

PUCO Case No. 24-0630-EL-BLN

Submitted to:
The Ohio Power Siting Board
Pursuant to Ohio Administrative Code Section

Pursuant to Ohio Administrative Coc 4906-6-05

Submitted by:

AEP Ohio Transmission Company, Inc.

Letter of Notification

AEP Ohio Transmission Company, Inc. Adjustments to the Hayden-Roberts 345 kV Cut-in (Beacon Station)

4906-6-05

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

4906-6-5(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 Adjustments to the Hayden-Roberts 345 kV Cut-in (Beacon Station) Project (the "Project") in the City of Hilliard and the City of Columbus, Franklin County, Ohio. The Project involves adjusting the 345 kV cut-in originally approved by OPSB in Case No. 23-1050-EL-BLN to provide looped 345 kV service to the new Beacon Station (approved in Case No. 23-0691-EL-BLN). The Company originally proposed to replace one structure and add three others, which slightly changes the existing centerline along an approximately 0.4-mile section of the double-circuit Hayden-Roberts 345 kV Transmission Line. The southwesterly circuit will be looped through Beacon Station. The Project requires shifting three of the four originally proposed structures approximately 25 feet to avoid a sanitary sewer line discovered after the initial filing. These adjusted structure locations result in additional load on the double-circuit structure one span east of the three that must be shifted, so it must also be replaced with a stronger structure. Three 345 kV tie lines, each less than 0.1 mile long, between Beacon Station and the customer's stepdown substation were also approved as part of Case No. 23-1050-EL-BLN and remain unchanged. The location of the customer's property, transmission line alignments, and substations (collectively the "Project Area") are shown on Figure 1 and Figure 2 in Appendix A.

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

- (1) New construction extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:
 - (d) Line(s) primarily needed to attract or meet the requirements of a specific customer or customers, as follows:
 - ii. Any portion of the line is on property owned by someone other than the specific customer or applicant.

The Project has been assigned PUCO Case No. 24-0630-EL-BLN.

B(2) Statement of Need

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

A customer has requested a new station to serve their facility requiring 125 MW of initial load, with growth up to 328 MW of peak demand. To meet the customer's needs, the Company will be required to construct a new 345 kV station, configured in a breaker-and-half layout, named Beacon Station. The addition of Beacon Station also benefits existing customers because it is part of the transmission through-path. Adding breakers at Beacon Station will reduce the exposure of potential outages caused by the Hayden - Roberts No. 2 345 kV circuit. Beacon Station will require cutting into the existing Hayden - Roberts 345 kV circuit #2 (part of Hayden - Roberts 345 kV double-circuit Transmission Line). From the cut-in, two single circuit 345 kV transmission lines will be interconnected at Beacon Station. Also, to accommodate the cut-in, a 345 kV structure will be installed to raise the Hayden - Roberts 345 kV circuit #1. The transmission line improvements are the subject of this application. The customer has requested an in-service date of June 1, 2024, for the initial load.

Failure to move forward with the proposed Project will result in the inability to serve the customer's load expectations and thereby jeopardize the customer's plans in the Hilliard area (potentially 328 MW peak).

The need was presented and reviewed with stakeholders at the February 18, 2022, PJM SSRTEP Western Meeting. The solution was presented and reviewed at the May 9, 2023, PJM TEAC Meeting. The Project has not been assigned the PJM supplemental number at this time. The Project was included on pages 123-124 of the Company's 2024 Long Term Forecast Report (LTFR) (See Appendix B).

B(3) Project Location

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

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

B(4) Alternatives Considered

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

The Company identified a sanitary sewer line at the original 345 kV cut-in structure locations. The proposed structures were shifted approximately 15 feet to avoid the sanitary sewer line. The adjusted locations added load to the eastern structure, which was not initially proposed for replacement, but must now be replaced.

The proposed adjustments avoid the identified obstruction without increasing the number of property owners affected, offer preferred construction access, and do not impact additional cultural resources, or introduce new land use concerns. Impacts to a wetland near the eastern structure replacement have already been permitted by the customer. The adjustments provide the most appropriate option for meeting the Company and customer's needs in the area.

B(5) Public Information Program

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

The Company 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 vicinity. The notice will comply with all requirements of OAC Section 4906-6-08(A)(1-6). Further, the Company has mailed (or 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 right of way 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, and the anticipated in-service date will be September 2024.

B(7) Area Map

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

Figure 1 in Appendix A provides the proposed Project Area on a map of 1:24,000-scale (1 inch equals 2,000 feet), showing the Project on the United States Geological Survey (USGS) 7.5-minute topographic maps of the Hilliard, Ohio and Northwest Columbus, Ohio quadrangles. Figure 2 in Appendix A shows the Project Area on recent aerial photography, dated 2022, as provided by ESRI World Imagery at a scale of 1:6,000 scale (1 inch equals 500 feet).

To visit the Project site from Columbus, Ohio, take I-70 West/I-71 South. Keep right at the fork to continue on I-70 West towards Dayton. Use the right 3 lanes to exit 93 to merge onto I-270 North toward Cleveland and continue for approximately 1.8 miles. Take exit 10 on the right for Roberts Road. Keep right at the fork and merge onto Roberts Road. Continue on Roberts Road for approximately 0.7 miles before turning left on Dublin Road for approximately 0.5 miles. Turn left onto Scioto Darby Creek Road. The Project is located on the right after approximately 0.5 miles at the approximate address of 4120 Scioto Darby Creek Rd, Hilliard, OH 430261, at latitude 40.013838, longitude -83.122583.

B(8) Property Agreements

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

The Project is located on four parcels. A list of properties required for the Project is provided in the table below.

Property Parcel Number	Agreement Type	Easement/ Option Obtained (Yes/No)
050-002090	Supplemental Easement	No
050-002806	Supplemental and New Easement	No
560-249390	Existing Easement	Yes
560-154731	Property of a Company Affiliate	Not Applicable

B(9) Technical Features

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

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

The equipment and facilities to be installed within the Project Area will include the following:

Asset: Hayden-Roberts #2

(Existing Circuit, will be Beacon-Hayden and Beacon-Roberts)

Voltage: 345 kV

Conductors: 2-bundle – (6) 954 KCM ACSR (45/7) Static Wire: (1) 7#8 Alumoweld (1) 144 CT. OPGW

Insulators: Polymer ROW Width: 150 feet

Structure Type: (2) Monopole steel dead ends and

(2) Monopole steel davit-arm dead end

Asset: Cosgray-Roberts Circuit

Voltage: 345 kV

Conductors: 2-bundle – (6) 954 KCM ACSR (45/7) Static Wire: 1) 7#8 Alumoweld (1) 144 CT. OPGW

Insulators: Polymer ROW Width: 150 feet

Structure Type: (1) Monopole steel 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.

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The cost for the proposed Hayden-Roberts 345 kV Cut-in, which is comprised of applicable tangible and capital costs, is approximately \$5,480,000 based on a Class 4 estimate. The costs will be recovered through the Company's 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) Land Use Characteristics

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

An aerial photograph of the Project vicinity is provided as Figure 2 in Appendix A. The Project is located in the City of Hilliard and the City of Columbus, Franklin County, Ohio. Land use in the Project Area is industrial with scattered residences. Interstate 270 is adjacent to the customer property to the east. The Project Area is zoned M1-Restricted Industrial.

B(10)(b) Agricultural Land Information

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

The majority of the customer property, including the entirety of the Project, is fallow land, which is currently being developed. On April 18, 2024, the Franklin County Auditor indicated that the Project properties are not identified as Agricultural District Land parcels.

B(10)(c) Archaeological and Cultural Resources

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

The Company's consultant completed a Phase I Cultural Resource Management Investigation of the Project Area (*Addendum Archaeological Investigations for the Robert-Hayden 345kV Tie-In Project in Franklin County, Ohio*). No further investigation was considered to be necessary by the consultant. The Ohio Historic Preservation Office ("SHPO") agreed that the Project will not impact any cultural resources eligible for listing on the NRHP and no additional coordination is necessary prior to construction. A copy of the February 17, 2022 concurrence letter from SHPO is provided in 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 for authorization of construction storm water discharges under General Permit OHCooooo6. The Company will also coordinate storm water permitting needs with the City of Hilliard and the City of Columbus as required. The Company will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan ("SWPPP") to minimize erosion control sediment to protect surface water quality during storm events.

Wetland and stream delineation field surveys were completed within the Project Area by the Company's consultant in July 2022, April 2023, May 2023, and January 2024 (see Figure 2 in Appendix D). Impacts to streams and wetlands on the customer property were included in permitting efforts by others and are located within the larger site development that is underway. This includes the structure relocation west of I-270 included in the proposed Project adjustments. No impacts to wetlands or streams beyond the customer property are proposed. Therefore, the Project will not require an additional Clean Water Act Section 404 Permit from the U.S. Army Corps of Engineers or a Section 401 Water Quality Certification from the OEPA.

The FEMA Flood Insurance Rate Map was reviewed to identify any floodplains/flood hazard areas that have been mapped within the Project Area (specifically, map number **39049Co163K**). Based on this mapping, no mapped FEMA floodplains are located in the Project Area. Therefore, no floodplain permit will be required for this Project.

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

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

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

As part of the ecological study completed for the Project, a coordination letter was submitted to the United States Fish and Wildlife Service ("USFWS") Ohio Ecological Services Field Office seeking technical assistance on the Project for potential impacts to threatened or endangered species. The July 11, 2022 response letter from the USFWS (see Appendix C) indicated all projects in the State of Ohio lie within the range of the federally endangered Indiana bat and northern long-eared bat. In Ohio, presence of these

species is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document probable absence. The USFWS response letter states that, should the Project site contain trees ≥3 inches diameter at breast height (dbh), the trees be saved whenever possible. If any caves or abandoned mines may be disturbed, further coordination is requested. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, the USFWS recommends that removal of trees ≥3 inches dbh only occur between October 1 and March 31 in order to avoid adverse effects to these species. If implementation of seasonal tree clearing is not possible, the USFWS recommends summer presence/absence surveys be conducted between June 1 and August 15. Based on current USFWS Ohio Field Office guidance, a desktop evaluation of potential hibernaculum was conducted in the Project Area. No hibernaculum or caves were located in the Project Area based on the site reconnaissance and review of documented mines and karst features. The customer coordinated tree clearing needs for the Project as part of the overall development effort. Therefore, the Company does not anticipate additional coordination for tree clearing.

Due to the Project type, size, and location, USFWS does not anticipate adverse effects to any federally endangered, threatened, proposed, or candidate species.

A coordination letter was submitted to the Ohio Department of Natural Resources ("ODNR") Division of Wildlife ("DOW") Ohio Natural Heritage Program ("ONHP") and the ODNR - Office of Real Estate seeking an environmental review of the proposed Project for potential impacts on state-listed and federally-listed threatened or endangered species. Correspondence from ODNR's DOW/OHNP and the ODNR - Office of Real Estate was received on July 18, 2022 (see Appendix C).

According to the ODNR-DOW, the Project is within the range of the Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. ODNR recommends cutting between October 1 and March 31. Based on a desktop survey for caves, mines, and other potential openings, no winter hibernacula were identified within 0.25 mile of the Project (See Appendix D). The customer coordinated tree clearing needs for the Project as part of the overall development effort. Therefore, no additional coordination with ODNR regarding bat species is required.

The ODNR-DOW indicated that the Project is within the range of 13 mussel species and nine fish species. Due to no in-water work within a perennial stream and habitat, these species are not anticipated to be impacted by the Project.

In addition, the ODNR lists the Project in the range of the American bittern, black-crowned night-heron, lark sparrow, least bittern, northern harrier, sandhill crane, and upland sandpiper. The ODNR recommends that nesting habitats for the listed species be avoided during their nesting periods. Professional surveys completed for avian resources concluded no suitable habitat was observed for any of the species in the Project Area. Therefore, no impacts to these bird species are anticipated.

B(10)(f) Areas of Ecological Concern

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

Correspondence received from the USFWS indicated that there are no federal wilderness areas, wildlife refuges, or designated critical habitat in the Project vicinity. Similarly, the ODNR ONHP identified no unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within one mile of the Project (see Appendix D).

FEMA Flood Insurance Rate Maps were consulted to identify any floodplains/flood hazard areas that have been mapped in the Project Area (specifically, map number **39049Co163K**). Based on these maps, no mapped FEMA floodplains are located in the Project Area.

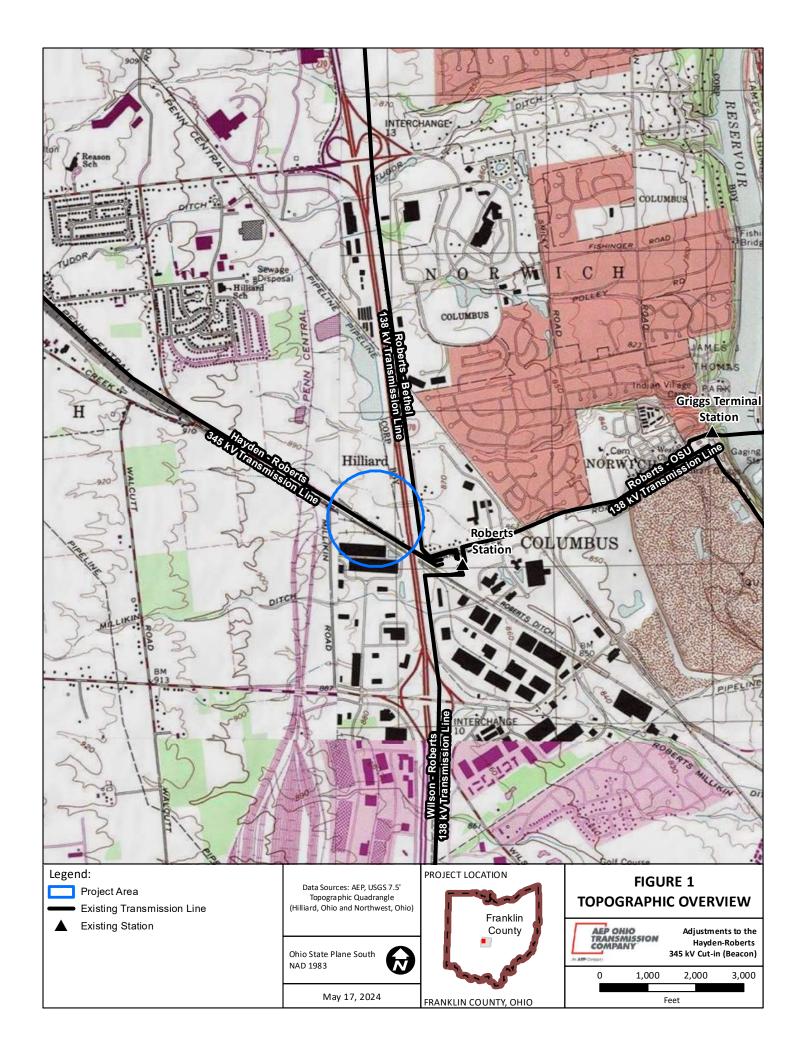
Wetland and stream delineation field surveys were completed within the Project Area by the Company's consultant in July 2022, April 2023, May 2023, and January 2024 (see Figure 2 in Appendix D). Impacts to streams and wetlands on the customer property were included in permitting efforts by others and are located within the larger site development that is underway. No impacts to streams or wetlands are proposed beyond the customer property.

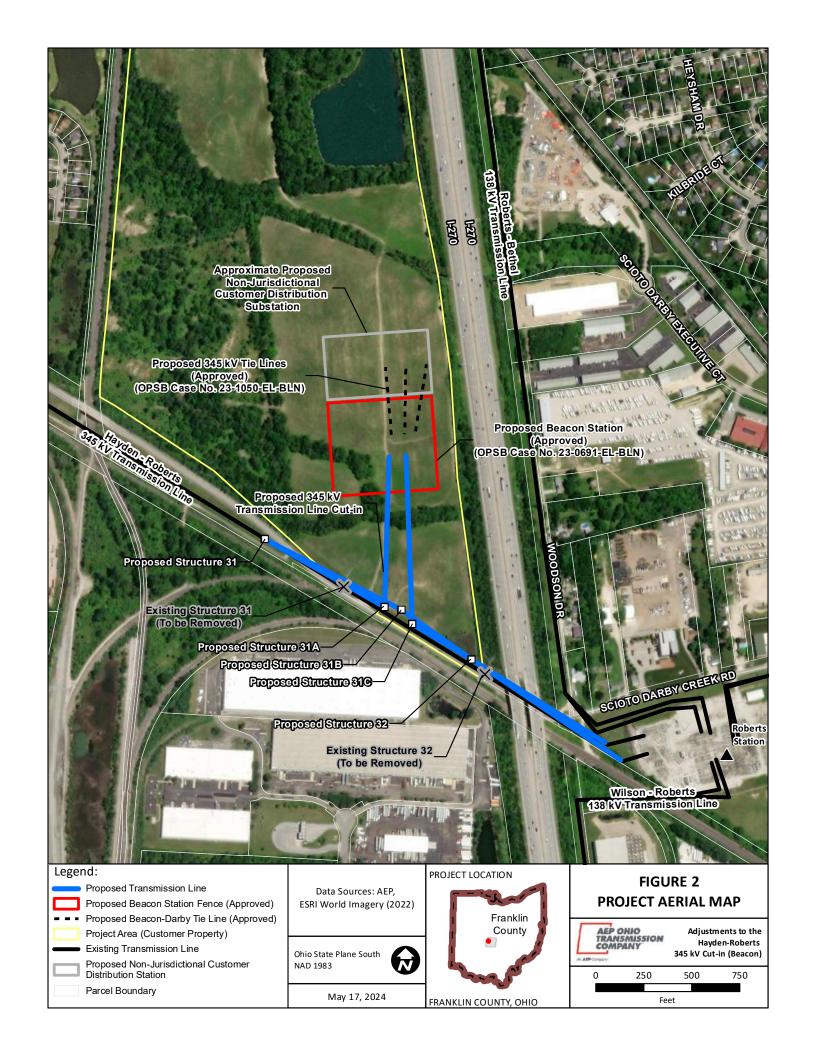
B(10)(g) Unusual Conditions

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





Appendix B PJM Solution and Long-term Forecast Report Pages





Need Number: AEP-2022-OH024

Process Stage: Solutions Meeting 5/9/2023

Previously Presented: Need Meeting 2/18/2022

Project Driver: Customer Service Specific Assumption Reference:

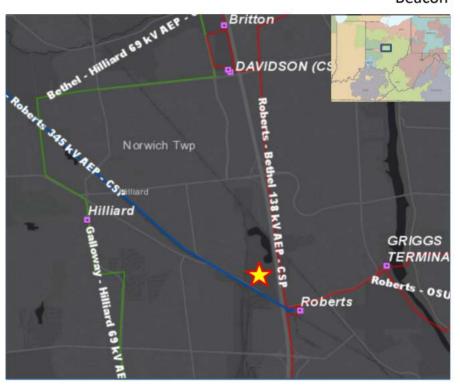
AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

Customer Service:

 A customer has requested transmission service at a site North of AEP's existing Roberts station in Columbus, OH.

- The customer has indicated an initial peak demand of 90 125 MW with an ultimate capacity of up to 360 328 MW at the site.
- Initial customer requested in-service date of June 1, 2024.





AEP Transmission Zone M-3 Process Dublin & Hilliard, OH

Need Number: AEP-2022-OH024

Process Stage: Solutions Meeting 5/9/2023

Proposed Solution:

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

Beacon 345 kV: Construct a greenfield station with (8) 5000 A, 345 kV, 63 kA circuit breakers & & (1) 158.4 MVAR 345 kV Cap bank in a breaker and a half configuration. Cut into the 345 kV Hayden – Roberts No. 2 circuit with two single circuit 345 kV lines ~0.2 miles terminating into Beacon station; utilizing 2-bundle ACSR Rail 954 (45/7) conductor SE 1887 MVA. A structure will need be installed to raise the Hayden – Roberts No 1 circuit. Construct three single circuit lines ~0.1 miles, between Beacon and the customer; utilizing 2-bundle ACSR Drake 795 (26/7) conductor SE 1800 MVA. Cost: \$40.0 M

PUCO Form FE-T9: Specifications of Planned Electric Transmission Lines

1 1		Specifications of Planned Electric Transmission Lines	
	CONSEQUENCES OF LINE CONSTRUCTION		
12	DEFERMENT OR TERMINATION	Potential for increased transmission line outages	
	MISCELLANEOUS:	Totalida for moreacea d'anomice en mile catages	
1	LINE NAME AND NUMBER:	East Lima - South Kenton 138 kV (s2982 TP2021591)	
		East Lima - South Kenton INTERMEDIATE STATIONS - West Newton Switch	
2	POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH /		
3	CIRCUITS	~30.88 mi (22.5 mi single circuit & 8.38 mi double circuit) / 100 ft / 1 circuit (0.10 mi of line work)	
	VOLTAGE: DESIGN / OPERATE	138 / 138 kV	
	APPLICATION FOR CERTIFICATE:	???	
	CONSTRUCTION:	2026 - 2027	
	CAPITAL INVESTMENT: PLANNED SUBSTATION:	\$2.16 M N/A	
	SUPPORTING STRUCTURES:	Steel	
10	PARTICIPATION WITH OTHER UTILITIES	N/A	
,,	PURPOSE OF THE PLANNED	Reterminate South Kenton back into the South Kenton - East Lima 138 kV line.	
11	TRANSMISSION LINE		
	CONSEQUENCES OF LINE CONSTRUCTION	South Kenton won't be connected after being rebuilt.	
12	DEFERMENT OR TERMINATION	Ů	
	MISCELLANEOUS:		
1	LINE NAME AND NUMBER:	Conesville - Bixby 345 kV (s2921 TP2021599)	
2	POINTS OF ORIGIN AND TERMINATION	Conesville - Bixby INTERMEDIATE STATIONS - Ohio Central	
	RIGHTS-OF-WAY: LENGTH / WIDTH /	~51.1 mi / 150 ft / 1 circit (~16.1 mi line work)	
	CIRCUITS	~51.1 mi / 150 ft / 1 circit (~46.1 mi line work)	
	VOLTAGE: DESIGN / OPERATE	345 kV/ 345 kV	
	APPLICATION FOR CERTIFICATE: CONSTRUCTION:	2024 2026 - 2032	
	CAPITAL INVESTMENT:	\$154.53 M	
	PLANNED SUBSTATION:	N/A	
9	SUPPORTING STRUCTURES:	Steel	
10	PARTICIPATION WITH OTHER UTILITIES	N/A	
10	PURPOSE OF THE PLANNED		
11	TRANSMISSION LINE	Rebuild aging infrastructure; improve system reliability	
12	CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION	Potential for increased transmission line outages	
_	MISCELLANEOUS:		
	LINE NAME AND NUMBER:	Beacon - Roberts 345 kV (TP2022004)	
		Beacon - Roberts INTERMEDIATE STATIONS - N/A	
2	POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH /		
3	CIRCUITS	~0.35 mi double circuit & 0.1 mi of sincle circuit / 150 ft / 2 circut (0.1 mi of line work)	
	VOLTAGE: DESIGN / OPERATE	345 kV /345 kV	
	APPLICATION FOR CERTIFICATE:	2024	
	CONSTRUCTION: CAPITAL INVESTMENT:	2024 \$2.81 M	
	PLANNED SUBSTATION:	Beacon	
	SUPPORTING STRUCTURES:	Steel	
		N/A	
10	PARTICIPATION WITH OTHER UTILITIES PURPOSE OF THE PLANNED		
11	TRANSMISSION LINE	Tie new station into Hayden - Roberts 345 kV line	
\Box			
	CONSEQUENCES OF LINE CONSTRUCTION	Unable to provide requested service to customer	
	DEFERMENT OR TERMINATION MISCELLANEOUS:		
	LINE NAME AND NUMBER:	Beacon - Hayden 345 kV (TP2022004)	
Ħ			
2	POINTS OF ORIGIN AND TERMINATION	Beacon - Hayden INTERMEDIATE STATIONS - N/A	
,	RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS	~4.33 mi double circuit & 0.1 mi of sincle circuit / 150 ft / 1 & 2 circut (0.1 mi of line work)	
	VOLTAGE: DESIGN / OPERATE	345 kV /345 kV	
5	APPLICATION FOR CERTIFICATE:	2024	
6	CONSTRUCTION:	2024	
	CAPITAL INVESTMENT:	\$2.81 M	
	PLANNED SUBSTATION: SUPPORTING STRUCTURES:	Beacon Steel	
	CO CIVING CIRCOTORES.		
10	PARTICIPATION WITH OTHER UTILITIES	N/A	
]	PURPOSE OF THE PLANNED	Tie new station into Hayden - Roberts 345 kV line	
_ 11	TRANSMISSION LINE	,	

PUCO Form FE-T9:

CONSEQUENCES OF LINE CONSTRUCTION 12 DEFERMENT OR TERMINATION 13 MISCELLANEOUS: 1 LINE NAME AND NUMBER: 2 POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH / 3 CIRCUITS 4 VOLTAGE: DESIGN / OPERATE 5 APPLICATION FOR CERTIFICATE: 6 CONSTRUCTION: 7 CAPITAL INVESTIBLE STATIONS 9 SUPPORTING STRUCTURES: 10 PARTICIPATION WIDTH / 10 PARTICIPATION WIDTH / 10 PARTICIPATION WIDTH / 10 DEFERMENT OR TERMINATION 10 PARTICIPATION WIDTH OTHER UTILITIES 10 PARTICIPATION WIDTH OTHER UTILITIES 11 TRANSMISSION LINE CONSEQUENCES OF LINE CONSTRUCTION 12 DEFERMENT OR TERMINATION 13 MISCELLANEOUS: 14 VOLTAGE: DESIGN / OPERATE 15 APPLICATION WIDTH WIDTH / 16 CROSSTRUCTURES: 16 LINE NAME AND NUMBER: 17 CAPITAL INVESTIBLE STATIONS - N/A 18 MISCELLANEOUS: 18 LINE NAME AND NUMBER: 19 PARTICIPATION WITH OTHER UTILITIES 10 PARTICIPATION WITH OTHER UTILITIES 11 LINE NAME AND NUMBER: 10 PARTICIPATION WITH OTHER UTILITIES 11 LINE NAME AND NUMBER: 12 POINTS OF ORIGIN AND TERMINATION 13 MISCELLANEOUS: 14 VOLTAGE: DESIGN / OPERATE 15 APPLICATION FOR CERTIFICATE: 16 CONSTRUCTION: 17 CAPITAL INVESTIBLE STATIONS - N/A 18 PLANNED SUBSTATION: 18 PLANNED SUBSTATION: 19 BEACON - Darby MITERMEDIATE STATIONS - N/A 19 PLANNED SUBSTATION: 10 PARTICIPATION WITH OTHER UTILITIES 10 PARTICIPATION WITH OTHER UTILITIES 11 TRANSMISSION LINE 12 POINTS OF ORIGIN AND TERMINATION 13 MISCELLANEOUS: 14 PLANNED SUBSTATION: 15 PLANNED SUBSTATION: 16 PLANNED SUBSTATION: 17 CAPITAL INVESTIBLE STATIONS - N/A 18 PLANNED SUBSTATION: 18 PLANNED SUBSTATION: 19 PLANNED SUBSTATION: 10 PARTICIPATION WITH OTHER UTILITIES 10 PARTICIPATION WITH OTHER UTILITIES 11 TRANSMISSION LINE 12 POINTS OF ORIGIN AND TERMINATION 13 MISCELLANEOUS: 14 PARTICIPATION WITH OTHER UTILITIES 15 PAPLICATION FOR CERTIFICATE: 20 PARTICIPATION FOR CERTIFICATE: 20 PARTICIPATION WITH OTHER UTILITIES 20 PARTICIPATION FOR TERMINATION 20 PARTICIPATION FOR TERMINATION 20 PARTICIPATION WITH OTHER UTILITIES 20 PARTICIPATION FOR TERMINATIO	Specifications of Planned Electric Transmission Lines		
12 DEFERMENT OR TERMINATION			
13 MISCELLANEOUS:	TRUCTION Unable to provide requested service to customer	to customer	
1 LINE NAME AND NUMBER: Beacon - Darby 345 KV #1 (TP2022004) 2 POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH / 3 CIRCUITS 3 CIRCUITS 4 VOLTAGE: DESIGN / OPERATE 2024 5 APPLICATION FOR CERTIFICATE: 2024 6 CONSTRUCTION: 2024 7 CAPITAL INVESTMENT: \$0.1 M			
2 POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH / 3 CIRCUITS 4 VOLTAGE: DESIGN / OPERATE 5 APPLICATION FOR CERTIFICATE: 2 024 6 CONSTRUCTION: 7 CAPPTLA (INVESTMENT: 8 PLANNED SUBSTATION: 8 PLANNED SUBSTATION: 9 SUPPORTING STRUCTURES: 10 PARTICIPATION WITH OTHER UTILITIES PURPOSE OF THE PLANNED 11 TRANSMISSION LINE CONSEQUENCES OF LINE CONSTRUCTION 12 DEFERMENT OR TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH / 4 VOLTAGE: DESIGN / OPERATE 3 45 KV / 345 kV / 345 kV 3 45 KV extension to serve customer 10 PARTICIPATION WITH OTHER UTILITIES 10 PARTICIPATION WITH OTHER UTILITIES 11 TRANSMISSION LINE 12 POINTS OF ORIGIN AND TERMINATION 13 MISCELLANEOUS: 1 LINE NAME AND NUMBER: 2 POINTS OF ORIGIN AND TERMINATION RIGHTS-OF-WAY: LENGTH / WIDTH / 3 CIRCUITS 4 VOLTAGE: DESIGN / OPERATE 3 45 KV / 345 kV 3 APPLICATION FOR CERTIFICATE: 2 024 6 CONSTRUCTION: 2 0204 7 CAPITAL INVESTMENT: 3 PLANNED SUBSTATION: 8 PLANNED SUBSTATION: 9 REGION OF CERTIFICATE: 2 024 10 PARTICIPATION WITH OTHER UTILITIES PURPOSE OF THE PLANNED 11 TRANSMISSION LINE New 345 kV extension to serve customer 2 POINTS OF ORIGIN AND TERMINATION 12 DEFERMENT OR TERMINATION 13 MISCELLANEOUS: 14 LINE NAME AND NUMBER: 15 BEACON 15 PLANNED SUBSTATION: 16 PROTICE PLANNED 17 CAPITAL AUXENTEMPT: 18 PLANNED SUBSTATION: 19 PROSE OF THE PLANNED 10 PARTICIPATION WITH OTHER UTILITIES PURPOSE OF THE PLANNED 11 TRANSMISSION LINE New 345 kV extension to serve customer 2 POINTS OF ORIGIN AND TERMINATION 12 DEFERMENT OR TERMINATION 13 MISCELLANEOUS: 14 LINE NAME AND NUMBER: 15 DESIGN / OPERATE 16 DESIGN / OPERATE 17 DESIGN / OPERATE 18 PLANNED SUBSTATION: 19 DESIGN / OPERATE 19 DESIGN / OPE	Beacon - Darby 345 kV #1 (TP2022004)	004)	
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Appendix C Agency Coordination



In reply, refer to 2022-FRA-55405

April 21, 2023

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

RE: Robert-Hayden 345kV Tie-in Project, Norwich Township, Franklin County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received April 13, 2023 regarding the proposed Robert-Hayden 345kV Tie-in Project, Norwich Township, 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 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Addendum Archaeological Investigations for the Robert-Hayden 345kV Tie-In Project in Franklin County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2023).

A literature review and visual inspection was completed as part of the investigations. No previously identified archaeological sites are located within the project area and no new archaeological sites were identified during survey. The addendum project area was found to be full disturbed. Our office agrees no additional archaeological investigation is needed. No additional historic properties or architecture resources 50 years of age or older were identified within the Area of Potential Effects (APE).

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

Sincerely,

Krista Horrocks, Project Reviews Manager

Resource Protection and Review

RPR Serial No: 1097789



Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Fax: (614) 267-4764

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

July 18, 2022

Matthew Teitt Stantec 1500 Lake Shore Drive Suite 100 Columbus, OH 43204

Re: 22-0635; AEP Beacon Station and Hayden-Roberts Line Extension Project

Project: The proposed project involves the extension of the existing Hayden-Roberts 345 kV Line and the new installation of Beacon Station.

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

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

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

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

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the

leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana 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 of sufficient size, 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)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the black-crowned night-heron (*Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through august 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

Mike Pettegrew Environmental Services Administrator From: Ohio, FW3
To: Teitt, Matthew

Cc: nathan.reardon@dnr.state.oh.us; Wyza, Eileen

Subject: AEP Beacon Station and Hayden-Roberts 345 kV Line Extension Project, Franklin County, Ohio

Date: Monday, July 11, 2022 6:36:06 PM

Attachments: <u>image.png</u>

image.png



Project Code: 2022-0054381

Dear Mr. Teitt,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥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. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see https://ecos.fws.gov/ecp/species/9045), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be

conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus 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, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

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



Patrice Ashfield Field Office Supervisor

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

Appendix D Ecological Survey Report



Roberts-Hayden Line Extension Project, Franklin County, Ohio

Ecological Survey Report

Prepared for:

AEP Ohio Transmission Company, Inc. 8600 Smiths Mill Road New Albany, OH 43054

Prepared by:

Stantec Consulting Services Inc. 10200 Alliance Road, Suite 300 Cincinnati, OH 45242

Sign-off Sheet

This document entitled Roberts-Hayden Line Extension Project Ecological Survey Report was prepared by Stantec Consulting Services Inc. ("Stantec") for the account of AEP Ohio Transmission Company, Inc. (the "Client"). Any reliance on this document by any third party is strictly prohibited. The material in it reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in the document are based on conditions and information existing at the time the document was published and do not take into account any subsequent changes. In preparing the document, Stantec did not verify information supplied to it by others. Any use which a third party makes of this document is the responsibility of such third party. Such third party agrees that Stantec shall not be responsible for costs or damages of any kind, if any, suffered by it or any other third party as a result of decisions made or actions taken based on this document.

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Matt Denzler

Reviewed by Kata Roman

(signature)

Kate Bomar

Reviewed by Daniel J. Godec

(signature)

Dan Godec

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Introduction

1.0 INTRODUCTION

AEP Ohio Transmission Company, Inc. (AEP) is proposing to extend a new 345 kV (kilovolt) line to a new greenfield substation (Beacon Station) (the Project), in Hilliard, Franklin County, Ohio (Figure 1, Appendix B). An approximate 11-acre study area for the proposed Project was surveyed for wetlands, waterbodies, open water features, upland drainage features, and potential threatened, endangered, and rare species habitat by Stantec Consulting Services Inc. (Stantec) biologists on July 13, 2022 and April 12, 2023 (Figure 2, Appendix B). The approximate locations of features located up to 50 feet outside of the Project area were also recorded during the field surveys, where landowner access was permitted. However, no data forms were collected on features that did not extend into the Project area. These features are shown on the Figure 2 maps in Appendix B as "approximate" wetlands, streams (waterways), open waters, and upland drainage features.

Methods

2.0 METHODS

2.1 WETLAND DELINEATION

Prior to completing the field surveys, a desktop review of the Project area was conducted using U.S. Geological Survey (USGS) topographic maps, National Wetlands Inventory (NWI) maps, U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, and aerial imagery mapping. Stantec completed a wetland delineation study in accordance with the Corps of Engineers Wetlands Delineation Manual (USACE Environmental Laboratory 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0; USACE 2010). Wetland categories were classified using the Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 (Mack 2001).

2.2 STREAM DELINEATION

Streams that demonstrated a continuously defined channel (bed and bank), ordinary high water mark (OHWM), and the disturbance of terrestrial vegetation were delineated within the Project area, per the protocols outlined in the USACE's Guidance on Ordinary High Water Mark Identification (Regulatory Guidance Letter, No. 05-05; USACE 2005). Delineated streams were classified as ephemeral, intermittent, or perennial per definitions in the Federal Register/Vol. 67, No. 10 (USACE 2002). Functional assessment of streams within the Project area was based on completion of the Ohio Environmental Protection Agency's (OEPA) Headwater Habitat Evaluation Index (HHEI; OEPA 2020) and/or Qualitative Habitat Evaluation Index (QHEI; OEPA 2006) data forms. The centerline and/or the OHWM locations of each waterway were identified and surveyed using a handheld sub-meter accuracy global positioning system (GPS) unit and mapped with GIS software. Additionally, the locations of upland drainage features (which lacked a continuously defined bed and bank/OHWM) identified within the Project area were also recorded with a sub-meter accuracy GPS unit during the field surveys.

2.3 RARE SPECIES

Prior to conducting the field surveys, Stantec contacted the Ohio Department of Natural Resources (ODNR) and the U.S. Fish and Wildlife Service (USFWS) for information regarding rare, threatened, or endangered species and their habitats of concern within the vicinity of the Project area (Appendix E – Agency Correspondence). To assess potential impacts to rare, threatened, or endangered species, Stantec scientists conducted a pedestrian reconnaissance of the Project area, collected information on existing habitats within the Project area, and assessed the potential for these habitats to be used by these species.

Results

3.0 RESULTS

3.1 TERRESTRIAL HABITAT

Stantec completed field surveys for potentially suitable habitats for threatened and endangered species within the Project area on July 13, 2022 and April 12, 2023. Figure 3 (Appendix B) shows the land cover types, vegetation communities, and any identified rare, threatened, or endangered species habitats observed within the Project area during the habitat assessment surveys. Representative photographs of the vegetation communities/habitats and land cover types identified within the Project area are included in Appendix D of this report (photo locations are shown on Figure 3 in Appendix B). Information regarding the vegetation communities/habitats and land cover types identified within the Project area are provided in Table 1.

Table 1. Vegetation Communities and Land Cover Found within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
Mixed Early Successional/Second Growth Deciduous Forest	Moderate Disturbance/Natural Community (dominated by native woody and herbaceous species and/or opportunistic invaders). Common plant species included Osage-orange (Maclura pomifera), multiflora rose (Rosa multiflora), Allegheny blackberry (Rubus allegheniensis), Amur honeysuckle (Lonicera maackii), black walnut (Juglans nigra), common hackberry (Celtis occidentalis), and eastern cottonwood (Populus deltoides).	No	0.31
Old Field	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non- native species, and/or native highly tolerant taxa). Dominant species included Canada thistle (Cirsium arvense), eastern daisy fleabane (Erigeron annuus), Timothy (Phleum pratense), Canada goldenrod (Solidago canadensis), giant ironweed (Vernonia gigantea), common evening primrose (Oenothera biennis), annual ragweed (Ambrosia artemisiifolia),	No	2.89

Results

Vegetation Communities and Land Cover Types within the Project Area	Degree of Human-Related Ecological Disturbance	Unique, Rare, or High Quality?	Approximate Acreage Within Project Area
	sweet clover (Melilotus officinalis), and yellow foxtail (Setaria pumila).		
Maintained Lawn	Extreme Disturbance/Ruderal Community (dominated by opportunistic invaders, planted non- native species, and/or native highly tolerant taxa). Dominant species included Canada thistle, Kentucky bluegrass (Poa pratensis), narrowleaf plantain (Plantago lanceolata), and red fescue (Festuca rubra).	No	1.64
Palustrine Emergent Wetland	Intermediate Disturbance (dominated by plants that typify a stable phase of a native community that persists under some disturbance). Dominant species included narrowleaf cattail (Typha angustifolia), broadleaf cattail (Typha latifolia), soft rush (Juncus effusus), and needle spikerush (Eleocharis acicularis).	No	0.31
Existing Paved Road	Extreme Disturbance/existing paved road.	No	2.03
Existing Gravel Road	Extreme Disturbance/existing gravel road.	No	0.14
Industrial Land	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	0.29
Recently Graded Area	Extreme Disturbance/Ruderal Community (little to no vegetation is present in these habitats).	No	3.33
		TOTAL	10.94

3.2 WETLANDS

Stantec completed field surveys for wetlands within the Project area on July 13 and 20, 2022 and April 12, 2023. As a result of the field surveys, Stantec identified 6 wetlands within the Project area. More information regarding the wetlands identified within the Project area is provided in Table 2. Figure 2 (Appendix B) shows the locations of wetlands identified by Stantec within the Project area. Representative photographs of the wetlands identified within the Project area are included in

Results

Appendix D of this report (photo locations are shown on Figure 2, Appendix B). Completed wetland determination data forms and ORAM data forms are included in Appendix C. Information regarding the Cowardin classification and ORAM categories of wetlands identified within the Project area is provided in Table 2. The Project area contained one National Wetlands Inventory (NWI) mapped feature. Information regarding the disposition of the mapped NWI feature is included Table 3.

Table 2. Summary of Wetland Resources Found within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

		Location				Delineated Area	C	RAM⁵	Negrost	Existing	Proposed		Proposed	d Impacts
Wetland ID	Latitude	Longitude	Photo Location ¹	Isolated?2	Habitat Type ^{3,4}	within Project Area (acre)	Score	Category	Nearest Proposed Structure Number	Structure Number in Wetland	Structure Number in Wetland	Structure Installation Method	Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.01298	-83.12404	1	No	PEM	0.015	13	1	31	N/A	N/A	N/A	0.002	0
Wetland 2	40.01284	-83.12380	3	No	PEM	0.007	11	1	31	N/A	N/A	N/A	0	0
Wetland 3	40.01299	-83.12367	5	No	PEM	0.023	11	1	31	N/A	N/A	N/A	0	0
Wetland 4	40.01151	-83.12065	11	Yes	PEM	0.218	17	1	32	N/A	32	CPF6	0.117	0.001
Wetland 5	40.01028	-83.11748	16	Yes	PEM	0.042	14	1	33A/33B	N/A	N/A	N/A	0	0
Wetland 6	40.01131	-83.12016	13	Yes	PEM	0.009	19	1	32	N/A	N/A	N/A	0	0
	TOTAL											TOTAL	0.114	0.001

¹ Appendix B - Figure 2 and Appendix D – Wetland and Waterbody Photographs

² Pending USACE jurisdictional review.

³ Habitat type based on Cowardin et al. (1979).

⁴ PEM = Palustrine Emergent Wetland

⁵ ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetland v. 5.0 (Mack 2001).

⁶ CPF = Concrete Pier Foundation

⁷Wetland 4 is permitted by others.

Table 3. Summary of NWI Disposition within the Roberts-Hayden Line Extension Project, Franklin County, Ohio

NWI Code	NWI Description	Figure 2 Page Number	Related Field Inventoried Resource	Comments
R4SBC	Riverine, Intermittent, Streambed, Seasonally Flooded	1	Stream 1	Stream 1 was delineated within the mapped NWI feature. The HHEI data form completed for this stream is provided in Appendix C. Representative photographs are provided in Appendix D.

3.3 STREAMS

One stream was delineated within the Project area during the field surveys conducted on July 13, 2022 and April 12, 2023. Figure 2 (Appendix B) shows the location of the stream identified by Stantec within the Project area. Representative photographs of the stream are included in Appendix D of this report (photo locations are shown on Figure 2, Appendix B). The completed stream data form (HHEI data form) is included in Appendix C. More information regarding the stream identified within the Project area and proposed impacts information is summarized in Table 4 below and in Appendix A.

3.4 OPEN WATERS

No open waters (i.e., ponds, lakes) were delineated within the Project area during the field surveys completed on July 13, 2022 and April 12, 2023.

Results

Table 4. Summary of Stream Resources Found within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

Stream ID	Loca	Location Stream Stream Delineation Bankfull OHWM3 Field Evaluation		Ohio		Stream	Proposed Impacts							
	Latitude/ Longitude	Photo Location ¹	Type ²	Name	Length (feet)	Width (feet)	Width (feet)	Method ⁴	Score	Category/ Rating/OAC Designation ⁵	401 Eligibility	Crossing	Fill Type	Length (feet)
Stream 1	40.01347/ -83.1221	10	Intermittent	UNT to Scioto River	162	4.5	3.0	HHEI	41	Modified Class II PHW	Possibly Eligible	No	N/A	0
				TOTAL	162								TOTAL	0

¹ Appendix B - Figure 2 and Appendix D - Wetland and Waterbody Photographs

² Stream Classification is based on the 22250 Federal Register/Vol. 85, No. 10 (USACE 2002).

³ OHWM = Ordinary High Water Mark ⁴ HHEI = Headwater Habitat Evaluation Index

⁵ PHW = Primary Headwater

3.5 RARE, THREATENED, OR ENDANGERED SPECIES HABITAT

Table 5. Summary of Potential Federal and Ohio State-Listed Species within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
Indiana Bat/Myotis sodalis	E	E	The Indiana bat is likely distributed over the entire State of Ohio, though not uniformly. This species generally forages in openings and edge habitats within upland and floodplain forest, but they also forage over old fields and pastures (Brack et al. 2010). Natural roost structures include trees (live or dead) with exfoliating bark, and exposure to solar radiation. Other important factors for roost trees include relative location to other trees, a permanent water source and foraging areas. Dead trees are preferred as maternity roosts; however, live trees are often used as secondary roosts depending on microclimate conditions (USFWS 2007; USFWS 2022b). Roosts have also occasionally been found to consist of cracks and hollows in trees, utility poles, buildings, and bat boxes. Primarily use caves for hibernacula, although are also known to hibernate in abandoned underground mines (Brack et al. 2010).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed within the Project area.	ODNR - This Project lies within the range of the Indiana bat. If trees are present within the Project area, and trees must be cut, the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with diameter at breast height (dbh) ≥ 20 inches if possible. If trees are present within the Project area, and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, the ODNR recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If the habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the Project area, please send this information to the ODNR for projects-specific recommendations. USFWS - If the proposed Project area contains trees ≥3 inches dbh, the USFWS recommends that trees be saved wherever possible. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, USFWS recommends that 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. If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year.	No suitable winter hibernacula were observed in the Project area and no abandoned underground mines or caves were identified within the Project area or within 0.25 miles of the Project area as part of the bat hibernacula desktop study (Figure 4; Appendix B). However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed in the Project area. AEP will determine if any tree clearing is necessary in areas containing potentially suitable roosting habitat and will proceed in accordance with agency requirements. Avoidance Dates: April 1 through September 30
Northern Long-eared Bat/Myotis septentrionalis	E	E	The northern long-eared bat is found throughout Ohio. This species generally forages in forested habitat and openings in forested habitat and utilizes cracks, cavities, and loose bark within live and dead trees, as well as buildings as roosting habitat (Brack et al. 2010; USFWS 2022a). The species utilizes caves and abandoned mines as winter hibernacula. Various sized caves are used	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer foraging and roosting	ODNR - This Project lies within the range of the northern long-eared bat. If trees are present within the Project area, and trees must be cut, the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with diameter at breast height (dbh) ≥ 20 inches if possible. If trees are present within the Project area, and trees	No suitable winter hibernacula were observed in the Project area and no abandoned underground mines or caves were identified within the Project area or within 0.25 miles of the Project area as part of the bat hibernacula desktop study (Figure 4; Appendix B). However, potentially suitable summer foraging and roosting habitat (mixed early

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
			providing they have a constant temperature, high humidity, and little to no air current (Brack et al. 2010).	habitat (mixed early successional/second growth deciduous forest) was observed within the Project area.	must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, the ODNR recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If the habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the Project area, please send this information to the ODNR for projects-specific recommendations.	successional/second growth deciduous forest) was observed in the Project area. AEP will determine if any tree clearing is necessary in areas containing potentially suitable roosting habitat and will proceed in accordance with agency requirements. Avoidance Dates: April 1 through September 30
					USFWS - If the proposed Project area contains trees ≥3 inches dbh, the USFWS recommends that trees be saved wherever possible. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, USFWS recommends that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal tree clearing is recommended to avoid adverse effects to the northern long-eared bat.	
Little Brown Bat/Myotis lucifugus	E	N/A	This bat uses a wide range of habitats and man-made structures for roosting, including buildings and attics. Less frequently, they use hollows of trees. Winter hibernation sites typically consist of caves, tunnels, abandoned mines. Foraging habitat for this species generally occurs over water, along the edges of lakes and stream or in woodlands near waterbodies (NatureServe 2022).	No potentially suitable winter hibernacula were observed within the Project area. However, potentially suitable summer foraging habitat and roosting habitat (mixed early successional/second growth deciduous forest) was observed in the Project area.	ODNR – This Project lies within the range of the little brown bat. If trees are present within the Project area, and trees must be cut, the ODNR recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with diameter at breast height (dbh) ≥ 20 inches if possible. If trees are present within the Project area, and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, the ODNR recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If the habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the Project area, please send this information to the ODNR for projects-specific recommendations.	No suitable winter hibernacula were observed in the Project area and no abandoned underground mines or caves were identified within the Project area or within 0.25 miles of the Project area as part of the bat hibernacula desktop study (Figure 4; Appendix B). However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed in the Project area. AEP will determine if any tree clearing is necessary in areas containing potentially suitable roosting habitat and will proceed in accordance with agency requirements. Avoidance Dates: April 1 through September 30
Tricolored Bat/Perimyotis			This species is found throughout Ohio and is associated	No potentially	USFWS - No comments received. ODNR - This Project lies within the range of the	No suitable winter hibernacula were observed
subflavus	E	PE	with forested landscapes, foraging near trees and along waterways. Maternity and summer roosts usually occur in	suitable winter hibernacula were	tricolored bat. If trees are present within the Project area, and trees must be cut, the ODNR recommends	in the Project area and no abandoned underground mines or caves were identified

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
			dead or live tree foliage, or in the south, in clumps of Spanish moss. Maternity colonies may also use tree cavities or man-made structures, such as buildings or bridges. Caves, mines, and rock crevices may be used as night roosts between foraging (NatureServe 2022).	observed within the Project area. However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed in the Project area.	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 diameter at breast height (dbh) ≥ 20 inches if possible. If trees are present within the Project area, and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. In addition, the ODNR recommends a desktop habitat assessment, followed by a field assessment if needed, to determine if there are potential hibernacula present within the Project area. If the habitat assessment finds that a potential hibernaculum is present within 0.25 miles of the Project area, please send this information to the ODNR for projects-specific recommendations. USFWS - No comments received.	within the Project area or within 0.25 miles of the Project area as part of the bat hibernacula desktop study (Figure 4; Appendix B). However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed in the Project area. AEP will determine if any tree clearing is necessary in areas containing potentially suitable roosting habitat and will proceed in accordance with agency requirements. Avoidance Dates: April 1 through September 30
Clubshell/Pleurobema clava	E	E	This is a species of small to medium-sized rivers and streams; generally found in clean, coarse sand and gravel in runs, often just downstream of a riffle, and cannot tolerate mud or slackwater conditions (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Rayed Bean/Villosa fabalis	E	E	Habitat includes gravel or sandy substrate, especially in areas of thick roots of aquatic plants, and increased substrate stability (NatureServe 2022; Parmalee and Bogan 1998). Rayed bean can be associated with shoal or riffle areas, and in shallow, wave-washed areas of glacial lakes. It is generally found in smaller, headwater creeks, but sometimes in larger rivers and open-water bodies. It can occur in shallow riffles or in lakes with water depths up to four feet. It has been found in riffles, generally in vegetation, and deeply buried in sand and gravel bound together by roots (Parmalee and Bogan 1998).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Northern Riffleshell/ Epioblasma torulosa rangiana	E	E	This species inhabits riffles in small to large streams with swift current and a substrate of firmly packed fine gravel and sand (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species.	No suitable habitat was observed within the Project area. No in-water work is proposed to occur by AEP. Therefore, no impacts to this species are anticipated.
Snuffbox/Epioblasma triquetra	E	E	Occurs in medium-sized streams to large rivers generally on mud, rocky, gravel, or sand substrates in flowing	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species.	No suitable habitat was observed within the Project area and no in-water work is proposed

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			water. Often deeply buried in substrate and overlooked by collectors (NatureServe 2022).		USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species.	to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Purple Cat's Paw/ Epioblasma obliquata obliquata	E	E	Found in Lake Erie tributaries, Ohio River tributaries, and headwater and small inland streams (ODNR 2020).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Rabbitsfoot/Quadrula cylindrica cylindrica	Т	Т	The typical habitat for this species is small to medium rivers with moderate to swift currents, and in smaller streams it inhabits bars or gravel and cobble close to the fast current. Found in medium to large rivers in sand and gravel shoals (NatureServe 2022).	No suitable habitat was observed within the Project area.	 ODNR - Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - Due to the project type, size, and location, we do not anticipate adverse effects to this species. 	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Elephant-ear/Elliptio crassidens crassidens	E	N/A	An inhabitant of channels in large creeks to rivers with moderate to swift currents, primarily on sand and limestone or rock substrates (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Pocketbook/Lampsilis ovata	E	N/A	Very generalized in habitat preference, adapting well to both impoundment situations as well as free-flowing, shallow rivers. Usually found in moderate to strong current, it can survive in standing water. The most suitable substrate consists of a mixture of gravel and coarse sand mixed with some silt or mud (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Long Solid/Fusconaia maculata maculata	E	N/A	This mussel is found in the gravel substrates of shoals and riffles of large rivers, as well as impounded areas (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Washboard/ Megalonaias nervosa	E	N/A	This species is typically a large river species, living in the main channel and in some of the overbank areas of reservoirs, but in some instances, it may also become established in medium-sized and even small rivers. It is found in areas with a slow current with muddy to coarse gravel substrates (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Ohio Pigtoe/ Pleurobema cordatum	E	N/A	This mussel prefers strong currents of large rivers with substrates of sand and gravel, though is somewhat tolerant of lentic systems (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.

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Pondhorn/Uniomerus tetralasmus	T	N/A	This species typically inhabits the quiet or slow-moving, shallow waters of sloughs, borrow pits, ponds, ditches, and meandering streams. It is tolerant to poor water conditions and can be found well buried in a substrate of fine silt and/or mud (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR – Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Salamander Mussel/ Simpsonaias ambigua	T	N/A	Preferred habitat is in sand or silt under large, flat stones in areas of a swift current in medium to large rivers and lakes (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, this Project is not likely to impact this species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated.
Goldeye/Hiodon alosoides	E	N/A	Habitat includes quiet turbid water of medium to large lowland rivers, small lakes, ponds, fringe wetlands and muddy shallows of larger lakes. Occurs in shallow firmbottomed sites in river pools or backwaters or over gravel shoals in tributary streams (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams or ponds/lakes by AEP. Therefore, no impacts to this species are anticipated and avoidance dates are not applicable.
Shortnose Gar/ Lepisosteus platostomus	E	N/A	Habitat includes large weedy lakes and reservoirs, backwaters and quiet pools of medium to large rivers, stagnant ponds, sloughs, canals, brackish waters of coastal inlets, occasionally coastal marine waters; often near vegetation or close to submerged or overhanging objects by day. Young tend to occupy shallows, larger individuals in deeper water. Spawning occurs over weed beds of shallow waters in rivers, usually in grass and weeds in shoal water in lakes; or near stone piles of railroad bridges, in nests of smallmouth bass, or over gravel bars (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams or ponds/lakes by AEP. Therefore, no impacts to this species are anticipated and avoidance dates are not applicable.
lowa Darter/ Etheostoma exile	E	N/A	Habitat includes clear sluggish vegetated headwaters, creeks, and small to medium rivers; weedy portions of glacial lakes, marshes, and ponds; over substrates of sand, peat, and/or organic debris. This darter occurs in deeper lake waters and in stream pools when not breeding (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams or ponds/lakes by AEP. Therefore, no impacts to this species are anticipated and avoidance dates are not applicable.
Spotted Darter/ Etheostoma maculatum	E	N/A	Habitat includes large rubble and boulder areas, adjacent to or in swift deep riffles, in small to medium, clear rivers. Adults apparently spend the winter in areas somewhat deeper and with slower current (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated and avoidance dates are not applicable.

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
Northern Brook Lamprey/Ichthyomyzon fossor	E	N/A	Adult lampreys are found in clear brooks with fast flowing water and sand or gravel bottoms. Juveniles are found in slow moving water buried in soft substrate in medium to large streams (ODNR 2020).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts to this species are anticipated and avoidance dates are not applicable.
					USFWS - No comments received. ODNR - The ODNR recommends no in-water work in	
Tonguetied Minnow/ Exoglossum laurae	E	N/A	Habitat includes rocky pools and runs of cool to warm, usually clear, creeks and small to medium rivers of moderate gradient, generally with relatively unsilted bottoms of gravel, rubble, and boulder, often at deeper exits of pools near vegetation or other cover (NatureServe 2022).	No suitable habitat was observed within the Project area.	perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
					USFWS - No comments received.	
Popeye Shiner/Notropis ariommus	E	N/A	Habitat includes warm, relatively clear flowing waters of large creeks and small to medium rivers; these shiners are closely associated with gravel substrate; typically, they occur in runs, backwaters near appreciable current, and the head of pools (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams by AEP. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
					USFWS - No comments received.	
Lake Chubsucker/ Erimyzon sucetta	Т	N/A	Habitat includes ponds, lakes, oxbows, sloughs, swamps, impoundments, quiet pools of creeks and small rivers, and similar waters of little or no flow that are clear and have bottoms of sand or silt mixed with organic debris; aquatic vegetation is usually present (NatureServe 2022.)	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams or ponds/lakes by AEP. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
					USFWS – No comments received.	
Paddlefish/Polyodon spathula	Т	N/A	Habitat includes slow-flowing water of large and medium-sized rivers, river-margin lakes, channels, oxbows, backwaters, impoundments with access to spawning areas. This fish prefers depths greater than 1.5 m; it seeks deeper water in late fall and winter. Individuals may congregate near human-made structures that create eddies and reduce current velocity (NatureServe 2022).	No suitable habitat was observed within the Project area.	ODNR - The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitats. If no in-water work is proposed in a perennial stream, this Project is not likely to impact this species or other aquatic species. USFWS - No comments received.	No suitable habitat was observed within the Project area and no in-water work is proposed to occur in perennial streams or ponds/lakes by AEP. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
American Bittern/ Botaurus lentiginosus	E	N/A	Typically found primarily in large freshwater and (less often) brackish marshes, including lake and pond edges where cattails, sedges, or bulrushes are plentiful and marshes where there are patches of open water and aquatic bed vegetation. Nest primarily in inland	No suitable nesting habitat was observed within the Project area.	ODNR - The Project is within the range of the American bittern. Nesting American bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
			freshwater wetlands, sometimes in tidal marshes or in sparsely vegetated wetlands or dry grassy uplands (NatureServe 2022).		swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to July 31. If this type of habitat will not be impacted, the Project is not likely to impact this species.	
					USFWS - No comments received.	
Black-crowned Night- heron/Nycticorax nycticorax	T	N/A	Typically found in marshes, swamps, wooded streams, mangroves, shores of lakes, ponds, lagoons, salt water, brackish and freshwater situations. This species roosts by day in mangroves or swampy woodland and usually nests with other heron species (NatureServe 2022).	No suitable nesting habitat was observed within the Project area.	ODNR - The Project is within the range of the black-crowned night heron. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the Project is not likely to impact this species.	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
					USFWS - No comments received.	
Lark Sparrow/ Chondestes grammacus	E	N/A	Breeding habitat includes various open situations with scattered bushes and trees: shortgrass, mixed-grass, and tallgrass prairie with a shrub component and sparse litter; parkland; sandhills; barrens; old fields; cultivated fields; shrub thickets; woodland edges; orchards; parks; riparian areas; brushy pastures; overgrazed pastures; and savanna. Nests are either on the ground or close to the ground located in sparse ground cover (NatureServe 2022).	No suitable nesting habitat was observed within the Project area.	ODNR – The Project is within the range of the lark sparrow. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, the Project is not likely to impact this species.	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
			(0.5.0.0.0.0.0.0)		USFWS - No comments received. ODNR - The Project is within the range of the least	
Least Bittern/Ixobrychus exilis	Ţ	N/A	Occurs in tall emergent vegetation in marshes, primarily freshwater, less commonly in coastal brackish marshes and mangrove swamps. Prefers marshes with scattered bushes or other woody growth (NatureServe 2022).	No suitable nesting habitat was observed within the Project area.	bittern. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, the Project is not likely to impact this species. USFWS - No comments received.	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
Northern Harrier/Circus hudsonius	E	N/A	Breeds in wide-open habitats ranging from Arctic tundra to prairie grasses to fields and marshes. Nests are concealed on the ground in grasses or wetland vegetation (All About Birds 2022).	No suitable nesting habitat was observed within the Project area.	ODNR - The Project is within the range of the northern harrier. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. If this type of	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.

Common Name/ Scientific Name	*State Listed Status	*Federally Listed Status	Typical Habitat	Habitat Observed	Agency Comment** (Appendix E)	Potential Impacts and Avoidance Dates
					habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, the Project is not likely to impact this species.	
Sandhill Crane/Grus canadensis	T	N/A	Breeding habitat includes open grasslands, marshes, marshy edges of lakes and ponds, and riverbanks. Nests are on the ground or in shallow water on open tundra, large marshes, bogs, fens, or wet forest meadows. During nonbreeding season, sandhill cranes roost at night in shallow water along river channels, on alluvial islands of braided rivers, or in natural basin wetlands (NatureServe 2022.)	No suitable nesting habitat was observed within the Project area.	USFWS - No comments received. ODNR - The Project is within the range of the sandhill crane. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields. However, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, the Project is not likely to impact this species. USFWS - No comments received.	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.
Upland Sandpiper/ Bartramia longicauda	E	N/A	Breeding habitat is restricted primarily to extensive, open tracts of short grassland habitat. Nest in native prairie, dry meadows, pastures, domestic hayfields, short-grass savanna, plowed fields, along highway right-of-way and on airfields, and (in the north) peatlands and scattered woodlots near timberline (NatureServe 2022.)	No suitable nesting habitat was observed within the Project area.	ODNR - The Project is within the range of the upland sandpiper. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this habitat will not be impacted, the Project is not likely to impact this species. USFWS - No comments received.	No suitable nesting habitat was observed within the Project area. Therefore, no impacts are anticipated, and avoidance dates are not applicable.

^{*}Status key: E=Endangered; T=Threatened; PE=Proposed Endangered

^{**}The information is based on the literature review response information from ODNR and USFWS and is study area/project specific.

Conclusions and Recommendations

4.0 CONCLUSIONS AND RECOMMENDATIONS

Stantec conducted a wetland and waterbody delineation and a preliminary habitat assessment for threatened and endangered species within the Project area on July 13, 2022 and April 12, 2023. During the field surveys, one intermittent stream totaling 162 linear feet and six palustrine emergent wetlands totaling 0.31 acre were delineated within the Project area. No open water features were observed within the Project area.

The information provided by Stantec regarding wetland and stream boundaries is based on an analysis of the wetland and upland conditions present within the Project area at the time of the field work. The delineations were performed by experienced and qualified professionals using regulatory agency-accepted practices and sound professional judgment.

An ODNR Ohio Natural Heritage Program data request and environmental review request letter was sent to the ODNR Office of Real Estate on June 24, 2022. The ODNR Office of Real Estate response letter dated July 18, 2022 (Appendix E), stated that the entire state of Ohio is within the range of the state-listed endangered Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. If trees are present within the Project area, and trees must be cut, the ODNR recommends cutting only occur from October 1 − March 31, conserving trees with loose, shaggy bark and/or crevices holes, or cavities as well as trees with diameter at breast height (dbh) ≥ 20 inches if possible. If trees are present within the Project area and trees must be cut during the summer months, the ODNR recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. If state-listed bats are documented, the ODNR recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the ODNR.

The ODNR also recommends a desktop habitat assessment, followed by a field assessment if needed, be conducted to determine if there are potential bat hibernacula present within the Project area. Stantec completed a habitat desktop assessment in accordance with the 2022 Range-wide Indiana Bat and Northern Long-eared Bat Survey Guidelines (USFWS 2022b) utilizing available ODNR websites, including data on known abandoned or active mines (ODNR 2022b) and locations of known or suspected karst geology (ODNR 2022a). The desktop assessment did not identify any karst features or abandoned underground mines within 0.25 miles of the Project area (Figure 4, Appendix B). Additionally, no potentially suitable bat hibernacula were observed within the Project area during the field surveys. However, potentially suitable summer foraging and roosting habitat (mixed early successional/second growth deciduous forest) was observed within the Project area. AEP will determine if any tree clearing is necessary in areas containing suitable roost habitat and will proceed in accordance with agency requirements.

According to the ODNR response letter, the Project is within the range of the federally listed and state-listed endangered clubshell, rayed bean, northern riffleshell, snuffbox, and purple cat's paw, the federally listed threatened and state-listed endangered rabbitsfoot, the state-listed

Conclusions and Recommendations

endangered elephant-ear, pocketbook, long solid, washboard, and Ohio pigtoe, and the state-listed threatened pondhorn and salamander mussel. Due to the location, and that there is no inwater work proposed in a perennial stream of sufficient size, the ODNR stated that this Project is not likely to impact these mussel species.

This Project is within the range of the state-listed endangered goldeye, shortnose gar, lowa darter, spotted darter, northern brook lamprey, tonguetied minnow, and popeye shiner and the state-listed threatened lake chubsucker and paddlefish. The ODNR recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to these indigenous aquatic species and their habitat. Since no in-water work is proposed in a perennial stream, this Project is not likely to impact these fish species.

The ODNR response letter stated that the Project is within the range of the state-listed endangered American bittern and lark sparrow and the state-listed threatened black-crowned night-heron and least bittern. If these birds' nesting habitat will be impacted, construction should be avoided in preferred nesting habitat during the species nesting period of May 1 through July 31. Suitable nesting habitat for these species was not observed within the Project area. Therefore, this Project is not likely to impact these species.

The Project is within the range of the state-listed endangered northern harrier and upland sandpiper. If these birds' nesting habitat will be impacted, construction should be avoided in preferred nesting habitat during the species nesting period of April 15 through July 31. No suitable nesting habitat for these species was observed for these species within the Project area. Therefore, this Project is not likely to impact these species.

The ODNR response letter also stated that the Project is within the range of the state-listed threatened sandhill crane. If this bird's nesting habitat will be impacted, construction should be avoided in preferred nesting habitat during the species nesting period of April 1 through August 31. No suitable nesting habitat was observed within the Project area. Therefore, this Project is not likely to impact this species.

A technical assistance request letter was also submitted to the USFWS on June 24, 2022. The USFWS response letter dated July 11, 2022, recommends that the proposed Project avoid and minimize impacts to all wetland habitats to the maximum extent possible and natural buffers around streams and wetlands should be preserved to enhance beneficial functions.

According to the USFWS response letter, the entire State of Ohio lies within the range of the federally endangered northern long-eared bat and Indiana bat. Therefore, USFWS recommends that trees ≥ 3 inches dbh be saved wherever possible and any tree removal that is unavoidable should only occur between October 1 and March 31 to avoid adverse effects to these species.

The Project area contains potentially suitable foraging habitat for the Indiana bat and northern long-eared bat in the form of mixed early successional/second growth deciduous forest. Following the seasonal tree clearing recommendation should ensure that any effects to Indiana bats and

Conclusions and Recommendations

northern long-eared bats are insignificant and discountable. No potentially suitable bat hibernacula were observed within the Project area.

The USFWS also stated that due to the project type, size, and location, they do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat (Appendix E).

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Wetland and Stream Impact Tables

Appendix A WETLAND AND STREAM IMPACT TABLES

Summary of Wetland Resources Found within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

		Location				Delineated Area	0	ORAM⁵		Existing	Proposed		Proposed	d Impacts
Wetland ID	Latitude	Longitude	Photo Location ¹	Isolated? ²	Habitat Type ^{3,4}	within Project Area (acre)	Score	Category	Nearest Proposed Structure Number	ucture Number in	Structure Number in Wetland	Structure Installation Method	Temporary Matting Area (acre)	Permanent Impact Area (acre)
Wetland 1	40.01298	-83.12404	1	No	PEM	0.015	13	1	31	N/A	N/A	N/A	0.002	0
Wetland 2	40.01284	-83.12380	3	No	PEM	0.007	11	1	31	N/A	N/A	N/A	0	0
Wetland 3	40.01299	-83.12367	5	No	PEM	0.023	11	1	31	N/A	N/A	N/A	0	0
Wetland 4	40.01151	-83.12065	11	Yes	PEM	0.218	17	1	32	N/A	32	CPF6	0.117	0.001
Wetland 5	40.01028	-83.11748	16	Yes	PEM	0.042	14	1	33A/33B	N/A	N/A	N/A	0	0
Wetland 6	40.01131	-83.12016	13	Yes	PEM	0.009	19	1	32	N/A	N/A	N/A	0	0
					TOTAL	0.31						TOTAL	0.114	0.001

¹ Appendix B - Figure 2 and Appendix D – Wetland and Waterbody Photographs

² Pending USACE jurisdictional review.

³ Habitat type based on Cowardin et al. (1979).

⁴ PEM = Palustrine Emergent Wetland

⁵ ORAM Score and Category are based on the Ohio Rapid Assessment Method for Wetland v. 5.0 (Mack 2001).

⁶ CPF = Concrete Pier Foundation

⁷ Wetland 4 is permitted by others.

Summary of Stream Resources Found within the Roberts-Hayden Line Extension Project Area, Franklin County, Ohio

Stream	Loca	ition	Stream	Stream	Delineation	Bankfull	OHWM ³		Field Eva	luation	Ohio EPA	Stream	Proposed Impacts	
ID	Latitude/ Longitude	Photo Location ¹	Type ²	Name	Length (feet)	Width (feet)	Width (feet)	Method ⁴	Score	Category/ Rating/OAC Designation ⁵	401 Eligibility	Crossing	Fill Type	Length (feet)
Stream 1	40.01347/ -83.1221	10	Intermittent	UNT to Scioto River	162	4.5	3.0	HHEI	41	Modified Class II PHW	Possibly Eligible	No	N/A	0
				TOTAL	162								TOTAL	0

¹ Appendix B - Figure 2 and Appendix D - Wetland and Waterbody Photographs

² Stream Classification is based on the 22250 Federal Register/Vol. 85, No. 10 (USACE 2002).

³ OHWM = Ordinary High Water Mark ⁴ HHEI = Headwater Habitat Evaluation Index

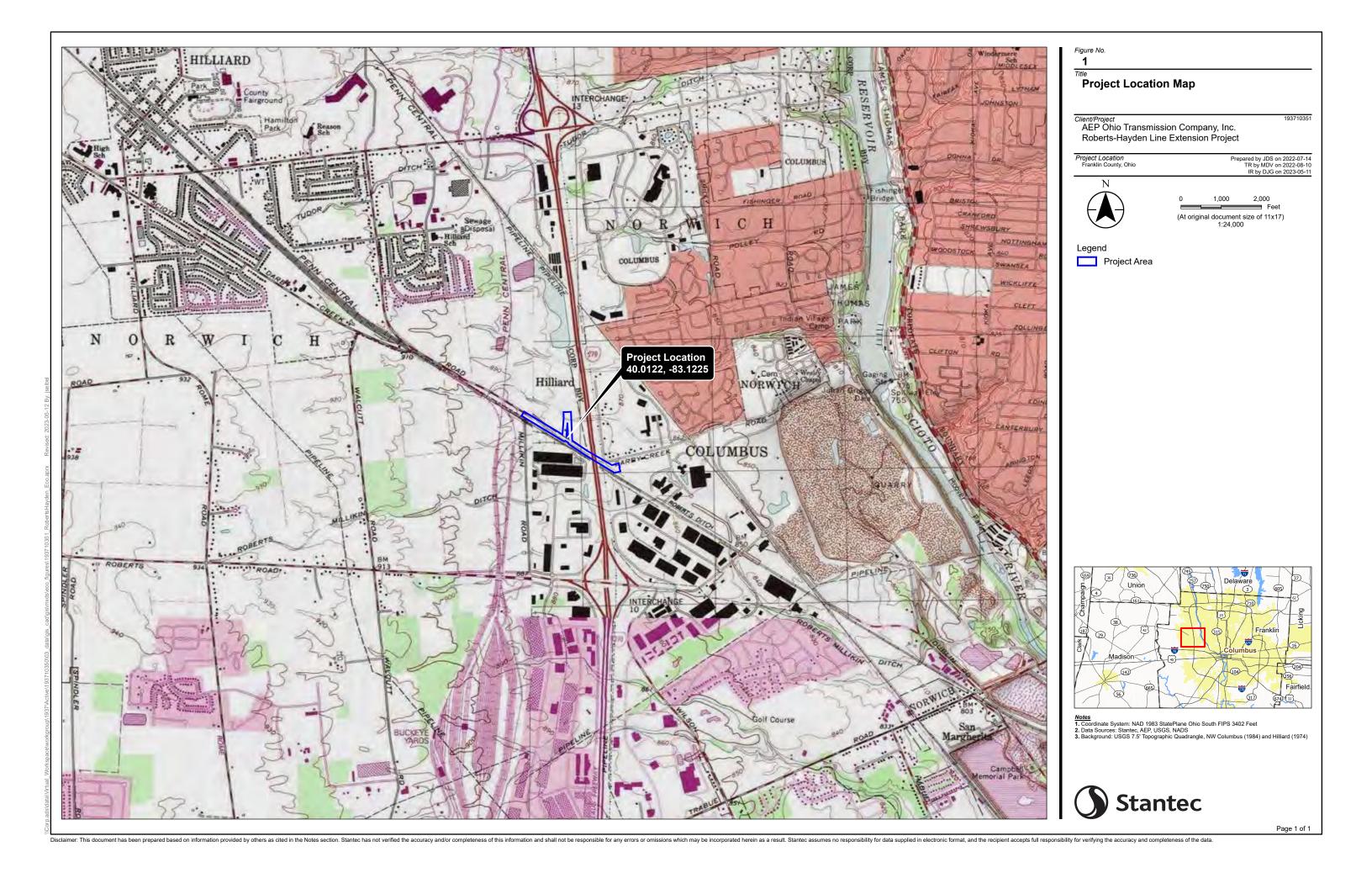
⁴ QHEI = Qualitative Habitat Evaluation Index

⁵ PHW = Primary Headwater

Figures

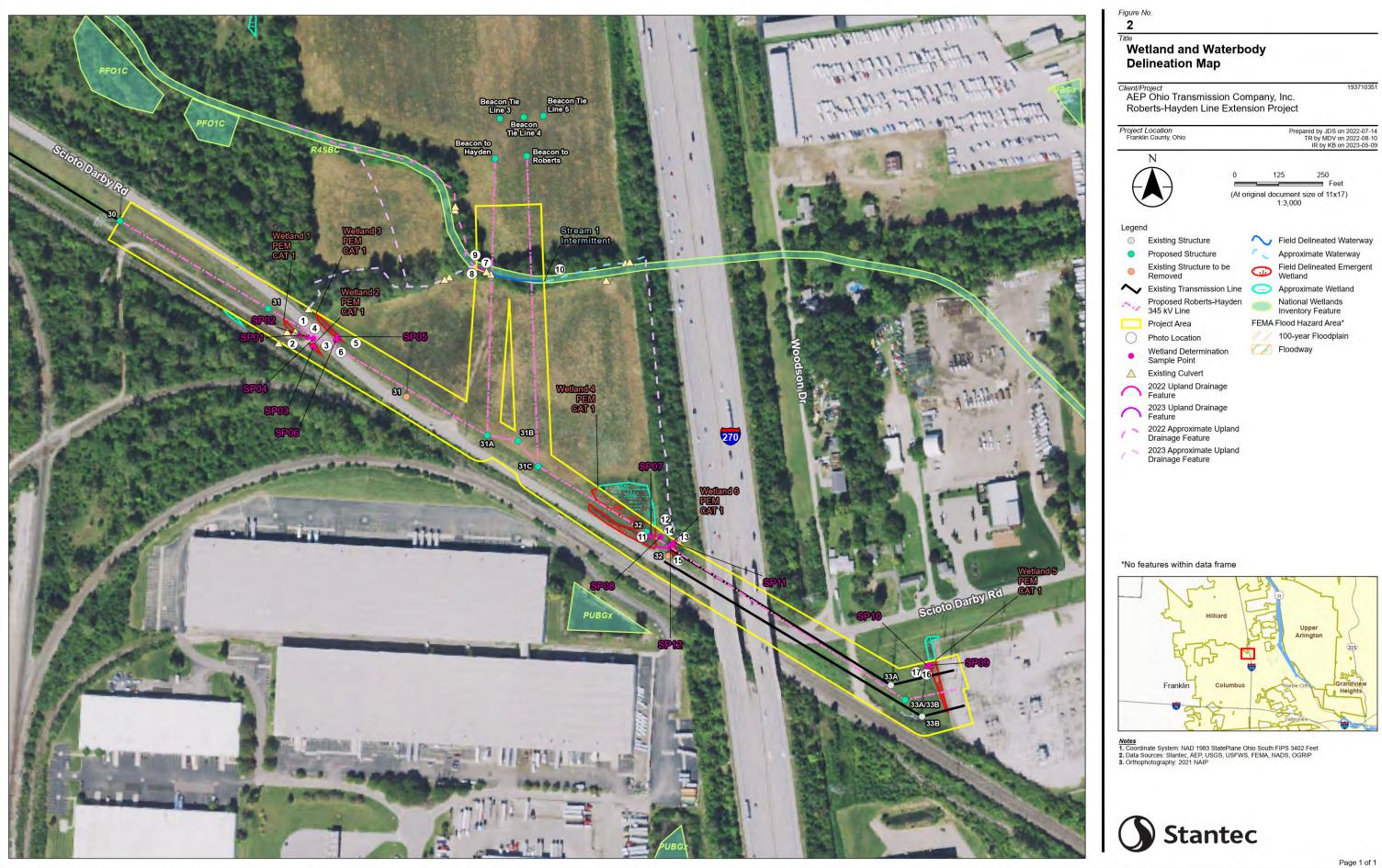
Appendix B FIGURES

B.1 FIGURE 1 - PROJECT LOCATION MAP



Figures

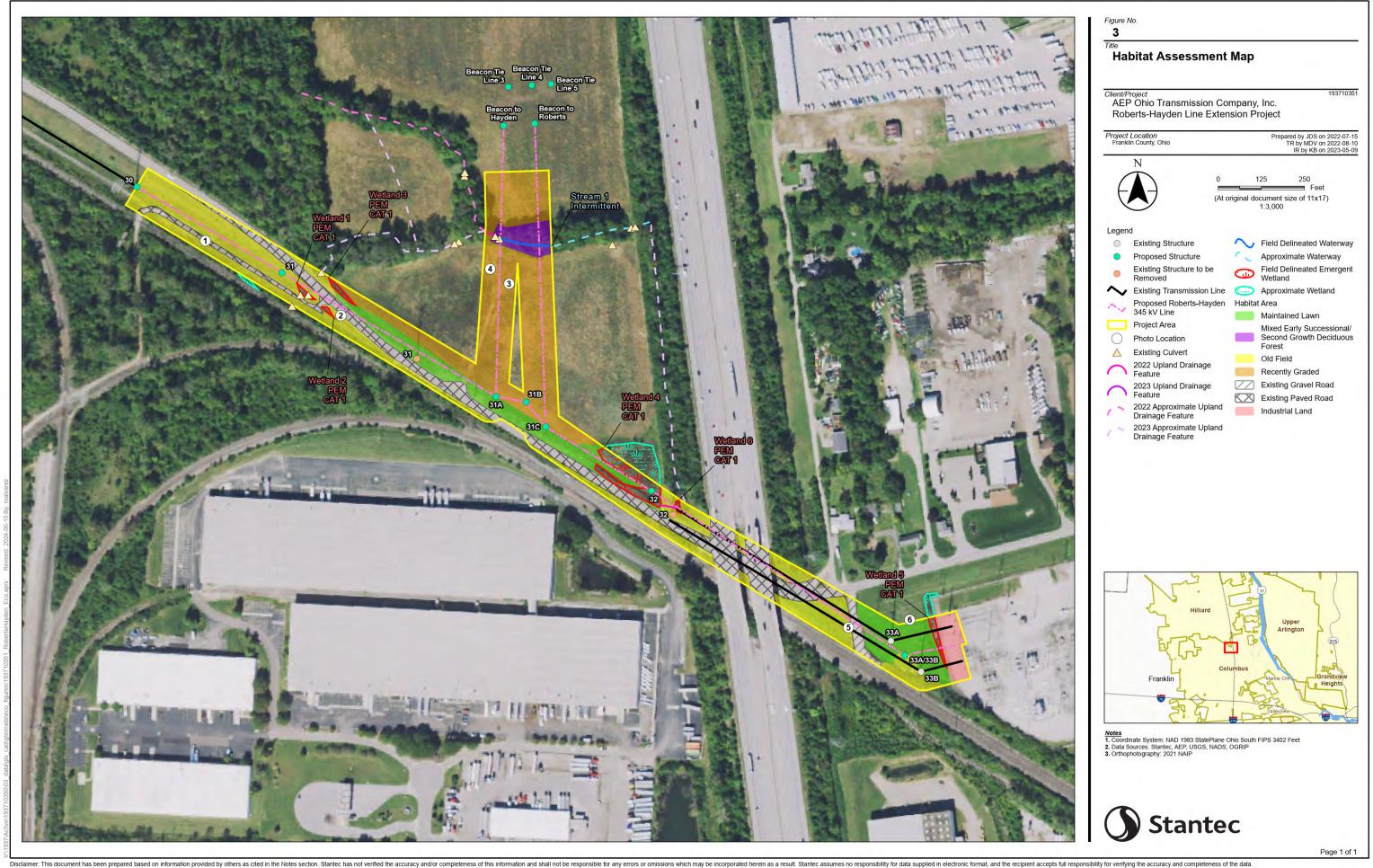
B.2 FIGURE 2 - WETLAND AND WATERBODY DELINEATION MAP



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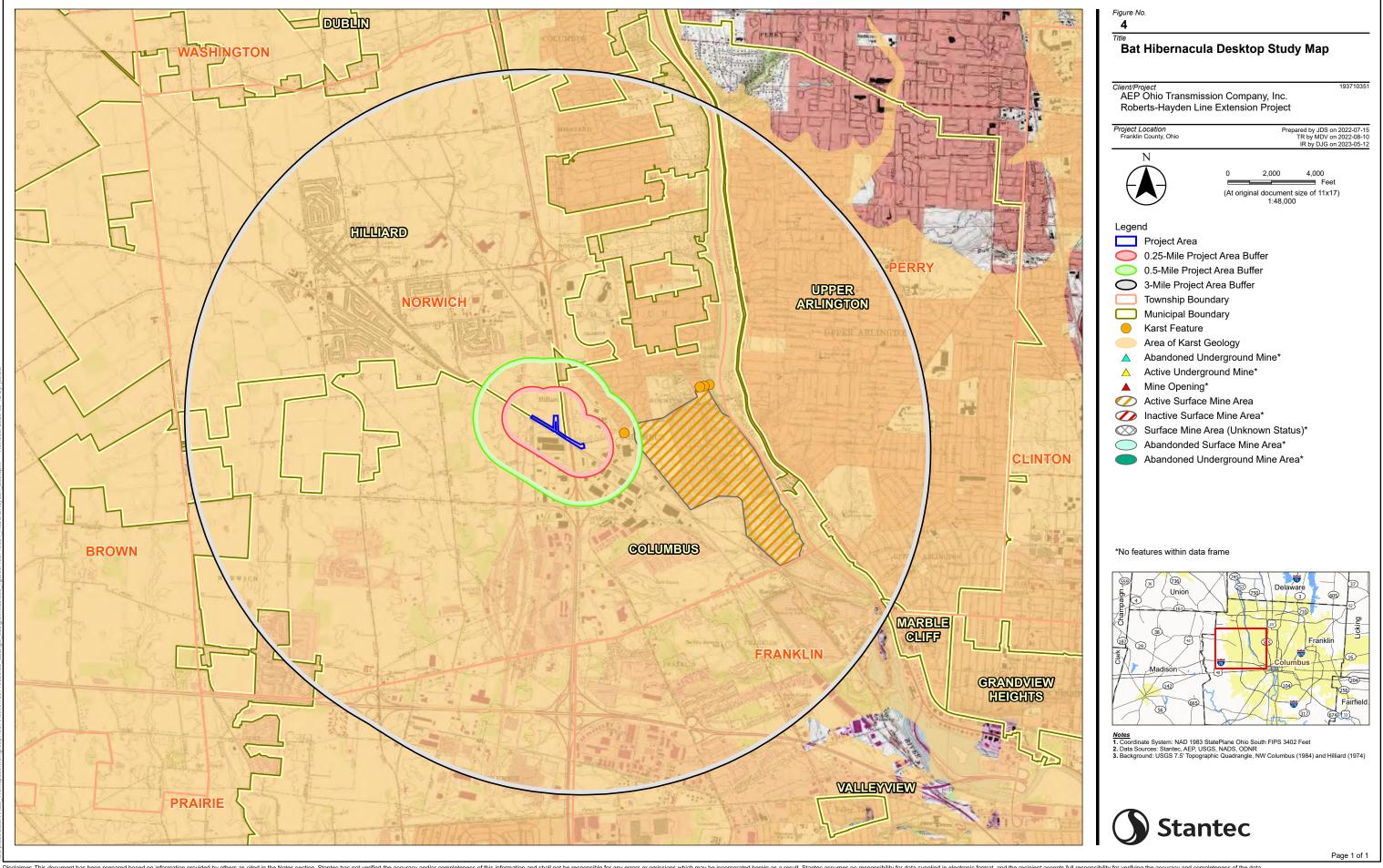
Figures

B.3 FIGURE 3 - HABITAT ASSESSMENT MAP



Figures

B.4 FIGURE 4 - BAT HIBERNACULA DESKTOP STUDY MAP



Appendix C DATA FORMS

C.1 WETLAND DETERMINATION DATA FORMS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cour	nty: Franklir	١	Sampling Date	e: <u>7/13/</u> 2	22
Applicant/Owner: AEP				State: OH	Sampling Poir	nt: SI	P01
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section, T	ownship, Ra	nge: N/A			
Landform (hillside, terrace, etc.): Depression		լ	_ocal relief (d	concave, convex, none):	Concave		
Slope (%): 3 Lat: 40.012941		Long:8	33.123961		Datum: WGS84	,	
Soil Map Unit Name: Udorthents, loamy, steep				NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical for	or this time of	year?	Yes X	No (If no, ex	plain in Remarks	.)	
Are Vegetation N , Soil N , or Hydrology N :	significantly d	isturbed? A	re "Normal C	Circumstances" present?	Yes X	No	
Are Vegetation N , Soil N , or Hydrology N	naturally prob	lematic? (I	f needed, ex	plain any answers in Re	marks.)		_
SUMMARY OF FINDINGS – Attach site ma	ap showin	g samplin	g point lo	cations, transects	, important fe	eatures,	, etc.
Hydrophytic Vegetation Present? Yes X No Hydric Soil Present? Yes X No Wetland Hydrology Present? Yes X No Hydrology Present?	<u> </u>		Sampled A		. No		
Remarks: Wetland 1 PEM		•					
VEGETATION – Use scientific names of pla							
<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	rksheet:		
1				Number of Dominant Are OBL, FACW, or I	Species That	1	(A)
3. 4.				Total Number of Dom Across All Strata:	_	1	(B)
5.				Percent of Dominant			_
Sapling/Shrub Stratum (Plot size: 15	=	Total Cover		Are OBL, FACW, or I	FAC:	100.0%	_(A/B)
1				Prevalence Index w	orksheet:		
2.				Total % Cover o		iply by:	_
3.				OBL species FACW species	x 1 =		-
4 5.				FAC species	x 2 = x 3 =		-
J	 -	Total Cover		FACU species	x 4 =		-
Herb Stratum (Plot size: 5)				UPL species	x 5 =		-
Typha angustifolia 2.	90	Yes	OBL	Column Totals: Prevalence Index	(A)		(B)
3. 4.				Hydrophytic Vegeta	tion Indicators:		
5.				X 1 - Rapid Test fo		getation	
6.				X 2 - Dominance T		9	
7.				3 - Prevalence In	dex is ≤3.0 ¹		
8.				4 - Morphologica			
9					ks or on a separa	,	
10				Problematic Hyd			
Woody Vine Stratum (Plot size: 15	90 =	Total Cover		¹ Indicators of hydric s be present, unless di		, ,,	must
1.				Hydrophytic			
2		Total Cover		Vegetation Present? Yes	X No		
Demontos (Include abote acceste d		- i Olai GUVEI		rieseitt ies	XNo		
Remarks: (Include photo numbers here or on a separation 10% bare ground	iale SHEEL.)						

US Army Corps of Engineers

SOIL Sampling Point: SP01

	ription: (Describe t	o the dept				tor or o	confirm the absence of	of indicators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-6	10YR 3/1	100					Loamy/Clayey	
6-20	10YR 3/1	97	10YR 5/6	3	С	M	Loamy/Clayey	Prominent redox concentrations
							_	
								-
1 _{T. max} C. C.			Dadwaad Matrice				21	Di Dana Linina M Matrix
Hydric Soil	oncentration, D=Depl	etion, Rivi=i	Reduced Matrix, I	vi5=ivias	ked Sand	Grains		PL=Pore Lining, M=Matrix. s for Problematic Hydric Soils ³ :
Histosol			Sandy Gle	ved Mat	riy (S4)			t Prairie Redox (A16)
	ipedon (A2)		Sandy Re	-				Manganese Masses (F12)
Black His			Stripped N					Parent Material (F21)
	n Sulfide (A4)		Dark Surfa	•	2)			Shallow Dark Surface (F22)
	Layers (A5)		Loamy Mu	, ,	eral (F1)			(Explain in Remarks)
2 cm Mu			Loamy Gl	-				,
	Below Dark Surface	(A11)	Depleted	-				
Thick Da	rk Surface (A12)		X Redox Da	rk Surfac	e (F6)		³ Indicators	s of hydrophytic vegetation and
Sandy M	ucky Mineral (S1)		Depleted	Dark Sur	face (F7)		wetlar	nd hydrology must be present,
5 cm Mu	cky Peat or Peat (S3)	Redox De	pression	s (F8)		unles	s disturbed or problematic.
Restrictive I	_ayer (if observed):							
Type:	N/A							
Depth (ir	nches):						Hydric Soil Present	? Yes X No
Remarks:								
LIVERGLA	-01/							
HYDROLO								
_	drology Indicators:							
	cators (minimum of o	ne is require			/- - \			y Indicators (minimum of two required)
	Water (A1)		Water-Sta		` ,			ce Soil Cracks (B6)
	ter Table (A2)		Aquatic Fa	`	´			age Patterns (B10)
X Saturation	` '		True Aqua		. ,			eason Water Table (C2)
	arks (B1) t Deposits (B2)		Hydrogen Oxidized F					ish Burrows (C8) ation Visible on Aerial Imagery (C9)
	osits (B3)		Presence			•	` '	ed or Stressed Plants (D1)
	t or Crust (B4)		Recent Iro					norphic Position (D2)
	osits (B5)		Thin Muck				· · —	Neutral Test (D5)
	on Visible on Aerial In	nagery (B7)						
Sparsely	Vegetated Concave	Surface (B						
Field Obser	vations:							
Surface Wat	er Present? Yes	S	No X	Depth (i	nches):			
Water Table	Present? Yes	s X	No	Depth (i	nches):	8		
Saturation P	resent? Yes	s X	No	Depth (i	nches):	6	Wetland Hydrolog	yy Present? Yes X No
(includes cap	oillary fringe)							
Describe Re	corded Data (stream	gauge, mor	nitoring well, aeria	al photos	, previous	s inspec	tions), if available:	
Remarks:								

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cou	ınty: Franklir	1	Sampling Dat	te: <u>7/13</u>	/22
Applicant/Owner: AEP				State: OH	Sampling Poir	nt: <u> </u>	SP02
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section, 7	Γownship, Ra	nge: N/A			
Landform (hillside, terrace, etc.): Terrace			Local relief (d	concave, convex, none):	None		
Slope (%): 0 Lat: 40.012923		Long:	83.123874		Datum: WGS84	4	
Soil Map Unit Name: Udorthents, loamy, steep				NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical for	or this time o	f year?	Yes X	No (If no, exp	olain in Remarks	3.)	
Are Vegetation N , Soil N , or Hydrology N s	ignificantly o	listurbed?	Are "Normal C	Circumstances" present?	Yes X	No	
Are Vegetation N , Soil N , or Hydrology N n	aturally prob	olematic? ((If needed, ex	plain any answers in Rei	marks.)		_
SUMMARY OF FINDINGS – Attach site ma			g point lo	cations, transects,	important f	eatures	, etc.
Hydrophytic Vegetation Present? Yes No	Х	Is the	Sampled A	rea			
Hydric Soil Present? Yes No	X		n a Wetlandî		No X		
Wetland Hydrology Present? Yes No	X						
Remarks:		<u>-</u>					
Wetland 1 Upland Point							
VEGETATION – Use scientific names of plai	nts.						
T 0: (D) (1: 00)	Absolute	Dominant	Indicator				
Tree Stratum (Plot size: 30) 1.	% Cover	Species?	Status	Dominance Test wo			
2.				Number of Dominant Are OBL, FACW, or F	•	0	(A)
3.				Total Number of Dom	_		_` ′
4.				Across All Strata:	_	2	(B)
5.				Percent of Dominant	•		
(5)		=Total Cover		Are OBL, FACW, or F	AC:	0.0%	_(A/B)
Sapling/Shrub Stratum (Plot size: 15)				Prevalence Index wo			
1 2.				Total % Cover of		tiply by:	
3.				OBL species (0	_
4.				FACW species 5	5 x 2 =	10	_
5.				FAC species 0) x 3 =	0	_
	:	=Total Cover		FACU species 9	5 x 4 =	380	_
Herb Stratum (Plot size: 5)				UPL species		0	_
Cichorium intybus	10	No	FACU	Column Totals: 10		390	_(B)
2. Melilotus officinalis	20	Yes	FACU	Prevalence Index	= B/A =3	3.90	_
3. Cirsium arvense	10	No	FACU				
4. Ambrosia psilostachya	55	Yes	FACU	Hydrophytic Vegetat			
5. Cornus alba	5	No	FACW	1 - Rapid Test for		getation	
6. 7.				2 - Dominance Te 3 - Prevalence Inc			
				4 - Morphological		Provide su	nnorting
9.					s or on a separa		
10				Problematic Hydr	ophytic Vegetati	ion ¹ (Expl	ain)
	100 =	=Total Cover		¹ Indicators of hydric s			
Woody Vine Stratum (Plot size: 15)				be present, unless dis			
1				Hydrophytic			
2				Vegetation			
		=Total Cover		Present? Yes	No	X	
Remarks: (Include photo numbers here or on a separa	ate sheet.)						

US Army Corps of Engineers

SOIL Sampling Point: SP02

	ription: (Describe t	o the depth				ator or c	confirm the abser	nce of indicators	s.)	
Depth	Matrix			x Featur		. 2	_		ъ .	
(inches)	Color (moist)		Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0-20	10YR 4/4	60					Loamy/Clayey	<u> </u>	Roadway fill	
	10YR 3/1	40							Roadway fill	
							_			
							1			
¹ Type: C=Co	oncentration, D=Deple	etion, RM=R	educed Matrix,	MS=Mas	ked Sand	d Grains	. ² Loca	ation: PL=Pore L	ining, M=Matr	ix.
Hydric Soil I		·	·					ators for Proble		
Histosol			Sandy Gle	eyed Mat	rix (S4)		(Coast Prairie Red	ox (A16)	
Histic Ep	ipedon (A2)		Sandy Re	, ,			<u></u> ı	ron-Manganese N	Masses (F12)	
Black His	stic (A3)		Stripped N	∕latrix (S€	6)			Red Parent Mater	. ,	
	n Sulfide (A4)		Dark Surfa					ery Shallow Dark	•	2)
	Layers (A5)		Loamy Mu	-			(Other (Explain in F	Remarks)	
2 cm Mu	, ,	(4.44)	Loamy Gl	-						
· ·	Below Dark Surface	(A11)	Depleted	`	,		3,	and and a file of the state of		
	rk Surface (A12)		Redox Da		` '			cators of hydrophy		
	ucky Mineral (S1) cky Peat or Peat (S3)		Depleted Redox De		, ,			vetland hydrology ınless disturbed o		
		1	Redux De	pression	5 (1 0)	-		iniess disturbed t	n problematic	•
	_ayer (if observed):									
Type: Depth (in	N/A		_				Hydric Soil Pre	sont?	Yes	No X
Remarks:			_				Tiyunc 3011 Te	Sent:	163	NO A
HYDROLO	oc.v									
_	drology Indicators:	:	d. ab a al. all 4b a4				0		/:	
	cators (minimum of or Water (A1)	ne is required	<u>a; cneck all that</u> Water-Sta		woo (PO)			ndary Indicators Surface Soil Cracl		wo requirea)
	ter Table (A2)		Aquatic F		` '			Drainage Patterns		
Saturatio			True Aqua		,			Dry-Season Wate		
Water Ma			Hydrogen)		Crayfish Burrows		
	t Deposits (B2)		Oxidized I					Saturation Visible		gery (C9)
	osits (B3)		Presence	of Redu	ced Iron ((C4)		Stunted or Stresse	ed Plants (D1))
Algal Ma	t or Crust (B4)		Recent Iro	n Reduc	tion in Ti	lled Soil	s (C6)	Geomorphic Posit	ion (D2)	
	osits (B5)		Thin Mucl	Surface	e (C7)		F	AC-Neutral Test	(D5)	
	on Visible on Aerial In		Gauge or	Well Dat	a (D9)					
Sparsely	Vegetated Concave	Surface (B8)	Other (Ex	plain in F	Remarks)					
Field Observ										
Surface Wate			No X		nches):					
Water Table		·	No X		nches): _				.,	N V
Saturation Pr		·	No X	Depth (i	nches):		Wetland Hydi	rology Present?	Yes	No X
(includes cap	corded Data (stream	nauna moni	toring well acris	al nhotos	nreviou	e ineneo	tions) if available	-		
Pescine Ket	Jordou Data (Stiedili	gaag e , mon	torning well, aelle	ai piiulus	, previous	o mopet	alonoj, ii avaliable	-		
Remarks:										

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project	Cit	y/County: Franklii	n	Sampling Date:	7/13/22	
Applicant/Owner: AEP			State: OH	Sampling Point:	SP03	3
Investigator(s): Charlie Allen	Sec	tion, Township, Ra	ange: N/A			
Landform (hillside, terrace, etc.): Depression		Local relief (concave, convex, none):	Concave		
Slope (%): 3 Lat: 40.012848	Lo	ong: <u>-83.123814</u>		Datum: WGS84		
Soil Map Unit Name: Kokomo silty clay loam, 0-2% slope	es		NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical for the site ty	this time of year?	Yes X	No (If no, exp	olain in Remarks.)		
Are Vegetation N , Soil N , or Hydrology N sig	-	·	Circumstances" present?		No	
Are Vegetation N , Soil N , or Hydrology N nat			plain any answers in Rei			
SUMMARY OF FINDINGS – Attach site map		,		,	atures, ef	tc.
Hydrophytic Vegetation Present? Yes X No		Is the Sampled A	rea			
Hydric Soil Present? Yes X No		within a Wetland		No		
Wetland Hydrology Present? Yes X No						
Remarks:						
Wetland 2 PEM						
VEGETATION – Use scientific names of plant						
	Absolute Domir % Cover Speci		Dominance Test wo	rksheet		
1.	70 COVCI CPCOI	otatus	Number of Dominant			
2.			Are OBL, FACW, or F	•	1 (A	١)
3.			Total Number of Dom	inant Species		
4			Across All Strata:	<u> </u>	1 (B	3)
5			Percent of Dominant	•		
	=Total C	Cover	Are OBL, FACW, or F	:AC: 1	00.0% (A	√B)
Sapling/Shrub Stratum (Plot size: 15)			Blana la la la			
1			Prevalence Index wo Total % Cover of		ly by:	
			OBL species	x 1 =	y Dy.	
4.			FACW species	x 2 =		
5.			FAC species	x 3 =		
	=Total C	Cover	FACU species	x 4 =		
Herb Stratum (Plot size: 5)			UPL species	x 5 =		
Typha angustifolia	80 Ye	s OBL	Column Totals:	(A)	(B	3)
2			Prevalence Index	= B/A =		
3			Hudranbudia Vanatat	ian Indiantana		
4 5.			Hydrophytic Vegetat		station	
6.			X 1 - Rapid Test for X 2 - Dominance Te		lation	
7.			3 - Prevalence Inc			
8.				Adaptations ¹ (Pro	vide suppo	rting
9.			data in Remark	ks or on a separate	e sheet)	Ū
10			Problematic Hydr	ophytic Vegetation	າ ¹ (Explain)	
_	80 =Total C	Cover	¹ Indicators of hydric s			ıst
Woody Vine Stratum (Plot size: 15)			be present, unless dis	turbed or problem	atic.	
1			Hydrophytic			
2	Total C	`ovor	Vegetation	V Na		
	=Total C	ovei	Present? Yes	<u>X</u> No		
Remarks: (Include photo numbers here or on a separate 20% bare ground	e sheet.)					
2070 Salo ground						

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SOIL Sampling Point: SP03

	ription: (Describe t	o the depth				ator or c	confirm the a	bsence of ind	icators.)	
Depth	Matrix			x Featur		. 2				
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Textu	re	Remarks	
0-20	10YR 4/2	75	10YR 5/8	25	С	M	Loamy/C	layey		
	oncentration, D=Deple	etion, RM=R	educed Matrix, I	MS=Masl	ked Sand	d Grains			Pore Lining, M=Mat	
Hydric Soil I					. (0.1)				Problematic Hydric	c Soils":
Histosol (Sandy Gle	-	rix (S4)		-		rie Redox (A16)	
	ipedon (A2)		Sandy Re	. ,			-		anese Masses (F12))
Black His	` '		Stripped N		5)		-		t Material (F21)	20)
	Sulfide (A4)		Dark Surfa		rol (Γ1)		-		ow Dark Surface (F2	22)
2 cm Mu	Layers (A5)		Loamy Mu	-			-	Other (Exp	lain in Remarks)	
	Below Dark Surface	(Δ11)	X Depleted	-						
· ·	rk Surface (A12)	(////)	Redox Da	•	•		;	3Indicators of h	ydrophytic vegetatic	n and
	ucky Mineral (S1)		Depleted		` '				drology must be pre	
	cky Peat or Peat (S3)		Redox De		, ,			-	urbed or problemati	
				p	- ()					
Type:	.ayer (if observed): N/A									
Depth (in			_				Hydric Soi	l Present?	Yes	No
Remarks:			_				,			
HYDROLO	GY									
	Irology Indicators:									
_	ators (minimum of or	ne is require	d: check all that	apply)				Secondary Indi	cators (minimum of	two required)
	Nater (A1)	io io roquiro	Water-Sta		ves (B9)				oil Cracks (B6)	two roquirou _j
	ter Table (A2)		Aquatic F		` '		-		atterns (B10)	
X Saturatio	, ,		True Aqua				-		n Water Table (C2)	
Water Ma	arks (B1)		Hydrogen	Sulfide C	Odor (C1))	-	Crayfish Bu		
Sedimen	t Deposits (B2)		Oxidized I	Rhizosph	eres on l	_iving Ro	oots (C3)	Saturation	Visible on Aerial Im-	agery (C9)
Drift Dep	osits (B3)		Presence	of Reduc	ed Iron ((C4)	-	Stunted or	Stressed Plants (D	1)
Algal Ma	t or Crust (B4)		Recent Iro	on Reduc	tion in Ti	lled Soil	ls (C6)	Geomorphi	ic Position (D2)	
Iron Depo			Thin Mucl				-	FAC-Neutra	al Test (D5)	
	n Visible on Aerial In	0, , ,	Gauge or		, ,					
	Vegetated Concave	Surface (B8)	Other (Ex	plain in R	emarks)					
Field Observ				5						
Surface Water			No X	Depth (i	_					
Water Table		<u> </u>	No X		nches):		\A/ -4! !	Lively of a second	nonto Voi	N-
Saturation Pr		s <u>X</u>	No	Depth (II	nches):	5	wetiand	Hydrology Pre	esent? Yes X	_ No
(includes cap	oillary fringe) corded Data (stream	naline moni	toring well acris	al nhotos	nrevious	e ineneo	tions) if avai	lahle:		
Pescine Ke(orucu Dala (Slitalii	gauge, mon	torning well, aella	ai priotos	, previou:	s mopec	nionoj, ii aval	iasit.		
Remarks:										

US Army Corps of Engineers

Midwest Region – Version 2.0

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cou	ınty: Franklir	1	Sampling Da	ite: 7/13	/22
Applicant/Owner: AEP				State: OH	Sampling Poi	int: S	SP04
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section, 7	Γownship, Ra	nge: N/A			
Landform (hillside, terrace, etc.): Terrace			Local relief (d	concave, convex, none):	None		
Slope (%): 0 Lat: 40.01291		Long:	83.123815		Datum: WGS8	4	
Soil Map Unit Name: Kokomo silty clay loam, 0-2% slop	oes			NWI classit	fication: N/A		
Are climatic / hydrologic conditions on the site typical fo	or this time o	f year?	Yes X	No (If no, exp	olain in Remark	s.)	
Are Vegetation N , Soil N , or Hydrology N s	ignificantly o	listurbed? /	Are "Normal C	Circumstances" present?	Yes X	No	
Are Vegetation N , Soil N , or Hydrology N n	aturally prob	olematic? ((If needed, ex	plain any answers in Rer	marks.)		_
SUMMARY OF FINDINGS – Attach site ma			g point lo	cations, transects,	important f	eatures	, etc.
Hydrophytic Vegetation Present? Yes No	Х	Is the	Sampled A	rea			
Hydric Soil Present? Yes No	X		n a Wetlandî		No X		
Wetland Hydrology Present? Yes No	X						
Remarks:		<u>-</u>					
Wetland 2 Upland Point							
VEGETATION – Use scientific names of plan	nts.						
Tree Charters (Plat size, 20	Absolute	Dominant	Indicator	Daminana Taat wa	deals a ste		
Tree Stratum (Plot size: 30) 1.	% Cover	Species?	Status	Dominance Test work Number of Dominant			
2.				Are OBL, FACW, or F	•	1	(A)
3.				Total Number of Dom	inant Species		- `'
4.				Across All Strata:	· _	3	(B)
5				Percent of Dominant	•		
(5)		=Total Cover		Are OBL, FACW, or F	AC: _	33.3%	_(A/B)
Sapling/Shrub Stratum (Plot size: 15) 1.				Prevalence Index wo	rkshoot		
				Total % Cover of		Itiply by:	
3.				OBL species 0		0	_
4.				FACW species 0	x 2 =	0	_
5.				FAC species 4	0 x 3 =	120	_
_		=Total Cover		FACU species 8	0 x 4 =	320	_
Herb Stratum (Plot size: 5)				UPL species		0	
1. Erigeron annuus	15	No	FACU	Column Totals: 12	.0 (A)	440	(B)
2. Melilotus officinalis	10	No	FACU	Prevalence Index	= B/A =	3.67	_
3. Cichorium intybus	10	No	FACU				
4. Plantago lanceolata	20	Yes	FACU	Hydrophytic Vegetat			
5. Festuca rubra		Yes	FACU	1 - Rapid Test for		egetation	
Oenothera parviflora Poa pratensis	<u>5</u> 40	No Voc	FACU FAC	2 - Dominance Te 3 - Prevalence Ind			
	40	Yes	FAC	4 - Morphological		Provide cu	nnorting
9.				data in Remark			
10.				Problematic Hydro		,	•
	120 =	=Total Cover		¹ Indicators of hydric s	-		
Woody Vine Stratum (Plot size: 15)				be present, unless dis			
1				Hydrophytic			
2				Vegetation			
		=Total Cover		Present? Yes	No	<u>X</u>	
Remarks: (Include photo numbers here or on a separa	ate sheet.)						

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SOIL Sampling Point: SP04

	ription: (Describe t	o the depth				ator or o	confirm the a	bsence of ind	icators.)	
Depth	Matrix			x Featur		. 2	_			
(inches)	Color (moist)		Color (moist)	%	Type ¹	Loc ²	Textu		Remarks	
0-8	10YR 4/3	100					Loamy/C	layey	Fill	
							-			
	ncentration, D=Depl	etion, RM=Re	educed Matrix, I	MS=Mas	ked Sand	d Grains			Pore Lining, M=Mat	
Hydric Soil I							l		Problematic Hydric	: Soils ³ :
Histosol (Sandy Gle	-			-		rie Redox (A16)	
	pedon (A2)		Sandy Re	, ,			_		anese Masses (F12)	
Black His	` '		Stripped N		5)		_		t Material (F21)	
	Sulfide (A4)		Dark Surfa		. (54)		-		ow Dark Surface (F2	2)
	Layers (A5)		Loamy Mu	-			-	Other (Exp	lain in Remarks)	
2 cm Mud	, ,	(044)	Loamy Gl	-						
	Below Dark Surface	(A11)	Depleted	,	,		3	31	do a a la cella con a carta lla	
	rk Surface (A12)		Redox Da		` '				ydrophytic vegetatio	
	ucky Mineral (S1) cky Peat or Peat (S3		Depleted Redox De		. ,			-	drology must be pre- urbed or problemation	
	, ,		Redux De	pression	5 (1 0)	-		uniess dist	urbed or problematic	,.
	.ayer (if observed):									
Type:	Road fill		=				Ukadaia Cail	I D	Vaa	Na V
Depth (in	cnes):	8	-				Hydric Soi	Present?	Yes	NoX
HYDROLO	GY									
Wetland Hyd	Irology Indicators:									
_	ators (minimum of or	ne is required	l; check all that	apply)			<u>;</u>	Secondary Indi	cators (minimum of	two required)
Surface V	Vater (A1)		Water-Sta	ined Lea	ives (B9)		_	Surface Sc	oil Cracks (B6)	
High Wat	er Table (A2)		Aquatic Fa	auna (B1	3)		_	Drainage F	Patterns (B10)	
Saturatio	n (A3)		True Aqua	atic Plant	s (B14)		_	Dry-Seaso	n Water Table (C2)	
Water Ma	arks (B1)		Hydrogen	Sulfide (Odor (C1))	_	Crayfish Bu	urrows (C8)	
Sediment	t Deposits (B2)		Oxidized F	Rhizosph	eres on l	_iving R	oots (C3)	Saturation	Visible on Aerial Ima	agery (C9)
Drift Depo			Presence			,	_		Stressed Plants (D1)
	or Crust (B4)		Recent Iro			lled Soil	s (C6)		ic Position (D2)	
Iron Depo	. ,		Thin Muck				-	FAC-Neutr	al Test (D5)	
	n Visible on Aerial In		Gauge or		, ,					
<u> </u>	Vegetated Concave	Surface (B8)	Other (Ex	plain in R	(emarks)					
Field Observ			N. V	D 11 (1						
Surface Water			No X		nches): _					
Water Table		<u> </u>	No X		nches): _		Watland	Ulanda al a ma Dua		No. V
Saturation Pr		·	No X	Depth (I	nches):		wetiand	Hydrology Pre	esent? Yes	NoX
(includes cap	orded Data (stream	nauge monit	oring well poris	al nhotos	nreviou	e inenaa	tions) if avail	lahle:		
Pescine Kec	oraea Data (Stiediii	gauge, mom	omig wen, aella	ii priotos	, previou:	s mopec	nionoj, ii avali	ault.		
Remarks:										

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cou	nty: Franklir	า	Sampling Date	e: <u>7/13/22</u>	
Applicant/Owner: AEP				State: OH	Sampling Poin	t: SP05	
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section, T	ownship, Ra	nge: N/A	•		
Landform (hillside, terrace, etc.): Depression		!	Local relief (d	concave, convex, none):	Concave		
Slope (%): 1 Lat: 40.012927		Long: -	83.12357		Datum: WGS84		
Soil Map Unit Name: Kokomo silty clay loam, 0-2% sk	opes			NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical f	for this time of	f year?	Yes X	No (If no, ex	plain in Remarks.)	
Are Vegetation N , Soil N , or Hydrology N	significantly d	listurbed? A	re "Normal (Circumstances" present?	Yes X	No	
Are Vegetation N , Soil N , or Hydrology N	naturally prob	lematic? (If needed, ex	plain any answers in Re	marks.)		
SUMMARY OF FINDINGS – Attach site m	ap showin	g samplin	g point lo	cations, transects	, important fe	atures, etc	C.
Hydric Soil Present? Yes X N	o		Sampled A		. No		
Remarks: Wetland 3 PEM		•					
VEGETATION – Use scientific names of pla							
<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wo	rksheet:		
1			Otatas	Number of Dominant Are OBL, FACW, or I	Species That	2 (A)	
3. 4.				Total Number of Dom Across All Strata:		2 (B)	
5.				Percent of Dominant	Species That	```	
Sapling/Shrub Stratum (Plot size: 15	=	=Total Cover		Are OBL, FACW, or I	=AC:	100.0% (A/	B)
1.	<u> </u>			Prevalence Index w	orksheet:		
2.				Total % Cover o		oly by:	
3.				OBL species	x 1 =		
4.				FACW species	x 2 =		
5		Total Cover		FACILIANS EACILIANS	x 3 =		
Herb Stratum (Plot size: 5)		=Total Cover		FACU species UPL species	x 4 = x 5 =		
1. Typha angustifolia	40	Yes	OBL	Column Totals:	(A)	(B)	
2. Eleocharis acicularis 3.	50	Yes	OBL	Prevalence Index		(D)	
4.				Hydrophytic Vegeta	tion Indicators:		
5.				X 1 - Rapid Test for		etation	
6.				X 2 - Dominance To	est is >50%		
7.				3 - Prevalence In	dex is ≤3.0 ¹		
8				4 - Morphological			ing
9					ks or on a separa	,	
10				Problematic Hydi			
Woody Vine Stratum (Plot size: 15) 90 =	=Total Cover		¹ Indicators of hydric s be present, unless dis		, ,,	ıt
1.				Hydrophytic			
2		=Total Cover		Vegetation Present? Yes	X No		
Describe (Inches L. C.		- i Utal CUVE		Lieselli, 162	XNo		
Remarks: (Include photo numbers here or on a sepa 10% bare ground	iiate sneet.)						

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SOIL Sampling Point: SP05

Profile Desc	cription: (Describe	to the depth				ator or c	onfirm the abser	nce of indicators	i.)	
Depth	Matrix		Redo	x Featur						
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture		Remarks	
0-12	10YR 4/1	93	10YR 6/6	7	С	M	Loamy/Clayey	у		
							-			
								<u> </u>		
	oncentration, D=Depl	etion, RM=R	educed Matrix, I	MS=Masl	ked Sand	d Grains		ation: PL=Pore Li		
Hydric Soil			0 1 01		. (0.1)			cators for Proble	-	Soils":
— Histosol	` '		Sandy Gle	-	rix (S4)			Coast Prairie Red		
	oipedon (A2)		Sandy Re	, ,	• \			ron-Manganese M		
	stic (A3) n Sulfide (A4)		Stripped N Dark Surfa	•))			Red Parent Materi /ery Shallow Dark	. ,) \
	d Layers (A5)		Loamy Mu	, ,	aral (E1)			Other (Explain in F		-)
	ick (A10)		Loamy Gle	-			`	otilei (Explaiii iii i	(ciliaiks)	
	d Below Dark Surface	(A11)	X Depleted I	-						
· ·	ark Surface (A12)	(,,,,	Redox Da				³ India	cators of hydrophy	vtic vegetation	and
	lucky Mineral (S1)		Depleted I		` '			wetland hydrology		
	icky Peat or Peat (S3)	Redox De					unless disturbed o		
Restrictive	Layer (if observed):	,			. ,				•	
Type:	Roadway	Fill								
Depth (ii	•	12	=				Hydric Soil Pre	sent?	Yes	No
Remarks:	,		_				-			
Remarks.										
HYDROLO)GY									
Wetland Hy	drology Indicators:									
-	cators (minimum of o	ne is required	l; check all that	apply)			Seco	ondary Indicators ((minimum of t	wo required)
Surface	Water (A1)		Water-Sta	ined Lea	ves (B9)			Surface Soil Crack	ks (B6)	
High Wa	iter Table (A2)		Aquatic Fa	auna (B1	3)			Orainage Patterns	(B10)	
Saturation	, ,		True Aqua	atic Plant	s (B14)			Ory-Season Water	r Table (C2)	
Water M	larks (B1)		Hydrogen	Sulfide C	Odor (C1))		Crayfish Burrows (
	nt Deposits (B2)		Oxidized F			_	` ′	Saturation Visible		. , ,
	posits (B3)		Presence			,		Stunted or Stresse		
	at or Crust (B4)		Recent Iro			lled Soil	` ′	Geomorphic Posit		
	oosits (B5)		Thin Muck				<u>X</u> F	FAC-Neutral Test	(D5)	
	on Visible on Aerial Ir	0 , , ,	Gauge or		, ,					
	Vegetated Concave	Surrace (B8)	Other (Exp	piain in R	emarks)		T			
Field Obser		_	NI- V	Daniel C	\					
Surface Wat			No X	Depth (ii	· -					
Water Table			No X	Depth (in	_		Wetlend Use	releas Dresent?	Vac V	No
Saturation P		<u> </u>	No X	Depth (in	iches).		welland riyul	rology Present?	Yes X	No
	pillary fringe) corded Data (stream	dalide moni	oring well serie	al nhotos	nrevious	s inspec	tions) if available			
Pegeline Ve	oorded Data (Streath	gaage, mom	omig wen, aend	ai pilotos	picviou	o mopet	aonoj, ii avaliable	•		
Remarks:										

WETLAND DETERMINATION DATA FORM - Midwest Region

Landform (hillside, terrace, etc.): Depression Slope (%): 2 Lat: 40.0129 Lo Soil Map Unit Name: Kokomo silty clay loam, 0-2% slopes Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation N, Soil N, or Hydrology N significantly disturbed Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X	ad? Are "Normal Circumstances" present? Yes X No
Landform (hillside, terrace, etc.): Depression Slope (%): 2 Lat: 40.0129 Loc Soil Map Unit Name: Kokomo silty clay loam, 0-2% slopes Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation N, Soil N, or Hydrology N significantly disturbed Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Dominical Soil Presents (August 1988) And August 1988 (August 1	Local relief (concave, convex, none): Concave Long: -83.123589 Datum: WGS84 NWI classification: N/A Yes X No (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes X No C? (If needed, explain any answers in Remarks.) Inpling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No X
Slope (%):2	
Soil Map Unit Name: Kokomo silty clay loam, 0-2% slopes Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation N, Soil N, or Hydrology N significantly disturbed Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Doministry	NWI classification: N/A Yes X No (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Inpling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No X In Indicator
Are climatic / hydrologic conditions on the site typical for this time of year? Are Vegetation N, Soil N, or Hydrology N significantly disturbed Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	Yes X No (If no, explain in Remarks.) Are "Normal Circumstances" present? Yes X No (If needed, explain any answers in Remarks.) Inpling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No X
Are Vegetation N, Soil N, or Hydrology N significantly disturbed Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Doministry	ad? Are "Normal Circumstances" present? Yes X No C: (If needed, explain any answers in Remarks.) Impling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes No X
Are Vegetation N, Soil N, or Hydrology N naturally problematic? SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	c? (If needed, explain any answers in Remarks.) mpling point locations, transects, important features, etc. Is the Sampled Area within a Wetland? Yes NoX inant Indicator
SUMMARY OF FINDINGS – Attach site map showing same Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Wetland Hydrology Present? Yes No X Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Doministry	Is the Sampled Area within a Wetland? Yes No _X_
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	Is the Sampled Area within a Wetland? Yes No _X inant Indicator
Hydric Soil Present? Wetland Hydrology Present? Remarks: Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	within a Wetland? Yes No _X inant Indicator
Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X Remarks: Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	within a Wetland? Yes No _X inant Indicator
Remarks: Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	inant Indicator
Wetland 3 Upland Point VEGETATION – Use scientific names of plants. Absolute Domin	
VEGETATION – Use scientific names of plants. Absolute Domin	
Absolute Domin	
Absolute Domin	
1.	Number of Dominant Species That
2.	Are OBL, FACW, or FAC:1(A)
3	Total Number of Dominant Species
4	Across All Strata: 2 (B)
=Total C	Percent of Dominant Species That Cover Are OBL, FACW, or FAC: 50.0% (A/B)
Sapling/Shrub Stratum (Plot size: 15)	(,
1	Prevalence Index worksheet:
2.	Total % Cover of: Multiply by:
3	OBL species 0 x 1 = 0
4	FACW species 15 x 2 = 30
5=Total C	FAC species 60 x 3 = 180 Cover FACU species 25 x 4 = 100
Herb Stratum (Plot size: 5)	Cover FACU species 25 x 4 = 100 UPL species 0 x 5 = 0
1. Poa pratensis 60 Yes	
2. Cornus alba 15 No	
3. Cirsium arvense 5 No	o FACU
4. Oenothera parviflora 20 Yes	es FACU Hydrophytic Vegetation Indicators:
5	1 - Rapid Test for Hydrophytic Vegetation
6	2 - Dominance Test is >50%
7	3 - Prevalence Index is ≤3.0¹
8	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
9	Problematic Hydrophytic Vegetation ¹ (Explain)
100 =Total C	
Woody Vine Stratum (Plot size: 15)	be present, unless disturbed or problematic.
1.	Hydrophytic
2.	Vegetation
=Total C	Cover Present? Yes No X

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SOIL Sampling Point: SP06

Profile Description: (Describe to the depth				tor or c	confirm the absence	of indicators.)
Depth Matrix		x Featur		. 2	_	
(inches) Color (moist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-6 10YR 4/3 100					Loamy/Clayey	Roadway fill
						
¹ Type: C=Concentration, D=Depletion, RM=R	educed Matrix, M	1S=Mas	ked Sand	l Grains		: PL=Pore Lining, M=Matrix.
Hydric Soil Indicators:						rs for Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gle					st Prairie Redox (A16)
Histic Epipedon (A2)	Sandy Red	. ,				Manganese Masses (F12)
Black Histic (A3)	Stripped M		5)			Parent Material (F21)
Hydrogen Sulfide (A4)	Dark Surfa		oral (F1)			Shallow Dark Surface (F22)
Stratified Layers (A5) 2 cm Muck (A10)	Loamy Mu	-			Othe	r (Explain in Remarks)
Depleted Below Dark Surface (A11)	Depleted N	-				
Thick Dark Surface (A12)	Redox Dar	`	,		³ Indicator	rs of hydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted D		` '			and hydrology must be present,
5 cm Mucky Peat or Peat (S3)	Redox Dep					ss disturbed or problematic.
Restrictive Layer (if observed):			- ()			
Type: Compression/roadway fill						
Depth (inches): 6	_				Hydric Soil Present	t? Yes No X
. , ,	_				11,4110 0011 1 100011	
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one is required	d; check all that a	apply)			Seconda	ry Indicators (minimum of two required)
Surface Water (A1)	Water-Stai	ned Lea	ives (B9)		Surfa	ace Soil Cracks (B6)
High Water Table (A2)	Aquatic Fa	una (B1	3)			nage Patterns (B10)
Saturation (A3)	True Aqua	tic Plant	s (B14)		Dry-S	Season Water Table (C2)
Water Marks (B1)	Hydrogen S	Sulfide (Odor (C1))	Cray	fish Burrows (C8)
Sediment Deposits (B2)	Oxidized R	•		•	` ′	ration Visible on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of		`	,		ted or Stressed Plants (D1)
Algal Mat or Crust (B4)	Recent Iro			lled Soil		norphic Position (D2)
Iron Deposits (B5)	Thin Muck				FAC-	-Neutral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Gauge or V		` '			
Sparsely Vegetated Concave Surface (B8)	Other (Exp	iain in F	(emarks		T	
Field Observations:	N. V	D // ()				
Surface Water Present? Yes			nches): _			
Water Table Present? Yes			nches): _		Watland I hidnala	
Saturation Present? Yes	No X	⊃eptn (I	nches):		Wetland Hydrolog	gy Present? Yes No X
(includes capillary fringe) Describe Recorded Data (stream gauge, moni	toring well agric	l nhotos	nreviou	s inenco	tions) if available:	
Describe Necorded Data (Stream gauge, mon	tornig well, aella	i priotos	, previous	, mapec	alons), ii avallable.	
Remarks:						

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Midwest Region – Version 2.0

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cou	nty: Franklir	<u>1</u>	Sampling Date	e: <u>7/13/</u>	/22
Applicant/Owner: AEP				State: OH	Sampling Poir	nt: <u>S</u>	P07
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section, 1	Township, Ra	nge: N/A			
Landform (hillside, terrace, etc.): Depression			Local relief (d	concave, convex, none):	Concave		
Slope (%): 1 Lat: 40.011398		Long:	83.120387		Datum: WGS84	ļ	
Soil Map Unit Name: Kokomo silty clay loam, 0-2% sk	opes			NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical f	for this time o	of year?	Yes X	No (If no, exp	olain in Remarks	.)	
Are Vegetation N , Soil N , or Hydrology N	significantly	disturbed? A	Are "Normal (Circumstances" present?			
Are Vegetation N , Soil N , or Hydrology N	naturally prol	blematic? (If needed, ex	plain any answers in Rei	marks.)		_
SUMMARY OF FINDINGS – Attach site m			g point lo	cations, transects,	important fe	atures	, etc.
Hydrophytic Vegetation Present? Yes X N	o	Is the	Sampled A	rea			
	0		n a Wetland		No		
	0						
Remarks:		•					
Wetland 4 PEM							
VEGETATION – Use scientific names of pla				_			
<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test wor	rksheet:		
1.	70 0010.	ороско:		Number of Dominant			
2.				Are OBL, FACW, or F	•	2	(A)
3				Total Number of Dom	inant Species		
4				Across All Strata:	_	2	_(B)
5		Total Cavar		Percent of Dominant	•	100.00/	(A /D)
Sapling/Shrub Stratum (Plot size: 15	,——	=Total Cover		Are OBL, FACW, or F		100.0%	– ^(A/B)
1.	,			Prevalence Index wo			
2.				Total % Cover of		iply by:	
3.				OBL species	x 1 =	<u>, , , , , , , , , , , , , , , , , , , </u>	_
4.				FACW species	x 2 =		_
5				FAC species	x 3 =		_
		=Total Cover		FACU species	x 4 =		_
Herb Stratum (Plot size: 5)				UPL species	x 5 =		-
1. Typha angustifolia	50	Yes	OBL	Column Totals:			_(B)
2. Carex vulpinoidea	10	No No	FACW	Prevalence Index	= B/A =		-
Scirpus atrocinctus Juncus effusus	15 25	No Yes	OBL OBL	Hydrophytic Vegetat	ion Indicators:		
_		103	ODL	X 1 - Rapid Test for			
5 6.				X 2 - Dominance Te		gotation	
7.				3 - Prevalence Inc			
8.				4 - Morphological		rovide sur	pporting
9.				data in Remark	ks or on a separa	ate sheet)	
10				Problematic Hydr	ophytic Vegetati	on¹ (Expla	ain)
		=Total Cover		¹ Indicators of hydric s			must
Woody Vine Stratum (Plot size:)			be present, unless dis	turbed or proble	matic.	
1.				Hydrophytic			
2		=Total Cover		Vegetation Present? Yes	Y No		
Describe (herbide la		- i Ulai GUVEI		Present? Yes	X No_		
Remarks: (Include photo numbers here or on a sepa	rate sneet.)						

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SOIL Sampling Point: SP07

	ription: (Describe t	o the depth				tor or o	confirm the	absence of	f indicators.)	_	
Depth	Matrix			x Featur							
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Tex	ture	R	emarks	
0-5	10YR 3/2	95	10YR 5/6	3	С	M	Loamy/	/Clayey			
			10YR 5/6	2	С	PL					
5-20	10YR 3/2	93	10YR 5/6	7	С	M	Loamy/	/Clayey			
1 _{Type:} C-C	oncentration, D=Deple	otion DM_B	Paduaad Matrix I		Lod Cond	Croins		² l continu	PL=Pore Lining	NA_Motri	<u> </u>
Hydric Soil		elion, Kivi=K	teduced Matrix, i	vio=iviasi	keu Sanc	Giailis	o		for Problemati		•
Histosol			Sandy Gle	eved Mati	rix (S4)				Prairie Redox (A	-	
	ipedon (A2)		Sandy Re		(- ')				anganese Masse		
Black His			Stripped N		5)				arent Material (F		
Hydroge	n Sulfide (A4)		Dark Surfa	ace (S7)	,				hallow Dark Sur	,	2)
Stratified	Layers (A5)		Loamy Mu	icky Mine	eral (F1)			Other ((Explain in Rema	arks)	
2 cm Mu	ck (A10)		Loamy Gl	eyed Mat	rix (F2)						
Depleted	Below Dark Surface	(A11)	Depleted	Matrix (F	3)						
Thick Da	rk Surface (A12)		X Redox Da	rk Surfac	e (F6)			³ Indicators	of hydrophytic v	egetation	and
	ucky Mineral (S1)		Depleted		, ,			wetland	d hydrology mus	t be pres	ent,
5 cm Mu	cky Peat or Peat (S3))	Redox De	pressions	s (F8)			unless	disturbed or pro	blematic.	
Restrictive I	_ayer (if observed):										
Type:	N/A		_								
Depth (in	nches):		_				Hydric So	oil Present?	Ye	es	No
Remarks:											
HYDROLO	GY										
Wetland Hyd	drology Indicators:										
_	cators (minimum of or	ne is require	d; check all that	apply)				Secondary	Indicators (mini	mum of tv	wo required)
Surface '	Water (A1)		Water-Sta	ined Lea	ves (B9)			Surfac	e Soil Cracks (B	6)	
High Wa	ter Table (A2)		Aquatic Fa	auna (B1	3)			Draina	ge Patterns (B10	0)	
Saturation	on (A3)		True Aqua	atic Plant	s (B14)			Dry-Se	eason Water Tab	ole (C2)	
Water M	arks (B1)		Hydrogen	Sulfide C	Odor (C1))			sh Burrows (C8)		
	t Deposits (B2)		X Oxidized F			-	oots (C3)		tion Visible on A		
	osits (B3)		Presence						d or Stressed Pl		
	t or Crust (B4)		Recent Iro			lled Soi	ls (C6)		orphic Position (I		
	osits (B5)	(DZ)	Thin Muck		` '			FAC-N	leutral Test (D5)		
	on Visible on Aerial In Vegetated Concave	0 , , ,	Gauge or Other (Ex								
		Surface (Do	Other (EX	Jiaiii iii N	emarks)						
Field Obsert Surface Wat			No. Y	Donth (i	nchoc):						
Water Table			No X No X	Depth (in	nches):						
Saturation P			No X	Depth (ii	_		Wetland	d Hydrology	/ Present? Y	es X	No
(includes cap			<u> </u>	Dopui (ii			Tromain.	u,u. 0.0g,	, 110001111	<u>~</u>	
,	corded Data (stream	gauge, mon	itoring well, aeria	al photos	, previous	s inspec	ctions), if ava	ailable:			
Remarks:											

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Robert-Hayden Line Extension Project		City/Cou	ınty: Franklir	<u>1</u>	Sampling Date	te: <u>7/13</u>	/22
Applicant/Owner: AEP				State: OH	Sampling Poi	nt: S	SP08
Investigator(s): Charlie Allen, Samantha Heitzenrater		Section,	Γownship, Ra	nge: N/A			
Landform (hillside, terrace, etc.): Terrace			Local relief (d	concave, convex, none):	None		
Slope (%): 0 Lat: 40.01139		Long:	83.120287		Datum: WGS84	4	
Soil Map Unit Name: Kokomo silty clay loam, 0-2% slo	pes			NWI classi	fication: N/A		
Are climatic / hydrologic conditions on the site typical for	or this time o	f year?	Yes X	No (If no, exp	olain in Remarks	s.)	
Are Vegetation N , Soil N , or Hydrology N :	significantly o	listurbed? /	Are "Normal C	Circumstances" present?	Yes X	No	
Are Vegetation N , Soil N , or Hydrology N	naturally prob	olematic? ((If needed, ex	plain any answers in Rei	marks.)		_
SUMMARY OF FINDINGS – Attach site ma			g point lo	cations, transects,	important f	eatures	, etc.
Hydrophytic Vegetation Present? Yes No	. X	Is the	Sampled A	rea			
Hydric Soil Present? Yes No	\overline{X}		n a Wetlandî		No X		
Wetland Hydrology Present? Yes No	X						
Remarks:		<u>-</u>					
Wetland 4 Upland Point							
VEGETATION – Use scientific names of pla	nts.						
Trac Stratum (Diet size: 20	Absolute	Dominant	Indicator	Deminence Test was	ulcohoot.		
Tree Stratum (Plot size: 30) 1.	% Cover	Species?	Status	Dominance Test work Number of Dominant			
2.				Are OBL, FACW, or F		1	(A)
3.				Total Number of Dom	inant Species		- ` ′
4				Across All Strata:	· _	2	(B)
5				Percent of Dominant	•	50.00/	(A (D)
Sapling/Shrub Stratum (Plot size: 15		=Total Cover		Are OBL, FACW, or F	AC:	50.0%	_ (A/B)
1.	,			Prevalence Index wo	rksheet:		
2.				Total % Cover of		tiply by:	
3.				OBL species 0	x 1 =	0	_
4				FACW species 0		0	_
5				FAC species 3		90	_
	:	=Total Cover		FACU species 7		300	_
Herb Stratum (Plot size: 5	4-		E4.011	UPL species 0		0	- (D)
1. Oenothera parviflora	15	No No	FACU	Column Totals: 10		390	_ (B)
2. Festuca rubra	40	Yes	FACU	Prevalence Index	= B/A =	3.71	_
Cornus alba Cirsium arvense	<u>5</u> 15	No No	FACU FACU	Hydrophytic Vegetat	ion Indicators		
5. Poa pratensis	30	Yes	FAC	1 - Rapid Test for			
		163	TAC	2 - Dominance Te		getation	
6. 7.				3 - Prevalence Inc			
8.				4 - Morphological		Provide su	pportina
9.				·	s or on a separ		
10.				Problematic Hydr	ophytic Vegetat	ion¹ (Expl	ain)
	105 :	=Total Cover		¹ Indicators of hydric s	oil and wetland	hydrology	must
Woody Vine Stratum (Plot size:				be present, unless dis	turbed or proble	ematic.	
1				Hydrophytic			
2				Vegetation			
		=Total Cover		Present? Yes	No_	<u>X</u>	
Remarks: (Include photo numbers here or on a separ	rate sheet.)						

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SOIL Sampling Point: SP08

Profile Description: (Describe to the depth				tor or c	onfirm the absence of inc	licators.)
Depth Matrix		x Featu		. 2		
(inches) Color (moist) %	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-12 10YR 4/1 100					Loamy/Clayey	
¹ Type: C=Concentration, D=Depletion, RM=R	educed Matrix, N	1S=Mas	ked Sand	Grains.		=Pore Lining, M=Matrix.
Hydric Soil Indicators:					Indicators for	Problematic Hydric Soils ³ :
Histosol (A1)	Sandy Gle	yed Mat	rix (S4)		Coast Prai	rie Redox (A16)
Histic Epipedon (A2)	Sandy Red	. ,			Iron-Manga	anese Masses (F12)
Black Histic (A3)	Stripped M		3)			t Material (F21)
Hydrogen Sulfide (A4)	Dark Surfa					ow Dark Surface (F22)
Stratified Layers (A5)	Loamy Mu	-			Other (Exp	olain in Remarks)
2 cm Muck (A10)	Loamy Gle	-				
Depleted Below Dark Surface (A11)	Depleted N	`	,		0	
Thick Dark Surface (A12)	Redox Dar		` '			ydrophytic vegetation and
Sandy Mucky Mineral (S1)	Depleted D		, ,		-	drology must be present,
5 cm Mucky Peat or Peat (S3)	Redox Dep	ression	s (F8)		unless dist	turbed or problematic.
Restrictive Layer (if observed):						
Type: Rock	_					
Depth (inches): 12	_				Hydric Soil Present?	Yes No_X_
Remarks:						
HYDROLOGY						
Wetland Hydrology Indicators:						
Primary Indicators (minimum of one is required			/ - - \			icators (minimum of two required)
Surface Water (A1)	Water-Stai		` '			oil Cracks (B6)
High Water Table (A2)	Aquatic Fa	•	•			Patterns (B10)
Saturation (A3)	True Aqua				· <u></u> -	n Water Table (C2)
Water Marks (B1)	Hydrogen :					urrows (C8)
Sediment Deposits (B2)	Oxidized R Presence of	•		•	` '	Visible on Aerial Imagery (C9)
Drift Deposits (B3) Algal Mat or Crust (B4)	Recent Iron		`	,		Stressed Plants (D1) iic Position (D2)
Iron Deposits (B5)	Thin Muck			ileu Soii		ral Test (D5)
Inundation Visible on Aerial Imagery (B7)	Gauge or \				I AO-Neuti	ai rest (D3)
Sparsely Vegetated Concave Surface (B8)			` '			
Field Observations:			tomanto,		T	
Surface Water Present? Yes	No X	Denth (i	nches):			
			nches):			
			nches):		Wetland Hydrology Pro	esent? Yes No X
Water Table Present? Yes Saturation Present? Yes	No X					
Saturation Present? Yes	No X	Doptii (i			Welland Hydrology 1 10	
Saturation Present? Yes (includes capillary fringe)			_			
Saturation Present? Yes			_			
Saturation Present? Yes (includes capillary fringe)			_			
Saturation Present? Yes (includes capillary fringe) Describe Recorded Data (stream gauge, moni			_			

US Army Corps of Engineers

Midwest Region – Version 2.0



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site:	Roberts-Ha	ayden Line Extension	n Project				Stantec Project #:	193710351		Date:	04/12/23
Applicant:		Transmission Compa					Otanico i roject #.	1007 10001		County:	Franklin
Investigator #1:			,	Invest	igator #2:	Matt De	nzler			State:	Ohio
Soil Unit:	Ko - Kokomo	silty clay loam, 0-2% slop	oes			١	IWI/WWI Classification	n: N/A		Wetland ID:	Wetland 5
Landform:	Depression	n e e e e e e e e e e e e e e e e e e e		Loc	cal Relief:	Concave)			Sample Point:	SP09
Slope (%):	0		40.010407		ongitude:			Datum:		Community ID:	PEM
		ditions on the site typ			year? (If no	, explain in r		Yes □	No	Section:	
		or Hydrology sign					Are normal circumsta	•	?	Township:	
Are Vegetation	□ , Soil □ ,	or Hydrology 🗆 natu	urally proble	ematic?			Yes	N⊍		Range:	Dir:
SUMMARY OF		10						11 1: 0 :	D 10		- V N
Hydrophytic Ve					□ No			Hydric Soils		0/:4b: 0 \0/-4b	✓ Yes □ No
Wetland Hydrol Remarks:	logy Present	<u> </u>		□ res	□ No			is this Samp	oling Point	within A wetta	and? ■ Yes ■ No
Remarks.											
HYDROLOGY											
	a la sur la dia	-1 (Obb '6	in diseases			\-					
_	•••	ators (Check here if	indicators a	are not p	resent) <u>`</u>			0		
<u>Primary</u> □	<u>:</u>	Water			B9 - Wate	er-Stained I	eaves		Secondary:	B6 - Surface So	il Cracks
7	A2 - High Wa					atic Fauna				B10 - Drainage	
Z	A3 - Saturati				B14 - True	e Aquatic F	Plants			C2 - Dry-Seaso	
	B1 - Water N					ogen Sulfic				C8 - Crayfish Bu	
	B2 - Sedimer B3 - Drift De						spheres on Living Roots duced Iron				Visible on Aerial Imagery Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep					Muck Surf				D5 - FAC-Neutr	
		on Visible on Aerial Ima				ge or Well					
	B8 - Sparsel	y Vegetated Concave S	urface		Other (Ex	plain in Re	marks)				
						-					
Field Observat											
Surface Water		□ Yes ☑ No	Depth:		(in.)			Wetland Hy	droloav Pr	esent?	Yes □ No
Water Table Pr		☑ Yes □ No	Depth:		(in.)						
Saturation Pres	sent?	☑ Yes □ No	Depth:	0	(in.)						
Describe Record	ded Data (str	eam gauge, monitorin	ng well, aeria	al photos,	previous i	inspection	s), if available:		N/A		
Remarks:											
rtemants.											
SOILS											
SOILS Map Unit Name		Ko - Kokomo silty c									
SOILS Map Unit Name Profile Descrip	otion (Describe to			bsence of indical		oncentration, D=I	Depletion, RM=Reduced Matrix, CS=Covere		ation: PL=Pore Lining	, M=Matrix)	Tarton
SOILS Map Unit Name Profile Descrip Top	Potion (Describe to Bottom	the depth needed to document the indic	cator or confirm the al	bsence of indical	tors.) (Type: C=C	oncentration, D=I	Red	dox Features	1	T	Texture
SOILS Map Unit Name Profile Descrip Top Depth	Bottom Depth	the depth needed to document the indi	cator or confirm the al	bsence of indical Matrix Moist)	tors.) (Type: C=Ci		Color (Moist)	dox Features %	Туре	Location	(e.g. clay, sand, loam)
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indi Horizon	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	dox Features % 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indi Horizon 1	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	dox Features % 5	Type C 	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indi	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	% 5	Type C 	Location M 	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indi Horizon 1	Color (I	Matrix Moist) 4/1	% 95	10YR 	Color (Moist) 5/8	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Deption (Describe to Bottom Depth 16	the depth needed to document the indi Horizon 1	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom (Describe to Depth 16	the depth needed to document the indi Horizon 1	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Depth 16	the depth needed to document the indi Horizon 1	Color (I	Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indices the depth needed to document the indices that the indices that the depth needed to document the indices that	Color (I	bsence of indical Matrix Moist) 4/1	% 95	10YR	Color (Moist) 5/8	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field Ir	the depth needed to document the indi Horizon 1	Color (I	basence of indicate Matrix Moist) 4/1	% 95 ot present	10YR t)p	Rec Color (Moist) 5/8	% 5	Type C s for Problem	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	the depth needed to document the indiction that the	Color (I	bsence of indical Matrix Moist) 4/1	% 95 ot present	10YR t)n Gleyed N	Rec Color (Moist) 5/8	% 5	Type C s for Problem	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth O NRCS Hydric	Detion (Describe to Bottom Depth 16 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H	the depth needed to document the india Horizon 1 ndicators (check here) pipedon istic	Color (I	basence of indicate Matrix Moist) 4/1 Drs are n	% 95 ot present S6 - Stripp	10YR ty Gleyed My Redox	Rec Color (Moist) 5/8	dox Features % 5 Indicators	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom (Describe to Depth 16	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR t)= ty Gleyed N ty Redox ped Matrix ny Muck Min	Rec Color (Moist) 5/8 Matrix	% 5	Type C s for Problen S7 - Dark S F12 - Iron-M TF12 - Very	Location M Matic Soils ¹ Prairie Redox urface langanese Massings Shallow Dark St	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95 ot present \$4 - Sand \$5 - Sartip F1 - Loam F2 - Loam	10YR t)= y Gleyed N trix yy Muck Miny Gleyed I	Rec Color (Moist) 5/8 Matrix	dox Features % 5 Indicators	Type C s for Problen S7 - Dark S F12 - Iron-M TF12 - Very	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Depth 16	the depth needed to document the indice the depth needed to document the indice that the indic	Color (I	basence of indical Matrix Moist) 4/1	% 95 ot presen S4 - Sand S5 - Sartipg F1 - Loam F3 - Deple F3 - Deple	10YR t) by Gleyed N dy Redox ped Matrix ny Muck Min ny Gleyed I dy Redox	Rec Color (Moist) 5/8 Matrix	% 5	Type C s for Problen S7 - Dark S F12 - Iron-M TF12 - Very	Location M Matic Soils ¹ Prairie Redox urface langanese Massings Shallow Dark St	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Depth 16	Horizon 1 ndicators (check here) pipedon istic en Sulfide d Layers Auck ed Below Dark Surface	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR t)= y Gleyed N trix yy Muck Miny Gleyed I	Color (Moist) 5/8 Matrix neral Matrix	% 5	Type C s for Probler S7 - Dark S F12 - Iron-M TF12 - Very	Location M Matic Soils ¹ Prairie Redox urface langanese Massings Shallow Dark St	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Depth Bottom Depth 16 Soil Field Ir A1- Histosol A2 - Histic El A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm M A11 - Deplet A12 - Thick I S1 - Sandy M	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR t) by Gleyed N dy Redox ped Matrix py Muck Min y Muck Min theted Matrix ox Dark Su	Rec Color (Moist) 5/8 Matrix face Surface	% 5	Type C s for Probler S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Depth Bottom Depth 16 Soil Field Ir A1- Histosol A2 - Histic El A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm M A11 - Deplet A12 - Thick I S1 - Sandy M	the depth needed to document the indice the indice the depth needed to document the indice the	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR ty Gleyed N ty Redox ped Matrix y Muck Miny Gleyed I deted Matrix xo Dark Su eted Dark Se	Rec Color (Moist) 5/8 Matrix face Surface	% 5	Type C s for Probler S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Depth Bottom Depth 16 Soil Field Ir A1- Histosol A2 - Histic El A3 - Black H A4 - Hydroge A5 - Stratifie A10 - 2 cm M A11 - Deplet A12 - Thick I S1 - Sandy M	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR ty Gleyed N ty Redox ped Matrix y Muck Miny Gleyed I deted Matrix xo Dark Su eted Dark Se	Rec Color (Moist) 5/8 Matrix face Surface	% 5	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Deption (Describe to Bottom Depth 16	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR ty Gleyed N ty Redox ped Matrix y Muck Miny Gleyed I deted Matrix xo Dark Su eted Dark Se	Rec Color (Moist) 5/8 Matrix face Surface	dox Features % 5 Indicators 1 Indicators of hydroph	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Deption (Describe to Bottom Depth 16	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR ty Gleyed N ty Redox ped Matrix y Muck Miny Gleyed I deted Matrix xo Dark Su eted Dark Se	Rec Color (Moist) 5/8 Matrix face Surface	dox Features % 5 Indicators 1 Indicators of hydroph	Type C	Location M	(e.g. clay, sand, loam) silty clay loam
SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Deption (Describe to Bottom Depth 16	the depth needed to document the indice the indice that the in	Color (I	basence of indical Matrix Moist) 4/1	% 95	10YR ty Gleyed N ty Redox ped Matrix y Muck Miny Gleyed I deted Matrix xo Dark Su eted Dark Se	Rec Color (Moist) 5/8 Matrix face Surface	dox Features % 5 Indicators 1 Indicators of hydroph	Type C	Location M	(e.g. clay, sand, loam) silty clay loam



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site: Wetland ID: Wetland 5 Sample Point: SP09 Roberts-Hayden Line Extension Project **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 1. 2. Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) 3. --4. Total Number of Dominant Species Across All Strata: 1 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: _____100%___ (A/B) 6. 7 8. Prevalence Index Worksheet 9. ------Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = n FACW spp. 0 x 2 = 0 FAC spp. 0 x 3 = Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 5 20 Pyrus calleryana 3 Ν UPL UPL spp. x 5 = 2. 3. 103 130 4. Prevalence Index = B/A = 5. 1.262 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9 □ Yes ✓ No Rapid Test for Hydrophytic Vegetation □ No 10. Yes Dominance Test is > 50% Total Cover = 3 □ No Prevalence Index is ≤ 3.0 * Yes ☑ No Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ✓ No Problem Hydrophytic Vegetation (Explain) * Yes Typha latifolia 95 OBL * Indicators of hydric soil and wetland hydrology must be 2. Arctium minus 5 Ν FACU present, unless disturbed or problematic. 3. ----4. **Definitions of Vegetation Strata:** 5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ft. tall. 10. --11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. 3. Hydrophytic Vegetation Present ☑ Yes □ No 4 5. Total Cover = 0 Remarks:

Additional Remarks:			



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site:	Pohorte-Ha	yden Line Extensio	n Project				Stantoc Project #	+· 102710251		Date:	04/12/23	
Applicant:		ransmission Comp	•				Stantec Project #	t: 193710351		County:	Franklin	
Investigator #1:			arry irro.	Invest	igator #2:	Matt De	nzler			State:	Ohio	
Soil Unit:		silty clay loam, 0-2% slop	pes		<u> </u>		NWI/WWI Classification	n: N/A		4	N/A	
Landform:	Hillslope			Loc	cal Relief:	Convex				Sample Point:	SP10	
Slope (%):	1-2		40.010402		.ongitude:			Datum:		Community ID:	UPL	
		itions on the site typ			, .	, explain in		☑ Yes □	No	Section:		
		or Hydrology sign					Are normal circums	•		Township:		
SUMMARY OF	□ , Soil □ , d	or Hydrology nat	urally proble	ematic?			Yes	NŪ		Range:	Dir:	
Hydrophytic Ve		ant?		- Voc	s 🗆 No			Hudria Caila I	Drocent?		□ Vo	o □ No
Wetland Hydro				□ Yes				Hydric Soils I		Within A Wetla	□ Yes	
Remarks:	logy i resent			_ 163	5 - 110			is this camp	illig i oliti	vviumi A vveuc	ilia: – 16.	3 4 140
rtomanto.												
HYDROLOGY												
	ology Indica	itors (Check here if	indicators a	are not n	resent)@						
Primary		NOTS (OFFICIAL FIELD)	indicators t	are not p	i Cociii	<i>)</i> □			Secondary:			
	A1 - Surface	Water			B9 - Wate	er-Stained	Leaves			B6 - Surface So	il Cracks	
	A2 - High Wa				B13 - Aqu					B10 - Drainage		
	A3 - Saturation B1 - Water M				B14 - True					C2 - Dry-Season C8 - Cravfish Bu		
	B1 - Water M B2 - Sedimen				C1 - Hydr C3 - Oxidi		spheres on Living Roots			C9 - Saturation		l Imagery
	B3 - Drift Dep						educed Iron			D1 - Stunted or		0 ,
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph		
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutr	al Test	
		on Visible on Aerial Ima Vegetated Concave S			D9 - Gauç Other (Ex	_						
	Do oparociy	vogetated contave c	undoc		Othor (Ex	piamini	marko)					
Field Observa	tions:											
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)							
Water Table Pr	resent?	□ Yes ☑ No	Depth:		(in.)			Wetland Hyd	drology Pr	esent?	Yes 🗵 No	
Saturation Pres	sent?	□ Yes ☑ No	Depth:		(in.)							
Describe Record	dad Data Jatra											
2008-120 - 1300-1300 2 data (elisatin garage, monitoring monitoring provide inspections), il artamazion									N/A			
Remarks:	ded Data (Stre	eam gauge, monitorir	ng well, aeria	al photos,	previous i	inspectio	ns), if available:		N/A			
	ded Data (Stre	eam gauge, monitorin	ng well, aeria	al photos,	previous i	inspectio	ns), if available:		N/A			
	ded Data (Stre	eam gauge, monitorir	ng well, aeria	al photos,	previous i	inspection	ns), if available:		N/A			
Remarks:	,	eam gauge, monitorin		•	•	inspection	s), if available:		N/A			
Remarks: SOILS Map Unit Name	e:	Ko - Kokomo silty o	elay loam, 0	1-2% slop	pes	•	S), if available: Depletion, RM-Reduced Matrix, CS-Cove			g, M=Matrix)		
Remarks: SOILS Map Unit Name	e:	Ko - Kokomo silty o	elay loam, 0	1-2% slop	pes	•	Depletion, RM=Reduced Matrix, CS=Cove			i, M=Matrix)	Textu	ure
Remarks: SOILS Map Unit Name Profile Descrip	e: ption (Describe to the	Ko - Kokomo silty o	elay loam, 0	1-2% slop bsence of indica Matrix	pes	•	Depletion, RM=Reduced Matrix, CS=Cove	ered/Coated Sand Grains; Loca		, M=Matrix) Location	Textu (e.g. clay, sa	-
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	etion (Describe to the Bottom Depth 16	Ko - Kokomo silty on the depth needed to document the indepth needed the indepth needed the indepth needed the indepth neede	Color (N	I-2% slop bsence of indica Matrix Moist) 3/3	Des stors.) (Type: C=C % 100	•	Depletion, RM-Reduced Matrix, CS-Cove Re	ered/Coated Sand Grains; Loca	tion: PL=Pore Lining		(e.g. clay, sa	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth	e: ption (Describe to the Bottom Depth	Ko - Kokomo silty on the depth needed to document the indepth of the depth needed to document the indepth of the depth needed to document the indepth of the depth of the dept	clay loam, 0 color (N 10YR	bsence of indicate Matrix Moist) 3/3	Des tors.) (Type: C=C	Concentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist)	ored/Coated Sand Grains; Loca edox Features %	ution: PL=Pore Lining Type	Location	(e.g. clay, sa	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	etion (Describe to the Bottom Depth 16	Ko - Kokomo silty on the depth needed to document the indepth of the depth of the	Color (N	I-2% slop bsence of indica Matrix Moist) 3/3	Des stors.) (Type: C=C % 100	concentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist)	edox Features %	tition: PL=Pore Lining Type	Location	(e.g. clay, sa	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	e: Bottom Depth 16	Ko - Kokomo silty on the depth needed to document the ind Horizon 1	Color (I	9-2% slop beence of indica Matrix Moist) 3/3 	Des tors.) (Type: C=C % 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist) 	edox Features %	Type	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	Ko - Kokomo silty one depth needed to document the ind Horizon 1	clay loam, 0 clay loam, 0 Color (I 10YR	l-2% slop beence of indica Matrix Moist) 3/3 	% 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist)	edox Features %	Type	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Describe to the Bottom Depth 16	Ko - Kokomo silty one depth needed to document the ind Horizon 1	clay loam, 0 clay loam, 0 Color (I 10YR	l-2% slop basence of indica Matrix Moist) 3/3 	% 100	oncentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist)	wed/Coated Sand Grains; Localedox Features %	Type	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Describe to the Depth 16	Ko - Kokomo silty one depth needed to document the ind Horizon 1	Color (N	l-2% slop beence of indica Matrix Moist) 3/3 	96 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cover Re Color (Moist)	ered/Coated Sand Grains; Local Cook Features %	Type		(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	Ko - Kokomo silty one depth needed to document the Ind Horizon 1	Color (N	D-2% slopp basence of indical Matrix Moist) 3/3	96 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist)	edox Features %	Type		(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In	Ko - Kokomo silty one depth needed to document the ind Horizon 1	Color (N	D-2% slopp basence of indical Matrix Moist) 3/3 -	96 100 oot presen	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist)	ered/Coated Sand Grains; Local edox Features 9/6 Indicators	Type for Problem		(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0	Bottom Depth 16	Ko - Kokomo silty one depth needed to document the ind Horizon 1 dicators (check he	Color (N	D-2% slopp basence of indical Matrix Moist) 3/3	96 100	concentration, D-	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist)	ered/Coated Sand Grains; LocaledOx Features %	Type for Problem	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol	Ko - Kokomo silty one depth needed to document the ind Horizon 1 dicators (check he	Color (N	J-2% slopesence of indical Matrix Moist) 3/3 ors are n	9% 100	concentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist)	wed/Coated Sand Grains; Local Cook Features %	Type for Problem A16 - Coast S7 - Dark S F12 - Iron-N	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogei	Ko - Kokomo silty one depth needed to document the ind Horizon 1 dicators (check here) spedon stic n Sulfide	Color (N	J-2% slopposence of indical Matrix Moist) 3/3 -	% 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist) Matrix ineral	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogei A5 - Stratified	Ko - Kokomo silty c ne depth needed to document the Ind Horizon 1 dicators (check he sipedon stic n Sulfide I Layers	Color (N	D-2% slopp basence of indical Matrix Moist) 3/3 -	96 100	concentration, D=	Depletion, RM=Reduced Matrix, CS=Cove Re Color (Moist) Watrix ineral Matrix	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M	Ko - Kokomo silty or the depth needed to document the ind Horizon 1 dicators (check he objector) in Sulfide IL Layers uuck	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slopposence of indical Matrix Moist) 3/3 -	% 100	toncentration, Dalling in the contraction of the co	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix ineral Matrix	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydroge A5 - Stratified A10 - 2 cm M	Ko - Kokomo silty one depth needed to document the ind Horizon 1 dicators (check he objecton stic n Sulfide I Layers uck de Below Dark Surface	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slop beence of indica Matrix Woist) 3/3 ors are n	96 100	ioncentration, Da	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix ineral Matrix crface	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth O NRCS Hydric	Bettom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M	Ko - Kokomo silty of the depth needed to document the ind Horizon 1	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slop beence of indica Matrix Woist) 3/3 Drs are n	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very Other (Explain	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bettom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M	Ko - Kokomo silty one depth needed to document the ind Horizon 1 dicators (check here) stic n Sulfide I Layers uuck and Below Dark Surface bark Surface	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slope basence of indica Matrix Moist) 3/3 -	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problen A16 - Coast S7 - Dark S F12 - Iron-M TF12 - Very Other (Explain	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bettom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A10 - 2 cm M A11 - Deplete A12 - Thick D S1 - Sandy M	Ko - Kokomo silty of the depth needed to document the ind Horizon 1	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slope basence of indica Matrix Moist) 3/3 -	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problem A16 - Coasts S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A1 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Ko - Kokomo silty of the depth needed to document the ind Horizon 1	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slope basence of indication Matrix Moist) 3/3 -	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problem A16 - Coasts S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A1 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Ko - Kokomo silty of the depth needed to document the ind Horizon 1	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slope basence of indication Matrix Moist) 3/3 -	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problem A16 - Coasts S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sa silt lo	and, loam) am
Remarks: SOILS Map Unit Name Profile Descrip Top Depth 0 NRCS Hydric Restrictive Layer (If Observed)	Bottom Depth 16 Soil Field In A1- Histosol A2 - Histic Ep A3 - Black His A4 - Hydrogel A5 - Stratified A1 - Deplete A12 - Thick D S1 - Sandy M S3 - 5 cm Mu	Ko - Kokomo silty of the depth needed to document the ind Horizon 1	clay loam, 0 cator or confirm the at Color (I 10YR re if indicato	J-2% slope basence of indication Matrix Moist) 3/3 -	% 100	roncentration, D=	Depletion, RM-Reduced Matrix, CS-Cove Re Color (Moist) Watrix inneral Matrix (rface Surface	ered/Coated Sand Grains; Local Cook Features %	Type for Problem A16 - Coasts S7 - Dark S F12 - Iron-N TF12 - Very Other (Expla	Location	(e.g. clay, sa silt lo	and, loam) am



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site: Wetland ID: N/A Sample Point: SP10 Roberts-Hayden Line Extension Project **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 1. 2. Number of Dominant Species that are OBL, FACW, or FAC: 1 (A) 3. --4. Total Number of Dominant Species Across All Strata: 1 (B) 5. Percent of Dominant Species That Are OBL, FACW, or FAC: _____100%___ (A/B) 6. 7 8. Prevalence Index Worksheet 9. ------Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = n FACW spp. x 2 = 0 0 FAC spp. 70 x 3 = 210 Sapling/Shrub Stratum (Plot size: 15 ft radius) x 4 = FACU spp. 30 120 UPL spp. x 5 = 2. 3. 100 330 4. 5. Prevalence Index = B/A = 3.300 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9 □ Yes ✓ No Rapid Test for Hydrophytic Vegetation □ No 10. Yes Dominance Test is > 50% Total Cover = 0 ☑ No Prevalence Index is ≤ 3.0 * □ Yes ☑ No □ Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) ✓ No Problem Hydrophytic Vegetation (Explain) * Yes 15 Plantago lanceolata Ν FACU * Indicators of hydric soil and wetland hydrology must be 2. 70 Υ FAC Poa pratensis present, unless disturbed or problematic. 3. Trifolium repens 15 Ν FACU 4. **Definitions of Vegetation Strata:** 5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ft. tall. 10. __ 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. 2. 3. Hydrophytic Vegetation Present ☑ Yes □ No 4 5. Total Cover = 0 Remarks:

Additional Remarks:							



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site:	Roberts-Ha	ayden Line Extension	n Project				Stantec Project #:	193710351		Date:	04/12/23	3
Applicant:	AEP Ohio	Transmission Comp	any Inc.							County:	Franklin	
Investigator #1:	: Kate Boma	r		Invest	tigator #2:					State:	Ohio	
Soil Unit:	Ut - Udorthent	s-Urban land complex, g	ently rolling			l	NWI/WWI Classification:	: N/A		Wetland ID:	Wetland	16
Landform:	Depression	1		Lo	cal Relief:	Concav	re			Sample Point:	SP11	
Slope (%):	0		40.011351		ongitude:			Datum:		Community ID:	PEM	
		litions on the site ty			•	, explain in	remarks)	Yes □	No	Section:		
Are Vegetation	🗆 , Soil 🗆 , (or Hydrology 🗵 sig	nificantly dis	turbed?			Are normal circumsta	inces present?)	Township:		
Are Vegetation	□ , Soil □ , o	or Hydrology <a> nat	urally proble	ematic?			Yes	N□		Range:		Dir:
SUMMARY OF	FINDINGS											
Hydrophytic Ve	getation Pres	sent?		Yes	s 🗆 No			Hydric Soils	Present?		J	Yes □ No
Wetland Hydro	logy Present	?		☑ Yes	s 🗆 No			Is This Samp	oling Point	Within A Wetla	and? 🏻	Yes ■ No
Remarks:												
HYDROLOGY												
Wetland Hydr	ology Indica	ators (Check here i	f indicators :	are not r	resent)_						
Primary				a. o o .		,_			Secondary:			
☐ A1 - Surface Water ☐ B9 - Water-Stained				Leaves			B6 - Surface Sc	il Cracks				
2	A2 - High Wa	ater Table			B13 - Aqu	atic Faun	a			B10 - Drainage	Patterns	
Z	A3 - Saturation				B14 - True					C2 - Dry-Seaso		able
	B1 - Water M				C1 - Hydr					C8 - Crayfish B		
	B2 - Sedimer						spheres on Living Roots			C9 - Saturation D1 - Stunted or		
	B3 - Drift Dep B4 - Algal Ma						educed Iron eduction in Tilled Soils			D1 - Stunted or D2 - Geomorph		
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutr		
		on Visible on Aerial Ima	agery		D9 - Gaud					20 1710 110411	u	
		Vegetated Concave S			Other (Ex	plain in Re	emarks)					
Field Observa	tions:											
Surface Water	Present?	☑ Yes □ No	Depth:	1-2	(in.)			Wetland Hy	drology Di	ocont? -	Yes 🗆	No
Water Table Pr	esent?		Depth:	0	(in.)			welland ny	urology Fi	esent:	162	INO
Saturation Pres	sent?		Depth:	0	(in.)							
Describe Record	ded Data (stre	eam gauge, monitori	ng well aeria	al photos	previous i	nspection	ns) if available:		N/A			
Remarks:	204 2414 (01.1	oam gaago, monton	ng mon, done	priotoo	, p. 01.000 .		10), 11 available1					
rtemants.												
SOILS												
Map Unit Name		Ut - Udorthents-Ur	oon land oor	mploy a	ontly rollin	· a						
							=Depletion, RM=Reduced Matrix, CS=Covered	/O	etien Di Bere Hele	- M M-4-53		
Top	Bottom	the depth needed to document the inc	icator or confirm the a	Matrix	ators.) (Type: C=C	oncentration, Da			ation: PL=Pore Linin	j, w=watrix)	-	Texture
•		Hariman	Calar (0/			ox Features	T	Location	3	ay, sand, loam)
Depth	Depth	Horizon	Color (I		%	40\/D	Color (Moist)	%	Type	Location		· · · · · · · · · · · · · · · · · · ·
0	12	1	10YR	4/1	90	10YR	4/6	10	С	M	Silty	clay loam
		-										
NRCS Hydric	Soil Field In	idicators (check he	re if indicate	ors are r	not presen	t)¤		Indicators	for Probler	natic Soils 1		
	A1- Histosol				S4 - Sand	, ,	Matrix			Prairie Redox		
	A2 - Histic Ep				S5 - Sand				S7 - Dark S			
	A3 - Black Hi				S6 - Strip					langanese Mass		
	A4 - Hydroge A5 - Stratified				F1 - Loam F2 - Loam	•				Shallow Dark Su ain in Remarks)	ırrace	
	A10 - 2 cm N	•			F3 - Deple				Other (Expir	alli ili Kelliaiks)		
		ed Below Dark Surface			F6 - Redo							
	A12 - Thick D				F7 - Deple							
	S1 - Sandy M	Nuck Mineral			F8 - Redo	x Depres	sions					
	S3 - 5 cm Mu	ucky Peat or Peat						1 Indicators of hydroph	ytic vegetation and	wetland hydrology must b	e present, unles	s disturbed or problematic.
Restrictive Layer	Type:	Rock		Depth:	12			Hydric Soil	Present?	•	Yes -	No
(If Observed)	.,,,,,,			-1				.,				
Remarks:												
1												
I												



WETLAND DETERMINATION DATA FORM Midwest Region

Sample Point: SP11 Project/Site: Wetland ID: Wetland 6 Roberts-Hayden Line Extension Project **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: _____(A) 3. ----4. Total Number of Dominant Species Across All Strata: 1 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B) 7 8. **Prevalence Index Worksheet** 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 x 2 =FACW spp. 0 Ω x 3 = FAC spp. Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = 0 UPL spp. x 5 = 2. 3. Total 100 100 4. 5. Prevalence Index = B/A = 1.000 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9 Yes □ No Rapid Test for Hydrophytic Vegetation 10. Yes □ No Dominance Test is > 50% J Total Cover = 0 □ No Prevalence Index is ≤ 3.0 * Yes ☑ No Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) Yes ☑ No Problem Hydrophytic Vegetation (Explain) * Typha latifolia 100 Υ OBL 1. * Indicators of hydric soil and wetland hydrology must be 2. present, unless disturbed or problematic. 3. 4. **Definitions of Vegetation Strata:** 5. 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ft. tall. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14 15. Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 100 Woody Vine Stratum (Plot size: 30 ft radius) 1. --2. 3. Hydrophytic Vegetation Present

Yes

No 4. 5. Total Cover = 0 Remarks:

Α	dditional Remarks:			



WETLAND DETERMINATION DATA FORM Midwest Region

Project/Site:	Roberts-Ha	ayden Line Extension	n Project				Stantec Project #:	193710351		Date:	04/12/23
Applicant:	AEP Ohio	Transmission Comp	any Inc.							County:	Franklin
Investigator #1:	Kate Boma	ar		Invest	igator #2:	Matt De	nzler			State:	Ohio
Soil Unit:	Ut -Udorthent	s-Urban land complex, ge	ntly rolling			1	NWI/WWI Classification	n: N/A		Wetland ID:	N/A
Landform:	Hillslope			Loc	cal Relief:	Convex				Sample Point:	SP12
Slope (%):	2-3	Latitude:	40.01133	L	.ongitude:	-83.1201	96	Datum:		Community ID:	UPL
Are climatic/hyd	drologic cond	ditions on the site typ	oical for this	time of	year? (If no	, explain in ı	emarks)	Yes □	No	Section:	
Are Vegetation	□ , Soil □ ,	or Hydrology sigr	nificantly dis	turbed?			Are normal circumsta	ances present?)	Township:	
		or Hydrology nati					Yes	NŪ .		Range:	Dir:
SUMMARY OF		, , , , , , , , , , , , , , , , , , , ,						-		a g	
Hydrophytic Ve		sent?		□ Yes	₃			Hydric Soils	Present?		□ Yes ☑ No
Wetland Hydrol	0			□ Yes						Within A Wetla	
Remarks:	logy i rocom	•		- 100	7 - 110			io imo camp	omig i omic	With mirror Would	ana. 2 100 2 110
Remarks.											
LIVEROLOGY											
HYDROLOGY											
Wetland Hydro	ology Indica	ators (Check here if	indicators a	are not p	resent) : =					
Primary:	_								Secondary:		
	A1 - Surface				B9 - Wate					B6 - Surface So	
	A2 - High Wa				B13 - Aqu					B10 - Drainage	
	A3 - Saturati				B14 - True					C2 - Dry-Seaso	
	B1 - Water M B2 - Sedime				C1 - Hydro		ge Odor spheres on Living Roots			C8 - Crayfish B	urrows Visible on Aerial Imagery
	B3 - Drift De						educed Iron				Stressed Plants
	B4 - Algal Ma						duction in Tilled Soils			D2 - Geomorph	
	B5 - Iron Dep				C7 - Thin					D5 - FAC-Neutr	
	B7 - Inundati	on Visible on Aerial Ima	igery		D9 - Gaug	ge or Well	Data				
	B8 - Sparsely	y Vegetated Concave S	urface		Other (Ex	plain in Re	emarks)				
Field Observat	tions:										
Surface Water	Present?	□ Yes ☑ No	Depth:		(in.)						.,
Water Table Pr		□ Yes ☑ No	Depth:		(in.)			Wetland Hy	drology Pr	esent?	Yes 🛛 No
Saturation Pres		□ Yes ☑ No	Depth:		(in.)						
					. ,		\				
	ded Data (str	eam gauge, monitorir	ig well, aeria	I photos,	previous i	nspection	ns), if available:		N/A		
Remarks:											
SOILS											
Map Unit Name	e:	Ut -Udorthents-Urb	an land com	ıplex, ge	ently rolling	g					
Profile Descrip	otion (Describe to	the depth needed to document the indi	icator or confirm the at	sence of indica	itors.) (Type: C=Ci	oncentration, D=	Depletion, RM=Reduced Matrix, CS=Covered	d/Coated Sand Grains; Loca	ation: PL=Pore Lining	, M=Matrix)	
Тор	Bottom		l .	Matrix							- .
Depth	Depth										l exture
0		Horizon			%				Type	Location	Texture (e.g. clav. sand. loam)
	•	Horizon 1	Color (N	Moist)	%		Color (Moist)	%	Туре	Location	(e.g. clay, sand, loam)
	16	1	Color (N 10YR	Moist)	90		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam
	16	1	Color (N 10YR 10YR	Moist) 2/2 5/3	90		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
	16 	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
	16	1	Color (N 10YR 10YR	Moist) 2/2 5/3	90		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
	16 	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
	16 	1 1	Color (N 10YR 10YR 	Vioist) 2/2 5/3	90 10		Color (Moist)	% 	 	 	(e.g. clay, sand, loam) silt loam fill
	16 	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10		Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
	16 	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10	 	Color (Moist)	% 		 	(e.g. clay, sand, loam) silt loam fill
	 	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10	 	Color (Moist)	% 			(e.g. clay, sand, loam) silt loam fill
 NRCS Hydric	16 Soil Field Ir	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10 ot present	 t)@	Color (Moist)	% Indicators			(e.g. clay, sand, loam) silt loam fill
	16 Soil Field Ir	1 1 	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10	 t)2 y Gleyed I	Color (Moist)	% Indicators			(e.g. clay, sand, loam) silt loam fill
NRCS Hydric	16 Soil Field Ir	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot present \$4 - Sand	t) y Gleyed I y Redox	Color (Moist) Matrix	%			(e.g. clay, sand, loam) silt loam fill
NRCS Hydric	16 Soil Field Ir A1- Histosol A2 - Histic E	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10 ot present S4 - Sand S5 - Sand	t)a Gleyed ly Redox ped Matrix	Color (Moist) Matrix	%			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16 Soil Field Ir A1- Histosol A2 - Histic E A3 - Black H A4 - Hydroge A5 - Stratifie	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot present \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loarr F2 - Loarr	t)2 Iy Gleyed Iy Redox ped Matrix by Muck M	Color (Moist) Matrix ineral Matrix	% Indicators			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16 Soil Field Ir A1- Histosol A2 - Histic E, A3 - Black H A4 - Hydroge A5 - Stratifies	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripg F1 - Loam F2 - Loam F3 - Deple		Color (Moist) Matrix ineral Matrix	%			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16 Soil Field Ir Soil Field Ir Soil Field Ir Soil Field Ir	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loarr F2 - Loarr F3 - Deple F6 - Redo	t)a y Gleyed I y Redox ped Matrix ny Gleyed Autrix y Gleyed I to Dark Su x Dark Su	Color (Moist) Matrix ineral Matrix c rface	%			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	%			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Moist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loarr F2 - Loarr F3 - Deple F6 - Redo	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	%			(e.g. clay, sand, loam) silt loam fill
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	%			(e.g. clay, sand, loam) silt loam fill es
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	%	for Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla		(e.g. clay, sand, loam) silt loam fill
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	% Indicators Indicators of hydroph	for Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla		(e.g. clay, sand, loam) silt loam fill es urface
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	% Indicators Indicators of hydroph	for Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla		(e.g. clay, sand, loam) silt loam fill es urface
NRCS Hydric	16	1 1	Color (N 10YR 10YR 	Voist) 2/2 5/3	90 10 ot presen \$4 - Sand \$5 - Sand \$6 - Stripp F1 - Loam F2 - Loam F3 - Deple F6 - Redo F7 - Deple	t)2 (y Gleyed ly Redox oed Matrix by Muck My Gleyed etted Matrix by August My Gleyed etted Matrix by Dark Sucted Dark	Color (Moist) Matrix ineral Matrix (rface Surface	% Indicators Indicators of hydroph	for Problem A16 - Coast S7 - Dark St F12 - Iron-M TF12 - Very Other (Expla		(e.g. clay, sand, loam) silt loam fill es urface



WETLAND DETERMINATION DATA FORM Midwest Region

Sample Point: SP12 Project/Site: Wetland ID: N/A Roberts-Hayden Line Extension Project **VEGETATION** (Species identified in all uppercase are non-native species.) Tree Stratum (Plot size: 30 ft radius) **Dominance Test Worksheet** Species Name % Cover Dominant Ind.Status 2. Number of Dominant Species that are OBL, FACW, or FAC: _____(A) 3. ----4. Total Number of Dominant Species Across All Strata: 3 (B) 5. 6. Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B) 7 8. **Prevalence Index Worksheet** 9. Total % Cover of: Multiply by: 10. OBL spp. x 1 = Total Cover = 0 x 2 =FACW spp. 0 ٥ x 3 = FAC spp. 15 Sapling/Shrub Stratum (Plot size: 15 ft radius) FACU spp. x 4 = 80 320 Lonicera maackii 4 N UPL UPL spp. x 5 = 2. 3. 89 355 4. 5. Prevalence Index = B/A = 3.989 6. 7. 8. **Hydrophytic Vegetation Indicators:** 9 □ Yes ☑ No Rapid Test for Hydrophytic Vegetation ☑ No 10. □ Yes Dominance Test is > 50% Total Cover = 4 ☑ No. Prevalence Index is ≤ 3.0 * □ Yes ☑ No Yes Morphological Adaptations (Explain) * Herb Stratum (Plot size: 5 ft radius) Yes ☑ No Problem Hydrophytic Vegetation (Explain) * 20 Υ FACU Achillea millefolium * Indicators of hydric soil and wetland hydrology must be Plantago major 5 FAC 2. present, unless disturbed or problematic. 3. Setaria faberi 30 **FACU** 4. Andropogon virginicus 20 FACU **Definitions of Vegetation Strata:** Plantago lanceolata FACU 5. 10 Ν 6 Tree - Woody plants 3 in. (7.6cm) or more in diameter at breast height (DBH), regardless of height. 7. 8. Sapling/Shrub - Woody plants less than 3 in. DBH and greater than 3.28 9. ft. tall. 10. 11. Herb - All herbaceous (non-woody) plants, regardless of size, 12 and woody plants less than 3.28 ft. tall. 13. 14 15. --Woody Vines - All woody vines greater than 3.28 ft. in height. Total Cover = 85 Woody Vine Stratum (Plot size: 30 ft radius) 1. --2. Hydrophytic Vegetation Present □ Yes ☑ No 3. 4. 5. Total Cover = 0 Remarks:

Additional Remarks:			

Data Forms

C.2 ORAM DATA FORMS

Background Information

Name: Charlie Allen

Date: 07/13/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-286-4616

e-mail address:

charlie.allen@stantec.com

Name of Wetland: Wetland 1

Vegetation Communit(ies):

PEM

HGM Class(es):

Depression

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



Lat/Long or UTM Coordinate 40.01298, -83.1240					
USGS Quad Name Northwest Columbus					
County Franklin					
Township Porter					
Section and Subsection N/A					
Hydrologic Unit Code 050901030205					
Site Visit 07/13/2022					
National Wetland Inventory Map No					
Ohio Wetland Inventory Map No					
Soil Survey Franklin County Soil Survey					
Delineation report/map Wetland and Waterbody Delineation Report					

Name of Wetland: Wetland 1 Wetland Size (acres, hectares): 0.015 acre with in Project area, 0.025 total. Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Forest Wetlan Field Forest Forest Comments, Narrative Discussion, Justification of Category Changes: Final score: 13 Category: 1

Scoring Boundary Worksheet

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

Charlie Allen Roberts-Hayden Line Extension Project 07/13/2022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Identify the locations where there is physical evidence that hydrology Step 2 changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes. Step 5 In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. Step 6 Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.

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

Narrative Rating

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

Roberts-Hayden Line Extension Project Charlie Allen 07/13/2022

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

Roberts-Ha	ayden Line Extension Project Charlie Allen		07/13/2022
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO X Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Solution
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Roberts-Hayden Line Extension Project Rater(s): Charlie Allen	Date: 07/13/2022
0 Metric 1. Wetland Area (size).	
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) ✓ <0.1 acres (0.04ha) (0 pts)	
Metric 2. Upland buffers and surrounding land use.	
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow I HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)
7 8 Metric 3. Hydrology.	
Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3)
Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Aditch Itile Iditeh Id	
6 Metric 4. Habitat Alteration and Development.	
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)	
4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) A recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (7) Recovering (7) Recovering (8) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (1) Re	
subtotal this page last revised 1 February 2001 jjm	nt

Site: R	Roberts-I	Hayden Line Extension Projec Rater(s): Charlie	Allen Date: 07/13/2022
SI	14 ubtotal first pa	ge		
0	14	Metric 5. Special Wetlan	ds.	
max 10 pts.	subtotal	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Openi Relict Wet Prairies (10) Known occurrence state/federal threa Significant migratory songbird/water i Category 1 Wetland. See Question 2	estricted hydrol ings) (10) atened or enda fowl habitat or	ingered species (10) usage (10)
-1	13	Metric 6. Plant communi	ties, into	erspersion, microtopography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation (Community Cover Scale
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed	1	Present and either comprises small part of wetland's
		1 Emergent		vegetation and is of moderate quality, or comprises a
		Shrub		significant part but is of low quality
		Forest	2	Present and either comprises significant part of wetland's
		Mudflats		vegetation and is of moderate quality or comprises a small
		Open water Other	3	part and is of high quality Present and comprises significant part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.	3	vegetation and is of high quality
		Select only one.		vegetation and is of high quality
		High (5)	Narrative De	escription of Vegetation Quality
		Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		Moderate (3)		disturbance tolerant native species
		Moderately low (2)	mod	Native spp are dominant component of the vegetation,
		✓ Low (1)		although nonnative and/or disturbance tolerant native spp
		None (0)		can also be present, and species diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
		to Table 1 ORAM long form for list. Add		threatened or endangered spp
		or deduct points for coverage	high	A predominance of native species, with nonnative spp
		Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
		Nearly absent <5% cover (0) Absent (1)	Mudflat and	Open Water Class Quality
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		2 Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
		0 Standing dead >25cm (10in) dbh		
		Amphibian breeding pools	Microtopog	raphy Cover Scale
			0	Absent
			1	Present very small amounts or if more common of marginal quality
			2	Present in moderate amounts, but not of highest quality or in small amounts of highest quality
	_		3	Present in moderate or greater amounts
40				and of highest quality
13				

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Roberts-Hayden Line Extension Project

Charlie Allen

07/13/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
, and the second	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	6	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	13	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

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

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Charlie Allen

Date: 07/13/2022

Affiliation:

Stantec

Address:

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Phone Number:

614-286-4616

e-mail address:

charlie.allen@stantec.com

Name of Wetland: Wetland 2

Vegetation Communit(ies):

PFM

HGM Class(es):

Depression

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



Lat/Long or UTM Coordinate 40.01284, -83.1238	
USGS Quad Name Northwest Columbus	
County Franklin	
Township Porter	
Section and Subsection N/A	
Hydrologic Unit Code 050901030205	
Site Visit 07/13/2022	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map No	
Soil Survey Franklin County Soil Survey	
Delineation report/map Wetland and Waterbody Delineation Report	

Wetland 2 Wetland Size (acres, hectares): 0.007	
	rith other surface waters, vegetation zones, etc.
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11 11 11	Forest
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Comments, Narrative Discussion, Justifica	tion of Category Changes:
Johnneste, Narrative Biscussion, Gustinoa	tion of outogory onungeo.
Final score: 11	Category: 1

Scoring Boundary Worksheet

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

Narrative Rating

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

Roberts-Hayden Line Extension Project Charlie Allen 07/13/2022

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

oberts-H	ayden Line Extension Project Charlie Allen		07/13/2022
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO X Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO X Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Roberts	-Hayden Line Extension Project Rater(s): Charlie Allen	Date: 07/13/2022
0 0	Metric 1. Wetland Area (size).	
max 6 pts. subtota	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) ✓ <0.1 acres (0.04ha) (0 pts)	
1 1	Metric 2. Upland buffers and surrounding land use.	
max 14 pts. subtota	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow. In the state of the state	
7 8	Metric 3. Hydrology.	
max 30 pts. subtota	High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) 100 year floodpla Part of wetland/u Part of riparian or or inundation/sat	ain (1) /lake and other human use (1) pland (e.g. forest), complex (1) r upland corridor (1) curation. Score one or dbl check ently inundated/saturated (4) tted/saturated (3)
	Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (4) Recovering (4) Recovering (5) Recovering (5) Recovering (6) Recovering (7) Recovering (6) Recovering (7) Recovering (7	
6 14	Metric 4. Habitat Alteration and Development.	
max 20 pts. subtota	 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1) 	
14	4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) Recent or no recovery (1) Check all disturbances observed mowing shrub/sapling ren herbaceous/aqua sedimentation selective cutting woody debris removal farming	
subtotal this	page toxic pollutants nutrient enrichme	ent
1 001	·-·· y =· y···	

Site: R	loberts-l	Hayden Line Extension Projec Rater(s): Charlie	Allen Date: 07/13/2022
	14]		
0	14	Metric 5. Special Wetlan	ds.	
max 10 pts.	subtotal	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-u Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Openi Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water in Category 1 Wetland. See Question 2	estricted hydrolings) (10) atened or enda fowl habitat or	angered species (10) usage (10)
-3	11	Metric 6. Plant communi	ties, int	erspersion, microtopography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed	1	Present and either comprises small part of wetland's
		1 Emergent		vegetation and is of moderate quality, or comprises a
		Shrub		significant part but is of low quality
		Forest	2	Present and either comprises significant part of wetland's
		Mudflats		vegetation and is of moderate quality or comprises a small
		Open water		part and is of high quality
		Other	3	Present and comprises significant part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
		Select only one.		
		High (5)	Narrative D	escription of Vegetation Quality
		Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		Moderate (3)		disturbance tolerant native species
		Moderately low (2)	mod	Native spp are dominant component of the vegetation,
		✓ Low (1)		although nonnative and/or disturbance tolerant native spp
		None (0)		can also be present, and species diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
		to Table 1 ORAM long form for list. Add		threatened or endangered spp
		or deduct points for coverage	high	A predominance of native species, with nonnative spp
		✓ Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
		Nearly absent <5% cover (0)		
		Absent (1)		Open Water Class Quality
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		O Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
		O Standing dead >25cm (10in) dbh		
		0 Amphibian breeding pools		raphy Cover Scale
			0	Absent
			1	Present very small amounts or if more common
				of marginal quality
			2	Present in moderate amounts, but not of highest
				quality or in small amounts of highest quality
	i		3	Present in moderate or greater amounts
4.4				and of highest quality
11				

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Roberts-Hayden Line Extension Project

Charlie Allen

07/13/2022

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

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

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Charlie Allen

Date: 07/13/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-286-4616

e-mail address:

charlie.allen@stantec.com

Name of Wetland: Wetland 3

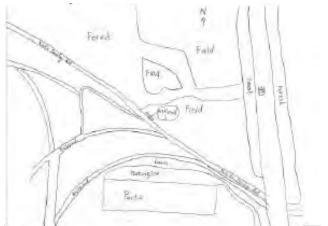
Vegetation Communit(ies):

PEM

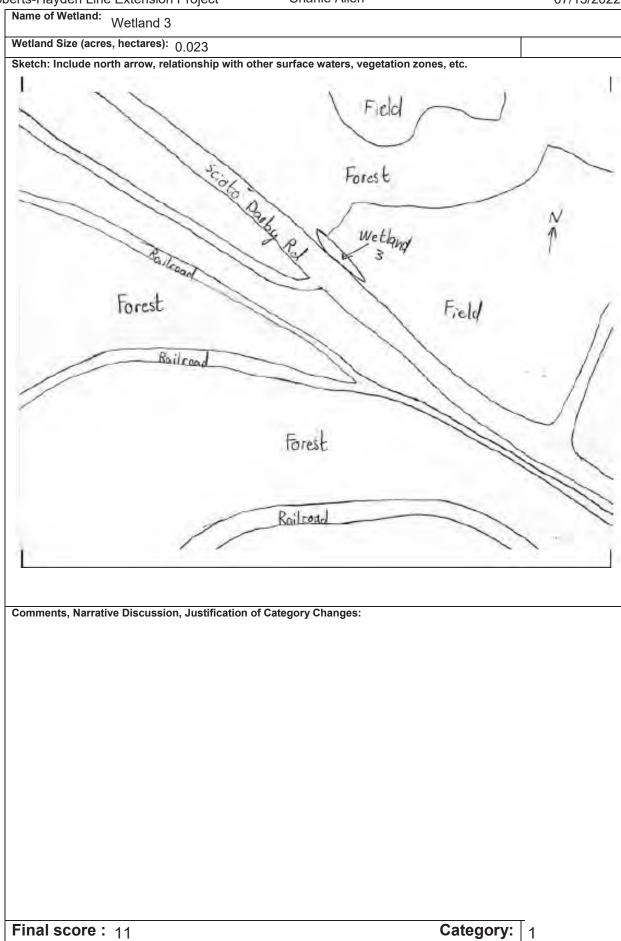
HGM Class(es):

Depression

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



Lat/Long or UTM Coordinate 40.01299, -83.1237	
USGS Quad Name Northwest Columbus	
County Franklin	
Township Porter	
Section and Subsection N/A	
Hydrologic Unit Code 050901030205	
Site Visit 07/13/2022	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map No	
Soil Survey Franklin County Soil Survey	
Delineation report/map Wetland and Waterbody Delineation Report	



Scoring Boundary Worksheet

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

Charlie Allen Roberts-Hayden Line Extension Project 07/13/2022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Identify the locations where there is physical evidence that hydrology Step 2 changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes. Step 5 In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. Step 6 Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.

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

Narrative Rating

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

Roberts-Hayden Line Extension Project Charlie Allen 07/13/2022

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

Roberts-Ha	ayden Line Extension Project Charlie Allen		07/13/2022
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO X Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Solution
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellin
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddelli
	Salix serissima	Xyris difformis		<u> </u>
	Solidago ohioensis	3.0		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Roberts-Hayden Line Extension Project Rater(s): Charlie Allen Date: 07/13/2022					
0 Metric 1. Wetland Area (size).					
Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) ✓ <0.1 acres (0.04ha) (0 pts)					
Metric 2. Upland buffers and surrounding land use.					
max 14 pts. subtotal 2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow I HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	w field. (3)				
7 8 Metric 3. Hydrology.					
Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Part of wetland/up	in (1) ake and other human use (1) bland (e.g. forest), complex (1) upland corridor (1) uration. Score one or dbl check ently inundated/saturated (4) ed/saturated (3)				
Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Aditch Itile Iditeh Id					
6 Metric 4. Habitat Alteration and Development.					
max 20 pts. subtotal 4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) Poor (1)					
4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Recovering (3) Recent or no recovery (1) Recent or no recovery (1) A recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (3) Recovering (4) Recovering (5) Recovering (7) Recovering (7) Recovering (8) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (9) Recovering (1) Re					
subtotal this page last revised 1 February 2001 jjm	nt				

Site: R	loberts-l	Hayden Line Extension Projec Rater(s): Charlie	Allen Date: 07/13/2022
	14]		
0	14	Metric 5. Special Wetlan	ds.	
max 10 pts.	subtotal	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-u Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Openi Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water in Category 1 Wetland. See Question 2	estricted hydrolings) (10) atened or enda fowl habitat or	angered species (10) usage (10)
-3	11	Metric 6. Plant communi	ties, int	erspersion, microtopography.
max 20 pts.	subtotal	6a. Wetland Vegetation Communities.	Vegetation	Community Cover Scale
		Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
		Aquatic bed	1	Present and either comprises small part of wetland's
		1 Emergent		vegetation and is of moderate quality, or comprises a
		Shrub		significant part but is of low quality
		Forest	2	Present and either comprises significant part of wetland's
		Mudflats		vegetation and is of moderate quality or comprises a small
		Open water		part and is of high quality
		Other	3	Present and comprises significant part, or more, of wetland's
		6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
		Select only one.		
		High (5)	Narrative D	escription of Vegetation Quality
		Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
		Moderate (3)		disturbance tolerant native species
		Moderately low (2)	mod	Native spp are dominant component of the vegetation,
		✓ Low (1)		although nonnative and/or disturbance tolerant native spp
		None (0)		can also be present, and species diversity moderate to
		6c. Coverage of invasive plants. Refer		moderately high, but generally w/o presence of rare
		to Table 1 ORAM long form for list. Add		threatened or endangered spp
		or deduct points for coverage	high	A predominance of native species, with nonnative spp
		✓ Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
		Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
		Sparse 5-25% cover (-1)		the presence of rare, threatened, or endangered spp
		Nearly absent <5% cover (0)		
		Absent (1)		Open Water Class Quality
		6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
		Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
		Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
		O Coarse woody debris >15cm (6in)	3	High 4ha (9.88 acres) or more
		O Standing dead >25cm (10in) dbh		
		0 Amphibian breeding pools		raphy Cover Scale
			0	Absent
			1	Present very small amounts or if more common
				of marginal quality
			2	Present in moderate amounts, but not of highest
				quality or in small amounts of highest quality
	i		3	Present in moderate or greater amounts
4.4				and of highest quality
11				

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Roberts-Hayden Line Extension Project

Charlie Allen

07/13/2022

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

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

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Charlie Allen

Date: 07/13/2022

Affiliation:

Stantec

Address:

1500 Lake Shore Drive, Suite 100, Columbus, OH 43204

Phone Number:

614-286-4616

e-mail address:

charlie.allen@stantec.com

Name of Wetland: Wetland 4

Vegetation Communit(ies):

PEM

HGM Class(es):

Depression

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



Lat/Long or UTM Coordinate 40.01151, -83.1206	
USGS Quad Name Northwest Columbus	
County Franklin	
Township Porter	
Section and Subsection N/A	
Hydrologic Unit Code 050901030205	
Site Visit 07/13/2022	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map No	
Soil Survey Franklin County Soil Survey	
Delineation report/map Wetland and Waterbody Delineation Report	

Name of Wetland: Wetland 4 Wetland Size (acres, hectares): 0.218 acre with in Project area, 0.464 total. Skatch. Include north arrow relationship with other surface waters venetation zones etc Field Wetland 4 Forest Parking lot Comments, Narrative Discussion, Justification of Category Changes: Final score: 17 Category: 1

Scoring Boundary Worksheet

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

Charlie Allen Roberts-Hayden Line Extension Project 07/13/2022 Steps in properly establishing scoring boundaries done? not applicable Step 1 Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc. Identify the locations where there is physical evidence that hydrology Step 2 changes rapidly. Such evidence includes both natural and humaninduced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland. Step 3 Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary. Step 4 Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes. Step 5 In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately. Step 6 Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.

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

Narrative Rating

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

Roberts-Hayden Line Extension Project Charlie Allen 07/13/2022

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

Roberts-Ha	ayden Line Extension Project Charlie Allen		07/13/2022
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO So to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO X Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Solution
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis			
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Site: Roberts	-Hayden Line Extension Project Rater(s): Charlie Allen	Date: 07/13/2022
2 2	Metric 1. Wetland Area (size).	
max 6 pts. subtota	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha) (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) ✓ 0.3 to <3 acres (0.12 to <1.2ha) (2pts) 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt) <0.1 acres (0.04ha) (0 pts)	
1 3	Metric 2. Upland buffers and surrounding land use	
max 14 pts. subtota	2a. Calculate average buffer width. Select only one and assign score. Do not double check. WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7) MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4) NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1) ✓ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0) 2b. Intensity of surrounding land use. Select one or double check and average. VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7) LOW. Old field (>10 years), shrub land, young second growth forest. (5) MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fall ✓ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	
6 9	Metric 3. Hydrology.	
max 30 pts. subtota	High pH groundwater (5) Other groundwater (3) Precipitation (1) Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream) (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) Seasonally inundation/sa Regularly inundation/sa Seasonally inundation/sa Seasonally inundation/sa Regularly inundation/sa Seasonally inundation/sa Seasonally inundation/sa None or none apparent (12) Check all disturbances observed	ain (1) //lake and other human use (1) upland (e.g. forest), complex (1) or upland corridor (1) turation. Score one or dbl check nently inundated/saturated (4) ated/saturated (3) dated (2) rated in upper 30cm (12in) (1)
	Recovered (7) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Recovering (3) Recent or no recovery (1) Additch Billing/grading Froad bed/RR tradered dredging Froad bed/Froad be	
9 18	Metric 4. Habitat Alteration and Development.	
max 20 pts. subtota	4a. Substrate disturbance. Score one or double check and average. None or none apparent (4) Recovered (3) ✓ Recovering (2) Recent or no recovery (1) 4b. Habitat development. Select only one and assign score. Excellent (7) Very good (6) Good (5) Moderately good (4) Fair (3) Poor to fair (2) ✓ Poor (1)	
	4c. Habitat alteration. Score one or double check and average. None or none apparent (9) Recovered (6) Check all disturbances observed mowing shrub/sapling re	moval atic bed removal
18 subtotal this	woody debris removal toxic pollutants farming nutrient enrichm	ent
last revised 1 Febr	uary 2001 jjm	

Site: Roberts-	Hayden Line Extension Projec Rater(s): Charlie <i>i</i>	Allen Date: 07/13/2022
18 subtotal first pa	Ť		
0 18	Metric 5. Special Wetlan	ds.	
max 10 pts. subtotal	Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-u Lake Erie coastal/tributary wetland-re Lake Plain Sand Prairies (Oak Openi Relict Wet Prairies (10) Known occurrence state/federal three Significant migratory songbird/water Category 1 Wetland. See Question	estricted hydrolo ings) (10) atened or endar fowl habitat or u 1 Qualitative Ra	ngered species (10) usage (10) uting (-10)
-1 17	Metric 6. Plant communi	ties, inte	erspersion, microtopography.
max 20 pts. subtotal	】 6a. Wetland Vegetation Communities.	Vegetation C	Community Cover Scale
	Score all present using 0 to 3 scale.	0	Absent or comprises <0.1ha (0.2471 acres) contiguous area
	Aquatic bed	1	Present and either comprises small part of wetland's
	1 Emergent		vegetation and is of moderate quality, or comprises a
	Shrub Forest	2	significant part but is of low quality Present and either comprises significant part of wetland's
	Mudflats	2	vegetation and is of moderate quality or comprises a small
	Open water		part and is of high quality
	Other	3	Present and comprises significant part, or more, of wetland's
	6b. horizontal (plan view) Interspersion.		vegetation and is of high quality
	Select only one. High (5)	Narrative De	scription of Vegetation Quality
	Moderately high(4)	low	Low spp diversity and/or predominance of nonnative or
	Moderate (3)		disturbance tolerant native species
	Moderately low (2)	mod	Native spp are dominant component of the vegetation,
	✓ Low (1)		although nonnative and/or disturbance tolerant native spp
	None (0)		can also be present, and species diversity moderate to moderately high, but generally w/o presence of rare
	6c. Coverage of invasive plants. Refer to Table 1 ORAM long form for list. Add		threatened or endangered spp
	or deduct points for coverage	high	A predominance of native species, with nonnative spp
	Extensive >75% cover (-5)		and/or disturbance tolerant native spp absent or virtually
	✓ Moderate 25-75% cover (-3)		absent, and high spp diversity and often, but not always,
	Sparse 5-25% cover (-1) Nearly absent <5% cover (0)		the presence of rare, threatened, or endangered spp
	Absent (1)	Mudflat and	Open Water Class Quality
	6d. Microtopography.	0	Absent <0.1ha (0.247 acres)
	Score all present using 0 to 3 scale.	1	Low 0.1 to <1ha (0.247 to 2.47 acres)
	0 Vegetated hummucks/tussucks	2	Moderate 1 to <4ha (2.47 to 9.88 acres)
	O Coarse woody debris >15cm (6in) Standing dead >25cm (10in) dbh	3	High 4ha (9.88 acres) or more
	0 Standing dead >25cm (10in) dbh 0 Amphibian breeding pools	Microtopogr	aphy Cover Scale
	policing	0	Absent
		1	Present very small amounts or if more common
		2	of marginal quality Present in moderate amounts, but not of highest
		2	quality or in small amounts of highest quality
		3	Present in moderate or greater amounts
			and of highest quality
17			

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

Roberts-Hayden Line Extension Project

Charlie Allen

07/13/2022

		circle answer or insert	Result
		score	
Narrative Rating	Question 1 Critical Habitat	NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	NO	If yes, Category 3.
	Question 4. Significant bird habitat	NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	NO	If yes, Category 1.
	Question 6. Bogs	NO	If yes, Category 3.
	Question 7. Fens	NO	If yes, Category 3.
	Question 8a. Old Growth Forest	NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	NO	If yes, Category 3
	Question 11. Relict Wet Prairies	NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	2	
, and the second	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-1	
	TOTAL SCORE	17	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

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

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Malea casey
Date: 04/19/2023
Affiliation: Stantec consulting services, inc.
Address: 10200 Alliance Road Svite 300. Blue ASh, OH 45242
Phone Number: (513) 526-409+
e-mail address:
Name of Wetland 5
Vegetation Communit(ies): Emergen†
HGM Class(es): Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.
Scuto various creek ed Netland S Scuto various creek ed Netland S Roberts Substation
Lat/Long or UTM Coordinate
40.01121,-83.1201
County the state of the state o
TUNKIIN
Section and Subsection
NIC
03000011203
UT11212023
National Wetland Inventory Map Wa
Ohio Wetland Inventory Map
soil survey CrA: Crosby siltioan, southern uniotill Plain, 0-2% slopes Ko: Kokomo silty clay loam, 0-2% slopes
Delineation report/map See Ecological Survey Report

Name of Wetland: Wetland 5		
Wetland Size (acres, hectares):		0.04acre
Sketch: Include north arrow, relationship with oth	ner surface waters, vegetation zones, etc.	
Sketch: Include north arrow, relationship with oth	Creek 15	1
Old Field Habitat V	Roberts Substation	
Comments, Narrative Discussion, Justification of	Category Changes.	
Final score: 14	Category:	

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	\	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	✓	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	/	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	/	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		*
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	1	

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

Narrative Rating

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

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES (NO)
	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
		Go to Question 3	6
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland	Go to Question 4
	O' IS A D. I' O A S. A D. A D	Go to Question 4	710
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
_		Go to Question 5	110
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest," Is the welland a forested wetland and is the	YES	(NO)
-	forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	Go to Question 10
9Ь	Does the welland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status	Go to Question 9c
_		Go to Question 10	0
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	(NO)
8	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

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

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

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End of Quantitative Rating. Complete Categorization Worksheets.

2

3

Present in moderate amounts, but not of highest quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES (NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
3	Metric 2. Buffers and surrounding land use		
	Metric 3. Hydrology	5	
	Metric 4. Habitat	1	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	Ī	
	TOTAL SCORE	14	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Malea Casey	
Date: 04/19/2023	
Affiliation: Stantec Consulting Services, Inc.	88
Address: 10200 Alliance Road, Suite 300 Blue Ash	DH 45242
Phone Number: (513) 524-4094	213.00
e-mail address:	
Name of Wetland: Wetland 10	
Vegetation Communit(ies): EMPLACH	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	1 1
	1
Maintained	\ 1
R.OW	1
10 4.51	/ \
MESSOND THAPITAL HABITAL	\
wetland 1 xx Sp	
	\
t + + 1 1 2)	1
Scioto Darky	1
Scioto Darby ~25AM VI - NIDOH	
Lat/Long or UTM Coordinate 40.0 3 -83. 202	
USGS Quad Name NOV+NWEST COIVMBUS, OH	
County Franklin	
Township NOY WICK	
Section and Subsection NIa	
Hydrologic Unit Code 050400011205	
Site Visit 0'+/12/202-3	
National Wetland Inventory Map	
Ohio Wetland Inventory Map	
soil survey Ut: Udorthents-Urban land complex, gently rolling	
Delineation report/map See Ecological Survey Report	

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	J	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	1	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	1	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	1	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		×
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	1	

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

Narrative Rating

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

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

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	(NO)
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible Category 3 status.	Go to Question 9a
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this	YES	Ng
06	elevation, or along a tributary to Lake Erie that is accessible to fish?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	Wetland should be evaluated for possible Category 3 status	Go to Question 9c
		Go to Question 10	~
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant	YES	(NO)
	native species can also be present?	Wetland is a Category 3 wetland	Go to Question 9e
	/	Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	(NO)
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this	Wetland is a Category 3 wetland. Go to Question 11	Go to Question 11
44	type of wetland and its quality.	Ura	(2)
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	Complete Quantitative Rating

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	0ak Opening species	wet prairie species
Lythrum salicaria	Zygadenus elegans var. glaucus	Calla palustris	Carex cryptolepis	Calamagrostis canadensis
Myriophyllum spicatum	Cacalia plantaginea	Carex atlantica var. capillacea	Carex lasiocarpa	Calamogrostis stricta
Najas minor	Carex flava	Carex echinata	Carex stricta	Carex atherodes
Phalaris arundinacea	Carex sterilis	Carex oligosperma	Cladium mariscoides	Carex buxbaumii
Phragmites australis	Carex stricta	Carex trisperma	Calamagrostis stricta	Carex pellita
Potamogeton crispus	Deschampsia caespitosa	Chamaedaphne calyculata	Calamagrostis canadensis	Carex sartwellii
Ranunculus ficaria	Eleocharis rostellata	Decodon verticillatus	Quercus palustris	Gentiana andrewsii
Rhamnus frangula	Eriophorum viridicarinatum	Eriophorum virginicum		Helianthus grosseserratus
Typha angustifolia	Gentianopsis spp.	Larix laricina		Liatris spicata
Typha xglauca	Lobelia kalmii	Nemopanthus mucronatus		Lysimachia quadriflora
	Parnassia glauca	Schechzeria palustris		Lythrum alatum
	Potentilla fruticosa	Sphagnum spp.		Pycnanthemum virginianum
	Rhamnus alnifolia	Vaccinium macrocarpon		Silphium terebinthinaceum
	Rhynchospora capillacea	Vaccinium corymbosum		Sorghastrum nutans
	Salix candida	Vaccinium oxycoccos		Spartina pectinata
	Salix myricoides	Woodwardia virginica		Solidago riddellii
	Salix serissima	Xyris difformis		
	Solidago ohioensis	-		
	Tofieldia glutinosa			
	Triglochin maritimum			
	Triglochin palustre			

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

Check all disturbances observed

woody debris removal

shrub/sapling removal

sedimentation

nutrient enrichment

dredging

farming

herbaceous/aquatic bed removal

mowing

grazing

clearcutting

selective cutting

toxic pollutants

subtotal this page last revised 1 February 2001 jjm

None or none apparent (9)

Recent or no recovery (1)

Recovered (6)

Recovering (3)

19

End of Quantitative Rating. Complete Categorization Worksheets.

0

1

2

3

Microtopography Cover Scale

Absent

of marginal quality

and of highest quality

Present very small amounts or if more common

Present in moderate amounts, but not of highest

quality or in small amounts of highest quality

Present in moderate or greater amounts

Amphibian breeding pools

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
ŭ	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	10	
	Metric 4. Habitat	5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	19	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	100	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos, 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	(NO)	Is quantitative rating score less than the Category 2 scoring threshold (excluding gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been overcategorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO N	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO)	Is quantitative rating score greater than the Category 2 scoring threshold (including any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C)
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was not categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method A written justification for recategorization should be provided on Background Information Form	Wetland is assigned to category as determined by the ORAM	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g., a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons of information for this determination should be provided



End of Ohio Rapid Assessment Method for Wetlands.

Data Forms

C.3 HHEI DATA FORMS

Headwater Habitat Evaluation Index Field Form HHEI Score (sum of metrics 1+2+3)	41
SITE NAME/LOCATION Roberts-Hayden Line Extension Project SITE NUMBER STREAM RIVER BASIN SCIOTO RAVE RIVER CODE DRANAGE AREA (MR) LENGTH OF STREAM REACH (FL) 100 LAT 40.01392 LONG 83.12239 RIVER MILE DATE 4/12/23 SCORER VLB COMMENTS NOTE: Complete All Items On This Form - Refer to "Headwater Habitat Evaluation Index Field Manual" for In STREAM CHANNEL MODIFICATIONS: NONE/NATURAL CHANNEL RECOVERED RECOVERING RECENT OF	structions
STREAM CHANNEL WOUNDERTONS. NONE TO THE CHANNEL RECOVERED RECOVERING RECOVERING RECOVERING	TNO RECOVER
1. SUBSTRATE (Estimate percent of every type present). Check ONL Ytwo predominant substrate TYPE boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B TYPE PERCENT TYPE BLDR SLABS [16 pts] SILT [3 pt] BOULDER (>256 mm) [16 pts] LEAF PACK/WOODY DEBRIS [3 pts] BEDROCK [16 pts] FINE DETRITUS [3 pts] COBBLE (65-256 mm) [12 pts] CLAY or HARDPAN [0 pt] GRAVEL (2-64 mm) [9 pts] MUCK [0 pts] SAND (<2 mm) [6 pts] 30 ARTIFICIAL [3 pts]	HHEI Metric Points Substrate Max = 40
Total of Percentages of Bidr Slabs, Boulder, Cobble, Bedrock (A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:	A + B
2. Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box): > 30 centimeters (20 pts] 5 cm - 10 cm [15 pts] > 22.5 - 30 cm [30 pts] < 5 cm [5pts] > 10 - 22.5 cm [25 pts] NO WATER OR MOIST CHANNEL [0pts]	Pool Depti Max = 30
COMMENTS MAXIMUM POOL DEPTH (centimeters): 8	
3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check ONLY one box): > 4.0 meters (>13') [30 pts]	Bankfull Width Max=30
COMMENTS ON AVERAGE BANKFULL WIDTH (meters)	
This information <u>mustalso</u> becompleted RIPARIAN ZONE AND FLOODPLAIN QUALITY ** NOTE: River Left (L) and Right (R) as looking downstrean	1*
RIPARIAN WIDTH L R (Per Bank) L R Wide >10m Moderate 5-10m Narrow <5m Residential, Park, New Field Open Pasture, Row	Crop
None Fenced Pasture Mining or Constructi	-
COMMENTS	tent)
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	ttent)
FLOW REGIME (At Time of Evaluation) (Check ONLY one box): Stream Flowing	

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

WWH Name: Scioto Piver	Distance from Evaluated Stream Z ryy
CWH Name:	
EWH Name:	Distance from Evaluated Stream
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIR	
SGS Quadrangle Name: Northwest Columbus NRCS	
ounty: Franklin Townsh	niprcity: Hilliard, OH
MISCELLANEOUS	1.
ase Flow Conditions? (Y/N): Y Date of last precipitation:	4/4/2023 Quantity: 0, 92"
oto-documentation Notes:	,
evated Turbidity?(Y/N): N Canopy (% open): 100	
ere samples collected for water chemistry? (Y/N): Lat	
eld Measures:Temp (°C) $\underline{g, 4}$ Dissolved Oxygen (mg/l)	pH (S.U.) 7 Conductivity (umhos/cm)
the sampling reach representative of the stream (Y/N)	t, explain:
	71
dditional comments/description of pollution impacts:	· · · · · · · · · · · · · · · · · · ·
1 e	
BIOLOGICAL OBSER	The state of the s
sh Observed? (Y/N) N Species observed (if known):	
ogs or Tadpoles Observed? (Y/N) N Species observed (if kno	
alamanders Observed? (Y/N) N Species observed (if known);	
quatic Macroinvertebrates Observed? (Y/N) N Species observ	ved (if known):
mments Regarding Biology:	
DRAWING AND NARRATIVE DESCRIPTION	OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for	r site evaluation and a narrative description of the stream's location
	seaved graded seaved se
	NIT dea
	16CG 191
- X	oarea sex
DW - 7	A A
con o	4
111	Lydinand
1 3	Ser port account
jupland	drainage.

Representative Photographs

Appendix D REPRESENTATIVE PHOTOGRAPHS

D.1 WETLAND AND WATERBODY PHOTOGRAPHS





Photograph Location 1. View of Wetland 1. Photograph taken facing north.



Photograph Location 1. View of Wetland 1. Photograph taken facing east.





Photograph Location 1. View of Wetland 1. Photograph taken facing south.



Photograph Location 1. View of Wetland 1. Photograph taken facing west.





Photograph Location 1. View of soil profile at wetland determination sample point location SP01.



Photograph Location 1. View of Wetland 1. Photograph taken facing north.





Photograph Location 1. View of Wetland 1. Photograph taken facing east.



Photograph Location 1. View of Wetland 1. Photograph taken facing south.





Photograph Location 1. View of Wetland 1. Photograph taken facing west.



Photograph Location 2. View of upland (old field habitat) at wetland determination sample point location SP02. Photograph taken facing west.





Photograph Location 2. View of soil profile at wetland determination sample point location SP02.



Photograph Location 2. View of upland (old field habitat and existing paved road) at wetland determination sample point location SP02. Photograph taken facing east.





Photograph Location 2. View of upland (old field habitat and existing paved road) at wetland determination sample point location SP02. Photograph taken facing west.



Photograph Location 3. View of Wetland 2. Photograph taken facing north.





Photograph Location 3. View of Wetland 2. Photograph taken facing east.



Photograph Location 3. View of Wetland 2. Photograph taken facing south.





Photograph Location 3. View of Wetland 2. Photograph taken facing west.



Photograph Location 3. View of soil profile at wetland determination sample point location SP03.





Photograph Location 3. View of Wetland 2. Photograph taken facing north.



Photograph Location 3. View of Wetland 2. Photograph taken facing east.





Photograph Location 3. View of Wetland 2. Photograph taken facing south.



Photograph Location 3. View of Wetland 2. Photograph taken facing west.





Photograph Location 4. View of upland (old field habitat) at wetland determination sample point location SP04. Photograph taken facing east.



Photograph Location 4. View of soil profile at wetland determination sample point location SP04.





Photograph Location 4. View of upland (old field habitat and existing paved road) at wetland determination sample point location SP04. Photograph taken facing east.



Photograph Location 4. View of upland (old field habitat and existing paved road) at wetland determination sample point location SP04. Photograph taken facing west.





Photograph Location 5. View of Wetland 3. Photograph taken facing north.



Photograph Location 5. View of Wetland 3. Photograph taken facing east.





Photograph Location 5. View of Wetland 3. Photograph taken facing south.



Photograph Location 5. View of Wetland 3. Photograph taken facing west.





Photograph Location 5. View of soil profile at wetland determination sample point location SP05.



Photograph Location 5. View of Wetland 3. Photograph taken facing north.





Photograph Location 5. View of Wetland 3. Photograph taken facing east.



Photograph Location 5. View of Wetland 3. Photograph taken facing south.





Photograph Location 5. View of Wetland 3. Photograph taken facing west.



Photograph Location 6. View of upland (old field habitat) at wetland determination sample point location SP06. Photograph taken facing west.





Photograph Location 6. View of soil profile at wetland determination sample point location SP06.



Photograph Location 6. View of upland (maintained lawn and existing paved road) at wetland determination sample point location SP06. Photograph taken facing east.





Photograph Location 6. View of upland (old field habitat and existing paved road) at wetland determination sample point location SP06. Photograph taken facing west.



Photograph Location 7. View of existing culvert and upland drainage feature. Photograph taken facing southeast.





Photograph Location 8. View of upland drainage feature. Photograph taken facing southwest.



Photograph Location 8. View of upland drainage feature. Photograph taken facing east.





Photograph Location 9. View of upland drainage feature. Photograph taken facing north.



Photograph Location 9. View of upland drainage feature. Photograph taken facing southeast.



AEP Ohio Transmission Company, Inc. Roberts-Hayden Line Extension Project Franklin County, Ohio



Photograph Location 10. View of Stream 1. Photograph taken facing upstream/west.



Photograph Location 10. View of Stream 1. Photograph taken facing downstream/east.





Photograph Location 10. View of substrates of Stream 1.



Photograph Location 11. View of Wetland 4. Photograph taken facing north.





Photograph Location 11. View of Wetland 4. Photograph taken facing east.



Photograph Location 11. View of Wetland 4. Photograph taken facing south.





Photograph Location 11. View of Wetland 4. Photograph taken facing west.



Photograph Location 11. View of soil profile at wetland determination sample point location SP07.





Photograph Location 11. View of Wetland 4. Photograph taken facing north.



Photograph Location 11. View of Wetland 4. Photograph taken facing east.





Photograph Location 11. View of Wetland 4. Photograph taken facing south.



Photograph Location 11. View of Wetland 4. Photograph taken facing west.





Photograph Location 12. View of upland (old field habitat) at wetland determination sample point location SP08. Photograph taken facing west.



Photograph Location 12. View of soil profile at wetland determination sample point location SP08.





Photograph Location 12. View of upland (maintained lawn habitat) at wetland determination sample point location SP08. Photograph taken facing north.



Photograph Location 12. View of upland (old field habitat) at wetland determination sample point location SP08. Photograph taken facing east.





Photograph Location 13. View of Wetland 6. Photograph taken facing north.



Photograph Location 13. View of Wetland 6. Photograph taken facing east.





Photograph Location 13. View of Wetland 6. Photograph taken facing south.



Photograph Location 13. View of Wetland 6. Photograph taken facing west.





Photograph Location 13. View of soil profile at wetland determination sample point location SP11.



Photograph Location 14. View of upland (old field habitat) at wetland determination sample point location SP12. Photograph taken facing south.





Photograph Location 14. View of upland (old field habitat) at wetland determination sample point location SP12. Photograph taken facing west.



Photograph Location 14. View of soil profile at wetland determination sample point location SP12.





Photograph Location 15. Representative view of an upland drainage feature within the Project area. Photograph taken facing east.



Photograph Location 15. Representative view of an upland drainage feature within the Project area. Photograph taken facing south.





Photograph Location 16. View of Wetland 5. Photograph taken facing north.



Photograph Location 16. View of Wetland 5. Photograph taken facing east.





Photograph Location 16. View of Wetland 5. Photograph taken facing south.



Photograph Location 16. View of Wetland 5. Photograph taken facing west.





Photograph Location 16. View of soil profile at wetland determination sample point location SP09.



Photograph Location 17. View of upland (maintained lawn) at wetland determination sample point location SP10. Photograph taken facing north.





Photograph Location 17. View of upland (maintained lawn) at wetland determination sample point location SP10. Photograph taken facing west.



Photograph Location 17. View of soil profile at wetland determination sample point location SP10.

Representative Photographs

D.2 HABITAT PHOTOGRAPHS





Photograph Location 1. Representative view of existing paved road within the Project area.

Photograph taken facing northwest.



Photograph Location 2. Representative view of existing paved road within the Project area. Photograph taken facing east.





Photograph Location 3. Representative view of recently graded area within the Project area. Photograph taken facing west.



Photograph Location 3. Representative view of recently graded area and mixed early successional/second growth deciduous forest habitat within the Project area. Photograph taken facing north.





Photograph Location 4. Representative view of mixed early successional/second growth deciduous forest habitat within the Project area. Photograph taken facing north.



Photograph Location 4. Representative view of old field habitat within the Project area (area has since been cleared/graded). Photograph taken facing south.





Photograph Location 5. Representative view of old field habitat within the Project area. Photograph taken facing west.



Photograph Location 5. Representative view existing gravel road within the Project area. Photograph taken facing north.





Photograph Location 6. Representative view of maintained lawn within the Project area. Photograph taken facing south.



Photograph Location 6. Representative view of industrial land (Roberts Station) within the Project area. Photograph taken facing east.

Agency Correspondence

Appendix E AGENCY CORRESPONDENCE

From: Ohio, FW3
To: Teitt, Matthew

Cc: nathan.reardon@dnr.state.oh.us; Wyza, Eileen

Subject: AEP Beacon Station and Hayden-Roberts 345 kV Line Extension Project, Franklin County, Ohio

Date: Monday, July 11, 2022 6:36:06 PM

Attachments: <u>image.png</u>

image.png



Project Code: 2022-0054381

Dear Mr. Teitt,

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

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

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥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. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see https://ecos.fws.gov/ecp/species/9045), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats. If Indiana bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be

conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

Stream and Wetland Avoidance: Over 90% of the wetlands in Ohio have been drained, filled, or modified by human activities, thus 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, Acting Environmental Services Administrator, at (614) 265-6387 or at mike.pettegrew@dnr.state.oh.us.

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



Patrice Ashfield Field Office Supervisor

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



Office of Real Estate John Kessler, Chief 2045 Morse Road – Bldg. E-2 Columbus, OH 43229

MARY MERTZ, DIRECTOR

Phone: (614) 265-6621 Fax: (614) 267-4764

July 18, 2022

Matthew Teitt Stantec 1500 Lake Shore Drive Suite 100 Columbus, OH 43204

Re: 22-0635; AEP Beacon Station and Hayden-Roberts Line Extension Project

Project: The proposed project involves the extension of the existing Hayden-Roberts 345 kV Line and the new installation of Beacon Station.

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

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

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

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

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the

leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

The DOW also recommends that a desktop habitat assessment is conducted, followed by a field assessment if needed, to determine if a potential hibernaculum is present within the project area. Direction on how to conduct habitat assessments can be found in the current USFWS "Range-wide Indiana 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 of sufficient size, 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*)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the American bittern (*Botaurus lentiginosus*), a state endangered bird. Nesting bitterns prefer large undisturbed wetlands that have scattered small pools amongst dense vegetation. They occasionally occupy bogs, large wet meadows, and dense shrubby swamps. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, the project is not likely to impact this species.

The project is within the range of the black-crowned night-heron (*Nycticorax nycticorax*), a state-threatened bird. Night-herons are so named because they are nocturnal, conducting most of their foraging in the evening hours or at night, and roost in trees near wetlands and waterbodies during the day. Night herons are migratory and are typically found in Ohio from April 1 through December 1 but can be found in more urbanized areas with reliable food sources year-round. Black-crowned night-herons primarily forage in wetlands and other shallow aquatic habitats, and roost in trees nearby. These night-herons nest in small trees, saplings, shrubs, or sometimes on the ground, near bodies of water and wetlands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the least bittern (*Ixobrychus exilis*), a state threatened bird. This secretive marsh species prefers dense emergent wetlands with thick stands of cattails, sedges, sawgrass or other semiaquatic vegetation interspersed with woody vegetation and open water. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

The project is within the range of the sandhill crane (*Grus canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through august 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

The project is within the range of the upland sandpiper (*Bartramia longicauda*), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (CRP). If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. If this type of habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

Mike Pettegrew Environmental Services Administrator