINEATED FEATURES PHOTOGRAPHS**

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Harrison Rd Extension/Clover Valley Improvements City/County: Licking County Sampling Date: 4/25/2022  
 Applicant/Owner: City of New Albany State: OH Sampling Point: Wetland U-1  
 Investigator(s): E. Nagy, EMH&T Section, Township, Range: T2N R15W S2  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none) None  
 Slope (%): 0 Lat: 40.107225° Long: -82.740148° Datum: UTM17/State Plane South  
 Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: \_\_\_\_\_

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No \_\_\_\_\_ (If no, explain in Remarks.)  
 Are Vegetation N, Soil N, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_  
 Are Vegetation N, Soil N, or Hydrology No 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 _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
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>1</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)																
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )																				
1.	_____	_____	_____	_____	<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: center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td style="text-align: center;">x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>100</u></td> <td style="text-align: center;">x 2 = <u>200</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td style="text-align: center;">x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td style="text-align: center;">x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td style="text-align: center;">x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td style="text-align: center;"><u>200</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align: center;">Prevalence Index = B/A = <u>2.00</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>100</u>	x 2 = <u>200</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>200</u> (B)	Prevalence Index = B/A = <u>2.00</u>	
Total % Cover of:	Multiply by:																				
OBL species <u>0</u>	x 1 = <u>0</u>																				
FACW species <u>100</u>	x 2 = <u>200</u>																				
FAC species <u>0</u>	x 3 = <u>0</u>																				
FACU species <u>0</u>	x 4 = <u>0</u>																				
UPL species <u>0</u>	x 5 = <u>0</u>																				
Column Totals: <u>100</u> (A)	<u>200</u> (B)																				
Prevalence Index = B/A = <u>2.00</u>																					
2.	_____	_____	_____	_____																	
3.	_____	_____	_____	_____																	
4.	_____	_____	_____	_____																	
5.	_____	_____	_____	_____																	
		=Total Cover																			
Herb Stratum	(Plot size: <u>5'</u> )																				
1.	<u>Phalaris arundinacea</u>	100	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) _____ 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.	_____	_____	_____	_____																	
6.	_____	_____	_____	_____																	
7.	_____	_____	_____	_____																	
8.	_____	_____	_____	_____																	
9.	_____	_____	_____	_____																	
10.	_____	_____	_____	_____																	
		100 =Total Cover																			
Woody Vine Stratum	(Plot size: <u>30'</u> )																				
1.	_____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____																
2.	_____	_____	_____	_____																	
		=Total Cover																			

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

**SOIL**

Sampling Point: Wetland U-1

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>		
0-8	10YR 4/2	98	10YR 5/6	2	C	M	Loamy/Clayey	Prominent redox concentrations
8-10	10YR 4/1	95	10YR 4/6	5	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)

Secondary Indicators (minimum of two required)

- |  |   |  |
|--|---|--|
| <input type="checkbox"/> Surface Water (A1)                        | <input checked="" type="checkbox"/> Water-Stained Leaves (B9)       | <input type="checkbox"/> Surface Soil Cracks (B6)                  |
| <input checked="" type="checkbox"/> High Water Table (A2)          | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" 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 checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                        | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)   | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): 6  
 Saturation Present? Yes  No  Depth (inches): 6  
 (includes capillary fringe)

Wetland Hydrology Present? Yes  No

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

Remarks:

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Harrison Rd Extension/Clover Valley Improvements City/County: Licking County Sampling Date: 4/25/2022  
 Applicant/Owner: City of New Albany State: OH Sampling Point: Upland U-1  
 Investigator(s): E. Nagy, EMH&T Section, Township, Range: T2N R15W S2  
 Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none) None  
 Slope (%): 0 Lat: 40.107004° Long: -82.739862° Datum: UTM17/State Plane South  
 Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: \_\_\_\_\_

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

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

Hydrophytic Vegetation Present? Yes _____ No _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes _____ No _____	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</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>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>25.0%</u> (A/B)																																
2.	_____	_____	_____	_____																																	
3.	_____	_____	_____	_____																																	
4.	_____	_____	_____	_____																																	
5.	_____	_____	_____	_____																																	
		=Total Cover																																			
Sapling/Shrub Stratum	(Plot size: <u>15'</u> )																																				
1.	<u>Rubus occidentalis</u>	30	Yes	UPL	<b>Prevalence Index worksheet:</b> <table style="width:100%; border-collapse: collapse;"> <tr> <td align="center" colspan="2">Total % Cover of:</td> <td align="center" colspan="2">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td align="center"><u>0</u></td> <td align="center">x 1 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td align="center"><u>20</u></td> <td align="center">x 2 =</td> <td align="center"><u>40</u></td> </tr> <tr> <td>FAC species</td> <td align="center"><u>0</u></td> <td align="center">x 3 =</td> <td align="center"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td align="center"><u>80</u></td> <td align="center">x 4 =</td> <td align="center"><u>320</u></td> </tr> <tr> <td>UPL species</td> <td align="center"><u>40</u></td> <td align="center">x 5 =</td> <td align="center"><u>200</u></td> </tr> <tr> <td>Column Totals:</td> <td align="center"><u>140</u> (A)</td> <td></td> <td align="center"><u>560</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A =</td> <td align="center" colspan="2"><u>4.00</u></td> </tr> </table>	Total % Cover of:		Multiply by:		OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>20</u>	x 2 =	<u>40</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>80</u>	x 4 =	<u>320</u>	UPL species	<u>40</u>	x 5 =	<u>200</u>	Column Totals:	<u>140</u> (A)		<u>560</u> (B)	Prevalence Index = B/A =		<u>4.00</u>	
Total % Cover of:		Multiply by:																																			
OBL species	<u>0</u>	x 1 =	<u>0</u>																																		
FACW species	<u>20</u>	x 2 =	<u>40</u>																																		
FAC species	<u>0</u>	x 3 =	<u>0</u>																																		
FACU species	<u>80</u>	x 4 =	<u>320</u>																																		
UPL species	<u>40</u>	x 5 =	<u>200</u>																																		
Column Totals:	<u>140</u> (A)		<u>560</u> (B)																																		
Prevalence Index = B/A =		<u>4.00</u>																																			
2.	<u>Elaeagnus umbellata</u>	10	Yes	UPL																																	
3.	_____	_____	_____	_____																																	
4.	_____	_____	_____	_____																																	
5.	_____	_____	_____	_____																																	
		40 =Total Cover																																			
Herb Stratum	(Plot size: <u>5'</u> )																																				
1.	<u>Phalaris arundinacea</u>	20	Yes	FACW	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 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>Festuca spp.</u>	80	Yes	FACU																																	
3.	_____	_____	_____	_____																																	
4.	_____	_____	_____	_____																																	
5.	_____	_____	_____	_____																																	
6.	_____	_____	_____	_____																																	
7.	_____	_____	_____	_____																																	
8.	_____	_____	_____	_____																																	
9.	_____	_____	_____	_____																																	
10.	_____	_____	_____	_____																																	
		100 =Total Cover																																			
Woody Vine Stratum	(Plot size: <u>30'</u> )																																				
1.	_____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No _____																																
2.	_____	_____	_____	_____																																	
		=Total Cover																																			
Remarks: (Include photo numbers here or on a separate sheet.)																																					

**SOIL**

Sampling Point: Upland U-1

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>		
0-10	10YR 5/1	90	10YR 5/6	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.

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

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

Remarks:

**HYDROLOGY**

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

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

Remarks:  
No hydrology observed.



**Photograph 81**  
View of Wetland U facing north.  
(EMH&T 3/18/22)



**Photograph 82**  
View of Wetland U facing south.  
(EMH&T 3/18/22)



**Photograph 83**  
View of Wetland U facing east.  
(EMH&T 3/18/22)



**Photograph 84**  
View of Wetland U facing west.  
(EMH&T 3/18/22)

**WETLAND DETERMINATION DATA FORM – Midwest Region**

Project/Site: Harrison Rd Extension/Clover Valley Improvements City/County: Licking County Sampling Date: 4/25/2022  
 Applicant/Owner: City of New Albany State: OH Sampling Point: Wetland V-1  
 Investigator(s): E. Nagy, EMH&T Section, Township, Range: T2N R15W S2

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

Slope (%): 0 Lat: 40.106198° Long: -82.739050° Datum: UTM17/State Plane South

Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: \_\_\_\_\_

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

Are Vegetation N, Soil N, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_

Are Vegetation N, Soil N, or Hydrology No 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 _____ Hydric Soil Present? Yes <u>X</u> No _____ Wetland Hydrology Present? Yes <u>X</u> No _____	<b>Is the Sampled Area within a Wetland?</b> Yes <u>X</u> No _____
Remarks: _____	

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

Tree Stratum (Plot size: <u>30'</u> )	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Quercus palustris</u>	<u>20</u>	<u>Yes</u>	<u>FACW</u>	<b>Dominance Test worksheet:</b> Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A)  Total Number of Dominant Species Across All Strata: <u>3</u> (B)  Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
2. <u>Carya laciniosa</u>	<u>10</u>	<u>Yes</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
	<u>30</u>	<u>=Total Cover</u>		
Sapling/Shrub Stratum (Plot size: <u>15'</u> )				
1. _____				<b>Prevalence Index worksheet:</b> Total % Cover of:                      Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>130</u> x 2 = <u>260</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>130</u> (A) <u>260</u> (B) Prevalence Index = B/A = <u>2.00</u>
2. _____				
3. _____				
4. _____				
5. _____				
		<u>=Total Cover</u>		
Herb Stratum (Plot size: <u>5'</u> )				
1. <u>Phalaris arundinacea</u>	<u>95</u>	<u>Yes</u>	<u>FACW</u>	<b>Hydrophytic Vegetation Indicators:</b> <u>1</u> - Rapid Test for Hydrophytic Vegetation <u>X</u> <u>2</u> - Dominance Test is >50% <u>X</u> <u>3</u> - Prevalence Index is ≤3.0 <sup>1</sup> <u>4</u> - 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>Quercus palustris</u>	<u>5</u>	<u>No</u>	<u>FACW</u>	
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
	<u>100</u>	<u>=Total Cover</u>		
Woody Vine Stratum (Plot size: <u>30'</u> )				
1. _____				<b>Hydrophytic Vegetation Present?</b> Yes <u>X</u> No _____
2. _____				
		<u>=Total Cover</u>		

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

**SOIL**

Sampling Point: Wetland V-1

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	
6-10	10YR 4/1	95	10YR 4/6	5	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)

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 checked="" type="checkbox"/> High Water Table (A2)                     | <input type="checkbox"/> Aquatic Fauna (B13)                        | <input type="checkbox"/> Drainage Patterns (B10)                   |
| <input checked="" 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 checked="" type="checkbox"/> Geomorphic Position (D2)       |
| <input type="checkbox"/> Iron Deposits (B5)                                   | <input type="checkbox"/> Thin Muck Surface (C7)                     | <input checked="" type="checkbox"/> FAC-Neutral Test (D5)          |
| <input checked="" type="checkbox"/> Inundation Visible on Aerial Imagery (B7) | <input type="checkbox"/> Gauge or Well Data (D9)                    |  |
| <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)              | <input type="checkbox"/> Other (Explain in Remarks)                 |  |

**Field Observations:**

Surface Water Present? Yes  No  Depth (inches): \_\_\_\_\_  
 Water Table Present? Yes  No  Depth (inches): 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:

## WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Harrison Rd Extension/Clover Valley Improvements City/County: Licking County Sampling Date: 4/25/2022  
 Applicant/Owner: City of New Albany State: OH Sampling Point: Upland V-1  
 Investigator(s): E. Nagy, EMH&T Section, Township, Range: T2N R15W S2

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

Slope (%): 0 Lat: 40.105994° Long: -82.738942° Datum: UTM17/State Plane South

Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: \_\_\_\_\_

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

Are Vegetation N, Soil N, or Hydrology No significantly disturbed? Are "Normal Circumstances" present? Yes X No \_\_\_\_\_

Are Vegetation N, Soil N, or Hydrology No naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <u>X</u> Hydric Soil Present? Yes _____ No <u>X</u> Wetland Hydrology Present? Yes _____ No <u>X</u>	<b>Is the Sampled Area within a Wetland?</b> Yes _____ No <u>X</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>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>Sapling/Shrub Stratum</b> (Plot size: <u>15'</u> )																																					
1.	_____	_____	_____	_____	<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: center;">_____</td> <td style="text-align: right;">Multiply by:</td> <td style="text-align: center;">_____</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;"><u>0</u></td> <td>x 4 =</td> <td style="text-align: center;"><u>0</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;"><u>100</u></td> <td>x 5 =</td> <td style="text-align: center;"><u>500</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;"><u>100</u> (A)</td> <td></td> <td style="text-align: center;"><u>500</u> (B)</td> </tr> <tr> <td colspan="2">Prevalence Index = B/A =</td> <td></td> <td style="text-align: center;"><u>5.00</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>0</u>	x 4 =	<u>0</u>	UPL species	<u>100</u>	x 5 =	<u>500</u>	Column Totals:	<u>100</u> (A)		<u>500</u> (B)	Prevalence Index = B/A =			<u>5.00</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>0</u>	x 4 =	<u>0</u>																																		
UPL species	<u>100</u>	x 5 =	<u>500</u>																																		
Column Totals:	<u>100</u> (A)		<u>500</u> (B)																																		
Prevalence Index = B/A =			<u>5.00</u>																																		
2.	_____	_____	_____	_____																																	
3.	_____	_____	_____	_____																																	
4.	_____	_____	_____	_____																																	
5.	_____	_____	_____	_____																																	
_____ =Total Cover																																					
<b>Herb Stratum</b> (Plot size: <u>5'</u> )																																					
1.	<u>Glycine max</u>	<u>100</u>	<u>Yes</u>	<u>UPL</u>	<b>Hydrophytic Vegetation Indicators:</b> ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 <sup>1</sup> ___ 4 - Morphological Adaptations <sup>1</sup> (Provide supporting data in Remarks or on a separate sheet) ___ 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.	_____	_____	_____	_____																																	
6.	_____	_____	_____	_____																																	
7.	_____	_____	_____	_____																																	
8.	_____	_____	_____	_____																																	
9.	_____	_____	_____	_____																																	
10.	_____	_____	_____	_____																																	
_____ =Total Cover																																					
<b>Woody Vine Stratum</b> (Plot size: <u>30'</u> )																																					
1.	_____	_____	_____	_____	<b>Hydrophytic Vegetation Present?</b> Yes _____ No <u>X</u>																																
2.	_____	_____	_____	_____																																	
_____ =Total Cover																																					
Remarks: (Include photo numbers here or on a separate sheet.)																																					

**SOIL**

Sampling Point: Upland V-1

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>		
0-20	10YR 4/4	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.

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

**HYDROLOGY**

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

<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:



**Photograph 85**  
View of Wetland V facing north.  
(EMH&T 3/18/22)



**Photograph 86**  
View of Wetland V facing south.  
(EMH&T 3/18/22)



**Photograph 87**  
View of Wetland V facing east.  
(EMH&T 3/18/22)



**Photograph 88**  
View of Wetland V facing west.  
(EMH&T 3/18/22)

**APPENDIX B**

**EMHT QHEI FORM & AECOM PHOTOGRAPHS FOR BLACKLICK CREEK**

Stream & Location: Jug Street Stream 1

RM: 28.4 Date: 6 / 15 /

Scorers Full Name & Affiliation: Stephen Bailey EMH&T

River Code: - - - STORET #: Lat./ Long.: 40 108760 / 82 751365 Office verified location

**1] SUBSTRATE** Check **ONLY** two substrate TYPE BOXES; estimate % or note every type present. Check ONE (Or 2 & average)

<p><b>BEST TYPES</b></p> <input type="checkbox"/> BLDR /SLABS [10] <input type="checkbox"/> BOULDER [9] <input type="checkbox"/> COBBLE [8] <input checked="" type="checkbox"/> GRAVEL [7] <input type="checkbox"/> SAND [6] <input type="checkbox"/> BEDROCK [5]	<p><b>POOL RIFFLE</b></p> <p>5 35 10 45 10 10</p>	<p><b>OTHER TYPES</b></p> <input type="checkbox"/> HARDPAN [4] <input type="checkbox"/> DETRITUS [3] <input type="checkbox"/> MUCK [2] <input checked="" type="checkbox"/> SILT [2] <input type="checkbox"/> ARTIFICIAL [0]	<p><b>POOL RIFFLE</b></p> <p>75 10</p>	<p><b>ORIGIN</b></p> <input type="checkbox"/> LIMESTONE [1] <input checked="" type="checkbox"/> TILLS [1] <input type="checkbox"/> WETLANDS [0] <input type="checkbox"/> HARDPAN [0] <input type="checkbox"/> SANDSTONE [0] <input type="checkbox"/> RIP/RAP [0] <input type="checkbox"/> LACUSTURINE [0] <input type="checkbox"/> SHALE [-1] <input type="checkbox"/> COAL FINES [-2]	<p><b>QUALITY</b></p> <input type="checkbox"/> HEAVY [-2] <input checked="" type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input type="checkbox"/> FREE [1] <input type="checkbox"/> EXTENSIVE [-2] <input type="checkbox"/> MODERATE [-1] <input type="checkbox"/> NORMAL [0] <input checked="" type="checkbox"/> NONE [1]
--	---	---	--	--	--

NUMBER OF BEST TYPES:  4 or more [2]  3 or less [0]

**Comments**

**Substrate**  
10  
Maximum 20

**2] INSTREAM COVER** Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools. Check ONE (Or 2 & average)

<p><b>UNDERCUT BANKS</b> [1]  <b>OVERHANGING VEGETATION</b> [1]  <b>SHALLOWS (IN SLOW WATER)</b> [1]  <b>ROOTMATS</b> [1]</p>	<p><b>POOLS &gt; 70cm</b> [2]  <b>ROOTWADS</b> [1]  <b>BOULDERS</b> [1]</p>	<p><b>OXBOWS, BACKWATERS</b> [1]  <b>AQUATIC MACROPHYTES</b> [1]  <b>LOGS OR WOODY DEBRIS</b> [1]</p>
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**Comments** Too shallow for in-stream cover

**Amount**  
2  
Maximum 20

**3] CHANNEL MORPHOLOGY** Check ONE in each category (Or 2 & average)

<p><b>SINUOSITY</b></p> <input type="checkbox"/> HIGH [4] <input type="checkbox"/> MODERATE [3] <input checked="" type="checkbox"/> LOW [2] <input type="checkbox"/> NONE [1]	<p><b>DEVELOPMENT</b></p> <input type="checkbox"/> EXCELLENT [7] <input checked="" type="checkbox"/> GOOD [5] <input type="checkbox"/> FAIR [3] <input type="checkbox"/> POOR [1]	<p><b>CHANNELIZATION</b></p> <input type="checkbox"/> NONE [6] <input checked="" type="checkbox"/> RECOVERED [4] <input type="checkbox"/> RECOVERING [3] <input type="checkbox"/> RECENT OR NO RECOVERY [1]	<p><b>STABILITY</b></p> <input type="checkbox"/> HIGH [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> LOW [1]
--	--	--	---

**Comments**

**Channel**  
13  
Maximum 20

**4] BANK EROSION AND RIPARIAN ZONE** Check ONE in each category for EACH BANK (Or 2 per bank & average)

<p><b>EROSION</b></p> <input type="checkbox"/> NONE / LITTLE [3] <input checked="" type="checkbox"/> MODERATE [2] <input type="checkbox"/> HEAVY / SEVERE [1]	<p><b>RIPARIAN WIDTH</b></p> <input type="checkbox"/> WIDE > 50m [4] <input type="checkbox"/> MODERATE 10-50m [3] <input type="checkbox"/> NARROW 5-10m [2] <input checked="" type="checkbox"/> VERY NARROW < 5m [1] <input checked="" type="checkbox"/> NONE [0]	<p><b>FLOOD PLAIN QUALITY</b></p> <input type="checkbox"/> FOREST, SWAMP [3] <input type="checkbox"/> SHRUB OR OLD FIELD [2] <input checked="" type="checkbox"/> RESIDENTIAL, PARK, NEW FIELD [1] <input type="checkbox"/> FENCED PASTURE [1] <input checked="" type="checkbox"/> OPEN PASTURE, ROWCROP [0]
---	---	---

**Comments**

**Riparian**  
4  
Maximum 10

**5] POOL / GLIDE AND RIFFLE / RUN QUALITY**

<p><b>MAXIMUM DEPTH</b></p> <p>Check ONE (ONLY!)</p> <input type="checkbox"/> > 1m [6] <input type="checkbox"/> 0.7-<1m [4] <input type="checkbox"/> 0.4-<0.7m [2] <input checked="" type="checkbox"/> 0.2-<0.4m [1] <input type="checkbox"/> < 0.2m [0]	<p><b>CHANNEL WIDTH</b></p> <p>Check ONE (Or 2 &amp; average)</p> <input checked="" type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2] <input type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1] <input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<p><b>CURRENT VELOCITY</b></p> <p>Check ALL that apply</p> <input type="checkbox"/> TORRENTIAL [-1] <input type="checkbox"/> VERY FAST [1] <input type="checkbox"/> FAST [1] <input type="checkbox"/> MODERATE [1]
--	---	---

**Comments**

**Recreation Potential**  
**Primary Contact**  
**Secondary Contact**  
(circle one and comment on back)

**Pool / Current**  
4  
Maximum 12

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (Or 2 & average).  NO RIFFLE [metric=0]

<p><b>RIFFLE DEPTH</b></p> <input type="checkbox"/> BEST AREAS > 10cm [2] <input type="checkbox"/> BEST AREAS 5-10cm [1] <input checked="" type="checkbox"/> BEST AREAS < 5cm [metric=0]	<p><b>RUN DEPTH</b></p> <input type="checkbox"/> MAXIMUM > 50cm [2] <input checked="" type="checkbox"/> MAXIMUM < 50cm [1]	<p><b>RIFFLE / RUN SUBSTRATE</b></p> <input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2] <input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1] <input type="checkbox"/> UNSTABLE (e.g., Fine Gravel, Sand) [0]	<p><b>RIFFLE / RUN EMBEDDEDNESS</b></p> <input type="checkbox"/> NONE [2] <input type="checkbox"/> LOW [1] <input checked="" type="checkbox"/> MODERATE [0] <input type="checkbox"/> EXTENSIVE [-1]
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**Comments**

**Riffle / Run**  
2  
Maximum 8

**6] GRADIENT** (23.1 ft/mi)  VERY LOW - LOW [2-4]  MODERATE [6-10]  HIGH - VERY HIGH [10-6]

**DRAINAGE AREA** (1.16 mi<sup>2</sup>)

**%POOL:** 20 **%GLIDE:** 30 **%RUN:** 30 **%RIFFLE:** 20

**Comments**

**Gradient**  
10  
Maximum 10

**AJ SAMPLED REACH**

Check ALL that apply

- METHOD**
- BOAT
  - WADE
  - L. LINE
  - OTHER
- DISTANCE**
- 0.5 Km
  - 0.2 Km
  - 0.15 Km
  - 0.12 Km
  - OTHER

- STAGE**
- 1st-sample pass--2nd
- HIGH
  - UP
  - NORMAL
  - LOW
  - DRY

- CLARITY**
- 1st --sample pass-- 2nd
- < 20 cm
  - 20-<40 cm
  - 40-70 cm
  - > 70 cm/ CTB
  - SECCHI DEPTH
- 61 meters

- CANOPY**
- 1st pass \_\_\_\_\_ cm
- 2nd pass \_\_\_\_\_ cm
- > 85%- OPEN
  - 55%-<85%
  - 30%-<55%
  - 10%-<30%
  - <10%- CLOSED

**CJ RECREATION** AREA DEPTH  
 POOL:  >100ft<sup>2</sup>  >3ft

Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.

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**BJ AESTHETICS**

- NUISANCE ALGAE
- INVASIVE MACROPHYTES
- EXCESS TURBIDITY
- DISCOLORATION
- FOAM / SCUM
- OIL SHEEN
- TRASH / LITTER
- NUISANCE ODOR
- SLUDGE DEPOSITS
- CSOs/SSOs/OUTFALLS

**DJ MAINTENANCE**

- PUBLIC / PRIVATE / BOTH / NA
- ACTIVE / HISTORIC / BOTH / NA
- YOUNG-SUCCESSION-OLD
- SPRAY / SNAG / REMOVED
- MODIFIED / DIPPED OUT / NA
- LEVEED / ONE SIDED
- RELOCATED / CUTOFFS
- MOVING-BEDLOAD-STABLE
- ARMoured / SLUMPS
- ISLANDS / SCoured
- IMPOUNDED / DESICCATED
- FLOOD CONTROL / DRAINAGE

Circle some & COMMENT

**EJ ISSUES**

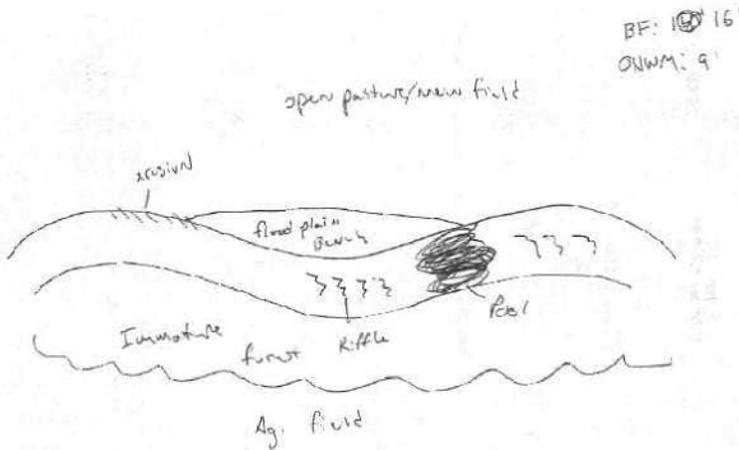
- WWTP / CSO / NPDES / INDUSTRY
- HARDENED / URBAN / DIRT&GRIME
- CONTAMINATED / LANDFILL
- BMPs-CONSTRUCTION-SEDIMENT
- LOGGING / IRRIGATION / COOLING
- BANK / EROSION / SURFACE
- FALSE BANK / MANURE / LAGOON
- WASH H<sub>2</sub>O / TILE / H<sub>2</sub>O TABLE
- ACID / MINE / QUARRY / FLOW
- NATURAL / WETLAND / STAGNANT
- PARK / GOLF / LAWN / HOME
- ATMOSPHERE / DATA PAUCITY

**FJ MEASUREMENTS**

- $\bar{x}$  width
- $\bar{x}$  depth
- max. depth
- $\bar{x}$  bankfull width
- bankfull  $\bar{x}$  depth
- W/D ratio
- bankfull max. depth
- floodprone  $x^2$  width
- entrench. ratio

Legacy Tree:

**Stream Drawing:**



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>EMHT-Stream 1-EXT 1</b>
<b>Date:</b> February 17, 2023
<b>Description:</b> Blacklick Creek Perennial Facing Upstream



<b>EMHT-Stream 1-EXT 1</b>
<b>Date:</b> February 17, 2023
<b>Description:</b> Blacklick Creek Perennial Facing Downstream



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>EMHT-Stream 1-EXT</b> <b>1</b>
<b>Date:</b> February 17, 2023
<b>Description:</b> Blacklick Creek Perennial Facing Substrate



**APPENDIX C**

**UPLAND DRAINAGE FEATURES AND HABITAT PHOTOGRAPHIC RECORD**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-01</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Urban Facing South



<b>PH-02</b>
<b>Date:</b> February 9, 2023
<b>Description:</b> Old Field Facing East



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-03</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Agricultural Row Crop Facing East



<b>PH-04</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Streams/Wetlands Facing East



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-05</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Old Field Facing North



<b>PH-06</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Streams/Wetlands Facing South



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-07</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Landscaped Facing North



<b>PH-08</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Agricultural Row Crop Facing Southeast



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>PH-09</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Woodlands Facing West



<b>PH-010</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Hay/Pasture (left side) and Landscaped (right side) Facing North



**Client Name:**

AEP

**Site Location:**

Green Chapel Extension Project

**Project No.**

60690401

**PH-011**

**Date:**

January 17, 2023

**Description:**

Agricultural Row Crop

Facing North



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-MRK-001</b>	
<b>Date:</b> January 17, 2023	
<b>Description:</b> Upland Drainage Feature Facing North	

<b>UDF-MRK-001</b>	
<b>Date:</b> January 17, 2023	
<b>Description:</b> Upland Drainage Feature Facing South	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-MRK-001</b>	
<b>Date:</b> January 17, 2023	
<b>Description:</b> Upland Drainage Feature Facing Substrate	

<b>UDF-MRK-002</b>	
<b>Date:</b> January 18, 2023	
<b>Description:</b> Upland Drainage Feature Facing North	

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-MRK-002</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Upland Drainage Feature  Facing South



<b>UDF-MRK-002</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Upland Drainage Feature  Facing Substrate



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>UDF-MRK-003</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Upland Drainage Feature  Facing North



<b>UDF-MRK-003</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Upland Drainage Feature  Facing South



**Client Name:**

AEP

**Site Location:**

Green Chapel Extension Project

**Project No.**

60690401

**UDF-MRK-003**

**Date:**

January 18, 2023

**Description:**

Upland Drainage  
Feature

Facing Substrate



**APPENDIX D**  
**POND PHOTOGRAPHIC RECORD**

<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>P-MRK-001</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Pond Facing North

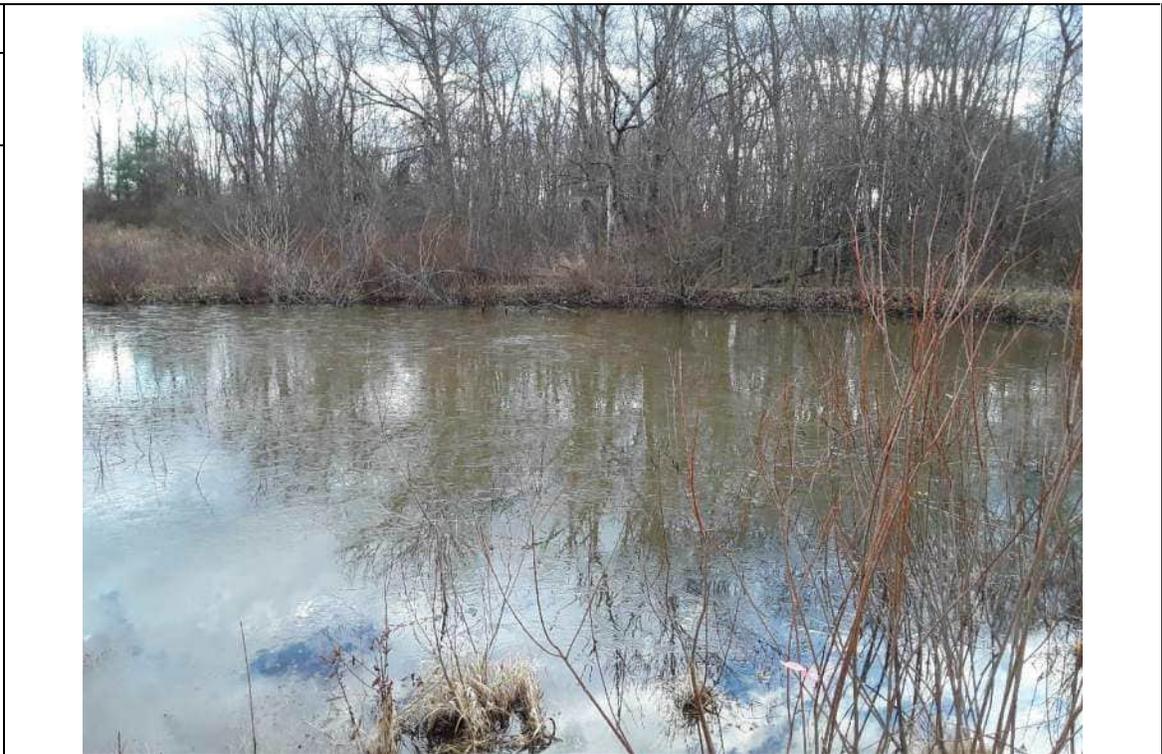


<b>P-MRK-001</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Pond Facing East



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.:</b> 60690401
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<b>P-MRK-001</b>
<b>Date:</b> January 17, 2023
<b>Description:</b> Pond Facing South



<b>P-MRK-002</b>
<b>Date:</b> January 18, 2023
<b>Description:</b> Stormwater/Sediment Pond Facing North



<b>Client Name:</b> AEP	<b>Site Location:</b> Green Chapel Extension Project	<b>Project No.</b> 60690401
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<b>P-MRK-002</b>	
<b>Date:</b> January 18, 2023	
<b>Description:</b> Stormwater/Sediment Pond  Facing East	

<b>P-MRK-002</b>	
<b>Date:</b> January 18, 2023	
<b>Description:</b> Stormwater/Sediment Pond  Facing South	

**Client Name:**

AEP

**Site Location:**

Green Chapel Extension Project

**Project No.**

60690401

**P-MRK-002**

**Date:**

January 18, 2023

**Description:**

Stormwater/Sediment  
Pond

Facing West



**APPENDIX E**

**USACE APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATION LETTER**

**(LRH-2022-557-SCR)**

**AUGUST 8, 2022**



REPLY TO  
ATTENTION OF

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

August 8, 2022

Regulatory Division  
North Branch  
LRH-2022-557-SCR

**APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATIONS**

Mr. 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, North Beech Corridor, Plain/Jersey Townships, Franklin/Licking Counties, Ohio*, completed by EMH&T and submitted to this office on July 1, 2022 with additional information received on July 11, 2022. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources and an approved jurisdictional determination for the non-jurisdictional features on the approximate 672-acre site. The JD review area is located east and west of Beech Road, north and south of Miller Road, and south and east of U.S. 62 (Johnstown Road) Plain/Jersey Townships, Franklin and Licking Counties, Ohio at approximately 40.11512 latitude, -82.75260 longitude. On-site waters flow to Blacklick Creek, an indirect tributary of the Scioto River, a traditional navigable water of the United States. We have assigned the following file number to your PCN: LRH-2022-557-SCR. Please reference this file number on all future correspondence related to this subject proposal.

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 DA permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

***Preliminary Jurisdictional Determination***

Based upon a review of the information provided, this office has determined 5.78 acres of nine (9) wetlands (Wetland H, I, K, L, M, S, T, U, and V) and 6,276 linear feet (0.805 acre) of five (5) streams (Streams 1-5) are located within the preliminary JD boundary. The aquatic resources identified above and on the enclosed preliminary JD form 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 above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find a copy of the preliminary JD form. If you agree with the findings of this preliminary JD and understand your options regarding the same, please sign and date the preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to Cecil Cox of the North Branch at [cecil.m.cox@usace.army.mil](mailto:cecil.m.cox@usace.army.mil) 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 information provided and other information available to us, the 672-acre site contains one (1) Grass Swale (1,883 linear feet), five (5) Ponds (totaling 0.66 acre), and 14 Wetlands (totaling 29.37 acres). Grass Swale 1 does not carry a relatively permanent flow of water, lacks consistent ordinary high-water marks, sediment sorting, defined bed and banks, or wetland characteristics. 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. Wetlands A-G, J, N-R, and Pond Fringe are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. Wetlands A-G, J, N-R, and Pond Fringe would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Therefore, Grass Swale, Ponds 1-5, and Wetlands A-G, J, N-R, and Pond Fringe are not jurisdictional waters of the United States. However, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state 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 water determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on July 22, 2022 and August 4, 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 approved JD for the subject site within the approved JD boundary. 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:

Regulatory Administrative Appeals Officer  
United States Army Corps of Engineers  
Great Lakes and Ohio River Division  
550 Main Street, Room 10780  
Cincinnati, Ohio 45202-3222  
Phone: (513) 684-2699  
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.

If you have any questions concerning the above, please contact 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,



Andrew J. Wendt  
Regulatory Project Manager  
North Branch

Enclosures

cc:

Bryan Lombard via email

Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM

**BACKGROUND INFORMATION**

A. **REPORT COMPLETION DATE FOR PJD:** 13-JUL-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, North Beech Corridor JD, LRH-2022-00557-SCR

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: Plain/Jersey Townships  
 Center coordinates of site (lat/long in degree decimal format):  
 Lat.: 40.115124° Long.: -82.752606°  
 Universal Transverse Mercator: 17  
 Name of nearest waterbody: Blacklick Creek

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

- Office (Desk) Determination. Date: 13 July 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	40.112127	-82.761369	4781 feet	Non-wetland waters	Section 404
Stream 2	40.117132	-82.768715	1137 feet	Non-wetland waters	Section 404
Stream 3	40.112544	-82.762072	67 feet	Non-wetland waters	Section 404
Stream 4	40.111902	-82.761505	81 feet	Non-wetland waters	Section 404
Stream 5	40.107134	-82.738898	210 feet	Non-wetland waters	Section 404
Wetland H	40.114849	-82.770699	1.86 acres	Wetland	Section 404
Wetland I	40.111667	-82.762484	0.24 acres	Wetland	Section 404
Wetland K	40.112348	-82.761342	0.22 acres	Wetland	Section 404
Wetland L	40.112381	-82.762633	0.08 acres	Wetland	Section 404
Wetland M	40.112048	-82.76178	0.33 acres	Wetland	Section 404
Wetland S	40.107245	-82.742229	1.61 acres	Wetland	Section 404
Wetland T	40.107131	-82.741373	0.1 acres	Wetland	Section 404
Wetland U	40.107223	-82.740148	1.02 acres	Wetland	Section 404
Wetland V	40.106198	-82.73905	0.32 acres	Wetland	Section 404

<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

- 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 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: The applicant, New Albany Company, has submitted a Investigation of Waters of the United States, North Beech Corridor, Plain and Jersey Townships, Franklin/Licking Counties, Ohio, completed by EMH&T and submitted to this office on 1 July 2022 with additional information received on 11 July 2022.
- Map: Delineation Map Exhibit 6 of submitted report.
- Data sheets prepared/submitted by or on behalf of the PJD requestor.
- Office concurs with data sheets/delineation report.

<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

- 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.
- USGS 8 and 12 digit HUC maps. 050600011503 – Headwaters Blacklick Creek.
- U.S. Geological Survey map(s). Cite scale & quad name: 7.5' New Albany and Jersey, Ohio Quads Exhibit 2 of submitted report.
- Natural Resources Conservation Service Soil Survey. Citation: Exhibit 3A of submitted report.
- National wetlands inventory map(s). Cite name: Exhibit 5 of submitted report.
- State/local wetland inventory map(s): \_\_\_\_\_
- FEMA/FIRM maps: Exhibit 4 of submitted report.
- 100-year Floodplain Elevation is: \_\_\_\_\_ (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Exhibit 1 of submitted report.  
 or  Other (Name & Date): Photos within submitted report.
- Previous determination(s). File no. and date of response letter: \_\_\_\_\_
- Other information (please specify): \_\_\_\_\_

**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>  
DIR. of REAL ESTATE

<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): July 13, 2022**

**B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Huntington District, North Beech Corridor, LRH-2022-557-SCR**

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

State: Ohio County/parish/borough: Franklin and Licking City: Plain and Jersey Townships

Center coordinates of site (lat/long in degree decimal format): Lat. 40.11512° N, Long. -82.75260° W.

Universal Transverse Mercator:

Name of nearest waterbody: Blacklick Creek

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

Name of watershed or Hydrologic Unit Code (HUC): 050600011503 - Headwaters Blacklick 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: 13 July 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 approximate 262-acre approved JD review area contains one (1) Grass Swale (1,883 linear feet), five (5) Ponds (totaling 0.66 acre), and 14 Wetlands (totaling 29.37 acres) that have been evaluated for possible jurisdiction. Grass swale 1 does not carry a relatively permanent flow of water, lacks consistent ordinary high-water marks, sediment sorting, defined bed and banks, or wetland characteristics. 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.**

<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.

**Wetlands A-G, J, N-R, and Pond Fringe are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. Wetlands A-G, J, N-R, and Pond Fringe would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. The closest stream is approximately 0.2 mile south of Wetland R, approximately 0.1 mile west of Wetlands B, C, D, and J, and approximately 0.15 mile south of Wetlands A, E, F, G, N, O, P, Q, and Pond Fringe. This office has determined that Grass Swale, Ponds 1-5, and Wetlands A-G, J, N-R, and Pond Fringe 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: Ponds 1-5, 0.66 acres.
- Other non-wetland waters: linear feet acres. List type of aquatic resource: .
- Wetlands: Wetlands A-G, J, N-R, and Pond Fringe, 29.37 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: 1,883 linear feet acres. List type of aquatic resource: Grass Swale 1.
- 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, North Beech Corridor, Plain and Jersey Townships, Franklin and Licking Counties, Ohio, completed by EMH&T and submitted to this office on 1 July 2022 with additional information received on 11 July 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: 7.5' New Albany and Jersey, Ohio Quads Exhibit 2 of submitted report.
- USDA Natural Resources Conservation Service Soil Survey. Citation: Exhibit 3A of submitted report.
- National wetlands inventory map(s). Cite name: Exhibit 5 of submitted report.
- State/Local wetland inventory map(s): .
- FEMA/FIRM maps: Exhibit 4 of submitted report.
- 100-year Floodplain Elevation is: (National Geodetic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Exhibit 1 and 6 of submitted report.  
or  Other (Name & Date): Photos within submitted report.
- Previous determination(s). File no. and date of response letter: .
- Applicable/supporting case law: .
- Applicable/supporting scientific literature: .
- Other information (please specify): .

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

**APPENDIX E**

**USACE APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATION LETTER**

**(LRH-2018-686-SCR-Blacklick Creek)**

**April 1, 2019**



REPLY TO  
ATTENTION OF

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

April 1, 2019

Regulatory Division  
North Branch  
LRH-2018-686-SCR-Blacklick Creek

APPROVED AND PRELIMINARY JURISDICTIONAL DETERMINATIONS

Mr. William Ebbing  
The New Albany Company  
8000 Walton Parkway, Suite 120  
New Albany, Ohio 43054

Dear Mr. Ebbing:

I refer to the *Investigation of Waters of the United States for the North of Jug Street Properties* (report) dated August 15, 2018, and the addendum dated March 11, 2019, submitted on your behalf by EMH&T. You have requested an approved jurisdictional determination (JD) for the non-jurisdictional features and a preliminary JD for the potential jurisdictional aquatic resources on the project site. The property is located east of Beech Road Northwest and north of Jug Street in Jersey Township, in Licking County, Ohio (40.102329 latitude, -82.744114 longitude). Your JD request has been assigned the following file number: LRH-2018-686-SCR-Blacklick Creek. Please reference this 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, including the amendment to 33 CFR 328.3 (80 Federal Register 37053), 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 discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

***Preliminary Jurisdictional Determination***

Based upon a review of the submitted report, additional information received on March 12, 2019, and a field investigation conducted by a representative of this office on October 16, 2018, this office has determined that approximately 3,348 linear feet (lf) of four (4) streams and 24.27 acres of fifty-three (53) wetlands are present within the 475-acre study area. The aquatic resources identified above and on the enclosed preliminary JD form **may** be waters of the United States in accordance with the Regulatory Guidance Letter for Jurisdictional Determinations (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 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 above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find two (2) copies 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 one (1) 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 to the following address:

United States Army Corps of Engineers  
Huntington District Attn: North Branch  
LRH-2018-663-HOC  
502 Eighth Street  
Huntington, West Virginia 25701.

***Approved Jurisdictional Determination***

Based on the information provided, the on-site field verification performed on October 16, 2018, and other information available to us, we have determined that 0.85 acre of two (2) ponds are excluded per 33 CFR 328.3(b)(4)(ii). In addition, there is 645 lf of one (1) ditch within the project area. Ditch 1 was excavated in uplands to drain a failing drain tile system and is excluded per 33 CFR 328.3(b)(3)(iii). Ponds 1-2 and Ditch 1 are not waters of the United States. 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 approved JD for the subject site within the approved JD boundary. 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 RM 10524  
Cincinnati, Ohio 45202-3222  
Phone: (513) 684-2699  
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. Should you decide to submit an RFA form, it must be received at the above address by May 31, 2019. **It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter.**

A copy of this letter is being provided to Mr. Rob Milligan at EMH&T. If you have any questions concerning the above, 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,

MOORE.LAURIE  
.A.1381411784

Digitally signed by  
MOORE.LAURIE.A.1381411784  
DN: c=US, o=U.S. Government,  
ou=DoD, ou=PRD, ou=USA,  
cn=MOORE.LAURIE.A.1381411784  
Date: 2019.04.01 14:25:56 -0400

Laurie A. Moore  
Regulatory Project Manager  
North Branch

Enclosures

Cc (by email):

Mr. Rob Milligan

**Appendix 2 - PRELIMINARY JURISDICTIONAL DETERMINATION (PJD) FORM**

**BACKGROUND INFORMATION**

**A. REPORT COMPLETION DATE FOR PJD:** Delineation Report dated August 15, 2018, with supplemental information received on October 19, 2018 and March 12, 2019

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

**Applicant:** William Ebbing  
 The New Albany Company  
 8000 Walton Parkway, Suite 120  
 New Albany, Ohio 43054

**Agent:** Rob Milligan  
 EMH&T  
 5500 New Albany Road  
 New Albany, Ohio 43054

**C. DISTRICT OFFICE, FILE NAME, AND NUMBER:** Huntington District –North Branch; LRH-2018-686-SCR-Blacklick Creek;North of Jug Street Properties

**D. PROJECT LOCATION(S) AND BACKGROUND INFORMATION:  
 (USE THE TABLE BELOW TO DOCUMENT MULTIPLE AQUATIC RESOURCES AND/OR AQUATIC RESOURCES AT DIFFERENT SITES)**

State: Ohio County: Licking City: Jersey Township

Center coordinates of site (lat/long in degree decimal): 40.101513, -82.741913

Name of nearest waterbody: Blacklick Creek

Identify (estimate) amount of waters in the review area:

Non-wetland waters: 3,348 linear feet of four (4) streams

Wetlands: 53 wetlands comprising of 24.27 acres

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

Office (Desk) Determination. Date(s): October 26, 2018

Field Determination. Date(s): October 16, 2018

Site Number	Latitude	Longitude	Estimated amount of aquatic resource in review area (acreage/linear feet)	Type of aquatic resource	Geographic authority to which the aquatic resource “may be” subject
Wetland A	40.10088	-82.73906	0.26 acre	Wetland	Section 404
Wetland B	40.10089	-82.73999	0.47 acre	Wetland	Section 404
Wetland C	40.10092	-82.73802	0.05 acre	Wetland	Section 404
Wetland D	40.10144	-82.74068	0.35 acre	Wetland	Section 404
Wetland E	40.10102	-82.73759	0.08 acre	Wetland	Section 404
Wetland F	40.10226	-82.74155	0.16 acre	Wetland	Section 404
Wetland G	40.09970	-82.74091	0.16 acre	Wetland	Section 404

<b>Site Number</b>	<b>Latitude</b>	<b>Longitude</b>	<b>Estimated amount of aquatic resource in review area (acreage/linear feet)</b>	<b>Type of aquatic resource</b>	<b>Geographic authority to which the aquatic resource “may be” subject</b>
Wetland H	40.09918	-82.74102	0.09 acre	Wetland	Section 404
Wetland I	40.10085	-82.74311	2.50 acre	Wetland	Section 404
Wetland J	40.10038	-82.74132	0.41 acre	Wetland	Section 404
Wetland K	40.09926	-82.74243	0.02 acre	Wetland	Section 404
Wetland L	40.10155	-82.74135	0.07 acre	Wetland	Section 404
Wetland M	40.09986	-82.74340	0.43 acre	Wetland	Section 404
Wetland N	40.10065	-82.74207	0.03 acre	Wetland	Section 404
Wetland O	40.10491	-82.74257	1.78 acre	Wetland	Section 404
Wetland P	40.09957	-82.74236	1.66 acre	Wetland	Section 404
Wetland Q	40.10453	-82.74336	0.08 acre	Wetland	Section 404
Wetland R	40.09924	-82.74168	0.24 acre	Wetland	Section 404
Wetland S	40.10472	-82.74069	0.28 acre	Wetland	Section 404
Wetland T	40.09902	-82.74237	0.05 acre	Wetland	Section 404
Wetland U	40.10561	-82.74048	2.04 acre	Wetland	Section 404
Wetland V	40.10469	-82.73994	0.09 acre	Wetland	Section 404
Wetland W	40.10467	-82.73996	0.15 acre	Wetland	Section 404
Wetland X	40.10293	-82.74087	0.25 acre	Wetland	Section 404
Wetland Y	40.09741	-82.74334	0.02 acre	Wetland	Section 404
Wetland Z	40.10673	-82.74645	2.82 acre	Wetland	Section 404
Wetland AA	40.10697	-82.74491	0.97 acre	Wetland	Section 404
Wetland BB	40.10817	-82.74442	0.40 acre	Wetland	Section 404
Wetland CC	40.10748	-82.74447	0.06 acre	Wetland	Section 404
Wetland DD	40.09770	-82.74179	0.09 acre	Wetland	Section 404
Wetland EE	40.10785	-82.74569	0.15 acre	Wetland	Section 404
Wetland FF	40.10855	-82.74551	0.15 acre	Wetland	Section 404
Wetland GG	40.10840	-82.74765	0.17 acre	Wetland	Section 404
Wetland HH	40.10765	-82.74777	0.18 acre	Wetland	Section 404
Wetland II	40.10556	-82.74372	0.06 acre	Wetland	Section 404
Wetland JJ	40.10619	-82.74781	0.44 acre	Wetland	Section 404
Wetland KK	40.10596	-82.74830	0.04 acre	Wetland	Section 404
Wetland LL	40.10435	-82.749939	1.60 acre	Wetland	Section 404
Wetland MM	40.10541	-82.75033	0.23 acre	Wetland	Section 404
Wetland NN	40.10459	-82.75051	0.18 acre	Wetland	Section 404
Wetland OO	40.10440	-82.75142	0.19 acre	Wetland	Section 404
Wetland PP	40.10215	-82.74416	1.05 acre	Wetland	Section 404
Wetland QQ	40.09812	-82.74842	0.37 acre	Wetland	Section 404
Wetland RR	40.10163	-82.74798	0.39 acre	Wetland	Section 404
Wetland SS	40.10166	-82.74985	0.41 acre	Wetland	Section 404
Wetland TT	40.10211	-82.5022	0.02 acre	Wetland	Section 404
Wetland UU	40.10223	-82.75087	0.17 acre	Wetland	Section 404
Wetland VV	40.10080	-82.75149	0.38 acre	Wetland	Section 404
Wetland WW	40.10107	-82.75205	0.13 acre	Wetland	Section 404
Wetland XX	40.10130	-82.75282	1.65 acre	Wetland	Section 404

Wetland YY	40.10120	-82.75099	0.20 acre	Wetland	Section 404
Wetland ZZ	40.09803	-82.74086	0.03 acre	Wetland	Section 404
Wetland AAA	40.09833	-82.74049	0.02 acre	Wetland	Section 404
Stream 1	40.108671	-82.751223	1,289 lf (0.27 acre)	Perennial	Section 404
Stream 2	40.105064	-82.733787	774 lf (0.09 acre)	Ephemeral	Section 404
Stream 3	40.100560	-82.751526	1,172 lf (0.13 acre)	Intermittent	Section 404
Stream 4	40.108907	-82.752506	113 lf (0.01 acre)	Ephemeral	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 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 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: Exhibit 6: Delineation Map (Received as supplemental information on October 19, 2018) and addendum dated 11 March 2019
- Data sheets prepared/submitted by or on behalf of the /consultant applicant: Investigation of Waters of the United States for the North of Jug Street Property, submitted by EMH&T.
  - 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: USGS 7.5-Minute Topographic Map- New Albany and Jersey Quads (Exhibit 2)
- USDA Natural Resources Conservation Service Soil Survey: Exhibits 3A and 3B
- National wetlands inventory map(s). Cite name: Exhibit 4
- State/Local wetland inventory map(s):
- FEMA/FIRM maps: Exhibit 5
- 100-year Floodplain Elevation is:  
(National Geodectic Vertical Datum of 1929)
- Photographs:  Aerial (Name & Date): Exhibit 6-Delineation Map
- or  Other (Name & Date): Site Photos (1-60)
- Previous determination(s). File no. and date of response letter:
- Applicable/supporting case law:
- Applicable/supporting scientific literature:
- Other information (please specify):

**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.**

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Signature and date of Regulatory staff member completing PJD

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Signature and date of person requesting PJD (REQUIRED, unless obtaining the signature is impracticable)