Letter of Notification for the Cyprus 345 kV Extension Project

AEP OHIO TRANSMISSION COMPANY

An AEP Company

BOUNDLESS ENERGY

PUCO Case No. 24-0175-EL-BLN

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

Submitted by:
AEP Ohio Transmission Company, Inc.

March 14, 2024

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.

Cyprus 345 kV Extension Project

4906-6-05 Accelerated Application Requirements

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

4906-6-05(B) General Information

B(1) Project Description

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

The Company is proposing the Cyprus 345 kV Extension Project (the "Project"), located within the City of Columbus and Hamilton Township, Franklin County, Ohio. The Project involves constructing 1.6 miles of new 345 kV transmission line with steel monopoles between the existing Cyprus 345 kV Station (approved in Case No. 21-0786-EL-BLN and 23-0797-EL-BLN) and the existing Beatty – Bixby 345 kV Transmission Line. The Project will support a customer's development in the area. The location of the Project is shown on Map 1 and 2 in **Appendix A**.

The Project meets the requirements for a Letter of Notification ("LON") as defined by Item 1(d)(ii) of Appendix A to Ohio Administrative Code Section 4906-1-01, *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 Case No. 24-0175-EL-BLN.

B(2) Statement of Need

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

An existing customer is requesting two additional 138 kV deliveries at their site south of the Company's existing Cyprus Station in Lockbourne, Ohio. The peak demand at the two new customer delivery points is expected to be 200 MW. The new deliveries will bring the total peak demand for the site up to 300 MW with a potential ultimate site peak demand of 675 MW. In order to support the new load, 345/138 kV transformation will be established at Cyprus Station to reinforce the nearby 138 kV system.

To provide 138 kV service to the customer's new deliveries, the Company will be expanding Cyprus Station. Cyprus Station will be expanded to accommodate additional circuit breakers and transformers to integrate two new 345 kV sources, as well as to extend four additional 138 kV circuits to the customer south of the station, approved Case No. 23-0797-EL-BLN. The two new Cyprus 345 kV sources will be established by construction of a greenfield 1.6-mile double circuit 345 kV line that will cut-in to the existing Beatty-Bixby 345 kV circuit, the subject of this filing. Finally, to accommodate the Cyprus Station expansion the existing Cyprus 138 kV extension will require one circuit to be relocated at the station (included in approved Case No. 23-0797-EL-BLN).

To serve the customer, Ohio Power Company will extend the two existing circuits constructed under the previously approved Hartman Farms 138 kV Extension No. 5 and No. 6 Project (Case No. 21-1057-EL-BNR) to the customer's building #2 station. These single circuit 138 kV greenfield lines will be approximately 0.4 miles and filed separately. Further, Ohio Power Company will construct two double circuit greenfield 138 kV transmission lines to serve the customer's building #3 and building #4 substations, to be filed separately. These double circuit lines measure approximately 0.9 and 0.7 miles. To meet the customer's redundancy requirements to the sites, one circuit from each double-circuit line will provide service to the customer-owned station on the site.

Further, system reinforcements will be required on the existing Beatty – Canal Street 138 kV line that has several clearance issues that will be mitigated in order to increase the capacity on the line to serve the load, approved Case No. 24-0034-EL-BLN.

The customer has requested an in-service date (ISD) of January 31, 2024 for service to their building #2 station and is targeting December 2024 for the building #3 service as well as the 345 kV Cyprus Station and Cyprus 345 kV Extension.

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 Southeast Columbus area (potentially 675 MW peak). The work described enables the 200 MW expansion requested by the customer. As the customer moves forward toward the full 675 MW build out, any additional solutions required to serve the load will be taken through the PJM process and filed with OPSB as needed.

The need and solution for this supplemental project was presented and reviewed with stakeholders at the October 14, 2022 and May 9, 2023 PJM TEAC meetings. The Project has not yet been assigned a PJM identifier to date, but one is anticipated in 2024, see **Appendix B**. The Project was included in the supplemental 2023 Long Term Forecast Report on page 15 of 29.

B(3) Project Location

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

The location of the Project in relation to existing transmission lines and substations is shown on Map 1, in **Appendix A**. Map 2, in **Appendix A**, identifies the Project components on a 2022 aerial photograph.

B(4) Alternatives Considered

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

The Company conducted a conceptual alternatives analysis including review of suitable routes within the Project area. All route alternatives exit the Cyprus 345 / 138 kV Station and continue south along Parsons Avenue, but their alignments divert south of the customer's facility. Several route alternatives head west from Parsons Avenue and follow parcel boundaries between the customer's and Scioto Downs' properties before either paralleling US-23 or bisecting a parking lot. However, these route alternatives were considered less favorable given the visual impacts and business operations along the front of the commercial property. Furthermore, these alternatives would impact future development of the parcel. The Company also reviewed route alternatives that crossed Parsons Avenue and continued south along the eastside of the road. However, this route alternative would interfere with the City of Columbus' plans for proposed development and was not a feasible alternative.

Overall, proposed development in the area and discussions with key stakeholders helped determine the proposed transmission line route which is the subject of this application. Based on the information gathered, the location of the proposed Cyprus 345 kV Extension along the western side of Parsons Avenue was determined to be the most suitable location for the Project (shown in Maps 1 and 2 in **Appendix A**). More than half of the Project is located on customer property, with only one additional property owner required to construct the route.

Based on desktop and field examinations, the Company concluded that construction of the Project along its proposed alignment was the most suitable route. Ecological and cultural surveys were conducted within the proposed ROW. Based on the proposed alignment, no permanent impacts to wetlands, ponds or streams are anticipated as a result of the Project.

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 OAC Section 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected landowners, tenants, contiguous owners and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of OAC Section 4906-6-08(B). The Company maintains a website (http://aeptransmission.com/ohio/) which 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. In addition, the Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey this information to affected owners and tenants.

B(6) Construction Schedule

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

Construction of the Project is planned to begin in July 2024 with an anticipated in-service date of November 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.

Map 1, in **Appendix A**, identifies the location of the Project area on the Lockbourne United States Geological Survey 1:24,000 quadrangle map. **Appendix A**, Map 2 presents the Project area on a 2022 aerial photograph.

To visit the Project from downtown Columbus, Ohio, take I-70 W/I-71 S toward I-71S to Cincinnati for 5.5 miles. Take exit 101 for I-270 E for two miles. Take exit 52 to merge onto US-23 S/S High Street/Portsmouth-Columbus Road towards Circleville for one mile. Turn left on Rathmell Road and continue for 0.8 mile. Turn right onto Parsons Road for 0.4 miles. The Project is located to the west of Parsons Road, at latitude 39.8568, longitude -82.9915.

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 required for the Project are provided in the table below.

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
510-180711	New Easement Agreement	Yes
510-181564	New Easement Agreement	Yes
510-214607	New Easement Agreement	Yes

B(9) Technical Features

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

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

The Project will include the following:

Voltage: 345 kV
Conductors: 2x(3), (2-Bundle) 1,272 kcmil 54/19 ACSR
Static Wire: 2x(1) 144 Ct 0.646" OPGW
Insulators: Polymer
ROW Width: 150 feet
Structure Type: Six (6), double circuit, steel monopoles suspension,
One (1), double circuit, steel two- pole suspension,
One (1), double circuit, steel two-pole running corner, and
One (1), double circuit, steel two-pole dead-end

B(9)(b) Electric and Magnetic Fields

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

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

i) Calculated Electric and Magnetic Field Levels

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

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

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

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

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

The estimated capital cost of the project.

The cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $27,000,000 based on a Class 4 estimate. The costs for the Project will be recovered in AEP Ohio Transmission Company, Inc FERC formula rate (Attachment H-20 to the PJM OATT) and allocated to the AEP Zone pursuant to the PJM OATT.

B(10) Social and Ecological Impacts

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

B(10)(a) Operating Characteristics

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

The Project is located within the City of Columbus and Hamilton Township in Franklin County, Ohio. Land use in the Project area is predominantly industrial or commercially developed land as classified by the Franklin County Auditor. A majority of the Project is located on an industrial property owned by the customer. The remaining portions of the Project are located on commercial horse racetrack property and vacant commercial land.

A residential subdivision is located approximately 270 feet (north) from the Project endpoint (Cyprus Station), near the intersection of Rathmell Road and Parsons Avenue. Hamilton Elementary School, Hamilton Intermediate School, and Hamilton Middle School are located approximately 950 feet east of the northern endpoint of the Project. There are no parks, churches, cemeteries, wildlife management areas, or nature preserve lands within 1,000 feet of the centerline 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.

No properties registered as agricultural district land are located in the Project area based on email coordination with the Franklin County Auditor's Office on January 22, 2024. The Project occupies 29.6 acres, all of which has been historically used for agriculture until recently when 26.1 acres was developed for industrial use. Approximately 0.3 acres is still classified as agricultural land use.

B(10)(c) Archaeological and Cultural Resources

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

The Company's consultant completed a literature review, visual inspection, Phase I Archaeological and Phase I History/Architectural surveys and coordinated with the State Historic Preservation Office ("SHPO") for the Project. The Company's consultant recommended that the Project will have no adverse effect on historic properties and no further cultural resource work would be necessary. In their July 19, 2023 response, SHPO concurred with the consultant's recommendation (see **Appendix C**).

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

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency ("OEPA") for authorization of construction stormwater discharge under NPDES General Permit for Discharges of Storm Water Associated with Construction Activity OHC000006. The Company will also submit a stormwater pollution prevention plan ("SWPPP") to the City of Columbus that adheres to the City's permit requirements. The Company will implement and maintain best management practices as outlined in the Project-specific SWPPP to minimize erosion and sediment to Project surface waters during storm events.

The southernmost portion of the Project crosses 100-year floodplain as designated by the Federal Emergency Management Agency ("FEMA") and two proposed structures are currently located within the FEMA-designated 100-year floodplain. Prior to construction, the Company will obtain a Special Flood Hazard Area Development and Use Permit from the City of Columbus and a National Flood Insurance Program ("NFIP") Permit from Franklin County. A local stormwater permit will also be obtained from the City of Columbus prior to the start of construction.

The Project is located in the City of Columbus Wellfield Protection Boundary. As defined by the City of Columbus-Chapter 1115 Wellfield Protection, the majority of the Project is located in Wellfield Protection Area II and a small portion of the northern area of the Project is located in Wellfield Protection Area I (1000' from collector well). In compliance with the City of Columbus's Chapter 1115, the Company has initiated coordination with the City's Wellfield Protection Coordinator. In compliance with Chapter 1115 plan notes for construction will be developed, and a Spill Prevention Control and Countermeasures ("SPCC") Plan will be prepared. Coordination and approval for the City's wellfield protection aspect of the Project is included in the City's approval of the station grading and stormwater package.

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

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

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

On June 29, 2023, the Company's consultant submitted coordination letters to the United State Fish and Wildlife Service ("USFWS") and the Ohio Department of Natural Resources ("ODNR") Ohio Natural Heritage Program ("ONHP") and Division of Wildlife ("DOW"), seeking an environmental review of the Project area for potential impacts to state and/or federally protected species. ODNR and USFWS provided responses on June 19, 2023, and May 30, 2023, respectively. Copies of the agencies' responses are presented in **Appendix C**.

The ODNR ONHP response indicated that the Project lies within a 1-mile radius of the following state listed threatened, endangered, and/or protected species: the Tippecanoe darter (*Etheostoma tippecanoe*), the black sandshell (*Ligumia recta*), the washboard (*Megalonaias nervosa*), the round pigtoe (*Pleurobema sintoxia*), the kidneyshell (*Ptychobranchus fasciolaris*), the rabbitsfoot (*Theliderma cylindrica*), the fawnsfoot (*Truncilla donaciformis*), and the deertoe (*Truncilla truncata*). The ODNR DOW also indicated that the Project lies within the range of the following state or federal threatened, endangered, and/or protected freshwater mussel species: the purple cat's paw (*Epioblasma o. obliquata*), the clubshell (*Pleurobema clava*), the northern riffleshell (*Epioblasma torulosa rangiana*), the rayed bean (*Villosa fabalis*), the snuffbox (*Epioblasma triquetra*), the rabbitsfoot (*Quadrula cylindrica cylindrica*), the elephant-ear (*Elliptio crassidens crassidens*), the long solid (*Fusconaia maculata maculate*), the Ohio pigtoe (*Pleurobema cordatum*), the pocketbook (*Lampsilis ovata*), the washboard, the black sandshell, the fawnsfoot, the pondhorn (*Uniomerus tetralasmus*), and the salamander mussel (*Simpsonaias ambigua*). The DOW advised that the Project lies within the range of the following state or federal threatened, endangered, and/or protected fish species: the goldeye (*Hiodon alosoides*), the Iowa darter (*Etheostoma exile*), the popeye shiner (*Notropis ariommus*), the northern brook lamprey (*Ichthyomyzon fossor*), the spotted darter (*Etheostoma maculatum*), the shortnose gar (*Lepisosteus platostomus*), the tonguetied minnow (*Exoglossum laurae*), the lake chubsucker (*Erimyzon sucetta*), and the paddlefish (*Polyodon spathula*). No in-water work is proposed for the Project; therefore, ODNR indicates that no impacts to the above-listed freshwater mussel and fish species are likely.

The ODNR DOW also indicated the Project lies within the range of the state and federally endangered Indiana bat (*Myotis sodalis*), the state and federally threatened northern long-eared bat (*Myotis septentrionalis*), the state endangered little brown bat (*Myotis lucifugus*), and the state endangered tri-colored bat (*Perimyotis subflavus*). The DOW recommends seasonal tree cutting for trees ≥ 3 inches diameter at breast height (dbh) between October 1 and March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees greater than 20 inches dbh if possible, to avoid

adverse impacts to these species. 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. No tree clearing is anticipated for the Project; however, a desktop assessment conducted prior to the field survey identified no potential hibernacula within a 0.25-mile radius of the Project. Additionally, no potential hibernacula or suitable habitat were identified within the ESC during the field survey and no tree clearing is anticipated for the Project.

The May 30, 2023 USFWS coordination letter (**Appendix C**) indicated that the Project is within the range of the Indiana bat and northern long-eared bat in Ohio. The USFWS recommends seasonal tree clearing (October 1 through March 31) if no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided. The USFWS indicated that due to the project type, size, and location, no other adverse effects to any other federally protected species or designated critical habitat are anticipated. No tree clearing is anticipated for the Project; however, a desktop assessment conducted prior to the field survey identified no potential hibernacula within a 0.25-mile radius of the Project. No tree clearing is anticipated for the Project, therefore no impacts are anticipated to the Indiana bat or the northern long-eared bat.

Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated.

B(10)(f) Areas of Ecological Concern

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

On May 25, 2023, wetland and stream delineation surveys were completed by the Company's consultant for an approximately 33.9-acre Environmental Survey Corridor (**Appendix D**). During the field survey, no wetlands, streams, or open water features were identified within the ROW of the Project. No other areas of ecological concern were identified within the Project area, and no tree clearing is expected for the Project.

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

The FEMA Flood Insurance Rate Map ("FIRM") was reviewed to identify floodplains/flood hazard areas within the Project area (specifically, FIRM Panel No. 39049C0426K). Based on this mapping, FEMA-designated 100-year floodplain and regulatory floodway areas are located in the southernmost portion

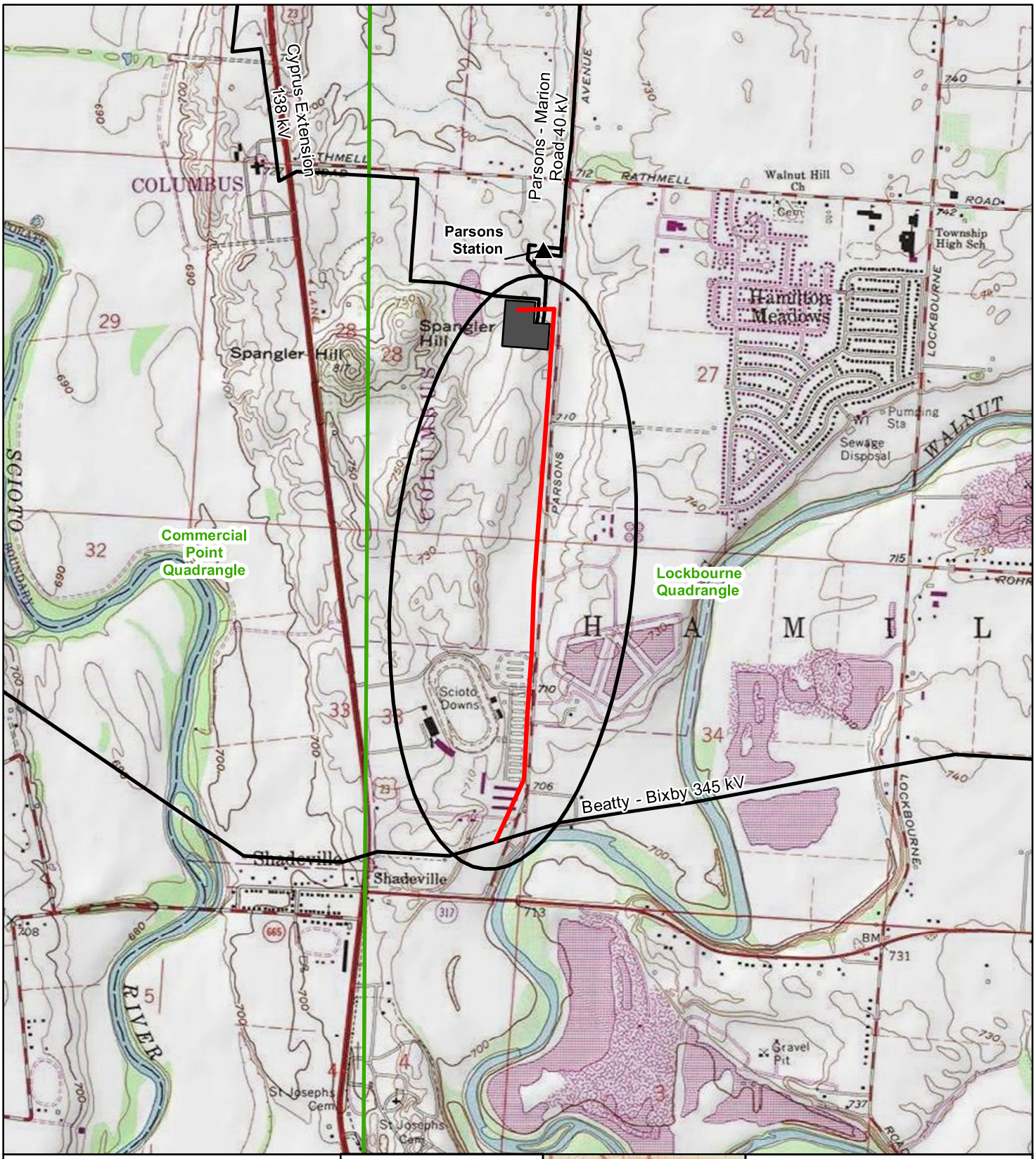
the Project area and is currently crossed by the existing Beatty – Bixby 345 kV Transmission Line. Currently, two structures required for building the Cyprus 345 kV Extension are proposed within FEMA-designated floodplain. Although floodplain permitting is required for the Project, impacts to mapped FEMA floodplains are minimized by constructing the proposed transmission line parallel to existing roads.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps

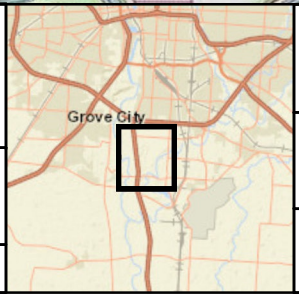


- Existing AEP Station
- Proposed Cyprus 345kV Extension
- Existing Transmission Line
- Expanded Cyprus Station
- USGS 7.5' Topographic Quad Boundary

Sources:
USGS (2021)

State Plane Ohio
South NAD 83

March 06, 2024



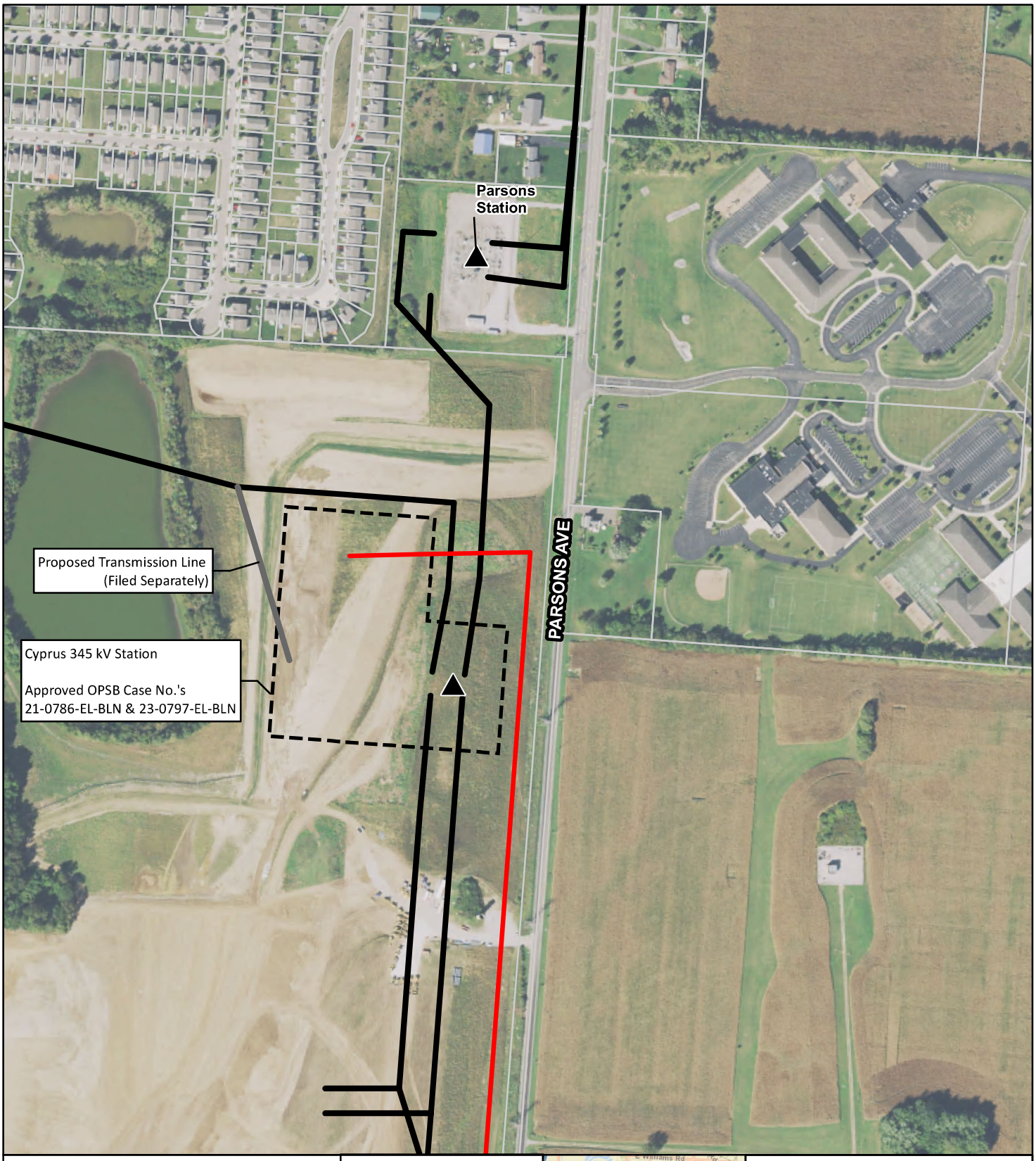
Map 1
Project Area

AEP OHIO TRANSMISSION COMPANY

Cyprus 345 kV Extension Project

0 1,000 2,000 3,000

Feet

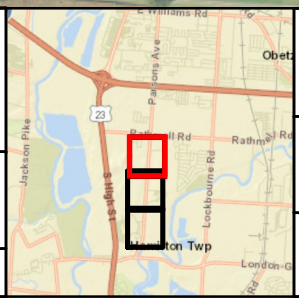


- Existing AEP Station
- Proposed Cyprus 345kV Extension
- Proposed Transmission Line (Filed Separately)
- Existing Transmission Line
- Expanded Cyprus Station
- Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

State Plane Ohio South NAD 83

March 06, 2024

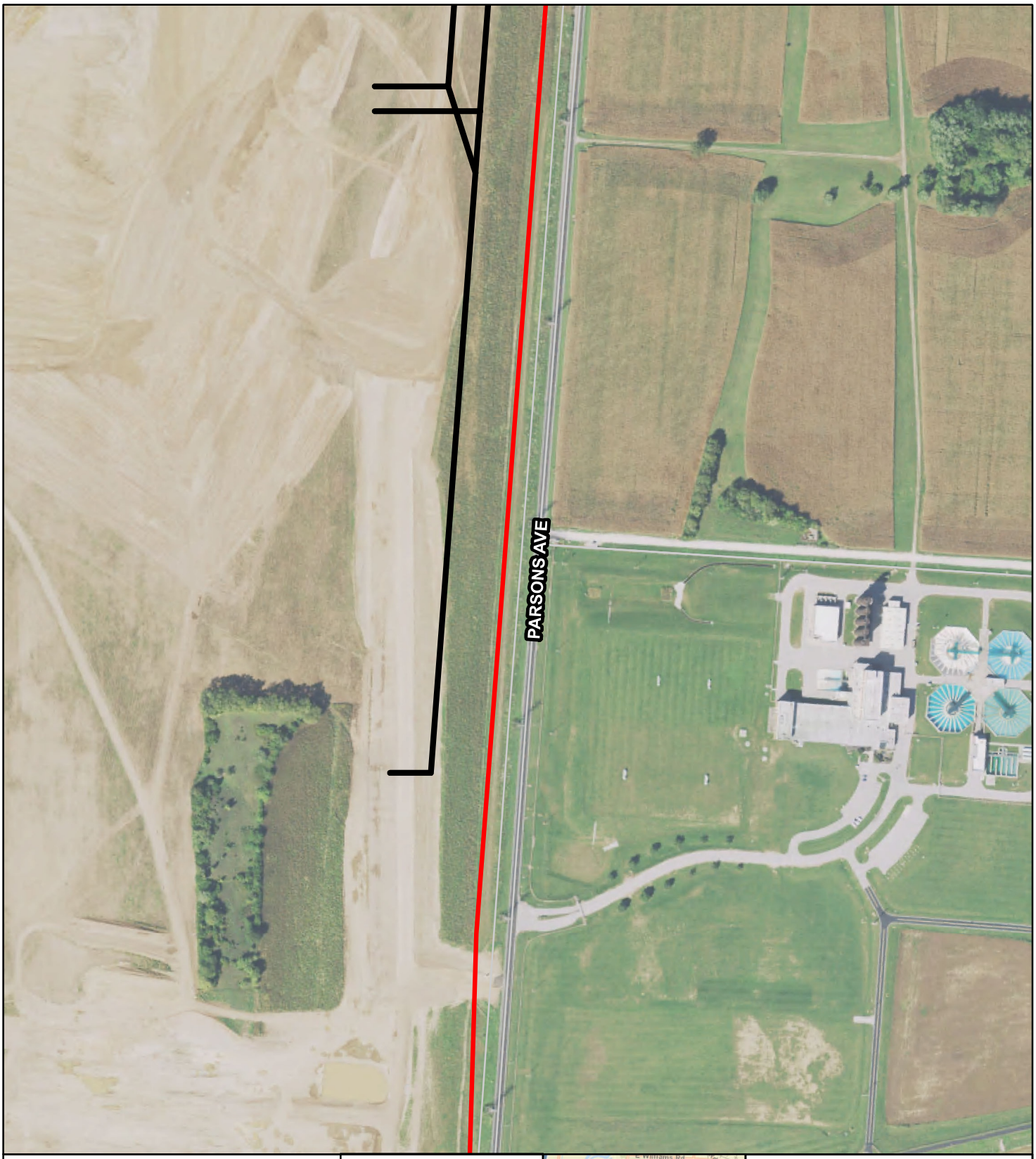


Map 2
Aerial Map

AEP OHIO TRANSMISSION COMPANY

Cyprus 345 kV Extension Project

0 200 400 600
Feet

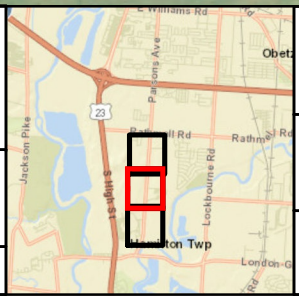


Proposed Cyprus 345kV Extension
Existing Transmission Line
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

State Plane Ohio
South NAD 83

March 06, 2024



Map 2
Aerial Map

AEP OHIO TRANSMISSION COMPANY
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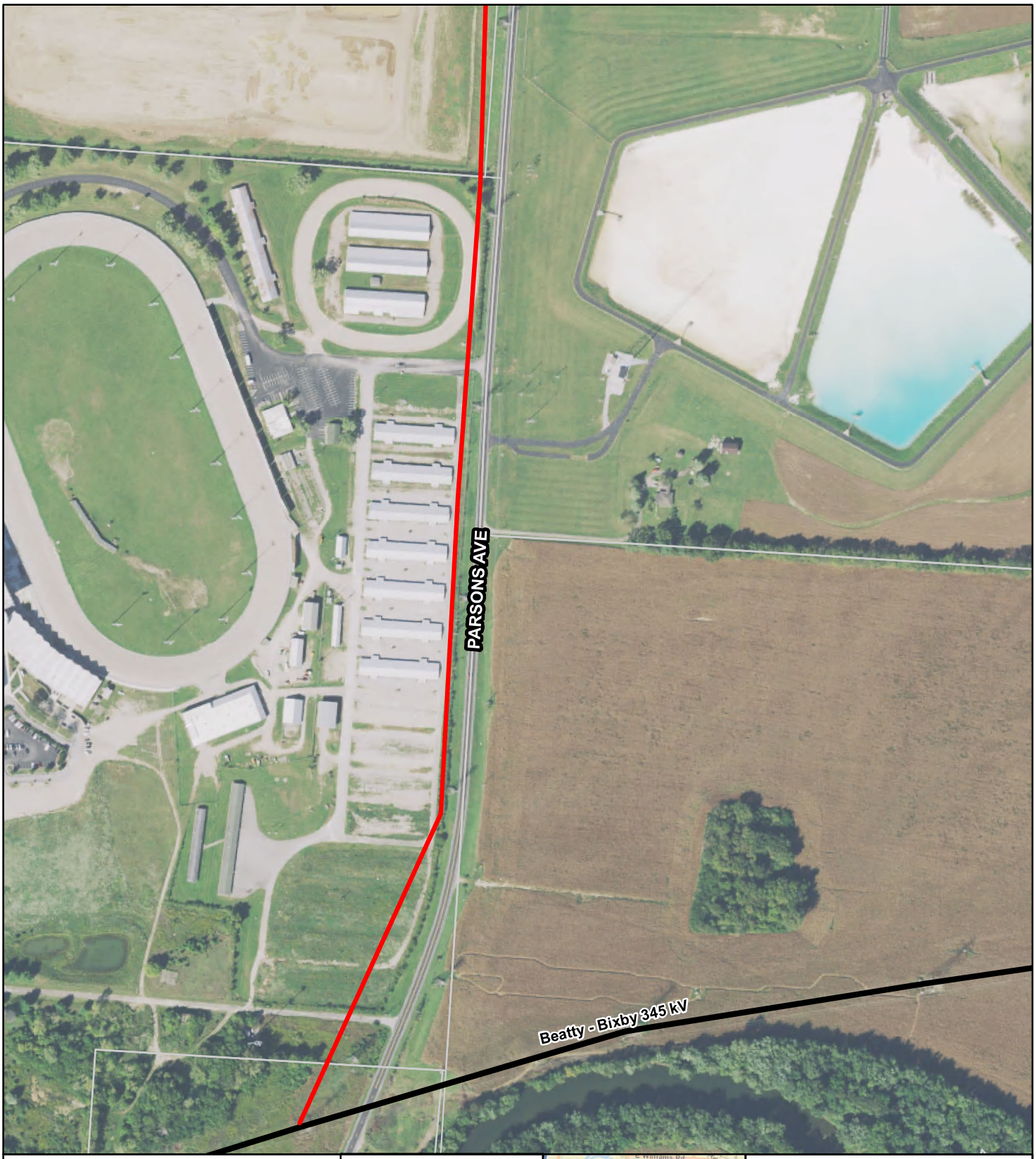
Cyprus 345 kV Extension Project

0 200 400 600
Feet

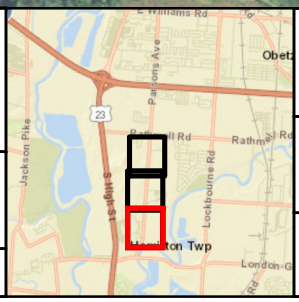


Proposed Cyprus 345kV Extension
Existing Transmission Line
Parcel Boundary

Sources:
NAIP Imagery (USDA 2022)

State Plane Ohio
South NAD 83

March 06, 2024



Map 2
Aerial Map

AEP OHIO TRANSMISSION COMPANY
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Cyprus 345 kV Extension Project

0 200 400 600
Feet

Appendix B Long Term Forecast Report and PJM Solution

AEP Transmission Zone M-3 Process
Cyprus

Need Number: AEP-2022-OH071

Process Stage: Solution Meeting 5/9/2023

Previously Presented: Need Meeting 10/14/2022

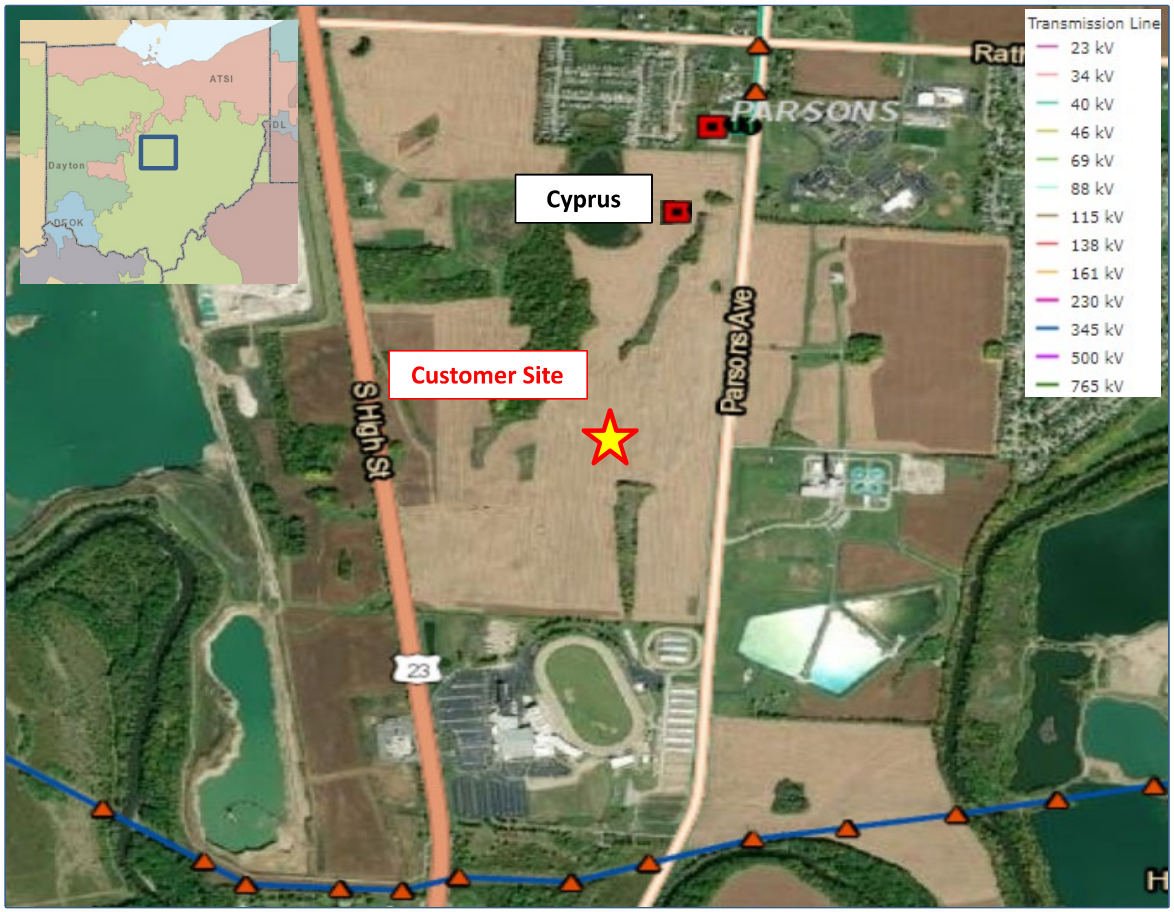
Project Driver: Customer Service

Specific Assumption Reference:

AEP Guidelines for Transmission Owner Identified Needs (AEP Assumptions Slide 13)

Problem Statement:

- A customer has requested additional 138 kV deliveries to their site in Columbus, Ohio near AEP's proposed Cyprus station (s2526).
- The initial peak demand at these new delivery points will be approximately 200 MW and the ultimate capacity of the customer will be up to 675 MW at the site.



AEP Transmission Zone M-3 Process
South Columbus, OH

Need Number: AEP-2022-OH071

Process Stage: Solutions Meeting 5/9/2023

Proposed Solution:

The following work is all direct connect facilities to physically connect demand to the grid.

- **Cyprus 345/138 kV:** Cyprus is the station that was originally developed (s2526) to serve 675 MW of demand with room for 345 kV expansion based on LOA with the customer. Cut into the Beatty – Bixby 345 kV circuit and construct ~1.6 miles of double circuit line, utilizing 2-bundled ACSR Bittern 1272 conductor, SE rating 2278 MVA, to a new 345 kV ring bus at Cyprus station with (4) 5000 A, 63kA circuit breakers, (2) 345/138/34.5 kV, 675 MVA transformers, (12) 4000 A, 63kA, 138 kV circuit breakers, (1) 69.1 MVAR 138 kV Cap bank. Construct (2) 138 kV single circuit, ~0.4 miles, & (2) double circuit, ~0.9 miles, tie lines to the customers dead end structures utilizing ACSR Drake 795 (26/7) conductor SE 360 MVA. Modify the existing Cyprus 138kV Extension & Parsons 138kV circuits #1 & 2 structures to accommodate a fence relocation. Remote end relay upgrades are required at Beatty & Bixby 345 kV stations. Cost: **$46.9 M**
- **Parsons 138 kV:** Install (1) 69.1 MVAR cap bank to resolve N-1-1 voltage issues. Cost: **$2.0 M**

PUCO FORM FE-T9 SUPPLEMENT
AEP OHIO TRANSMISSION COMPANY
Specifications of Planned Transmission Lines

8.	PLANNED SUBSTATION:	N/A
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to new customer
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve new customer
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Beatty - Cyprus 345 kV (TP2022769)
2.	POINTS OF ORIGIN AND TERMINATION	Beatty - Cyprus INTERMEDIATE STATIONS - N/A
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	4.69 mi of single circuit 4.25 mi of double circuit / 150 ft / 1 & 2 circuit (1.6 mi double circuit line work)
4.	VOLTAGE: DESIGN / OPERATE	345 kV / 345 kV
5.	APPLICATION FOR CERTIFICATE:	2023
6.	CONSTRUCTION:	2025
7.	CAPITAL INVESTMENT:	$15.66 M
8.	PLANNED SUBSTATION:	Cyprus
9.	SUPPORTING STRUCTURES:	Steel
10.	PARTICIPATION WITH OTHER UTILITIES	N/A
11.	PURPOSE OF THE PLANNED TRANSMISSION LINE	Service to new customer
12.	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Unable to serve new customer
13.	MISCELLANEOUS:	
1.	LINE NAME AND NUMBER:	Bixby - Cyprus 345 kV (TP2022769)
2.	POINTS OF ORIGIN AND TERMINATION	Bixby - Cyprus INTERMEDIATE STATIONS - N/A
3.	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	7.51 mi / 150 ft / 2 circuit (1.6 mi double circuit line work)
4.	VOLTAGE: DESIGN / OPERATE	345 kV / 345 kV
5.	APPLICATION FOR CERTIFICATE:	2023

Appendix C SHPO Coordination

In reply, refer to
2023-FRA-58488

July 19, 2023

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

RE: Cyprus 345kV Extension (Greenfield) Project, Hamilton Township (City of Columbus), Franklin County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received July 13, 2023 regarding the proposed Cyprus 345kV Extension (Greenfield) Project, Hamilton Township (City of Columbus), Franklin County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resource Management Investigations for the 2.6 km (1.6 mi) Cyprus 345kV Extension (Greenfield) Project in Hamilton Township (City of Columbus), Franklin County, Ohio* by Ryan J. Weller and Scott McIntosh (Weller & Associates, Inc. 2023).

A literature review, visual inspection, surface collection, and shovel test unit excavation was completed as part of the investigations. One (1) previously identified archaeological sites are located within the project area, Ohio Archaeological Inventory (OAI) #33FR3468. The site was previously determined not eligible for listing in the National Register of Historic Places (NRHP). Our office continues to agree with that recommendation. No new archaeological sites were identified during survey. Our office agrees no additional archaeological survey is needed. No additional architectural resources 50 years or older that have not been accounted for in recent surveys were surveyed.

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

Sincerely,

Krista Horrocks, Project Reviews Manager
Resource Protection and Review

RPR Serial No: 1099013

Appendix D Wetland Delineation Report

CYPRUS 345 KV EXTENSION TRANSMISSION LINE PROJECT

ENVIRONMENTAL SURVEY REPORT

PROJECT NO.: 31300107.158
DATE: DECEMBER 2023

AEP TRANSMISSION
8500 SMITH'S MILL ROAD
NEW ALBANY, OH 43054

WSP USA
312 ELM STREET, SUITE 2500
CINCINNATI, OH 45202

WSP.COM

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APPENDICES

1 BACKGROUND INFORMATION

1.1 PROJECT AREA

On behalf of American Electric Power (AEP) Ohio Transmission Company, Inc. (AEP Ohio Transco), WSP USA (WSP) conducted environmental surveys for the proposed rebuild of the approximately 1.6-mile-long Cyprus 345 kV Extension Transmission Line Project ("Project"). The Project is located within Hamilton Township, Franklin County, Ohio. The 300-foot-wide, approximately 34.4-acre Environmental Survey Corridor (ESC) encompasses the proposed right-of-way (ROW) which originates at the proposed Cyprus Station (39.8568°, -82.9921°), and extends generally south approximately 1.6 miles to the proposed Beatty – Bixby 345 kV Transmission Line Tie-In (39.8353°, -82.9931°), as shown in Figure 1 (Appendix A). The ESC is within the Lockbourne Ohio U.S. Geological Survey (USGS) 7.5-minute topographic map quadrangle boundaries. Table 1-1 provides an overview of the project location.

Land uses within the ESC are best characterized as developed areas including commercial and industrial developments, and maintained roadside, with a large portion of the ESC actively under construction during the environmental surveys. Areas of native vegetation were generally limited to old field habitat which occurred within an existing transmission line ROW.

TABLE 1-1: GENERAL PROJECT INFORMATION

COUNTY:	Franklin
TOWNSHIP:	Hamilton
END POINT COORDINATES:	Cyprus Station: 39.8568°, -82.9921° 345 kV Tie-In: 39.8353°, -82.9931°
USGS QUADRANGLE:	Lockbourne, Ohio
ENVIRONMENTAL SURVEY CORRIDOR LENGTH (mi.):	1.6
ENVIRONMENTAL SURVEY CORRIDOR WIDTH (ft.):	300
ENVIRONMENTAL SURVEY CORRIDOR SIZE (ac.):	34.4
ELEVATION RANGE (ft. above sea level):	708-760
8-DIGIT HYDROLOGIC UNIT CODE:	05060001
12-DIGIT HYDROLOGIC UNIT CODE(S) :	05060001-16-03 05060001-23-03
DATE(S) OF SURVEY :	May 25, 2023

1.1.1 DRAINAGE BASINS

All streams in the vicinity of the ESC drain to either Big Walnut Creek or the Scioto River. Big Walnut Creek flows into The Scioto River which is a traditionally navigable waterway (TNW). The ESC is located within the Scioto drainage basin (HUC [hydrologic unit code] 05060001). The ESC lies within one 12-digit sub-watershed, as outlined in Table 1-2 (USDA, 2019).

The OEPA *401 Water Quality Certification for the Nationwide Permits Web Mapping Application* indicates that field-assessed streams within the ESC occur within watersheds that have been designated as either "possibly eligible" or "ineligible". Stream impacts within watersheds denoted as "ineligible" will require either an individual Section 401 water quality certification (WQC) or director's authorization from the OEPA. Stream impacts in watersheds denoted as "possibly eligible" may be require an individual WQC depending on stream assessment metrics (OEPA, 2020).

TABLE 1-2: 12-DIGIT HUC'S CROSSED BY THE PROJECT

8-DIGIT HUC CODE[1]	8-DIGIT HUC CODE NAME[1]	12-DIGIT HUC CODE[1]	12-DIGIT HUC NAME[1]	OHIO EPA SECTION 401 ELIGIBILITY[2]
05060001	Scioto	050600011603	Big Walnut Creek	Ineligible

[1]Source: USDA, 2019
[2]Source: OEPA, 2020

2 METHODOLOGY

On May 25, 2023, a WSP ecologist traversed the ESC to conduct a wetland and waters delineation. The physical boundaries of aquatic resources were recorded using a Trimble Global Positioning System (GPS) unit rated for sub-decimeter accuracy. The GPS data was then geo-corrected using Trimble GPS Pathfinder Office software (version 5.60) and reviewed for quality control.

Prior to conducting field surveys, the WSP ecologist completed a desktop review by analyzing several federal and state documents for the presence of wetland and streams. This review included Natural Resources Conservation Service (NRCS) soil survey data, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps of Ohio, USGS 7.5-minute topographic maps, and USGS National Hydrography Dataset (NHD) stream and river data as an exercise to identify the occurrence and location of potential wetlands and streams.

2.1 WETLAND AND STREAM DELINEATION

2.1.1 WETLAND DELINEATION

The USACE and the U.S. Environmental Protection Agency (USEPA) define wetlands as areas inundated or saturated by surface water or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR, Part 328.3).

Wetlands were delineated according to Section 404 of the Clean Water Act, Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual ('87 Manual)* (Environmental Laboratory, 1987), and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest, (Version 2.0)* (*Regional Supplement*) (USACE, 2010). Representative data points were collected for wetlands and corresponding, adjacent upland areas. Wetland data was recorded on the USACE *Regional Supplement* Wetland Determination Data Forms.

Wetland vegetation communities were classified according to the *Classification of Wetlands and Deepwater Habitats of the United States*, commonly referred to as the Cowardin Classification System (Cowardin et al., 1979). Wetlands within the ESC were assessed using the OEPA *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) to determine the ecological quality and level of disturbance (Mack, 2001).

2.1.2 STREAM DELINEATION AND ASSESSMENT

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The OHWM is defined in the USACE *Regulatory Guidance Letter No. 05*-05 (USACE, 2005). Generally, the OHWM is identified by a clearly defined, natural line along the stream bank created by fluctuations and flow of water; this may include changes in contours, substrate, vegetation, and debris (USACE, 2005).

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 *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams, Version 3* (Davic, 2012).

3 RESULTS

A WSP ecologist surveyed the 34.4-acre ESC on May 25, 2023 by walking the approximately 1.6-mile-long ESC and evaluating for wetlands and other WoUS. The WSP ecologist did not identify any wetlands, streams, or open water features within the ESC. However, Soil Test Pits (STPs) were collected to categorize the upland features of the ESC, to rule out the possibility of wetlands. The location of the Soil Test Pits is depicted on the Delineated Features Map (Figure 3, Appendix A).

This report presents the results of the ecological considerations and review of the site's existing and reasonably foreseeable site conditions at the time of the environmental surveys. The results cannot apply to site changes occurring after the survey which WSP has not had the opportunity to review. During the course of any survey, site conditions may change over time due to human and/or natural causes; as such, the results presented in this report may be invalidated, either wholly or in part, by changes beyond the control of WSP.

3.1 DESKTOP REVIEW

3.1.1 SOILS EVALUATION

According to the NRCS Soil Data for Franklin County, Ohio, there are eight soil map units shown within the ESC, as presented in Table 3-1. The soils observed by the WSP ecologists during the reconnaissance of the ESC were consistent with the NRCS soil survey mapping.

TABLE 3-1: SOIL UNITS MAPPED WITHIN THE ESC

SOIL UNIT SYMBOL	SOIL UNIT NAME	PERCENT HYDRIC	HYDRIC RATING[1]	AREA WITHIN ESC (ac.)
ElB	Eldean silt loam, 2 to 6 percent slopes	0	Non-Hydric	6.4
ElC2	Eldean silt loam, 6 to 12 percent slopes, eroded	0	Non-Hydric	1.2
ElD2	Eldean silt loam, 12 to 18 percent slopes, eroded	0	Non-Hydric	4.7
EmB	Eldean-Urban land complex, 2 to 6 percent slopes	5	Predominately Non-Hydric	8.0
Gn	Genesee silt loam, 0 to 2 percent slopes, occasionally flooded	6	Predominately Non-Hydric	1.4
OcB	Ockley silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes	0	Non-Hydric	1.6
OcC2	Ockley silt loam, 6 to 12 percent slopes, eroded	0	Non-Hydric	0.1
SlA	Sleeth silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes	5	Predominately Non-Hydric	4.0
WdA	Warsaw silt loam, 0 to 2 percent slopes	0	Non-Hydric	7.0
			Total Area of Non-Hydric Soils	21.0
			Total Area of Predominantly Non-Hydric Soils	13.4

[1]Non-Hydric = 0% hydric soil component; Predominantly Non-Hydric = 1-32%; Partially Hydric =33-65%; Predominantly Hydric = 66-99%; and All Hydric = 100%.
Source: Soil Survey Staff, NRCS. Web Soil Survey.

3.1.2 NATIONAL WETLAND INVENTORY REVIEW

According to the NWI maps of the Lockbourne, Ohio quadrangles, there are no mapped NWI features within the approximately 34.4-acre ESC. The location of mapped NWI features in the vicinity of the ESC is shown on Figure 2 (Appendix A).

3.1.3 FEMA FLOODPLAIN REVIEW

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) Panels 39049C0426K and 39049C0428K, approximately 9.8-acres of the 100-year floodplain of Big Walnut Creek occurs within the ESC, as shown on Figure 2 (Appendix A). No regulated floodways occur within the ESC.

3.2 DELINEATED WETLANDS

During environmental surveys of the ESC, the WSP ecologist did not identify any wetlands within the ESC. However, Soil Test Pits were collected to collect upland data and rule out the possibility of wetlands within the ESC. USACE wetland determination forms are provided in Appendix B. Representative photographs of the STP data points were taken and are provided in Appendix C. The identified data points in relation to the ESC are shown on Figure 3, Appendix A.

3.3 STREAMS AND RIVERS

During the environmental surveys, the WSP ecologist did not identify any streams within the ESC. Additionally, all swales, ditches, erosional features, and other surface drainages within the ESC were also evaluated for consideration as jurisdictional Waters of the U.S. with respect to the Clean Water Act. Jurisdictional ditches must meet the definition of tributary, have an OHWM, and flow directly or indirectly through another water to a TNW. Multiple roadside ditches, erosional features, and swales were observed throughout the ESC, however, none of the identified ditches or drainages would be considered jurisdictional within the ESC. These features were excavated in upland soils to convey upland drainage and had no defined bed and bank or flow regime to constitute a Waters of the U.S. designation. Locations of identified non-jurisdictional drainages identified within the ESC are shown in Figure 3, Appendix A.

3.4 PONDS AND OPEN WATER

During the May 25, 2023, field surveys, the WSP ecologist did not identify any open water features. Representative photographs were taken of the Site during the field survey and are provided in Appendix C.

3.5 VEGETATIVE COMMUNITIES

The WSP ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. A variety of woody and herbaceous habitats, as described below in Table 3-2, are present within the ESC. A breakdown of vegetated land cover is provided, overlain on aerial photography in Figure 4 (Appendix A).

TABLE 3-2: VEGETATIVE COMMUNITIES WITHIN THE ESC

VEGETATIVE COMMUNITY	DESCRIPTION	ACREAGE WITHIN THE ESC	PERCENTAGE OF ESC
Developed, High Intensity	These areas consist of developed residential, industrial, and commercial land uses, including roads, buildings, and parking lots. These areas are generally devoid of significant vegetation.	5.8	16.8%
Developed, Open Space	Developed areas, including residential and commercial properties and maintained roadsides, generally consisting of landscaped areas and frequently mowed or maintained lawns.	15.8	46.0%
Developed, Under Construction	Developed areas recently disturbed by construction and or development, that are mostly devoid of vegetation and are active construction sites.	9.0	26.2%
Old Field	The successional stage between Developed, Open Space and Scrub/Shrub habitat. Oftentimes these areas are previously developed areas that have been left fallow, which area maintained (mowed) once or twice a year.	3.8	11.0%
	Total	**34.4**	**100%**

3.6 THREATENED AND ENDANGERED SPECIES COORDINATION

3.6.1 USFWS COORDINATION

A request for review was submitted to the USFWS on May 16, 2023. In an email dated May 30, 2023 the USFWS provided comments on the Project with regard to federally-listed threatened and endangered species within the Project vicinity. The USFWS indicated that there are no federal wildlife refuges, wilderness areas, or critical habitat within the vicinity of the Project. Comments from USFWS regarding protected species are provided in Table 3-3. The USFWS review comments have been included in Appendix F.

3.6.2 ODNR COORDINATION

A request for Environmental Review was submitted to the ODNR on May 16, 2023. The ODNR Environmental Review response dated June 19, 2023 included comments from the Ohio Natural Heritage Database Program, Division of Wildlife (DOW), and Division of Water Resources. A review of Natural Heritage Database identified eight records of state- and/or federally-listed species within a one-mile radius of the Project. However, since all Natural Heritage Database records are aquatic species, and no in water work is anticipated, no impacts to these species or their habitat is anticipated to occur, as a result of Project activities. Additionally, no high-quality natural communities were identified within the vicinity of the Project. Using this as guidance, WSP has provided observations of threatened and endangered species habitat within the vicinity of the ESC in Table 3-3. The ODNR Environmental Review has been included in Appendix D.

TABLE 3-3: LISTED SPECIES COMMENTED ON BY ODNR AND USFWS

COMMON NAME (SCIENTIFIC NAME)	STATE STATUS	FEDERAL STATUS	HABITAT DESCRIPTION	POTENTIAL HABITAT OBSERVED IN ESC	AGENCY COMMENT	WSP IMPACT ASSESSMENT
Mammals						
Indiana bat (*Myotis sodalis*)	Endangered	Endangered	Winter hibernacula are provided by caves and mines. Summer roost habitat typically includes live or dead trees with exfoliating bark, crevices, or cavities that can be used for roosting. Open sub-canopy areas and flight corridors are important to allow maneuvering during foraging. Proximity to water sources provides a greater density of insect prey.	No	USFWS and ODNR comments recommended seasonal tree clearing dates (October 1 through March 31) to avoid impacts protected bat species. ODNR indicated the ESC is in the vicinity of records of the state-listed little brown bat. ODNR recommended a desktop habitat assessment for potential hibernacula within a 0.25-mile radius of the ESC.	Suitable summer habitat was not identified within the ESC. However, any tree clearing is expected to occur during the October 1 to March 31 clearing window. No potential hibernacula were identified within 0.25-miles of the ESC. Therefore, no impacts to these species or their habitat is anticipated to occur.
northern long-eared bat (*Myotis septentrionalis*)	Threatened	Threatened				
little brown bat (*Myotis lucifugus*)	Endangered	Not Listed				
tri-colored bat (*Perimyotis subflavus*)	Endangered	Not Listed				

TABLE 3-3: LISTED SPECIES COMMENTED ON BY ODNR AND USFWS

COMMON NAME (SCIENTIFIC NAME)	STATE STATUS	FEDERAL STATUS	HABITAT DESCRIPTION	POTENTIAL HABITAT OBSERVED IN ESC	AGENCY COMMENT	WSP IMPACT ASSESSMENT
Mussels						
rayed bean (*Villosa fabalis*)	Endangered	Endangered	Habitat is typically provided in small rivers and streams with aquatic vegetation and sand/gravel substrates.	No	ODNR indicated that due to the location, and that there is no in-water work proposed in a perennial stream, this Project. is not likely to impact these species.	On site habitat survey confirmed ODNR comments, that no suitable habitat was found within the ESC. Additionally, no in-water work is anticipated to occur. Therefore, no impacts to these species are anticipated to occur.
northern riffleshell (*Epioblasma torulosa rangiana*)	Endangered	Endangered	This species is found in medium-sized streams with fine to coarse gravel areas of swift current riffle and runs.	No		
pondhorn (*Uniomerus tetralasmus*)	Threateneed	Not Listed	This species inhabits ponds, small creeks, and the headwaters of larger streams in mud or sand.	No		
snuffbox (*Epioblasma triquetra*)	Endangered	Endangered	Typically found in small to medium-sized creeks and some larger rivers, in areas with a swift current.	No		
rabbitsfoot (*Quadrula cylindrica cylindrica*)	Threatened	Endangered	Slow-moving waters with sand and gravel substrates.	No		
elephant-ear (*Elliptio crassidens crassidens*)	Endangered	Not Listed	This species is primarily found in large rivers in mud, sand or fine gravel	No		
washboard (*Megalonaias nervosa*)	Endangered	Not Listed	This species inhabits the main channel areas of large rivers with slow current areas and substrates composed of sand, gravel, or mud	No		
clubshell (*Pleurobema clava*)	Endangered	Endangered	Habitat is typically provided by streams and small rivers with well-oxygenated riffles and sand and gravel substrates.	No		

TABLE 3-3: LISTED SPECIES COMMENTED ON BY ODNR AND USFWS

COMMON NAME (SCIENTIFIC NAME)	STATE STATUS	FEDERAL STATUS	HABITAT DESCRIPTION	POTENTIAL HABITAT OBSERVED IN ESC	AGENCY COMMENT	WSP IMPACT ASSESSMENT
purple cat's paw (*Epioblasma obliquata obliquata*)	Endangered	Endangered	Medium to large rivers with swift currents. Typically found in shallow areas.	No	ODNR indicated that due to the location, and that there is no in-water work proposed in a perennial stream, this Project. is not likely to impact these species.	On site habitat survey confirmed ODNR comments, that no suitable habitat was found within the ESC. Additionally, no in-water work is anticipated to occur. Therefore, no impacts to these species are anticipated to occur.
long-solid (*Fusconaia maculata maculata*)	Not Listed	Endangered	Typically, found in small to large rivers in gravel with a strong current.	No		
Ohio pigtoe (*Pleurobema cordatum*)	Not Listed	Endangered	Commonly found in strong currents on substrates of sand and gravel.	No		
pocketbook (*Lampsilis ovata)*	Not Listed	Endangered	Large rivers with sand and gravel substrates.	No		
Salamander Mussel (*Simpsonaias ambigua*)	Not Listed	Threatened	Medium to large rivers with silt/sand substrates and flat rocks.	No		
Fish						
spotted darter (*Etheostoma maculatum*)	Endangered	Not Listed	Occur in freshwater rivers marked with the presence of boulders and other rocks.	No	ODNR indicated that due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact these species	No suitable habitat observed. In-water work is not anticipated; therefore, project is not likely to impact these or other aquatic species.
goldeye (*Hiodon alosoides*)	Endangered	Not Listed	This species occurs in quiet, turbid waters of large rivers and associated small lakes, ponds and marshes, and the muddy shallows of larger lakes.	No		

TABLE 3-3: LISTED SPECIES COMMENTED ON BY ODNR AND USFWS

COMMON NAME (SCIENTIFIC NAME)	STATE STATUS	FEDERAL STATUS	HABITAT DESCRIPTION	POTENTIAL HABITAT OBSERVED IN ESC	AGENCY COMMENT	WSP IMPACT ASSESSMENT
shortnose gar (*Lepisosteus platostomus*)	Endangered	Not Listed	This species inhabits large rivers and their backwaters, as well as oxbow lakes and large pools.	No	ODNR indicated that due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact these species	No suitable habitat observed. In-water work is not anticipated; therefore, project is not likely to impact these or other aquatic species.
Iowa darter (*Etheostoma exile*)	Endangered	Not Listed	This species is found in natural lakes and very sluggish streams or marshes with dense aquatic vegetation and clear waters.	No		
northern brook lamprey (*Ichthyomyzon fossor*)	Endangered	Not Listed	This species prefers clean headwater areas of creeks and small rivers with coarse gravel to rock bottoms.	No		
tonguetied minnow (*Exoglossum laurae*)	Endangered	Not Listed	This species requires cool water temperatures in large rivers, with forested banks.	No		
popeye shiner (*Notropis ariommus*)	Endangered	Not Listed	This species inhabits slowly or moderately flowing rivers or creeks	No		
lake chubsucker (*Erimyzon sucetta*)	Threatened	Not Listed	Found in sandy and muddy lakes, swamps, ponds and sloughs, and in pools of creeks and small rivers	No		
paddlefish (*Polyodon spathula*)	Threatened	Not Listed	They occur most frequently in deeper, low current areas such as side channels, oxbows, backwater lakes, bayous, and tailwaters below dams.	No		

4 SUMMARY

WSP conducted environmental surveys of the proposed approximately 1.6-mile-long Cyprus 345 kV Extension Transmission Line Project on May 25, 2023. No wetlands, streams, or open water features were delineated by the WSP ecologists within the 34.4-acre ESC. However, Soil Test Pits (STPs) were collected to categorize the upland features of the ESC, to rule out the possibility of wetlands. Additionally, multiple non-jurisdictional drainages were identified within and immediately adjacent to the ESC.

Based on the protocols identified in the *Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines* (USFWS 2022) and the *Ohio Division of Wildlife and U.S. Fish and Wildlife Service (OH-Field Office) Joint Guidance for Bat Surveys and Tree Clearing* (ODNR/USFWS 2022) WSP performed a desktop review for potential hibernacula within the vicinity of the Project as a result of comments from ODNR relating to state- and federally-listed bat species. No potential hibernacula were identified within 0.25-miles of the ESC and no potential hibernacula were identified within the ESC during the field survey. No suitable habitat was identified within the ESC. However, any tree clearing will occur within the recommended clearing window (October 1st – March 31st), to avoid any impacts to these species or their habitat. If any tree clearing will occur outside the recommended clearing window appropriate coordination with USFWS and ODNR will occur to seek permission for out of season tree clearing.

It is anticipated that in-stream work is not necessary, therefore no mussel surveys are necessary related to protected mussel species. Additionally, no construction timing windows are required to protect any state- and/or federally-listed fish species.

5 REFERENCES

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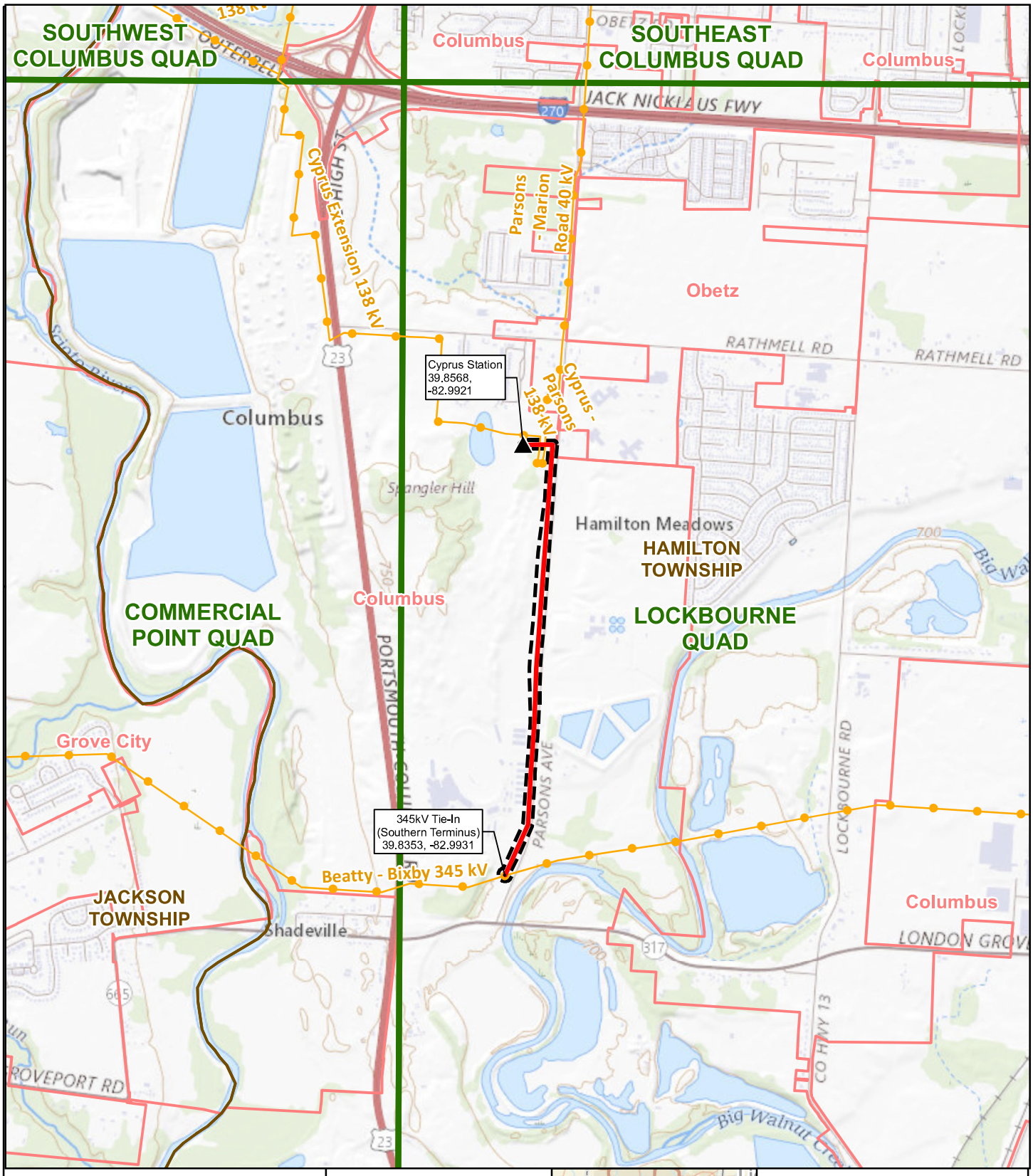
APPENDIX

A FIGURES



Proposed Cyprus Station
Existing Transmission Line
Cyprus 345kV Extension
Environmental Survey Corridor
USGS 24k Topo Quad Boundary
County Boundary

Sources:
Topo (USGS)
Quad Boundaries (USGS)

Coordinate System:
State Plane Ohio South
NAD 1983

December 26, 2023

Cyprus 345kV Extension
Transmission Line Project

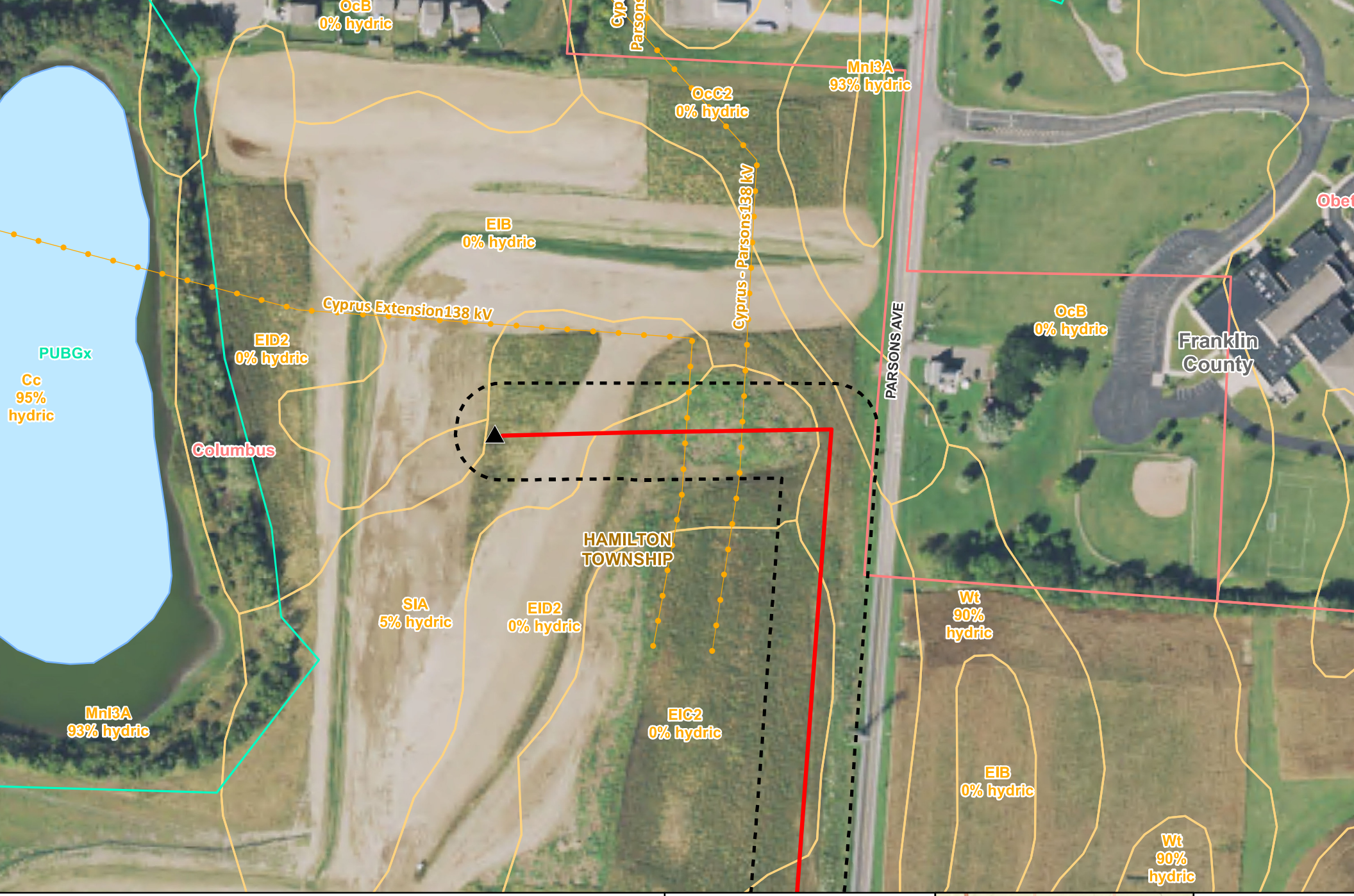
Figure 1. Project Location Map

AMERICAN ELECTRIC POWER

wsp

0 0.2 0.4 Miles

N

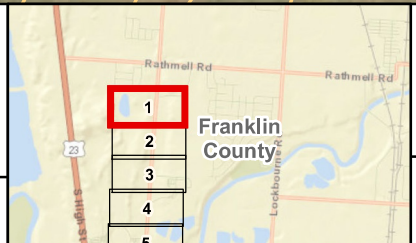


Municipal Boundary
Township Boundary
County Boundary

Page 1 of 6

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:



CYPR
TRANS

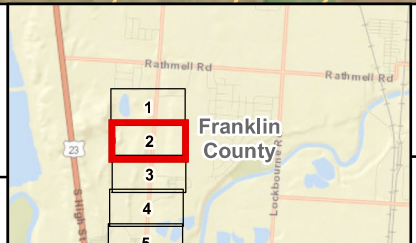
Figure 2.

AEP OHIO

Municipal Boundary
Township Boundary
County Boundary

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:



CYPR
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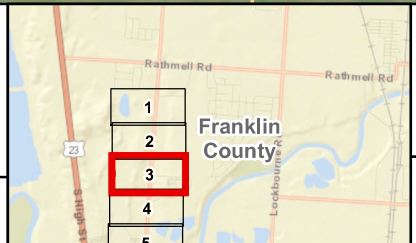
Figure 2.

AEP OHIO

Municipal Boundary
Township Boundary
County Boundary

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:



CYPR
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Figure 2.

AEP OHIO

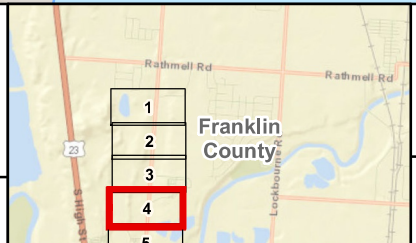
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:



CYPR
TRANS

Figure 2.

AEP OHIO

Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:

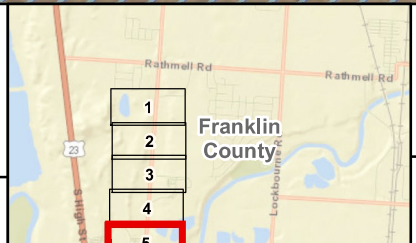


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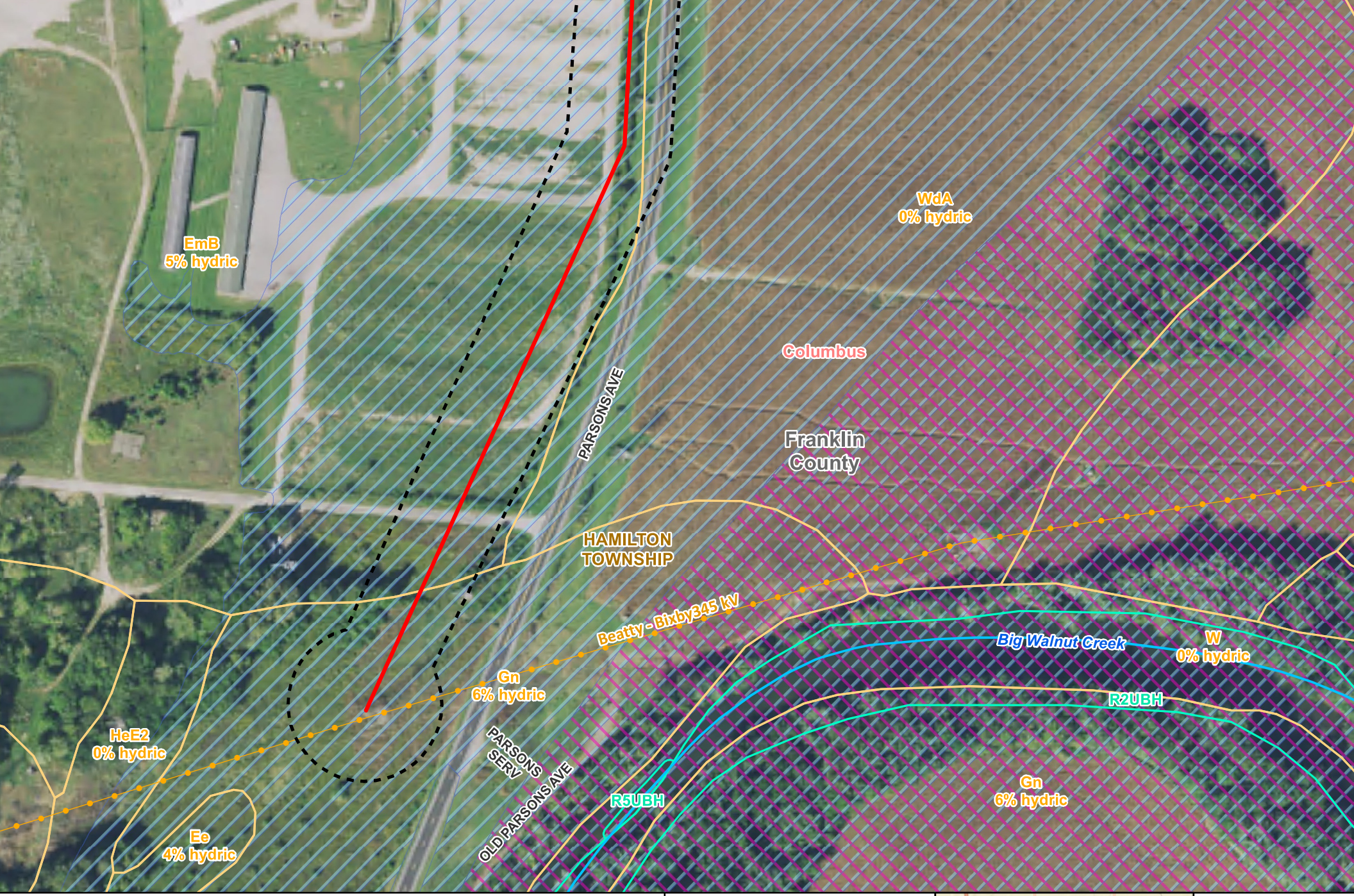
Figure 2.

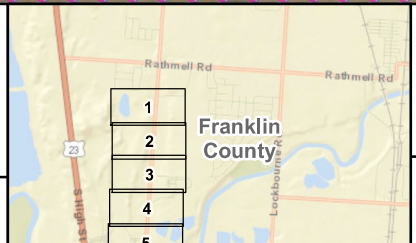
AEP OHIO



- NHD Stream
- NWI Wetlands
- Soil Map Unit
- FEMA 100-Yr Floodplain
- FEMA Floodway
- Municipal Boundary
- Township Boundary
- County Boundary

Sources:
2021 Imagery (NAIP)
Wetland (USFWS)
Hydrography (USGS)
Soil Units (USDA)
Floodplains (FEMA)

Coordinate System:



CYPR
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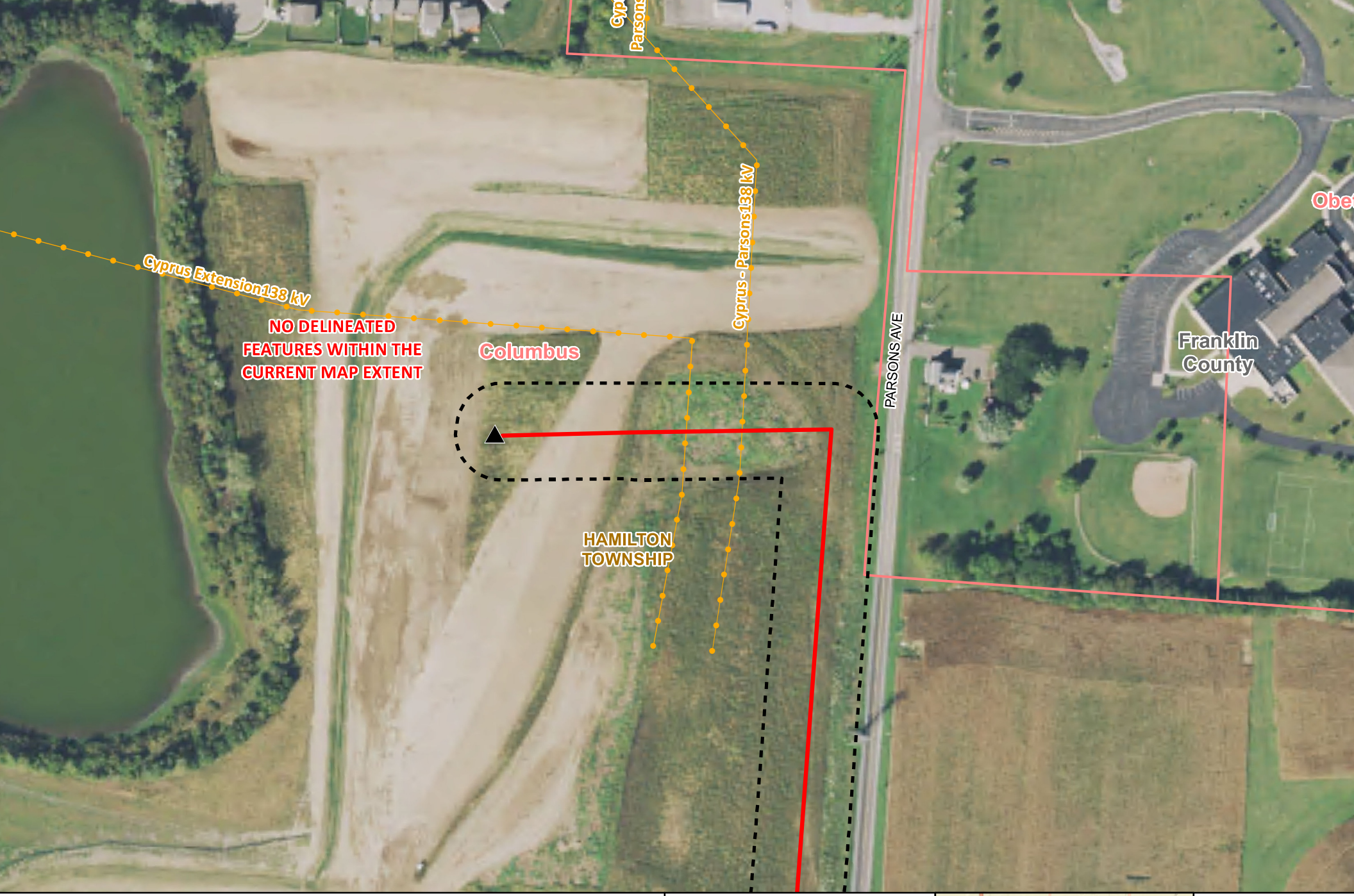
Figure 2.

AEP OHIO



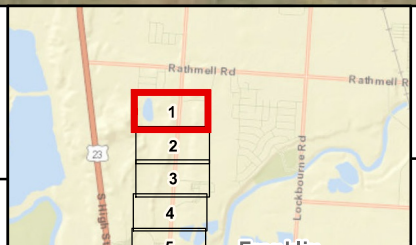
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



CYPR
TRANS

Figure

AEP OHIO

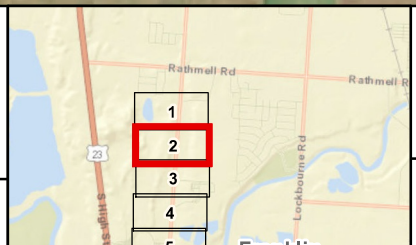
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



CYPR
TRANS

Figure

AEP OHIO

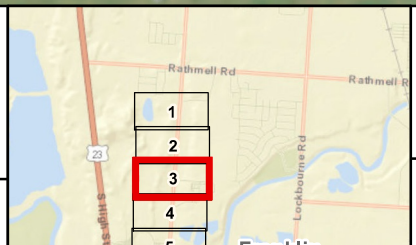
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



CYPR
TRANS

Figure

AEP OHIO

Non-jurisdictional Drainage

Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:

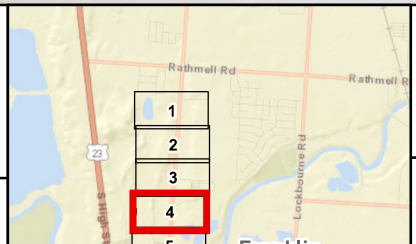


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Figure

AEP OHIO

Non-jurisdictional Drainage

Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:

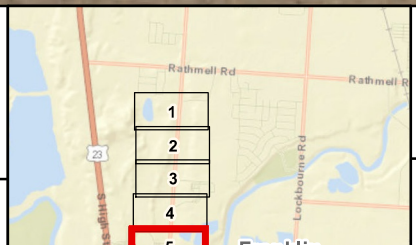

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Figure

AEP OHIO

Non-jurisdictional Drainage

Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:

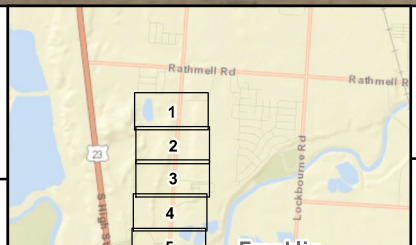

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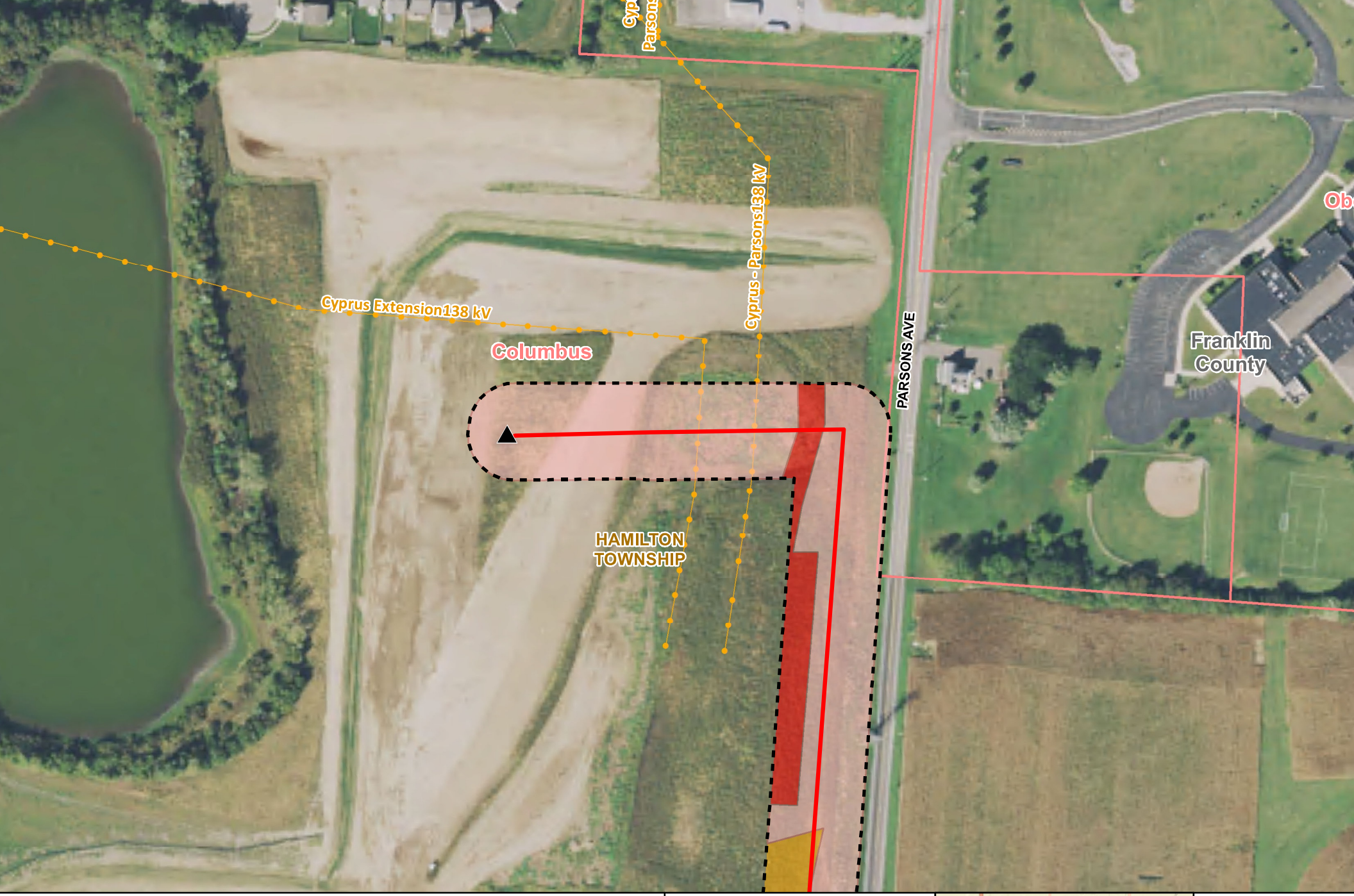
Figure

AEP OHIO



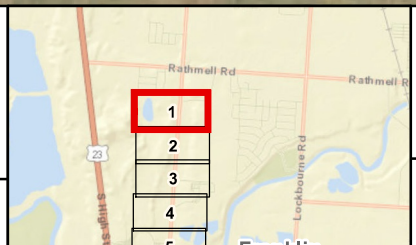
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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TRANS

Figure 4

AEP OHIO

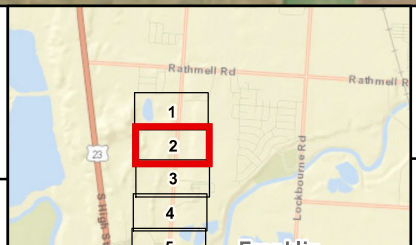
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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TRANS

Figure 4

AEP OHIO

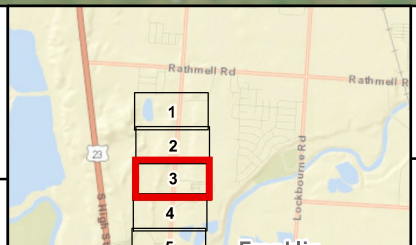
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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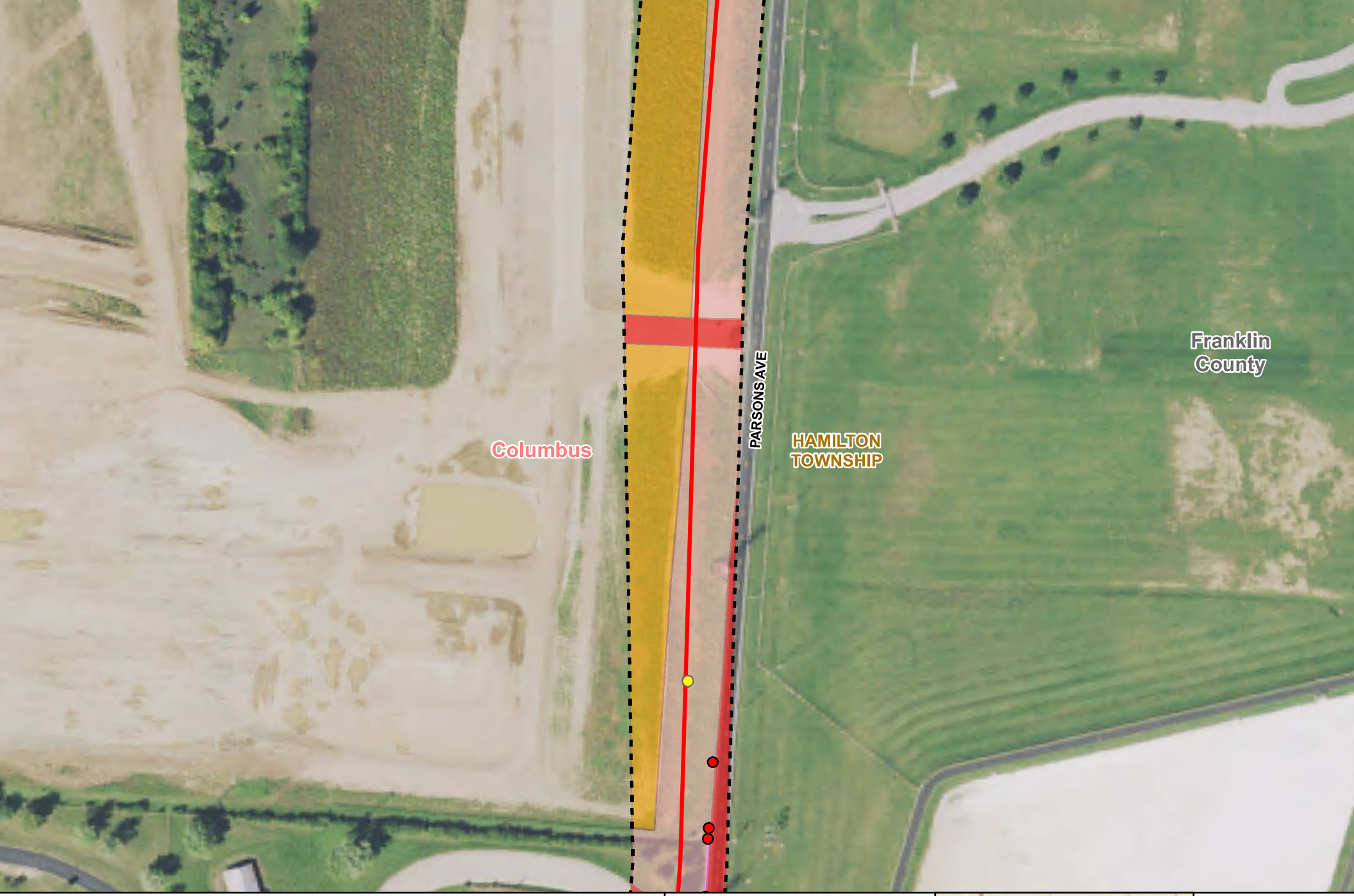
TRANS

Figure 4

AEP OHIO



Nonjurisdictional Drainage

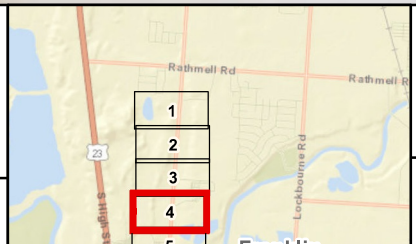
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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TRANS

Figure 4

AEP OHIO

Nonjurisdictional Drainage

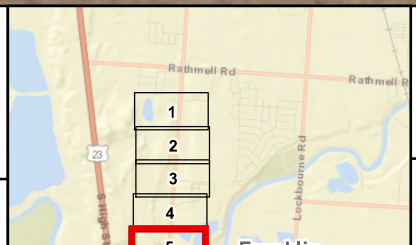
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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TRANS

Figure 4

AEP OHIO

Nonjurisdictional Drainage

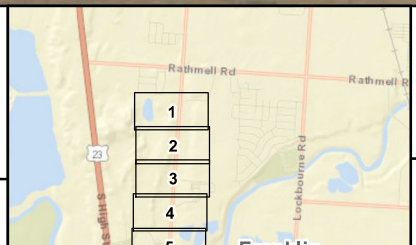
Municipal Boundary

Township Boundary

County Boundary

Sources:
2021 Imagery (NAIP)

Coordinate System:



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TRANS

Figure 4

AEP OHIO

APPENDIX

B USACE WETLAND DETERMINATION FORMS

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: AEP Beatty Bixby Tie-In Project | City/County: Franklin County | Sampling Date: 5/25/2023
Applicant/Owner: AEP Ohio | State: OH | Sampling Point: STP 001
Investigator(s): B. Rolfes | Section, Township, Range:
Landform (hillside, terrace, etc.): plain | Local relief (concave, convex, none): none
Slope (%): 0 | Lat: 39.8353 | Long: -82.9930 | Datum: WGS 84
Soil Map Unit Name: Gn - Genesee silt loam, 0 to 2 percent slopes, occasionally flooded | NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes ____ No X
Hydric Soil Present? Yes ____ No X
Wetland Hydrology Present? Yes ____ No X

Is the Sampled Area within a Wetland? Yes ____ No X

Remarks:
Soil Test Pit within existing Transmission Line ROW, within old field habitat.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Asclepias syriaca*	35	Yes	FACU
2. *Apocynum cannabinum*	25	Yes	FAC
3. *Solidago altissima*	15	No	FACU
4. *Parthenocissus quinquefolia*	15	No	FACU
5. *Cirsium altissimum*	5	No	UPL
6.			
7.			
8.			
9.			
10.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
Total Number of Dominant Species Across All Strata: 2 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	25	x 3 =	75
FACU species	65	x 4 =	260
UPL species	5	x 5 =	25
Column Totals:	95 (A)		360 (B)
Prevalence Index = B/A =			3.79

Hydrophytic Vegetation Indicators:
___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

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

SOIL

Sampling Point: STP 001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 5	10YR 4/3						Loamy/Clayey	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock/Fill

Depth (inches): 5

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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: AEP Cyprus Extension 345 kV Transmission Line Project City/County: Franklin County Sampling Date: 5/25/2023

Applicant/Owner: AEP Ohio State: OH Sampling Point: STP 002

Investigator(s): B. Rolfes Section, Township, Range:

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

Slope (%): 0 Lat: 39.8403 Long: -82.9913 Datum: WGS 84

Soil Map Unit Name: OcB - Ockley silt loam, Southern Ohio Till Plain, 2 to 6 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	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:
Soil Test Pit within existing Transmission Line ROW, within developed, open space land use adjacent to paved road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	40	Yes	FAC
2. *Festuca rubra*	25	Yes	FACU
3. *Plantago lanceolata*	20	Yes	FACU
4. *Trifolium repens*	10	No	FACU
5. *Taraxacum officinale*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	40	x 3 =	120
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	100 (A)		360 (B)

Prevalence Index = B/A = 3.60

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

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

SOIL

Sampling Point: STP 002

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/3						Loamy/Clayey	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock/Fill

Depth (inches): 6

Hydric Soil Present? Yes ____ No X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

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

Remarks:

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: AEP Cyprus Extension 345 kV Transmission Line Project City/County: Franklin County Sampling Date: 5/25/2023

Applicant/Owner: AEP Ohio State: OH Sampling Point: STP 003

Investigator(s): B. Rolfes Section, Township, Range:

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

Slope (%): 0 Lat: 39.8437 Long: -82.9912 Datum: WGS 84

Soil Map Unit Name: SlA - Sleeth silt loam, Southern Ohio Till Plain, 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	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:
Soil Test Pit within existing Transmission Line ROW, within developed, open space land use adjacent to paved road.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size:)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Poa pratensis*	45	Yes	FAC
2. *Trifolium repens*	40	Yes	FACU
3. *Plantago lanceolata*	10	No	FACU
4. *Taraxacum officinale*	5	No	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size:)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	45	x 3 =	135
FACU species	55	x 4 =	220
UPL species	0	x 5 =	0
Column Totals:	100 (A)		355 (B)
Prevalence Index = B/A =			3.55

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

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

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

SOIL

Sampling Point: STP 003

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 8	10YR 3/3						Loamy/Clayey	

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

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: Rock/Fill

Depth (inches): 8

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
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- ___ 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** X

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

Remarks:

APPENDIX

C REPRESENTATIVE PHOTOGRAPHS

CYPRUS 345 KV EXTENSION PROJECT

PHOTOGRAPH 1

Soil Test Pit STP-001, facing north on May 25, 2023.

PHOTOGRAPH 2

Soil Test Pit STP-001, facing south on May 25, 2023.

PHOTOGRAPH 3

Soil Test Pit STP-001, facing east on May 25, 2023.

PHOTOGRAPH 4

Soil Test Pit STP-001, facing west on May 25, 2023.

CYPRUS 345 KV EXTENSION PROJECT

PHOTOGRAPH 5

Soil Test Pit STP-002, facing north on May 25, 2023.

PHOTOGRAPH 6

Soil Test Pit STP-002, facing south on May 25, 2023.

PHOTOGRAPH 7

Soil Test Pit STP-002, facing east on May 25, 2023.

PHOTOGRAPH 8

Soil Test Pit STP-002, facing west on May 25, 2023.

PHOTOGRAPH 9

Soil Test Pit STP-003, facing north on May 25, 2023.

PHOTOGRAPH 10

Soil Test Pit STP-003, facing south on May 25, 2023.

PHOTOGRAPH 11

Soil Test Pit STP-003, facing east on May 25, 2023.

PHOTOGRAPH 12

Soil Test Pit STP-003, facing west on May 25, 2023.

PHOTOGRAPH 13

Representative Old Field habitat, facing north on May 25, 2023.

PHOTOGRAPH 14

Representative Developed, High Intensity land use, facing south on May 25, 2023.

PHOTOGRAPH 15

Representative Developed, Open Space land use, facing south on May 25, 2023.

PHOTOGRAPH 16

Representative Developed, Under Construction land use, facing south on May 25, 2023.

APPENDIX

D AGENCY COORDINATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

May 30, 2023

Re: Cyprus 345 kV Extension Project Code: 2023-0082409

Dear Mr. Renner:

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

Seasonal Tree Clearing for Federally Listed Bat Species: The proposed project is in the vicinity of one or more confirmed records of Indiana bats and/or northern long-eared bats. Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats. Please note that, because Indiana bat and/or northern long-eared bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for these species.

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

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

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

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

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

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

Sincerely,

Patrice Ashfield
Field Office Supervisor

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

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

June 19, 2023

Philip Renner
WSP USA Inc.
312 Elm Street, Suite 2500
Cincinnati, Ohio 45202

Re: 23-0585; Cyprus 345 kV Extension Project

Project: The proposed project involves the rebuild of an approximately 150-foot-wide area along the proposed Cyprus Station to the existing Beatty-Bixby 345 kV transmission line.

Location: The proposed project is located in Hamilton Township, Franklin County, Ohio.

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

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

Tippecanoe Darter (*Etheostoma tippecanoe*), SC
Black Sandshell (*Ligumia recta*), SC
Washboard (*Megalonaias nervosa*), E
Round Pigtoe (*Pleurobema sintoxia*), SC
Kidneyshell (*Ptychobranchus fasciolaris*), SC
Rabbitsfoot (*Theliderma cylindrica*), E, FT
Fawnsfoot (*Truncilla donaciformis*), SC
Deertoe (*Truncilla truncata*), SC

The review was performed on the specified project area as well as an additional one-mile radius. Records searched date from 1980. Conservation status abbreviations are as follows: E = state endangered; T = state threatened; P = state potentially threatened; SC = state species of concern; SI = state special interest; U = state status under review; X = presumed extirpated in Ohio; FE = federally endangered, and FT = federally threatened.

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

Location records for the species listed above are provided in a shapefile attachment to this letter. Species location information will not be published or distributed beyond the scope of the project description on the signed data request form.

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 little brown bat (*Myotis lucifugus*), a state endangered 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).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. 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 of the following listed mussel species.
Federally Endangered
clubshell (*Pleurobema clava*)
rayed bean (*Villosa fabalis*)
northern riffleshell (*Epioblasma torulosa rangiana*)
snuffbox (*Epioblasma triquetra*)
purple cat's paw (*Epioblasma o. obliquata*)

Federally Threatened
rabbitsfoot (*Quadrula cylindrica cylindrica*)

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

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

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

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

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

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

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

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

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

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

Mike Pettegrew
Environmental Services Administrator