Letter of Notification for the Lector Extension 138 kV Transmission Line Project

PUCO Case No. 26-0922-EL-BLN

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

Submitted by:
Ohio Power Company

October 22, 2026

LETTER OF NOTIFICATION

Ohio Power Company

Lector Extension 138 kV Transmission Line Project

4906-6-05 Accelerated Application Requirements

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

4906-6-05(B) General Information

B(1) Project Description

Provide the name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a letter of notification or construction notice application.

The Company is proposing the Lector Extension 138-kilovolt (kV) Transmission Line Project (Project), in Ohio Township, Monroe County, Ohio. The Project involves the construction of a new, 0.3-mile double circuit 138 kV transmission line connecting the existing Hannibal Substation to a proposed customer substation (Bitdeer Substation). The new transmission line will require new right-of-way (ROW). The location of the Project is shown in Figures 1 and 2 in Appendix A.

The Project meets the requirements for a Letter of Notification (LON) as defined by Item 1(b) of Appendix A to Adm.Code 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

> *(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*
>
> > *(b) Line(s) greater than 0.2 miles in length but not greater than two miles in length*

The Project has been assigned PUCO Case No. 26-0922-EL-BLN.

B(2) Statement of Need

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

A customer has requested a new 138-kV delivery point to serve their facility, which will serve 570 megawatts (MW) of ultimate peak demand in the Monroe County, Ohio area. To meet the customer's request, the Company will upgrade and expand the existing Hannibal Substation (filed separately with OPSB in Case No. 25-1078-EL-BNR), relocate a portion of the existing Kammer – Ormet No. 1 138-kV Transmission Line (filed separately with OPSB in Case No. 25-1079-EL-BNR), and construct a new approximately 0.3-mile double circuit 138kV transmission line, connecting the Company's existing Hannibal Substation to the customer's proposed substation (Bitdeer Substation).

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 Monroe County, Ohio area.

The need was presented and reviewed with stakeholders at the July 19, 2024, PJM SRRTEP meeting. The solution was presented and reviewed at the March 14, 2025, PJM SRRTEP meeting. A supplement upgrade number is yet to be assigned by PJM. This Project was included in the Company's 2025 Long Term Forecast Report and is located on page 143 (Table FE-T10). See Appendix B.

B(3) Project Location

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

The Project is located in Ohio Township, Monroe County, Ohio. The location of the Project in relation to existing transmission lines and substations is shown on Figure 1 in Appendix A.

B(4) Alternatives Considered

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

Due to the customer's development near the existing Hannibal Station, the short transmission line length required, and minimal land use impacts, no other project alternatives were evaluated. Any other alternative would add additional length to the Project without any additional benefit. The Company determined that no advanced transmission technologies as defined by Revised Code 4906.06(A)(7) are required nor would be cost-effective to implement. The Project is located on previously disturbed industrial land. The Project will not impact any wetlands, streams, or cultural resource areas eligible for the National Register of Historic Places. No tree clearing will be required. Therefore, this Project represents the shortest, most direct route and is the most appropriate solution for meeting the Company's and the customer's needs in the area.

B(5) Public Information Program

Describe its public information program to inform affected property owners and residents of the nature of the project and the proposed timeframe for project construction and restoration activities.

The Company will inform affected property owners and tenants about this Project through several different mediums. Within seven days of filing this LON, the Company will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements of Adm.Code 4906-6-08(A)(1-6). Further, the Company will mail a letter, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner the Company may approach for an easement necessary for the construction, operation, or maintenance of the Project. The letter will comply with all requirements of Adm.Code 4906-6-08(B). The Company maintains a website (http://aeptransmission.com/ohio/) which provides the public access to an electronic copy of this LON and the public notice for this LON. An electronic copy of the LON will be served to the public library in each political subdivision for this Project. The Company retains ROW land agents that discuss Project timelines, construction and restoration activities and convey information to affected owners and tenants throughout the Project.

B(6) Construction Schedule

Provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is planned to begin in June 2027 with an anticipated in-service date of October 2027.

B(7) Area Map

Provide a map of at least 1:24,000 scale clearly depicting the facility and proposed limits of disturbance with clearly marked streets, roads, and highways, and an aerial image.

Figure 1, in Appendix A, identifies the location of the Project area on the United States Geological Survey 1:24,000 topographic quadrangle map (New Martinsville, Ohio). Figure 2, in Appendix A, displays the Project components on a 2024 aerial photograph.

B(8) Property Agreements

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

A list of properties required for the Project are provided in **Table 1**, below.

Table 1 – Property Agreements

Property Parcel Number	Agreement Type	Easement or Option Obtained (Yes/No)
15-003004.0000 (Monroe County Port Authority)	New Easement	No
15-002013.0000 (Long Ridge Energy Generation)	New Easement	No
15-002006.0000 (Ohio River Partners Shareholder, LLC)	New Easement	No

The easement form exhibit provided in Appendix C represents the minimum rights the Company would require in order to construct, operate, and maintain these facilities.

B(9) Technical Features

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 transmission line is estimated to include the following:

Voltage:	138-kV
Conductors:	Six 1590 kcml Falcon ACSS (54/19)
Static Wire:	Two 159 kcml Guinea ACSR 12/7 and two 0.646" OPGW
Insulators:	Polymer
ROW Width:	100 feet
Structure Type:	Four (4), double circuit, steel monopole deadend structures with davit arms on Concrete pier foundations

B(9)(b) Electric and Magnetic Fields

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

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

B(9)(c) Project Cost

The estimated capital cost of the project.

The cost estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $2,400,000 using a Class 4 estimate. Per the Ohio retail tariff, the Customer is

responsible for 55% of the cost of the Project. The remainder of the Project cost, pursuant to the PJM OATT, will be recovered in the Ohio Power Company FERC formula rate (Attachment H-14 to the PJM OATT) and allocated to the AEP Zone.

B(10) Social and Ecological Impacts

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

B(10)(a) Land Use Characteristics

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

The Project location and vicinity have historically been primarily wooded lots with scattered industrial development along the Ohio River. An aerial photograph of the Project vicinity is provided as **Figure 2**. The Project is located in Ohio Township, Monroe County, Ohio. The Project vicinity is currently comprised of industrial land use. Additionally, a railroad is adjacent to the north of the site and the Ohio River to the southeast. There are no schools, hospitals, places of worship, or airports within 1,000 feet of the Project. No tree clearing is anticipated. No changes in land use are anticipated as a result of the Project.

B(10)(b) Agricultural Land Information

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

The Project does not impact agricultural land. No properties registered as agricultural district land are located in the Project area based on data received from the Monroe County Auditor's Office via phone coordination on October 20, 2026.

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 Resources Management Investigation of the Project area and submitted the results to the Ohio State Historic Preservation Office (SHPO) on December 19, 2024. No sites listed on the National Register of Historic Places were identified within the Project area or adjacent portions of the parcels surveyed for cultural resources. Therefore, no further investigation was considered to be necessary by the consultant. Correspondence from the SHPO was received on January 17, 2025, and is included in Appendix D. The SHPO agreed that the Project will have no adverse effect on historic properties and that no further archaeological work is necessary.

Additional surveys were conducted for the Project in November 2025. The Phase I Cultural Resource Management Investigation was updated to include the expanded survey area, and the results were resubmitted to the SHPO on November 6, 2025. Correspondence from the SHPO was received on

December 5, 2025 and is included in Appendix D. No additional impacts were found during the investigation and no adverse effect on historic properties is anticipated.

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 summary of anticipated permits and authorizations for the Project is provided in **Table 2**, below. There are no other known local, state, or federal requirements that must be met prior to commencement of the Project.

Table 2 – Anticipated Permits

Permit/Authorization/Coordination	Agency	Date
Notice of Intent for authorization of Construction Stormwater Discharges under General Permit OHC000006	Ohio Environmental Protection Agency	Submittal expected 10/22/2026.
Archaeology/Architectural	Ohio Historic Preservation Office	Initial consultation complete 01/17/2025. Coordination complete 12/05/2025, no additional work required.
Threatened and Endangered Species	United States Fish and Wildlife Service	Initial consultation complete 11/07/2024. Coordination complete 11/24/2025, no additional work required.
Threatened and Endangered Species	Ohio Department of Natural Resources	Initial consultation complete 11/21/2024. Coordination complete 12/11/2025, no additional work required.

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

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

On October 25, 2024, coordination letters were submitted to the United States Fish and Wildlife Service USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural Heritage Program, and Division of Wildlife, seeking an environmental review of the Project for potential impacts to state and/or federally protected species. The ODNR and USFWS provided responses on November 21, 2024, and November 7, 2024, respectively. Copies of the agencies' responses are presented in Appendix D.

Additional survey areas were reviewed and submitted to the USFWS and the ODNR in November 2025 for an updated environmental review of the Project for potential impacts to state and/or federally protected species. No additional concerns were identified during the survey and no additional impacts to listed species are anticipated. The ODNR and USFWS provided responses on December 11, 2025, and November 24, 2025, respectively. Copies of the agencies' responses are presented in Appendix D.

Appendix E lists the federal and state threatened or endangered species in the Project area.

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

B(10)(f) Areas of Ecological Concern

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

The Company's consultant prepared an ecological survey report on November 10, 2025, which is provided in Appendix F. The Project area is located within an active industrial site. The ecological survey identified one wetland; however, no ponds or streams were identified within the Project area. The wetland will not be impacted by the proposed Project.

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

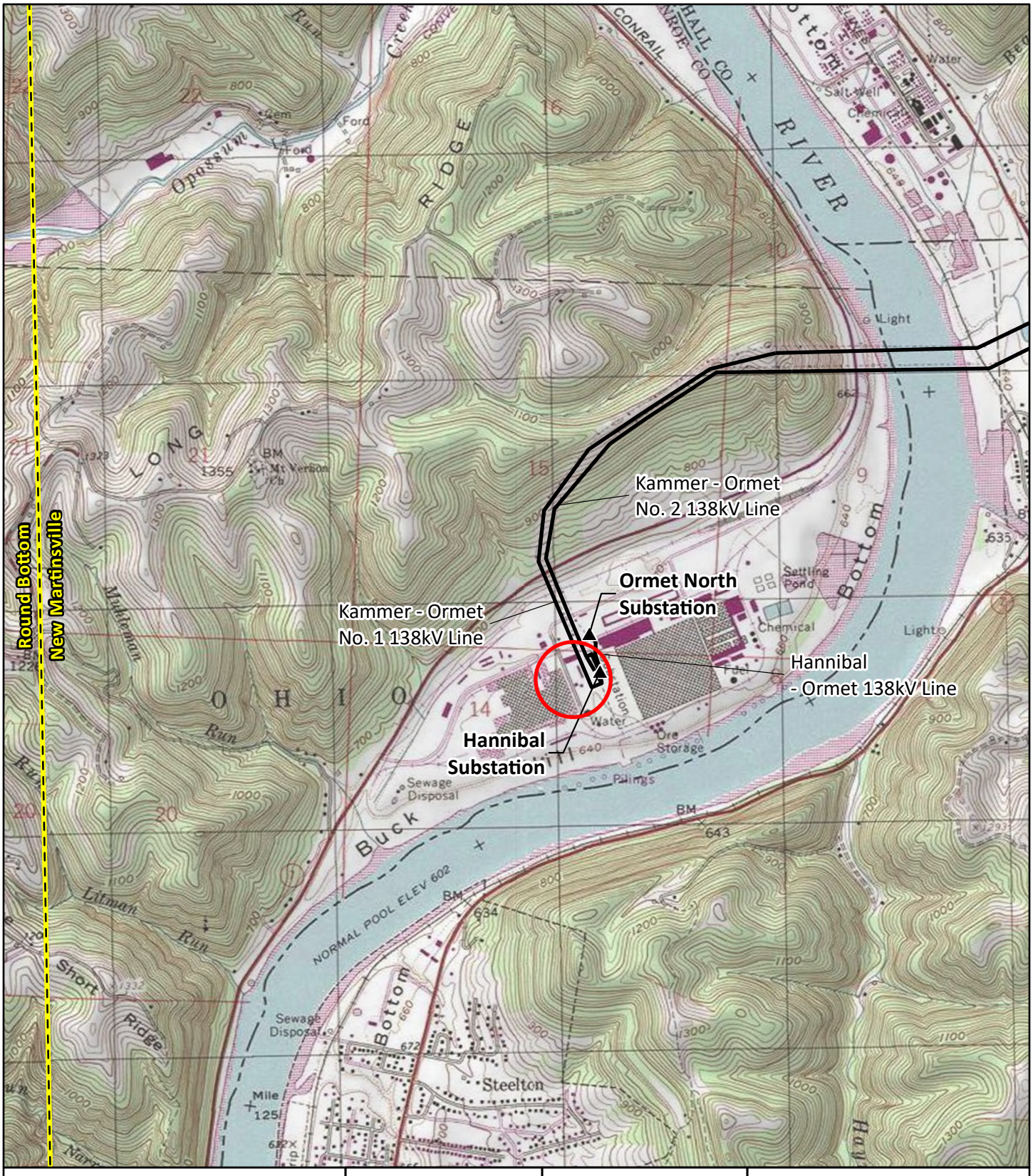
Based on review of the Federal Emergency Management Agency's Flood Insurance Rate Map (map number 39111C0230C), no mapped Federal Emergency Management Agency floodplains are located in the Project area.

B(10)(g) Unusual Conditions

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

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

Appendix A Project Maps



- Existing Substation
- Existing Transmission Line
- Project Area
- USGS Topographic Line

Data Sources: AEP, USGS 7.5' Topographic Quadrangle (New Martinsville)

Coordinate System and Datum:
NAD 83 State Plane
Ohio South, Feet

October 20, 2026

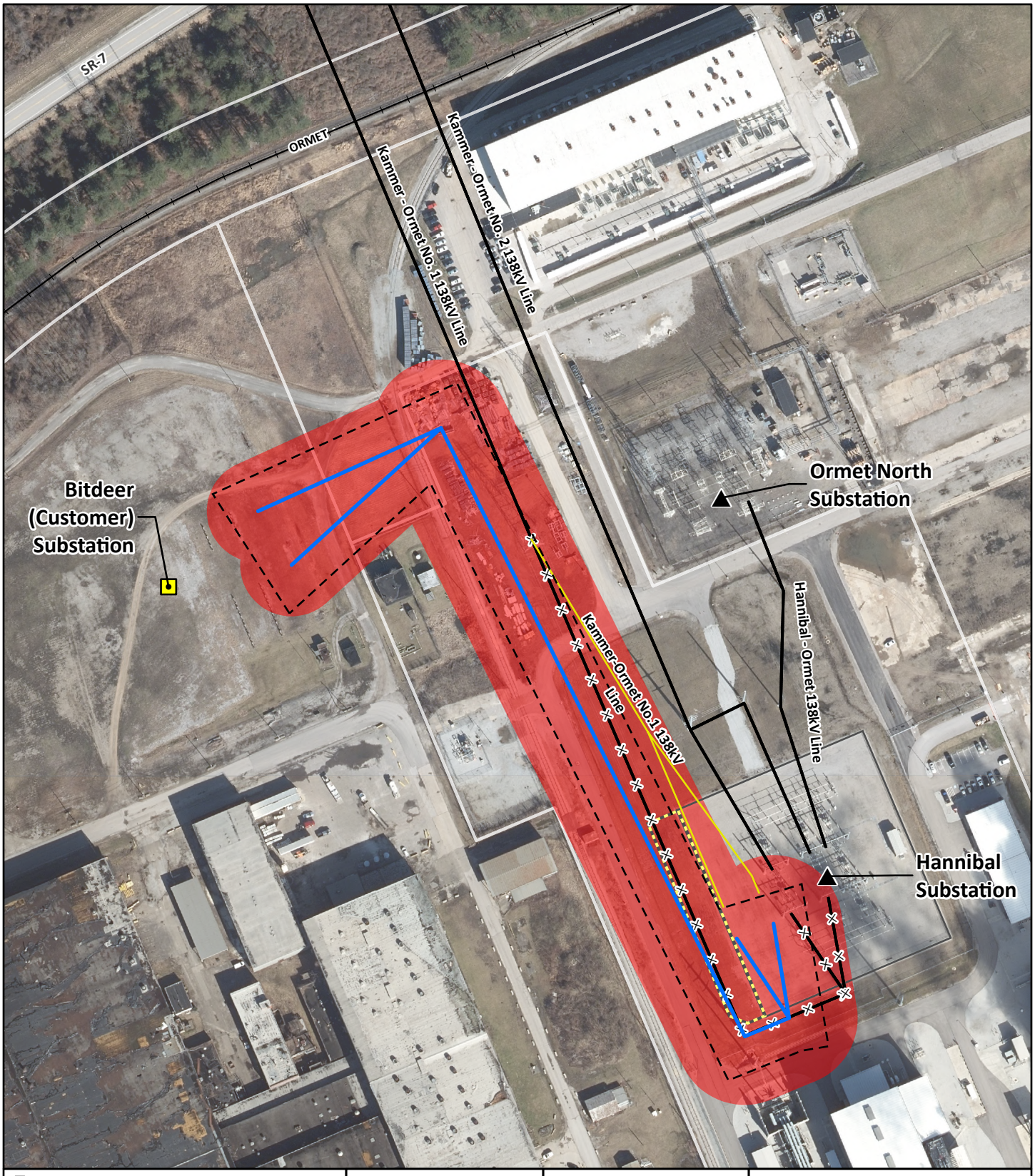


FIGURE 1
TOPOGRAPHIC OVERVIEW

OHIO POWER COMPANY

Lector Extension 138kV Transmission Line Project

0 1,000 2,000 3,000
Feet



- Proposed Bitdeer (Customer) Substation
- Existing Substation
- Proposed Centerline
- Proposed Kammer - Ormet No.1 138kV Relocation: 25-1079-EL-BNR (Filed Separately)
- Existing Transmission Line To Be Removed
- Existing Transmission Line
- Proposed 100ft Right-of-Way
- Proposed 200ft Route Corridor
- Existing Hannibal Substation Fence
- Proposed Hannibal Substation Fence: 25-1078-EL-BNR (Filed Separately)

Data Sources: AEP, Monroe County, OSIP, 2024

Coordinate System and Datum: NAD 83 State Plane Ohio South, Feet

October 20, 2026



FIGURE 2
AERIAL MAP

OHIO POWER COMPANY

Lector Extension 138kV Transmission Line Project

0 100 200 300

Feet

Appendix B PJM Solution and Long Term Forecast Report

AEP Transmission Zone M-3 Process
Ormet, OH

Need Number: AEP-2024-OH040

Process Stage: Solution Meeting SRRTEP-W - 03/14/2025

Previously Presented: Need Meeting 07/19/2024

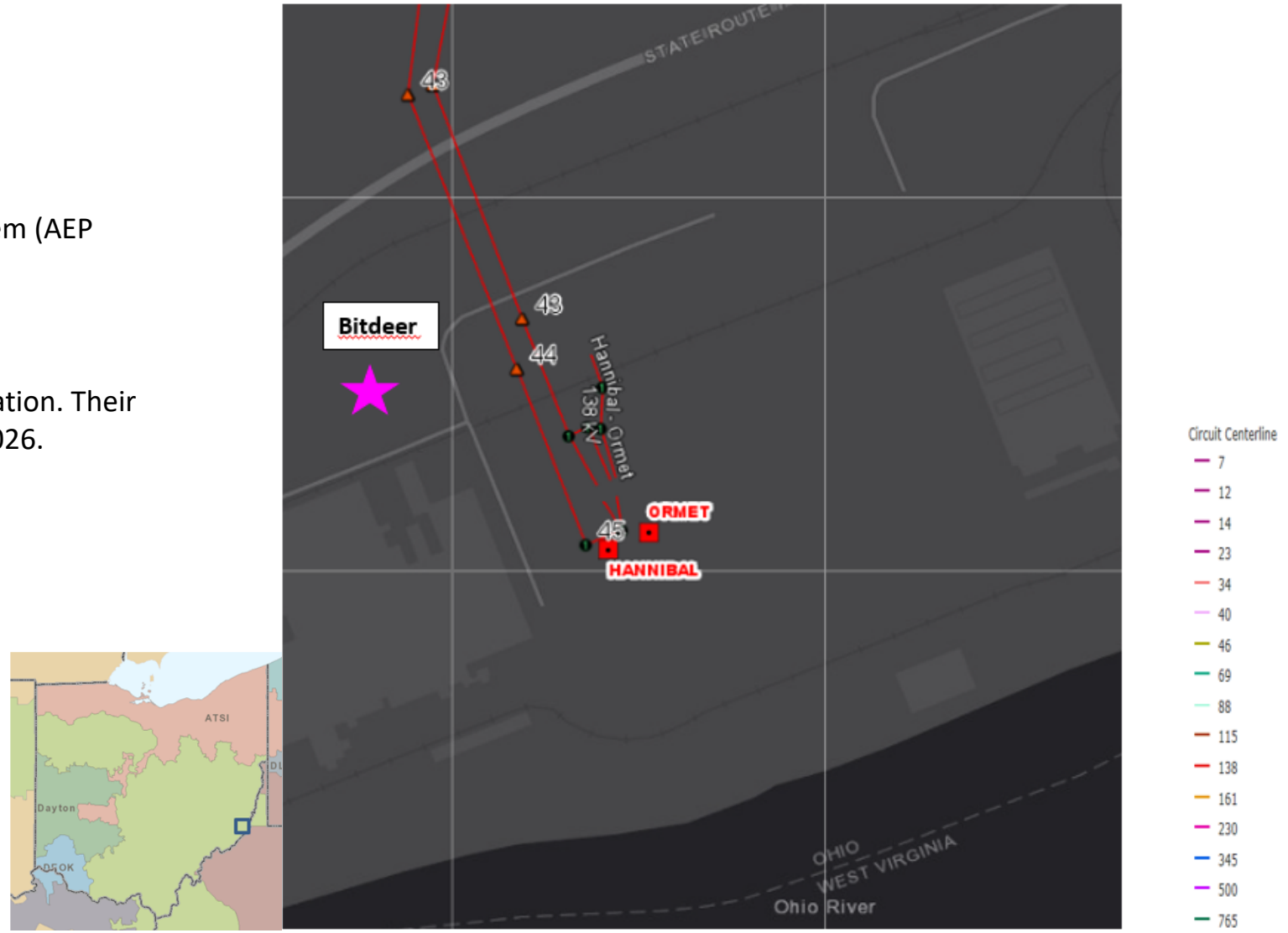
Project Driver: Customer Service

Specific Assumption References:

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

Problem Statement:

A customer has request new 138 kV service from Hannibal station. Their anticipated load is 266MW. They have requested service in 2026.



AEP Transmission Zone M-3 Process
Ormet, OH

Need Number: AEP-2024-OH040

Process Stage: Solution Meeting SRRTEP-W - 03/14/2025

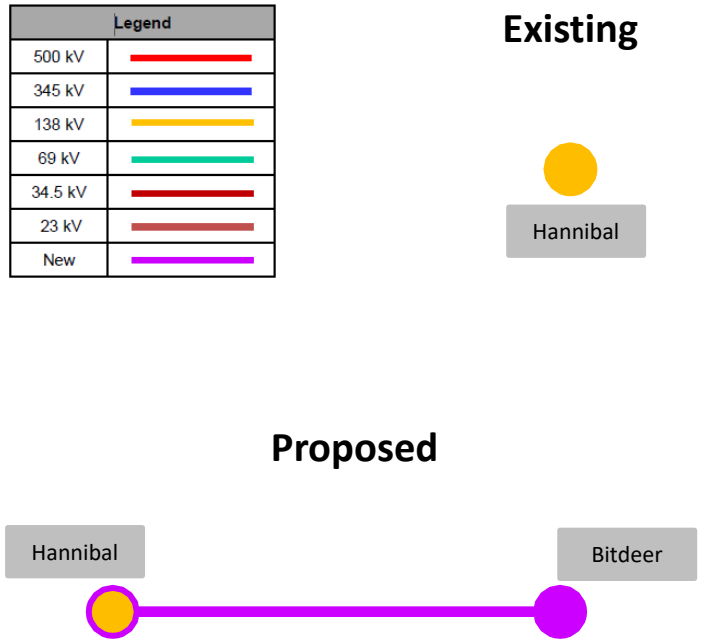
Proposed Solution:

Hannibal - Customer Site 138 kV: Hannibal – Customer 138kV radial Feed: A new radial feed of about 0.2 miles to feed the customer directly from Hannibal station. Estimated Cost: $3.211 M.

Kammer - Ormet No.1 138 kV Relocation: Relocate Kammer - Ormet No.1 double circuit 138kV line (Hannibal - Kammer 138kV circuits) to enter the Hannibal substation from North Side. This will allow for the Hannibal substation expansion to the West side and which in turn will allow the new customer lines to exit from the South of Hannibal substation. Estimated Cost: $0.917 M.

Hannibal Station Work: At Hannibal substation to provide service to the customer, expand station yard and both 138kV main bus runs to accommodate new CB strings. A new 138 kV breaker string will be required due to lack of open positions at Hannibal station. Three new 138 kV 63 kA breakers will be necessary allow for customer interconnection. Two 138kV breakers will be relocated to allow for line relocations. Estimated Cost: $4.462 M.

Transmission Cost Estimate: $8.59 M



Alternatives Considered:

Cut into Kammer - Hannibal #1 138 kV and Kammer - Hannibal #2 138 kV circuits to build new Stetson Run Substation. The customer will then be served directly from Stetson Run Substation which will be directly north of the customer site.

Projected In-Service: 06/01/2026

Project Status: Scoping

8	**PLANNED SUBSTATION:**	N/A
9	**SUPPORTING STRUCTURES:**	Steel
10	**PARTICIPATION WITH OTHER UTILITIES**	N/A
11	**PURPOSE OF THE PLANNED TRANSMISSION LINE**	Service to new customer
12	**CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION**	Unable to serve new customer
13	**MISCELLANEOUS:**	N/A
1	**LINE NAME AND NUMBER:**	Lector Extension 138 kV (TP2024030)
2	**POINTS OF ORIGIN AND TERMINATION**	Hannibal - Bitdeer INTERMEDIATE STATION - N/A
3	**RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS**	0.2 mi / 100ft / 1 circuit
4	**VOLTAGE: DESIGN / OPERATE**	138 / 138 kV
5	**APPLICATION FOR CERTIFICATE:**	2025
6	**CONSTRUCTION:**	2025 - 2026
7	**CAPITAL INVESTMENT:**	$0.78 M
8	**PLANNED SUBSTATION:**	N/A
9	**SUPPORTING STRUCTURES:**	Steel
10	**PARTICIPATION WITH OTHER UTILITIES**	N/A
11	**PURPOSE OF THE PLANNED TRANSMISSION LINE**	Service to new customer
12	**CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION**	Unable to serve new customer
13	**MISCELLANEOUS:**	N/A
1	**LINE NAME AND NUMBER:**	Hannibal - Bitdeer 138 kV Temp (TP2024030)
2	**POINTS OF ORIGIN AND TERMINATION**	Hannibal - Kammer INTERMEDIATE STATION - Bitdeer
3	**RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS**	0.1 mi / 100ft / 1 circuit
4	**VOLTAGE: DESIGN / OPERATE**	138 / 138 kV
5	**APPLICATION FOR CERTIFICATE:**	2025
6	**CONSTRUCTION:**	2025
7	**CAPITAL INVESTMENT:**	$0.91 M
8	**PLANNED SUBSTATION:**	N/A
9	**SUPPORTING STRUCTURES:**	Steel
10	**PARTICIPATION WITH OTHER UTILITIES**	N/A
11	**PURPOSE OF THE PLANNED TRANSMISSION LINE**	Temp Service to new customer

Appendix C Easement Form

Line Name: Lector Extension 138 kV Transmission Line
Line No.: **Easement No.:**

EASEMENT AND RIGHT OF WAY

On this ___ day of_____, 2025, in consideration of Ten and NO/100 Dollars ($10.00), and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the covenants hereinafter set forth, **Landowner**, whose address is Address, City State Zip ("Grantor"), whether one or more persons, hereby grants, sells, conveys, and warrants to **Ohio Power Company, Inc.**, a(n) Ohio corporation, a unit of American Electric Power, whose principal business address is 1 Riverside Plaza, Columbus, Ohio 43215, ("AEP") and its successors, assigns, lessees and tenants a permanent easement and right of way ("Easement"), for electric transmission, distribution, and communication lines and appurtenant equipment and fixtures, being, in, on, over, under, through and across the following described lands of the Grantor, situated in the State of _____, _____ County, Jersey, Section, Township No. , Range No. , Tax Parcel Number _____.

Grantor claims title by _____, Book _____, Page _____, recorded on _____; in the _____ County Recorder's Office.

Auditor/Key/Tax Number:

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

GRANTOR FURTHER GRANTS AEP THE FOLLOWING RIGHTS:

The right, now or in the future, to construct, reconstruct, operate, maintain, alter, improve, extend, inspect and patrol (by ground or air), protect, repair, remove, replace, upgrade and relocate within the Easement Area, poles, towers, and structures, made of wood, metal, concrete or other materials, and crossarms, guys, anchors, grounding systems, and all other appurtenant equipment and fixtures, and to string conductors, wires and cables; together with the right to add to said facilities from time to time, and the right to do anything necessary, useful or convenient for the enjoyment of the Easement herein granted.

The right, in AEP's discretion, now or in the future, to cut down, trim, remove, and otherwise control, using herbicides or tree growth regulators or other means, any and all trees, overhanging branches, vegetation or brush situated within the Easement Area. AEP shall also have the right to cut down, trim or remove trees situated on lands of Grantor which adjoin the Easement Area when in the opinion of AEP those trees may endanger the safety of, or interfere with the construction, operation or maintenance of AEP's facilities or ingress or egress to, from or along the Easement Area.

The right of unobstructed ingress and egress, at any and all times, over, across and along and upon the Easement Area, and across the adjoining lands of Grantor as may be necessary for access to and from the Easement Area for the above referenced purposes.

THIS GRANT IS SUBJECT TO THE FOLLOWING CONDITIONS:

The Grantor reserves the right to cultivate annual crops, pasture, construct fences (provided gates are installed that adequately provide AEP the access rights conveyed herein) and roads or otherwise use the lands encumbered by this Easement in any way not inconsistent with the rights herein granted. In no event, however, shall Grantor, its heirs, successors, and assigns plant or cultivate any trees or place, construct, install, erect or permit any temporary or permanent building, structure, improvement or obstruction including but not limited to, storage tanks, billboards, signs, sheds, dumpsters, light poles, water impoundments, above ground irrigation systems, swimming pools or wells, or permit any alteration of the ground elevation, over, or within the Easement Area. AEP may, at Grantor's cost, remove any structure or obstruction if placed within the Easement Area, and may re-grade any alterations of the ground elevation within the Easement Area.

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

The failure of AEP to exercise any of the rights granted herein, or the removal of any facilities from the Easement, shall not be deemed to constitute an abandonment or waiver of the rights granted herein.

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

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

Any remaining space on this page left intentionally blank. See next page for signatures.

IN WITNESS WHEREOF, the Grantor has executed this Easement effective the day, month and year first above written.

GRANTOR

_____

State of §
§
County of §

This instrument was acknowledged before me on the _____ day of _____, 2025, by

_____
Notary Public
Print Name: _____
My Commission Expires:_____

This instrument prepared by Marland L. Turner, Senior Counsel - Real Estate, American Electric Power Service Corporation, 1 Riverside Plaza, Columbus, OH 43215 for and on behalf of Ohio Power Company, Inc., a unit of American Electric Power.

When recorded return to: American Electric Power - Transmission Right of Way, 8600 Smiths Mill Road, New Albany, OH 43054.

Appendix D Agency Correspondence

In reply, refer to
2024-MOE-63392

January 17, 2025

Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212
rweller@wellercrm.com

RE: Hannibal-Bitdeer 138kV Project, Ohio Township, Monroe County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on December 19, 2024, regarding the proposed Hannibal-Bitdeer 138kV Project located in Ohio Township, Monroe 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 (OPSB) rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resources Management Investigations for the 2.1 ha (5.3 ac) Hannibal-Bitdeer 138kV Project in Ohio Township, Monroe County, Ohio* by Ryan J. Weller and Scott A. McIntosh (Weller & Associates, Inc. 2024). The project is related to transmission line work that will extend from the Ormet Station to the new Bitdeer Station in Monroe County, Ohio. A literature review, visual inspection, shovel probing, and photographic documentation were completed as part of the investigations. Portions of the project corridor had been previously investigated for the presence of cultural resources. There were no previously documented archaeological sites located within the project corridor and no new archaeological sites were identified. The project corridor is located within an industrial setting and extensive soil disturbance was confirmed during these investigations. Our office agrees that no additional archaeological survey is necessary.

Based on the information provided, our office agrees 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 archaeological resources are discovered during the implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me by e-mail at cgullett@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Catherine Gullett, Project Reviews Coordinator - Archaeology
Resource Protection and Review
State Historic Preservation Office

RPR Serial No: 1106308

In reply, refer to
2024-MOE-63392

December 5, 2025

Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212
rweller@wellercrm.com

RE: Hannibal-Bitdeer 138kV Project, Ohio Township, Monroe County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on November 6, 2025, regarding the proposed Hannibal-Bitdeer 138kV Project located in Ohio Township, Monroe 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 (OPSB) rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Phase I Cultural Resources Management Investigations for the 4.7 ha (11.6 ac) Hannibal-Bitdeer 138kV Project in Ohio Township, Monroe County, Ohio* by Ryan J. Weller and Scott A. McIntosh (Weller & Associates, Inc. 2025). This survey addressed alterations to a transmission line extension project that was previously surveyed and reviewed by our office (Weller 2024). A literature review, visual inspection, shovel probing, and photographic documentation were completed as part of the investigations. Much of the project had been previously investigated for the presence of cultural resources. There were no previously documented archaeological sites located within the project and no new archaeological sites were identified. The project corridor is located within an industrial setting and extensive soil disturbance was confirmed during these investigations. Our office agrees that no additional archaeological survey is necessary.

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

Sincerely,

Catherine Gullett, Project Reviews Coordinator - Archaeology
Resource Protection and Review
State Historic Preservation Office

RPR Serial No: 1111630

POWER ENGINEERS, INC.
11733 CHESTERDALE ROAD
CINCINNATI, OHIO 45246 USA

PHONE 513-326-1500
FAX 513-326-1550

October 18, 2024

Attention: Mr. Mike Pettegrew
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Road, Building E-2
Columbus, OH 43229-6693
Email: environmentalreviewrequest@dnr.state.oh.us

Subject: Request for Environmental Review, Bitdeer Station Expansion Project; Ohio Township, Monroe County, OH

Dear Mr. Pettegrew:

On behalf of the American Electric Power Ohio Transmission Company, Inc., POWER Engineers, Inc., is requesting that the Ohio Department of Natural Resources (ODNR) – Office of Real Estate complete an environmental and Natural Heritage Database review within 0.5 mile of the proposed Bitdeer Station Expansion Project (Project) in Ohio Township, Monroe County, Ohio. The site is located at coordinates 39.703425, -80.845545, as shown on the attached Project Location Map. A file containing the shapefiles (UTM Zone 17 NAD 83) for the Project study area has also been provided electronically.

The Project proposes to install new transmission line structures from the Ormet Station to the new Bitdeer Station. The Project is located within an existing American Electric Power Ohio Transmission Company, Inc. facility.

Please provide the results of the ODNR's environmental review, including the results of the ODNR Natural Heritage Database search, at your earliest convenience. If you require any additional information about the Project, please contact me at 304-550-2882 or email daniel.ware@powereng.com. Thank you for your time and assistance.

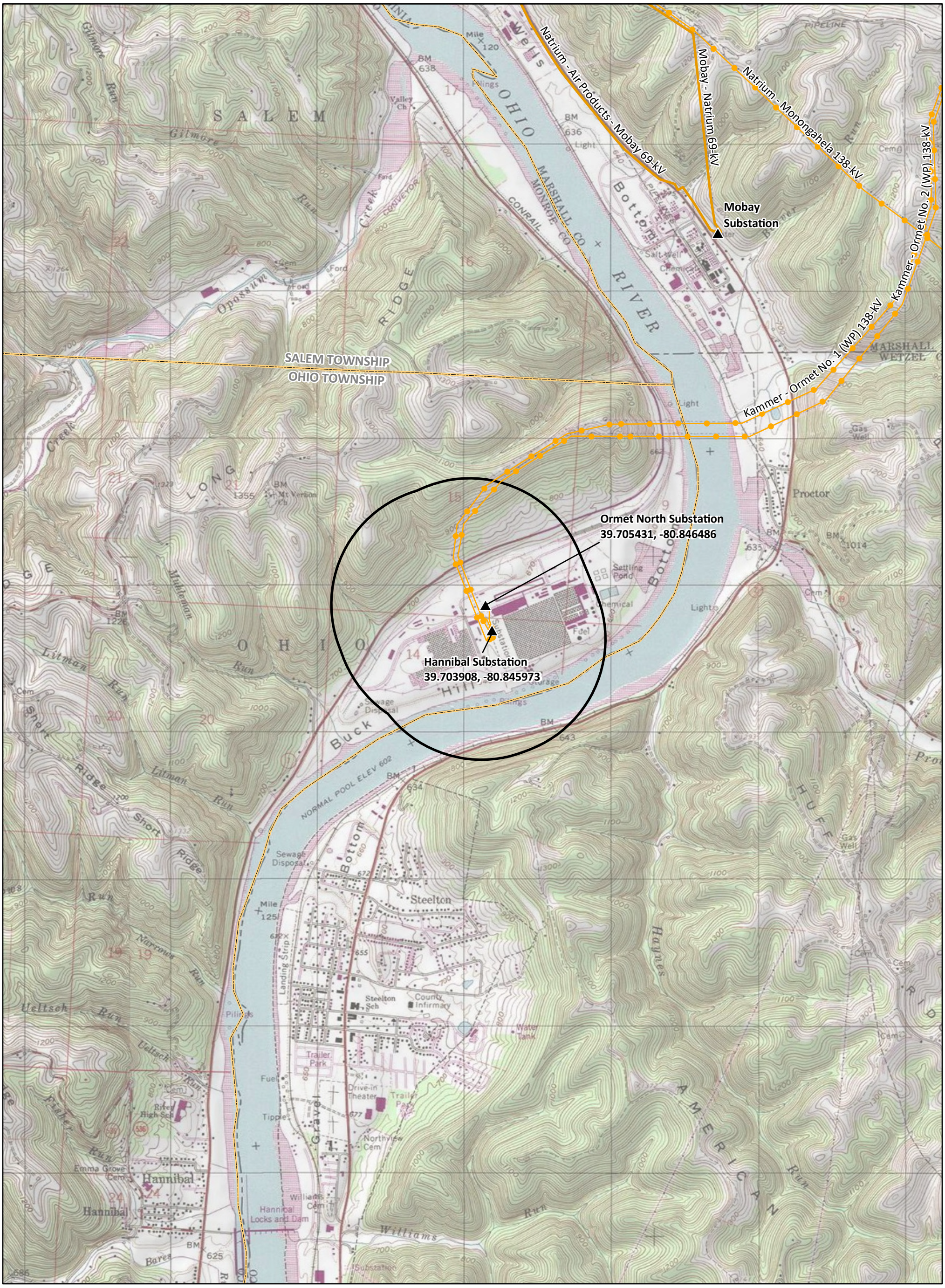
Sincerely,

Daniel Ware

Daniel Ware, PWS
Natural Resources Technical Lead

Attachments: Bitdeer Station Project Location Map
Bitdeer Station Expansion Shapefiles

c: Jonathon Rose – American Electric Power





- Existing Substation
- Existing Transmission Line (69-kV or Lower)
- Existing Transmission Line (138-kV - 345-kV)
- Study Area
- Township Boundary

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OVERVIEW

The State of Ohio
Monroe County
Ohio Township

NAD 1983 UTM Zone 17N
Meter
Transverse Mercator
North American 1983

Date: 10/15/2024

Author: CNR

Prj: 254929, Bitdeer Station

Bitdeer Station Project

Project Location

POWER ENGINEERS

Department of Natural Resources
ohiodnr.gov

Mike DeWine, *Governor*
Jon Husted, *Lt. Governor*
Mary Mertz, *Director*

Office of Real Estate & Land Management
Tara Paciorek - Chief
2045 Morse Road – E-2
Columbus, Ohio 43229-6693

November 21, 2024

Daniel Ware
Power Engineers, Inc.
6530 W. Campus Oval Road, Suite 200
New Albany, Ohio 43054

Re: 24-1653 - Bitdeer Station

Project: The proposed project involves the installation of new transmission line structures from the Ormet Station to the new Bitdeer Station.

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

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

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

Tippecanoe Darter (*Etheostoma tippecanoe*), SC
Channel Darter (*Percina copelandi*), T
River Darter (*Percina shumardi*), T
Threehorn Wartyback (*Obliquaria reflexa*), SC

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

The species listed above are recorded within the boundaries of the specified project area. Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources.

Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

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

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

The project is within the vicinity of records for the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of a state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible.

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

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2022), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site.

Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the following listed fish species.

State Endangered
Ohio lamprey (*Ichthyomyzon bdellium*)

State Threatened
American eel (*Anguilla rostrata*)
channel darter (*Percina copelandi*)
river darter (*Percina shumardi*)

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 eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonius*), 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, the project is not likely to impact this species.

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

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

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

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

Expiration: *ODNR Environmental Reviews are typically valid for 2 years from the issuance date. If the scope of work, project area, construction limits, and/or anticipated impacts to natural resources have changed significantly from the original project submittal, then a new Environmental Review request should be submitted.*

POWER ENGINEERS, INC.
11733 CHESTERDALE ROAD, CINCINNATI, OHIO 45246 USA | 513-326-1500

November 18, 2025

Attention: Mr. Mike Pettegrew
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Road, Building E-2
Columbus, OH 43229-6693
Email: environmentalreviewrequest@dnr.state.oh.us

Subject: Request for Environmental Review, Hannibal-Bitdeer 138-kV TLE Project; Ohio Township, Monroe County, Ohio

Dear Mr. Pettegrew:

On behalf of the American Electric Power Ohio Transmission Company, Inc., POWER Engineers, Inc., a wholly owned subsidiary of WSP USA Inc., is requesting that the Ohio Department of Natural Resources (ODNR) – Office of Real Estate complete an environmental and Natural Heritage Database review within 0.5 mile of the proposed Hannibal-Bitdeer 138-kilovolt (kV) TLE Project (Project) in Ohio Township, Monroe County, Ohio. The site is located at coordinates 39.703908, -80.845973, as shown on the attached Project Location Map. A file containing the shapefiles (UTM Zone 17 NAD 83) for the Project study area has also been provided electronically.

The Project proposes to relocate an existing transmission line and install a new transmission line from the Hannibal Substation to the new Bitdeer Station. In addition, the existing Hannibal Substation will be expanded. The Project is located within and adjacent to existing American Electric Power Ohio Transmission Company, Inc. infrastructure.

Please provide the results of the ODNR's environmental review, including the results of the ODNR Natural Heritage Database search, at your earliest convenience. If you require any additional information about the Project, please contact me at 304-550-2882 or email daniel.ware@powereng.com. Thank you for your time and assistance.

Sincerely,

Daniel Ware

Daniel Ware, PWS
Natural Resources Technical Lead

Attachments: Hannibal-Bitdeer 138-kV TLE Project Location Map
Hannibal-Bitdeer 138-kV TLE Project Shapefiles

c: Jonathon Rose – American Electric Power

Natrium - Air Products - Mobay 69-kV

Mobay - Natrium 69-kV

Natrium - Monongahela 138-kV

Kammer - Ormet No. 1 (WP) 138-kV

Kammer - Ormet No. 2 (WP) 138-kV

Mobay Substation

Ormet North Substation
39.705431, -80.846486

Hannibal Substation
39.703908, -80.845973

SALEM TOWNSHIP
OHIO TOWNSHIP



- Existing Substation
- Existing Transmission Line (69-kV or Lower)
- Existing Transmission Line (138-kV - 345-kV)
- Study Area
- Township Boundary

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OVERVIEW

The State of Ohio
Monroe County
Ohio Township

NAD 1983 UTM Zone 17N
Meter
Transverse Mercator
North American 1983

Date: 11/14/2025

Author: CNR

Prj: 254929, Bitdeer Station

Hannibal-Bitdeer 138-kV TLE Project

Project Location

POWER ENGINEERS
MEMBER OF WSP

Department of Natural Resources
ohiodnr.gov

Mike DeWine, *Governor*
Jim Tressel, *Lt. Governor*
Mary Mertz, *Director*

Office of Real Estate & Land Management
Tara Paciorek - Chief
2045 Morse Road – E-2
Columbus, Ohio 43229-6693

December 11, 2025

Daniel Ware
Power Engineers, Inc.
6530 W. Campus Oval Road, Suite 200
New Albany, Ohio 43054

Re: 25-1804_Hannibal-Bitdeer 138-kV TLE

Project: The proposed project involves the relocation of an existing transmission line, the installation of a new transmission line from the Hannibal Substation to the new Bitdeer Station, and the expansion of the existing Hannibal Substation.

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

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

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

Tippecanoe Darter (*Etheostoma tippecanoe*), SC
Channel Darter (*Percina copelandi*), T
River Darter (*Percina shumardi*), T
Threehorn Wartyback (*Obliquaria reflexa*), SC

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

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, and the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in the area, summer tree clearing is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree clearing inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in clusters of dead leaves on tree limbs. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree and/or tree limb clearing 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 a Diameter Breast Height (DBH) ≥ 20" if possible.

For every project, the DOW also recommends that a winter bat habitat assessment is conducted to determine if potential hibernacula are present within the project area. This is to limit possible disturbances that seasonal tree clearing and/or subsurface work (e.g., trenching, blasting, etc.) may cause to hibernating bats. Potential hibernacula include rocky outcroppings, caves, and underground mines. Direction on how to conduct winter habitat assessments can be found in the joint guidance OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile permanent tree clearing buffer around the hibernaculum entrance. Limited summer or winter tree clearing may be acceptable after consultation with the DOW. If a habitat assessment for projects involving subsurface disturbance finds that a potential hibernaculum is present within 5 miles of the project area, please consult with Eileen Wyza for project recommendations. If no tree clearing 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 fish species.

State Endangered
Ohio lamprey (*Ichthyomyzon bdellium*)

State Threatened
American eel (*Anguilla rostrata*)
channel darter (*Percina copelandi*)
river darter (*Percina shumardi*)

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 eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonius*), 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, the project is not likely to impact this species.

Due to the potential for 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 not conducted a project specific review and/or comments, however, the guidance provided below should be reviewed by the Environmental Review applicant for applicability on this project and subsequent compliance.

If the subject project is in a floodplain regulated by the Federal Emergency Management Agency (FEMA), the local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals. The FEMA National Flood Hazard Layer (NHFL) Viewer website can be utilized to see if the project is in a FEMA regulated floodplain. If the project is not in a FEMA regulated floodplain, then no further action is required.

Ohio Revised Code (ORC) Section 1521.16 mandates that any owner of a property or a facility that has the capacity of withdrawing 100,000 gallons per day (gpd) of water from groundwater, surface water, or both must register with the Division of Water Resources' Water Withdrawal Facilities Registration (WWFR) Program and report their withdrawals annually.

Additional coordination may be required depending on the location of the withdrawal and consumptive use. Restrictions or permitting may be required for:

- New or increased consumptive use of water averaging 2 million gallons per day (mgd) within 30 days within the Ohio River basin.
- New or increased withdrawal and consumptive water use in the Lake Erie watershed averaging 1 million gallons per day (mgd) or more in 90 days.
- New or increased water withdrawal directly from Lake Erie averaging 2.5 million gallons per day (mgd) or more in 90 days.
- Diversion or movement of water across the Ohio River and Lake Erie basin divide.

If the project does not involve activities that are subject to water withdrawal regulatory requirements as described above, then no further action is required. For more information, visit the Water Inventory & Planning website.

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

Expiration: *ODNR Environmental Reviews are typically valid for 2 years from the issuance date. If the scope of work, project area, construction limits, and/or anticipated impacts to natural resources have changed significantly from the original project submittal, then a new Environmental Review request should be submitted.*

POWER ENGINEERS, INC.
11733 CHESTERDALE ROAD
CINCINNATI, OHIO 45246 USA

PHONE 513-326-1500
FAX 513-326-1550

October 18, 2024

Attention: Mr. Dan Everson
United States Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
Email: Ohio@fws.gov

Subject: Request for Environmental Review, Bitdeer Station Project; (Project Code: 2025-0003763), Ohio Township, Monroe County, OH

Dear Mr. Everson:

On behalf of the American Electric Power Ohio Transmission Company, Inc., POWER Engineers, Inc., is requesting that the United States Fish and Wildlife Service's Ohio Ecological Services Field Office provide comments regarding federally listed threatened and endangered species within 0.5 mile of the proposed Bitdeer Station Project (Project) in Ohio Township, Monroe County, Ohio. The Project is located at coordinates 39.703425, -80.845545, as shown on the attached Project Location Map. Results of the United States Fish and Wildlife Services' Information for Planning and Consultation official species list (Project Code: 2025-0003763), Project Location Map, and file containing the shapefiles (UTM Zone 17 NAD 83) for the Project study area are included.

The Project proposes to install new transmission line structures from the Ormet Station to the new Bitdeer Station. The Project is located within an existing American Electric Power Ohio Transmission Company, Inc. facility.

Please provide comments regarding threatened and endangered species for the proposed Project at your earliest convenience. If you require any additional information about the Project, please contact me at 304-550-2882 or email daniel.ware@powereng.com. Thank you for your time and assistance.

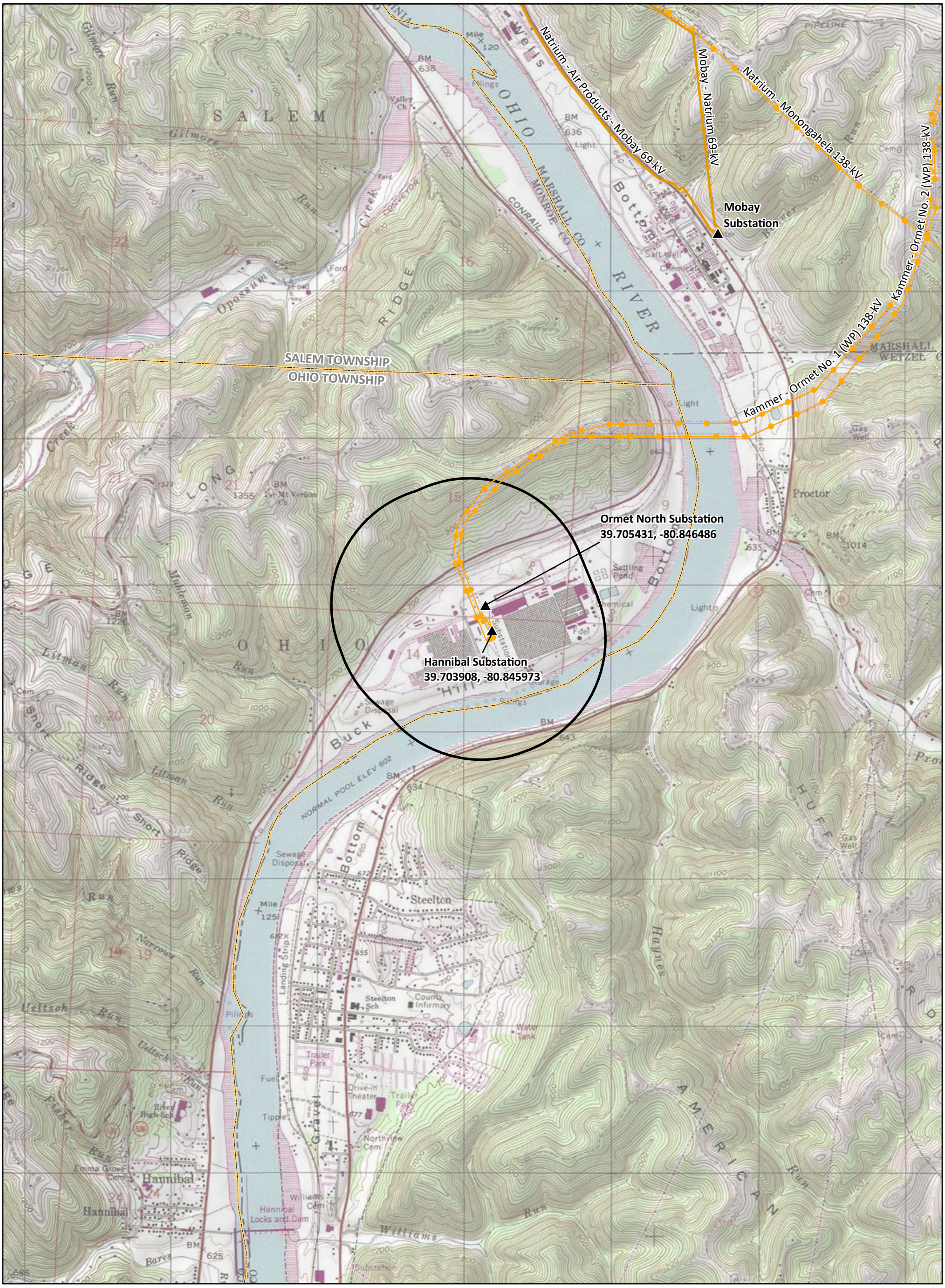
Sincerely,

Daniel Ware

Daniel Ware, PWS
National Resources Technical Lead

Attachments: Bitdeer Station Project Location Map
Bitdeer Station IPaC Results
Bitdeer Station Expansion Shapefiles

c: Jonathon Rose – American Electric Power





- Existing Substation
- Existing Transmission Line (69-kV or Lower)
- Existing Transmission Line (138-kV - 345-kV)
- Study Area
- Township Boundary

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OVERVIEW

The State of Ohio
Monroe County
Ohio Township

NAD 1983 UTM Zone 17N
Meter
Transverse Mercator
North American 1983

Date: 10/15/2024

Author: CNR

Prj: 254929, Bitdeer Station

Bitdeer Station Project

Project Location

POWER ENGINEERS

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To: 10/09/2024 14:41:38 UTC
Project Code: 2025-0003763
Project Name: Bitdeer Station Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

PROJECT SUMMARY

Project Code: 2025-0003763
Project Name: Bitdeer Station Project
Project Type: Distribution Line - New Construction - Above Ground
Project Description: Installation of new transmission line structures from Ormet Station to new Bitdeer Station.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.7040873,-80.847001146937,14z



Counties: Monroe County, Ohio

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

CLAMS

NAME	STATUS
Clubshell *Pleurobema clava* Population: Wherever found; Except where listed as Experimental Populations No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3789	Endangered
Longsolid *Fusconaia subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9880	Threatened
Pink Mucket (pearlymussel) *Lampsilis abrupta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829	Endangered
Round Hickorynut *Obovaria subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9879	Threatened
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Sheepnose Mussel *Plethobasus cyphyus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6903	Endangered
Snuffbox Mussel *Epioblasma triquetra* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Daniel Ware
Address:	6530 W. Campus Oval
Address Line 2:	Suite 200
City:	New Albany
State:	OH
Zip:	43054
Email	daniel.ware@powereng.com
Phone:	3045502882

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

November 7, 2024

Project Code: 2025-0003763

Dear Daniel Ware:

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

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

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

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

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

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

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

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

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

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

Sincerely,

Erin Knoll
Field Office Supervisor

cc: Matthew.Stooksbury@dnr.ohio.gov
Eileen.Wyza@dnr.ohio.gov

POWER ENGINEERS, INC.
11733 CHESTERDALE ROAD, CINCINNATI, OHIO 45246 USA | 513-326-1500

November 18, 2025

Attention: Mr. Dan Everson
United States Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230
Email: Ohio@fws.gov

Subject: Request for Technical Assistance, Hannibal-Bitdeer 138-kV TLE Project; (Project Code: 2026-0015939), Ohio Township, Monroe County, Ohio

Dear Mr. Everson:

On behalf of the American Electric Power Ohio Transmission Company, Inc., POWER Engineers, Inc., a wholly owned subsidiary of WSP USA Inc., is requesting that the United States Fish and Wildlife Service's Ohio Ecological Services Field Office provide comments regarding federally listed threatened and endangered species within 0.5 mile of the proposed Hannibal-Bitdeer 138-kilovolt (kV) TLE Project (Project) in Ohio Township, Monroe County, Ohio. The Project is located at coordinates 39.703908, -80.845973, as shown on the attached Project Location Map. Results of the United States Fish and Wildlife Services' Information for Planning and Consultation official species list (Project Code: 2026-0015939), Project Location Map, and file containing the shapefiles (UTM Zone 17 NAD 83) for the Project study area are included.

The Project proposes to relocate an existing transmission line and install a new transmission line from the Hannibal Substation to the new Bitdeer Station. In addition, the existing Hannibal Substation will be expanded. The Project is located within and adjacent to existing American Electric Power Ohio Transmission Company, Inc. infrastructure.

Please provide comments regarding threatened and endangered species for the proposed Project at your earliest convenience. If you require any additional information about the Project, please contact me at 304-550-2882 or email daniel.ware@powereng.com. Thank you for your time and assistance.

Sincerely,

Daniel Ware

Daniel Ware, PWS
National Resources Technical Lead

Attachments Hannibal-Bitdeer 138-kV TLE Project Location Map
Hannibal-Bitdeer 138-kV TLE Project IPaC Results
Hannibal-Bitdeer 138-kV TLE Project Shapefiles

c: Jonathon Rose – American Electric Power

Natrium - Air Products - Mobay 69-kV

Mobay - Natrium 69-kV

Natrium - Monongahela 138-kV

Kammer - Ormet No. 1 (WP) 138-kV

Kammer - Ormet No. 2 (WP) 138-kV

Mobay Substation

Ormet North Substation
39.705431, -80.846486

Hannibal Substation
39.703908, -80.845973

SALEM TOWNSHIP
OHIO TOWNSHIP



- Existing Substation
- Existing Transmission Line (69-kV or Lower)
- Existing Transmission Line (138-kV - 345-kV)
- Study Area
- Township Boundary

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Feet

OVERVIEW

The State of Ohio
Monroe County
Ohio Township

NAD 1983 UTM Zone 17N
Meter
Transverse Mercator
North American 1983

Date: 11/14/2025

Author: CNR

Prj: 254929, Bitdeer Station

Hannibal-Bitdeer 138-kV TLE Project

Project Location

POWER ENGINEERS
MEMBER OF WSP

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To: 11/14/2025 17:07:07 UTC
Project Code: 2026-0015939
Project Name: Hannibal-Bitdeer 138-kV TLE Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Requests for additional technical assistance or consultation from the Ohio Field Office should be submitted following guidance on the following page https://www.fws.gov/office/ohio-ecological-services/request-project-review. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Note: IPaC has provided all available attachments because this project is in multiple field office jurisdictions.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Bald & Golden Eagles
- Migratory Birds
- Wetlands

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

This project's location is within the jurisdiction of multiple offices. However, only one species list document will be provided for all offices. The species and critical habitats in this document reflect the aggregation of those that fall in each of the affiliated office's jurisdiction. Other offices affiliated with the project:

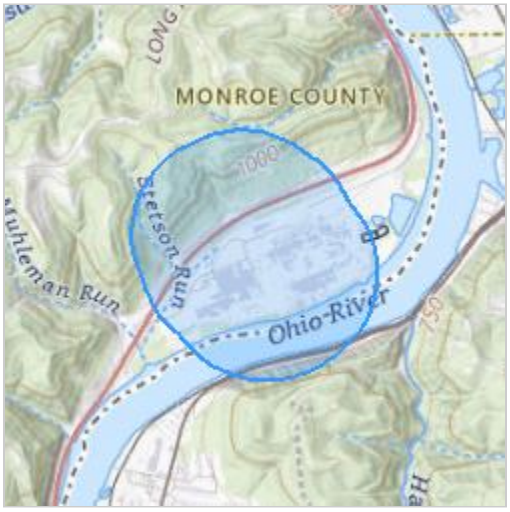
West Virginia Ecological Services Field Office
6263 Appalachian Highway
Davis, WV 26260-8061
(304) 866-3858

PROJECT SUMMARY

Project Code: 2026-0015939
Project Name: Hannibal-Bitdeer 138-kV TLE Project
Project Type: Transmission Line - New Constr - Above Ground
Project Description: The Project proposes to relocate an existing transmission line and install a new transmission line from the Hannibal Substation to the new Bitdeer Station. In addition, the existing Hannibal Substation will be expanded.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.704831350000006,-80.84749277933402,14z



Counties: Ohio and West Virginia

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

CLAMS

NAME	STATUS
Clubshell *Pleurobema clava* Population: Wherever found; Except where listed as Experimental Populations No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3789 General project design guidelines: https://ipac.ecosphere.fws.gov/project/6MV3CXPDZZFNRNTJ3MAG66N4NY/documents/generated/6454.pdf	Endangered
Longsolid *Fusconaia subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9880	Threatened
Pink Mucket (pearlymussel) *Lampsilis abrupta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829 General project design guidelines: https://ipac.ecosphere.fws.gov/project/6MV3CXPDZZFNRNTJ3MAG66N4NY/documents/generated/6463.pdf	Endangered
Round Hickorynut *Obovaria subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9879	Threatened
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Sheepnose Mussel *Plethobasus cyphyus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6903 General project design guidelines:	Endangered

NAME	STATUS
https://ipac.ecosphere.fws.gov/project/6MV3CXPDZZFNRNTJ3MAG66N4NY/documents/generated/6465.pdf	
Snuffbox Mussel *Epioblasma triquetra* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/4135 General project design guidelines: https://ipac.ecosphere.fws.gov/project/6MV3CXPDZZFNRNTJ3MAG66N4NY/documents/generated/6466.pdf	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9743	Proposed Threatened

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

USFWS NATIONAL WILDLIFE REFUGE LANDS AND FISH HATCHERIES

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

BALD & GOLDEN EAGLES

Bald and Golden Eagles are protected under the Bald and Golden Eagle Protection Act [2] and the Migratory Bird Treaty Act (MBTA) [1]. Any person or organization who plans or conducts activities that may result in impacts to Bald or Golden Eagles, or their habitats, should follow appropriate regulations and consider implementing appropriate avoidance and minimization measures, as described in the various links on this page.

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1. The Bald and Golden Eagle Protection Act of 1940.
2. The Migratory Birds Treaty Act of 1918.

3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

There are Bald Eagles and/or Golden Eagles in your project area.

Measures for Proactively Minimizing Eagle Impacts
For information on how to best avoid and minimize disturbance to nesting bald eagles, please review the National Bald Eagle Management Guidelines. You may employ the timing and activity-specific distance recommendations in this document when designing your project/ activity to avoid and minimize eagle impacts. For bald eagle information specific to Alaska, please refer to Bald Eagle Nesting and Sensitivity to Human Activity.

The FWS does not currently have guidelines for avoiding and minimizing disturbance to nesting Golden Eagles. For site-specific recommendations regarding nesting Golden Eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

If disturbance or take of eagles cannot be avoided, an incidental take permit may be available to authorize any take that results from, but is not the purpose of, an otherwise lawful activity. For assistance making this determination for Bald Eagles, visit the Do I Need A Permit Tool. For assistance making this determination for golden eagles, please consult with the appropriate Regional Migratory Bird Office or Ecological Services Field Office.

Ensure Your Eagle List is Accurate and Complete
If your project area is in a poorly surveyed area in IPaC, your list may not be complete and you may need to rely on other resources to determine what species may be present (e.g. your local FWS field office, state surveys, your own surveys). Please review the Supplemental Information on Migratory Birds and Eagles, to help you properly interpret the report for your specified location, including determining if there is sufficient data to ensure your list is accurate.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to bald or golden eagles on your list, see the "Probability of Presence Summary" below to see when these bald or golden eagles are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

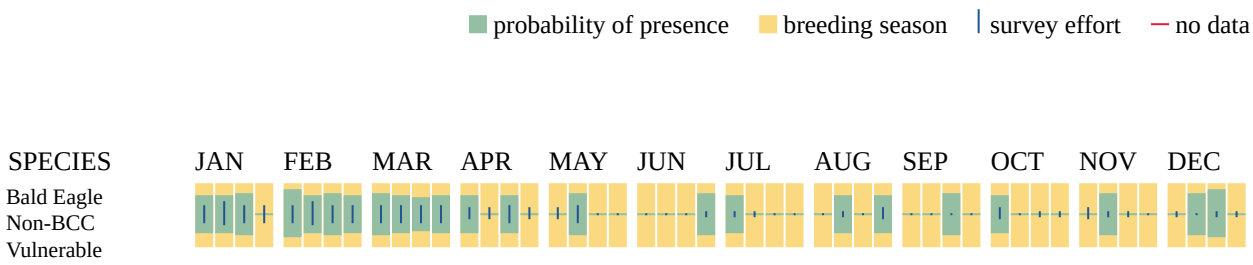
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide avoidance and minimization measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

MIGRATORY BIRDS

The Migratory Bird Treaty Act (MBTA) [1] prohibits the take (including killing, capturing, selling, trading, and transport) of protected migratory bird species without prior authorization by the Department of Interior U.S. Fish and Wildlife Service (Service).

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, see the "Probability of Presence Summary" below to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Sep 1 to Aug 31
Cerulean Warbler *Setophaga cerulea* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/2974	Breeds Apr 27 to Jul 20
Chimney Swift *Chaetura pelagica* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9406	Breeds Mar 15 to Aug 25
Red-headed Woodpecker *Melanerpes erythrocephalus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9398	Breeds May 10 to Sep 10
Rusty Blackbird *Euphagus carolinus* This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9478	Breeds elsewhere
Wood Thrush *Hylocichla mustelina* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9431	Breeds May 10 to Aug 31

PROBABILITY OF PRESENCE SUMMARY

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read "Supplemental Information on Migratory Birds and Eagles", specifically the FAQ section titled "Proper

Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

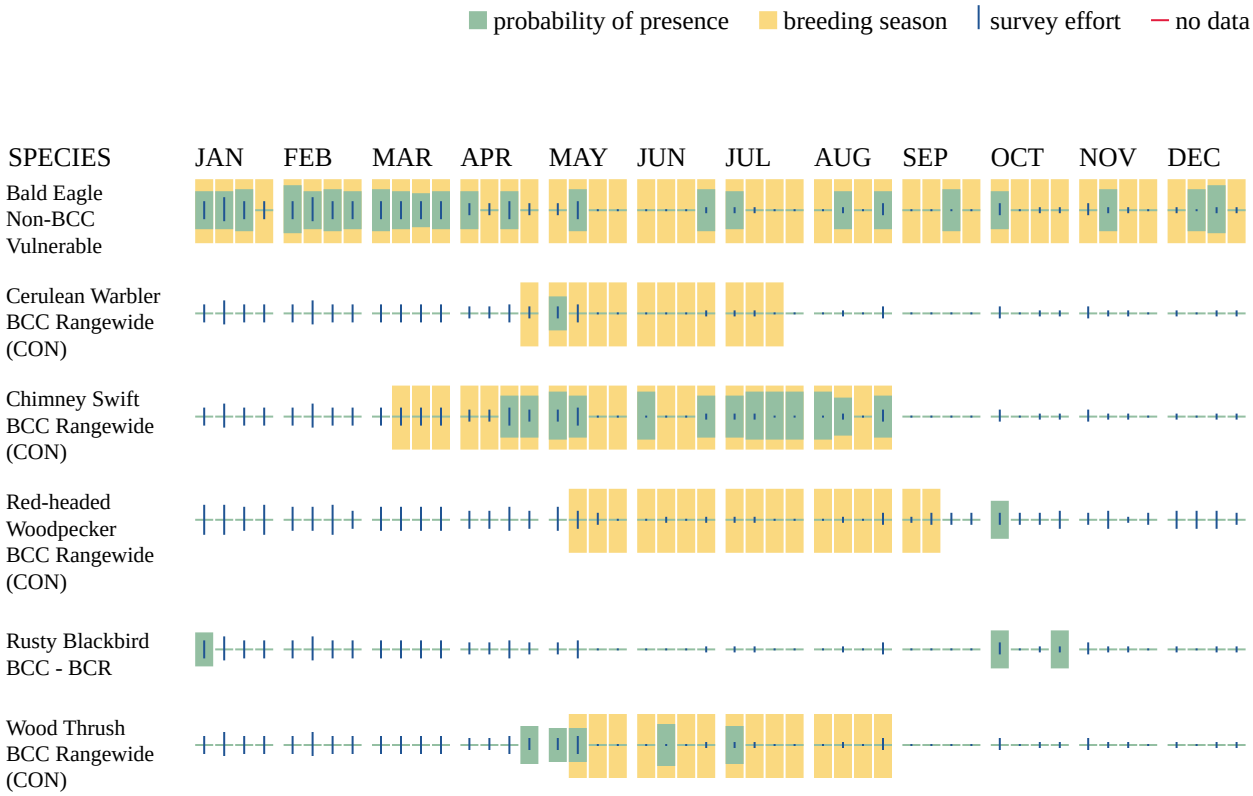
Probability of Presence (■)

Green bars; the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during that week of the year.

Breeding Season (■)
Yellow bars; liberal estimate of the timeframe inside which the bird breeds across its entire range.

Survey Effort (|)
Vertical black lines; the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps.

No Data (–)
A week is marked as having no data if there were no survey events for that week.



Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds

- Nationwide avoidance and minimization measures for birds
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

WETLANDS

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

WETLAND INFORMATION WAS NOT AVAILABLE WHEN THIS SPECIES LIST WAS GENERATED. PLEASE VISIT HTTPS://WWW.FWS.GOV/WETLANDS/DATA/MAPPER.HTML OR CONTACT THE FIELD OFFICE FOR FURTHER INFORMATION.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Daniel Ware
Address:	6530 W. Campus Oval
Address Line 2:	Suite 200
City:	New Albany
State:	OH
Zip:	43054
Email	daniel.ware@powereng.com
Phone:	3045502882

LEAD AGENCY CONTACT INFORMATION

Lead Agency: Army Corps of Engineers

United States Department of the Interior

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

November 24, 2025

Project Code: 2026-0015939

Dear Ms. Wares:

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

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Bridges and culverts have also been used as roosts. Additionally, northern long-eared bats have been observed roosting in other human-made structures, such as buildings, barns, 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 Restrictions 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. If bridges or culverts will be impacted, we recommend reviewing Appendix K in the most recent "Range-Wide Indiana Bat & Northern Long-Eared Bat Survey Guidelines" to determine if the bridge/culvert may be suitable roost habitat. We recommend impacts to suitable bridges and culverts only occur from October 1 and March 31. These seasonal restrictions are recommended to avoid adverse effects to Indiana bats and northern long-eared bats. Please note that, because Indiana bat and/or northern long-eared

bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for these species.

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

On December 12, 2024 the Service proposed to list the monarch butterfly (*Danaus plexippus plexippus*) as threatened under the ESA. Monarch butterflies are found throughout Ohio and some populations migrate vast distances across multiple generations each year. Many monarchs fly between the U.S., Mexico and Canada – a journey of over 3,000 miles. Monarch populations have declined significantly in recent years. Threats include habitat loss – particularly the loss of milkweed, the monarch caterpillar's sole food source – and mortality resulting from pesticide use. The Service recommends the following actions to maintain habitat and avoid impacts to monarchs in Ohio: revegetate disturbed areas with native plant species including nectar-producing plants and milkweed endemic to the area; limit mowing monarch habitat from March 15 to August 31 when monarchs are breeding and from September 1 to October 31 when large numbers of monarchs are migrating; and avoid the use of pesticides and herbicides in and near monarch habitat.

Bald Eagle: The project lies within the range of the bald eagle (*Haliaeetus leucocephalus*). Bald eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d, BGEPA), which prohibits, among other things, the killing and disturbance of eagles.

Our records indicate that a bald eagle nest is located within ½ mile of the project area. Please see this link for specific nest locations: https://ohiodnr.gov/discover-and-learn/animals/birds/bald-eagle. In order to avoid take of bald eagles, we recommend that no tree clearing occur within 660 feet of a bald eagle nest or within any woodlot supporting a nest tree. Further, we request that work within 660 feet of a nest or within the direct line-of-site of a nest be restricted from January 15 through July 31. This will prevent disturbance of the eagles from the egg-laying period until the young fledge, which encompasses their most vulnerable times.

If these recommendations cannot be implemented and take of bald eagles is likely, a bald eagle take permit for this project may be necessary. Further information on eagle take permits can be found at: https://www.fws.gov/story/do-i-need-eagle-take-permit.

Section 7 Coordination: If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), then no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend the federal action agency submit a determination of

effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence. This letter provides technical assistance only and does not serve as a completed section 7 consultation document.

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

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

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

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

Sincerely,

Erin Knoll
Field Office Supervisor

cc: Matthew.Stooksbury@dnr.ohio.gov
Eileen.Wyza@dnr.ohio.gov

Appendix E Threatened & Endangered Species Table

Common/*Scientific Names*	State Listed Status	Federally Listed Status	Agency Comments	Potential Impacts and Avoidance Dates
Clubshell/ *Pleurobema clava*	E	E	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Longsolid/ *Fusconaia subrotunda*	E	T	**ODNR**: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable nesting habitat was not observed within the Survey Area.
Pink Mucket (pearlymussel)/ *Lampsilis abrupta*	E	E	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Round Hickorynut/ *Obovaria subrotunda*	T	T	**ODNR**: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Salamander Mussel/ *Simpsonaias ambigua*	T	PE	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Sheepnose Mussel/ *Plethobasus cyphyus*	E	E	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Snuffbox Mussel/ *Epioblasma triquetra*	E	E	**ODNR**: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Treehorn Wartyback/ *Obliquaria reflexa*	SC	n/a	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.

Common/*Scientific Names*	State Listed Status	Federally Listed Status	Agency Comments	Potential Impacts and Avoidance Dates
Indiana bat/ *Myotis sodalis*	E	E	**ODNR/USFWS:** Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. ODNR - If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.
Northern long-eared bat/ *Myotis septentrionalis*	E	E	**ODNR/USFWS**: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. ODNR- If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.

Common/*Scientific Names*	State Listed Status	Federally Listed Status	Agency Comments	Potential Impacts and Avoidance Dates
Little brown bat/ *Myotis lucifugus*	E	n/a	**ODNR**: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.
Tricolored bat/ *Perimyotis subflavus*	E	PE	**ODNR:** Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.
Monarch Butterfly/ *Danaus plexippus**	n/a	PT	**USFWS:** Due to the project, type, size, and location, USFWS does not anticipate adverse effects to this species.	Suitable foraging and migrating habitat may be present in areas not frequently mowed. Conservation measures, including avoidance dates, have not been provided by USFWS.

Common/*Scientific Names*	State Listed Status	Federally Listed Status	Agency Comments	Potential Impacts and Avoidance Dates
Tippecanoe Darter/ *Etheostoma tippecanoe*	SC	n/a	**ODNR**: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Channel Darter/ *Percina copelandi*	T	n/a	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
River Darter/ *Percina shumardi*	T	n/a	**ODNR**: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
American eel/ *Anguilla rostrata*	T	n/a	**ODNR:** DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Eastern hellbender/ *Cryptobranchus alleganiensis alleganiensis*	E	n/a	**ODNR:** Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Ohio Lamprey/ *Ichthyomyzon bdellium*	E	n/a	**ODNR**: Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Northern harrier/ *Circus hudsonius*	E	n/a	**ODNR:** 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.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.

Status Key: E=Endangered; T=Threatened, PE= Proposed Endangered , SC=Species of Concern, PT=Proposed Threatened

* The USFWS published into the Federal Register their proposal to list the monarch butterfly as threatened on December 12, 2024.

Appendix F Ecological Survey Report

POWER ENGINEERS, INC.
6530 W. CAMPUS OVAL, SUITE 200, NEW ALBANY, OH 43054 USA | 614-502-3900

November 10, 2025

Mr. Jonathon Rose
American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054

Subject: Hannibal-Bitdeer 138-kV TLE Project,
Ohio Township, Monroe County, Ohio
Ecological Survey Report, rev. 1

Dear Mr. Rose:

This report summarizes the results of the wetland and stream assessment and threatened and endangered species habitat assessment conducted by POWER Engineers, Inc., a wholly owned subsidiary of WSP USA Inc. (POWER), for American Electric Power's (AEP's) proposed Hannibal-Bitdeer 138-kV TLE Project (Project) located in Ohio Township, Monroe County, Ohio. A Project Location Map is included as Figure 1 at the end of this report.

The Project includes installing new transmission line structures from the Ormet Substation to the new Bitdeer Substation to improve customer reliability.

AEP retained POWER to determine the boundaries and limits of streams, wetlands, and other aquatic resources at the site, as well as provide a qualitative assessment and opinion on potential jurisdiction of identified aquatic resources (based on current state and federal regulations), characterize existing site conditions, and review the Project for threatened and endangered species habitat. Field surveys were performed within a 11.62-acre survey area (Survey Area) adjacent to the existing Ormet and Hannibal Substations. The findings and results of the on-site assessment are described below.

METHODOLOGY

Prior to the field survey, hydrologic resource mapping, including Federal Emergency Management Agency (FEMA) regulated floodplains, National Hydrography Dataset (NHD) streams, and National Wetlands Inventory (NWI) data, are reviewed within the vicinity of survey areas (Figure 2 at the end of this report). NWI riverine lines are typically excluded in order to review more comprehensive NHD streamlines.

A Global Positioning System capable of sub-meter accuracy is used to determine boundaries of all identified aquatic resources and other salient features. On-site evaluations are conducted during suitable conditions and avoided when conditions are unsafe or limit the ability to identify aquatic features (e.g., severe storms or accumulated snow). However, field surveys are conducted throughout the year when feasible and may occur during non-optimal conditions (e.g., rain or drought). The Antecedent Precipitation Tool was used to provide a standardized methodology for evaluating normal precipitation conditions in the Project area at the time of survey. This tool provides an assessment of the presence or absence of drought conditions, as well as the approximate dates of the wet and dry seasons, for a given location.

During field surveys, the Ohio Environmental Protection Agency's (OEPA's) Ohio Rapid Assessment Method is used to evaluate the quality and function of identified wetlands. The

OEPA's *Headwater Habitat Evaluation Index* is used to assess streams with drainage areas less than 1.0 square mile or natural pool depths less than 40 centimeters, while the OEPA's *Qualitative Habitat Evaluation Index* is used to assess streams with drainage areas greater than 1.0 square mile or natural pool depths greater than 40 centimeters.

Wetlands are lands that have a predominance of hydric soils, hydrophytic vegetation, and prolonged soil saturation or inundation. Locations of wetland determination data points are selected in accordance with procedures outlined in the United States Army Corps of Engineers' (USACE's) 1987 *Corps of Engineers Wetlands Delineation Manual* and the USACE's 2012 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountain and Piedmont Region* (Version 2.0). Paired data points (i.e., one wetland data point [WDP] and one upland data point [UDP]) are collected for each wetland and any additional wetland components (i.e., Cowardin classifications). However, in some cases, one UDP may be used for multiple wetlands or wetland components if the UDP is in proximity to both features. Additional UDPs may be collected to document site conditions in areas considered to have potential for wetland development. Wetlands are classified, in accordance with the *Classification of Wetlands and Deepwater Habitats of the United States*, by identifying the dominant life form of the vegetation (i.e., > 30%) or the physiography and composition of the substrate.

Identification of streams are based on observations of defined bed and bank or other ordinary high-water mark (OHWM) indicators, as defined in the USACE National Ordinary High-Water Mark Field Delineation Manual for Rivers and Streams (Final Version, January 2025), and are classified in accordance with the USACE Jurisdictional Determination Form Instructional Guidebook. Stream extents are collected at the identified OHWM along each bank for channels averaging at or over four feet wide and along the thalweg for channels averaging under four feet wide. POWER biologists characterize the flow regime of identified streams based upon field observations and desktop review. Noted flow regimes are generally based on the following:

- Ephemeral streams are non-relatively permanent waters, which are precipitation dependent and carry water only during and immediately after periods of rainfall or snowmelt; and are characterized as having a well-defined channel with no significant habitat for aquatic fauna.
- Intermittent streams are relatively permanent (RPWs) that carry water for extended periods of time but cease to flow occasionally or seasonally during periods of low precipitation or drought. Signs of seasonal flow include scouring, sediment deposits, undercut banks, and/or isolated pools that may support aquatic life.
- Perennial streams are RPWs that typically carry water throughout the year except during extreme drought. Pool depths may be deeper compared to intermittent streams and will often have evidence of aquatic fauna such as macroinvertebrates and fish.

Delineated wetland and stream resources are given an identifier based on the order of delineation in the field. For example, a wetland with the identifier "WET-01" equates to WET (wetland) -01 (number assigned to the first resource identified). Similarly, delineated streams are given the identifier STRM and numbered in a similar manner as wetlands. WDPs and associated UDPs are assigned the same identifier as the corresponding wetland. If POWER identified multiple wetland components (i.e., classification) for a feature, an additional identifier (-a, -b, etc.) is used for each component. Additional UDPs may be collected to document site conditions and at potentially suitable locations for wetland development based on field observations and/or desktop analysis, and are assigned a letter value (-A, -B, etc.) to indicate they are not associated with any potentially jurisdictional wetlands.

POWER's professional opinion on the jurisdictional status of identified wetlands, streams, and other features is based upon the Pre-2015 Regulatory Regime consistent with the Sackett decision, which includes the United States Environmental Protection Agency (USEPA) pre-2015 definition of waters of the United States that was implemented consistent with case law and longstanding practice and modified due to the Sackett vs. the USEPA, which was decided by the United States Supreme Court on May 25, 2023. POWER considered the effects of the decision when examining waters and making recommendations on their jurisdictional status. Those

recommended as USACE jurisdictional includes all waters with the potential to meet the relatively permanent standard (i.e., intermittent and perennial streams) and those wetlands that exhibit a continuous surface connection (e.g., stream, ditch, swale) to an RPW that is connected to a Traditional Navigable Water (TNW).

The USEPA and USACE published a memorandum to the field between the USEPA and USACE, on March 12, 2025, outlining guidance for the revised interpretation of the term “continuous surface connection” in the implementation of the definition of waters of the United States. In the revised interpretation, discrete features (ditches, culverts, swales, etc.) would not meet the definition of a continuous surface connection. The USEPA and USACE subsequently published a Public Notice in the Federal Register (90 FR 13428) on March 24, 2025. POWER’s opinion on the jurisdictional status of identified aquatic features takes into account the guidance provided in the USEPA and USACE memorandum.

It is important to note that an official determination of the limits and jurisdictional status of on-site features is under the purview of the USACE and can only be made by the USACE or the USEPA. This may require an on-site inspection with USACE representatives to provide an official jurisdictional determination. Additionally, ephemeral streams are not regulated by the OEPA; however, wetlands determined to be isolated may be considered waters of the state and regulated by the OEPA.

RESULTS

Wetland and Stream Assessment

On October 11, 2024, and November 3, 2025, POWER biologists performed on-site determinations to identify streams, wetlands, and other aquatic resources and assess existing habitat within the Survey Area. The field-collected resource locations and data points, as well as NHD streams and waterbodies, regulated floodplains, NWI wetlands, and the Survey Area, are depicted in Figure 2. NWI and NHD data have been excluded from the Survey Area in order to display the delineated aquatic resources.

Wetlands

POWER biologists identified one palustrine emergent wetland totaling 0.19 acres within the Survey Area (Figure 2). Details of the wetland are included in Table 1 at the end of this report. Representative photographs, USACE Wetland Determination Data Forms, and corresponding upland data forms, and completed 10-page ORAM forms for this wetland are included in Appendix A. Results of the USACE Antecedent Precipitation Tool analysis are included in Appendix B.

As part of the field review, POWER biologists examined the wetland to determine if it has a continuous hydrologic surface connection with a relatively permanent water that is connected to a TNW. Following the field review, a desktop assessment of potential hydrological surface connections for the delineated features was completed. POWER determined that the wetland is likely isolated and regulated by the OEPA as no continuous hydrologic surface connection to nearby lakes, rivers, or relatively permanent streams that contribute surface flow to a TNW was observed. POWER’s opinion on the jurisdictional status of the wetland is provided in Table 1.

Streams

POWER biologists did not observe any streams within the Survey Area (Figure 2).

Non-Jurisdictional Drainage Features

POWER biologists identified six stormwater ditches within the Survey Area (Figure 2). Based on field observations, the features are likely not jurisdictional as they appear to have been excavated wholly in uplands and do not to provide a connection from upslope aquatic resources to other

downslope streams or wetlands. In addition, these features lack and bed and bank and do not exhibit OHWM indicators; therefore, it is POWER's professional opinion the features are likely not regulated by the USACE or the state of Ohio. General representative photos of ditch features within the Survey Area have been provided in Appendix C.

Rare, Threatened, and Endangered Species Habitat Assessment

POWER submitted a technical review letter to the Ohio Department of Natural Resources (ODNR) and the United States Fish and Wildlife Service (USFWS) requesting information on any known occurrences of federally or state-listed threatened or endangered species, or any areas of designated critical habitat, within a 0.5-mile radius of the Project on October 25, 2024.

POWER received a response from the USFWS on November 7, 2024, indicating that the proposed Project is in the range of the Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*), both federally listed species. In addition, the USFWS stated that the tricolored bat (*Perimyotis subflavus*) is proposed as endangered and conservation measures for the Indiana bat and northern long-eared bat will help conserve the tricolored bat. The USFWS indicated that 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, which may include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. The USFWS recommended that tree clearing be avoided wherever possible and that the removal of any trees 3.0 inches or more in diameter at breast height only occur between October 1 and March 31. The USFWS also recommended avoiding and minimizing impacts on wetland habitats to the extent possible, to benefit water quality and fish and wildlife habitat. The USFWS stated that due to the Project's 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. Additionally, POWER received a response from the ODNR on November 21, 2024, providing several comments that are provided in Table 1. A copy of the agency responses are included in Appendix D.

During the on-site assessment for wetlands and streams, POWER biologists performed a cursory visual assessment of the Survey Area for any potential protected species habitat, rare or unique habitats, and migratory bird nests. During the habitat assessment, POWER did not observe any migratory bird nests or trees within the Survey Area. Additionally, no caves or mine portals were observed within the Survey Area, and a review of ODNR Mines of Ohio and Karst Interactive Map Viewers indicate no records of either within 0.25 mile of the Survey Area. No other state or federally listed species habitat and unique habitats were observed during the cursory on-site habitat assessment.

SUMMARY AND RECOMMENDATIONS

POWER biologists delineated one palustrine emergent wetland totaling 0.19 acres within the Survey Area, which is likely considered non-jurisdictional and regulated by OEPA. No streams were observed within the Survey Area.

Six stormwater ditches were identified withing the Survey Area. Based on field observations and desktop reviews, these identified resources are likely considered non-jurisdictional by the USACE and the state of Ohio.

No trees or migratory bird nests were observed; as such, adverse impacts to bats or migratory bird nests are not anticipated. No other federally or state-listed species habitat was observed during the on-site assessment.

This report summarizes the results of the on-site determination conducted for streams, wetlands, and other aquatic resources and habitat assessment for the proposed Hannibal-Bitdeer 138-kV TLE Project. Information contained within this report reflects the professional opinion of POWER and is based upon methods accepted by the USACE to identify regulated wetlands and streams. Formal determination of jurisdiction regarding waters of the United States or the state of Ohio can

only be made by the USACE with the submittal of a Jurisdictional Determination request. If the proposed construction results in impacts to any regulated aquatic resources, additional agency coordination and permit applications to the USACE under Section 404 of the Clean Water Act may be required, with possible additional notifications and/or permit applications to the OEPA under Section 401 of the Clean Water Act.

Sincerely,



Daniel Ware

Natural Resource Technical Lead

POWER Engineers, Inc.

Enclosures:

- Table 1 – Delineated Wetlands within the Survey Area
- Table 2 – Threatened and Endangered Species
- Figure 1 – Project Location Map
- Figure 2 – Resource Location Map
- Appendix A – Wetland Data
- Appendix B – USACE Antecedent Precipitation Tool Analysis
- Appendix C – Representative Non-Jurisdictional Features Photographs
- Appendix D – Agency Correspondence

TABLE 1 DELINEATED WETLANDS WITHIN THE SURVEY AREA

WETLAND ID	LOCATION		ISOLATED[1]	HABITAT TYPE[2]	DELINEATED AREA (ACRE)	ORAM[3]		PROPOSED IMPACTS	
	Latitude	Longitude				Score[3]	Category	Temporary Matting Area (acre)	Permanent Impact Area (acre)
WET-01	39.706425	-80.84874	Yes	PEM	0.19	20	1	TBD	TBD
				Total:	**0.19**				

1 The official determination of the jurisdictional status of on-site features is under the purview of the USACE and may require an on-site inspection with USACE representatives in order to provide an official jurisdictional determination.
2 PEM = Palustrine Emergent
3 Wetland score and category determined in accordance with OEPA's Ohio Rapid Assessment Method for Wetlands v. 5.0 and ORAM v. 5.0 Quantitative Score Calibration.

TABLE 2 THREATENED AND ENDANGERED SPECIES TABLE

COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
Clubshell/ *Pleurobema clava*	E	E	Small to medium streams with gravel/sand substrate and relatively little silt.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Longsolid/ *Fusconaia subrotunda*	E	T	Small streams to large rivers, and prefers a mixture of sand, gravel, and cobble substrates.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable nesting habitat was not observed within the Survey Area.
Pink Mucket (pearlymussel)/ *Lampsilis abrupta*	E	E	Can be found on the bottoms of various bodies of water and large rivers, among gravel and cobble.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.

COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
Round Hickorynut/ *Obovaria subrotunda*	T	T	Small streams to large rivers, and prefers a mixture of sand, gravel, and cobble stream bottoms.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Salamander Mussel/ *Simpsonaias ambigua*	T	PE	Inhabits swift-flowing rivers and streams with areas of shelter under rocks or in crevices	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Sheepnose Mussel/ *Plethobasus cyphyus*	E	E	Medium to large stream systems, typically within shallow shoal habitats with moderate to swift currents over mixtures of coarse sand, gravel and clay	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Snuffbox Mussel/ *Epioblasma triquetra*	E	E	Sand, gravel, or cobble substrates in swift small and medium-sized rivers as well as riffles and shoals of rocky rivers, and the shores of lakes with wave activity.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Treehorn Wartyback/ *Obliquaria reflexa*	SC	Not Listed	Medium to large rivers with slackwater conditions to swift currents, and substrates of gravel to muddy sand	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Indiana bat/ *Myotis sodalis*	E	E	During the spring and summer (April 1 through September 30), this species' habitat consists of forested/wooded areas where they usually roost under loose tree bark on dead or dying trees. Winter hibernation habitat consists of caves or,	No	ODNR/USFWS: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. ODNR - If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.

COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
			occasionally, abandoned mines.		information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	
Northern long-eared bat/ *Myotis septentrionalis*	E	E	During the spring and summer (April 1 through September 30), this species' habitat consists of forested/wooded areas where they usually roost under loose tree bark on dead or dying trees or in crevices and cavities of trees. Winter hibernation habitat consists of caves or, occasionally, abandoned mines.	No	ODNR/USFWS: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. ODNR- If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.

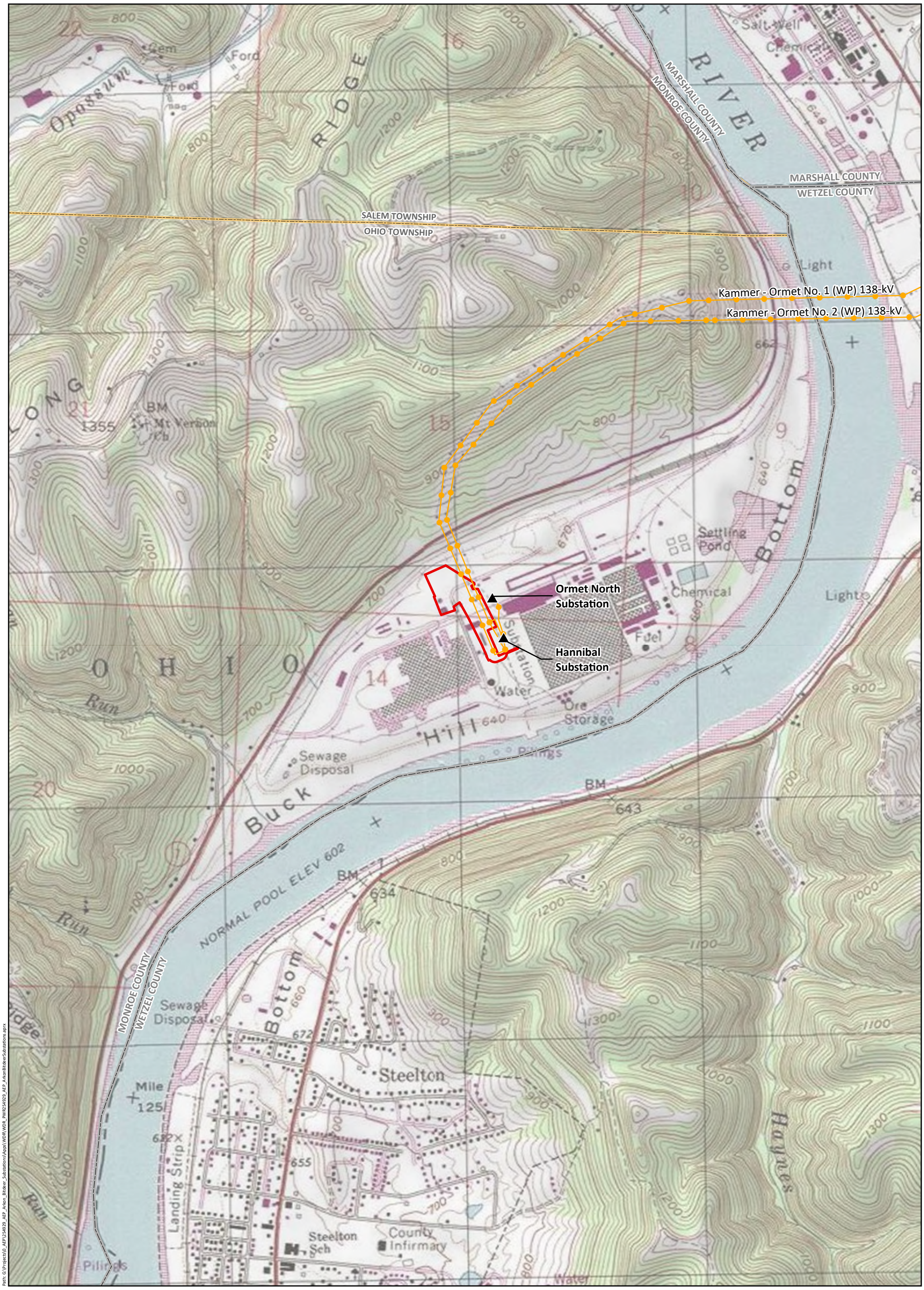
COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
Little brown bat/ *Myotis lucifugus*	E	Not Listed	During the spring and summer (April 1 through September 30), this species' habitat consists of forested/wooded areas where they usually roost under loose tree bark on dead or dying trees or in cracks or crevices of trees. Winter hibernation habitat consists of caves or, occasionally, abandoned mines.	No	ODNR: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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 DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.
Tricolored bat/ *Perimyotis subflavus*	E	PE	During the spring and summer (April 1 through September 30), this species' habitat consists of forested/wooded areas where they usually roost under loose tree bark and among leaf clusters on dead or dying trees. Winter hibernation habitat consists of caves or, occasionally, abandoned mines.	No	ODNR: Cutting of trees is recommended to occur between October 1 and March 31. If seasonal tree cutting is not possible, a mist net survey or acoustic survey may be conducted by an approved surveyor between June 1 and August 15. If a habitat assessment finds that potential hibernacula are present within 0.25 mile of the Survey Area, please send this information to Eileen Wyza, Eileen.Wyza@dnr.ohio.gov 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	No; impacts are avoided as no trees or potential hibernacula were observed within the Survey Area.

COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
					acceptable after consultation with DOW. If no tree cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact this species.	
Monarch Butterfly/ *Danaus plexippus**	Not Listed	PT	Fields, roadside areas, open areas, or wet areas that support milkweed and flowering plants for food and egg laying. Overwintering habitat include moderate temperatures to avoid freezing.	No	USFWS: Due to the project, type, size, and location, USFWS does not anticipate adverse effects to this species.	Suitable foraging and migrating habitat may be present in areas not frequently mowed. Conservation measures, including avoidance dates, have not been provided by USFWS.
Tippecanoe Darter/ *Etheostoma tippecanoe*	SC	Not Listed	Medium to large streams and rivers in riffles of moderate current with a substrate of gravel and small cobble sized rock	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Channel Darter/ Percina copelandi	T	Not Listed	Rivers and large creeks in areas of moderate current over sand and gravel substrates. It also occurs in wave swept nearshore areas of lakes in coarse-sand, fine-gravel beach, and sandbar habitats.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
River Darter/ *Percina shumardi*	T	Not Listed	Rivers and large streams, preferring deep, fast-flowing riffles with cobble and boulder substrates.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
American eel/ *Anguilla rostrata*	T	Not Listed	Primarily live in rivers and estuaries among tree snags, plants, and other types of shelters found close to shore.	No	ODNR: DOW recommends no in-water work in perennial stream from March 15 through June 30. If no in-water work is proposed in a perennial stream, this project is not likely to impact this species.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.

COMMON/ SCIENTIFIC NAMES	STATE LISTED STATUS	FEDERALLY LISTED STATUS	TYPICAL HABITAT DESCRIPTION[1]	HABITAT OBSERVED IN SURVEY AREA[2]	AGENCY COMMENT (APPENDIX D)	POTENTIAL IMPACTS AND AVOIDANCE DATES
Eastern hellbender/ *Cryptobranchus alleganiensis alleganiensis*	E	Not Listed	Perennial streams with large flat rocks.	No	ODNR: Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Ohio Lamprey/ *Ichthyomyzon bdellium*	E	Not Listed	Three distinctly different habitats that are connected by free flowing (free of dams) stretches of streams. Spawning adults 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 of medium to large streams, and adults are found in large bodies of water.	No	ODNR: Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species	No, impacts are avoided as suitable habitat was not observed within the Survey Area.
Northern harrier/ *Circus hudsonius*	E	Not Listed	Large marshes and grasslands for breeding ground, and grasslands for hunting.	No	ODNR: 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.	No, impacts are avoided as suitable habitat was not observed within the Survey Area.

NOTES: Status Key: E=Endangered; T=Threatened, PE= Proposed Endangered , SC=Species of Concern, PT=Proposed Threatened.
1 Habitat descriptions sourced from multiple resources, including ODNR, United States Forest Service, USFWS, Michigan Natural Features Inventory, and Illinois State Museum.
2 Represents the opinion of POWER biologists based on site conditions at time that aquatic resources delineations were completed.
* The USFWS published into the Federal Register their proposal to list the monarch butterfly as threatened on December 12, 2024.

FIGURE 1 PROJECT LOCATION MAP



Survey Area

Existing Substation

Existing Transmission Line (138-kV - 345-kV)

County Boundary

Township Boundary

1" = 1200'

0 600 1,200

Feet



Ohio Township
Monroe County,
Ohio

NAD 1983 StatePlane Ohio South FIPS 3402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Date: 11/7/2025
Author: creed
Project: 254959

Overview

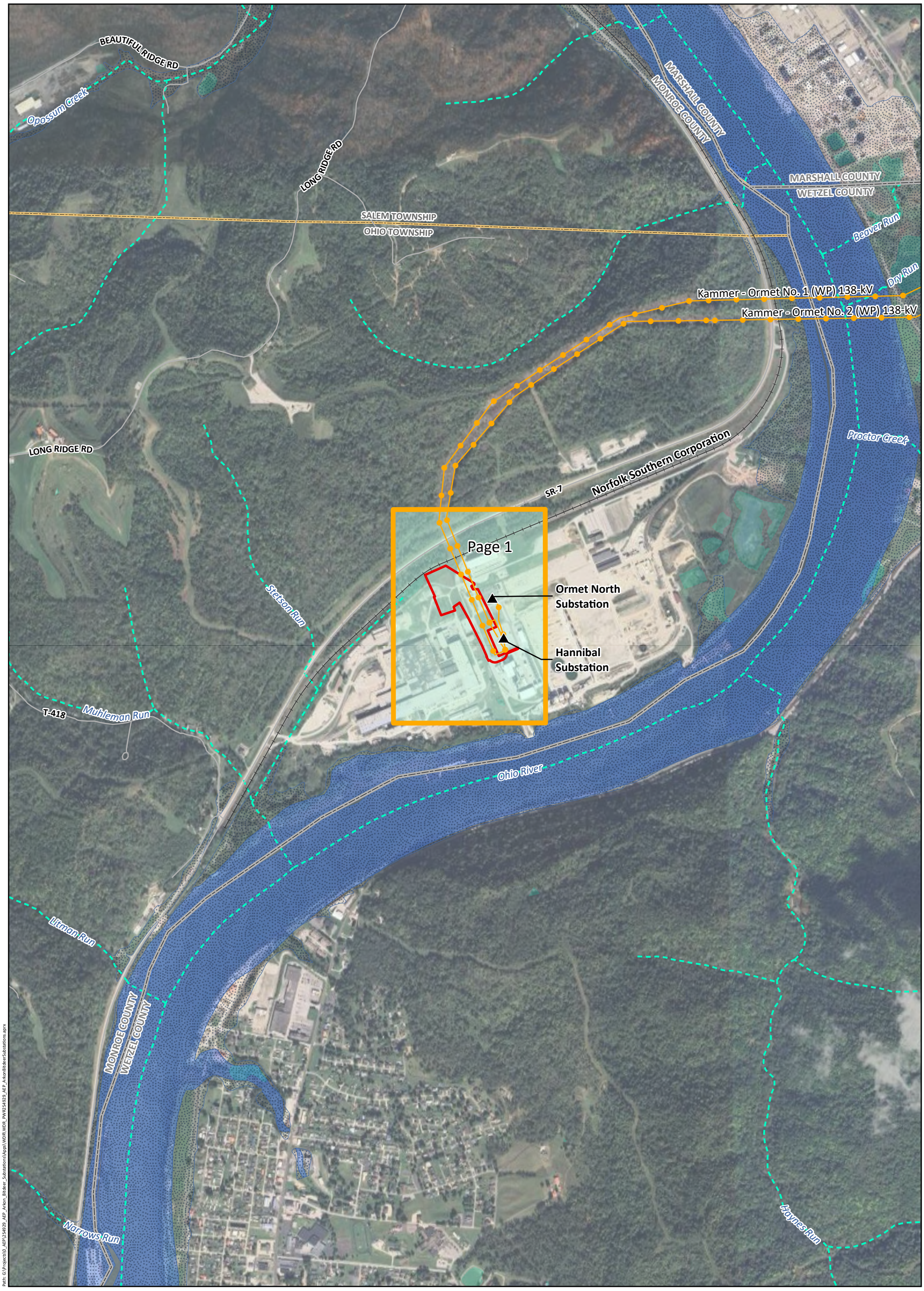
Hannibal-Bitdeer 138-kV TLE Project

Figure 1: Project Location

POWER ENGINEERS
MEMBER OF WSP

Path: G:\Projects\0_AEP\254929_AEP_Arkon_Bitdeer_Substations\Apps\WDR\WDR_PWR254929_AEP_ArkonBitdeerSubstations.aprx

FIGURE 2 RESOURCE LOCATION MAP



Path: G:\Projects\0_AEP\254929_AEP_Arkon_Bitdeer_Substations\Apps\WDR\WDR_PWR254929_AEP_ArkonBitdeerSubstations.aprx

Survey Area
Existing Substation
Existing Transmission Line (138-kV - 345-kV)
Railroad
Road
Waterway (NHD)
Wetland (NWI)
Floodplain (FEMA)
Floodway (FEMA)
County Boundary
Township Boundary

1" = 1200'

0 600 1,200

Feet



Ohio Township
Monroe County,
Ohio

NAD 1983 StatePlane Ohio South FIPS 3402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

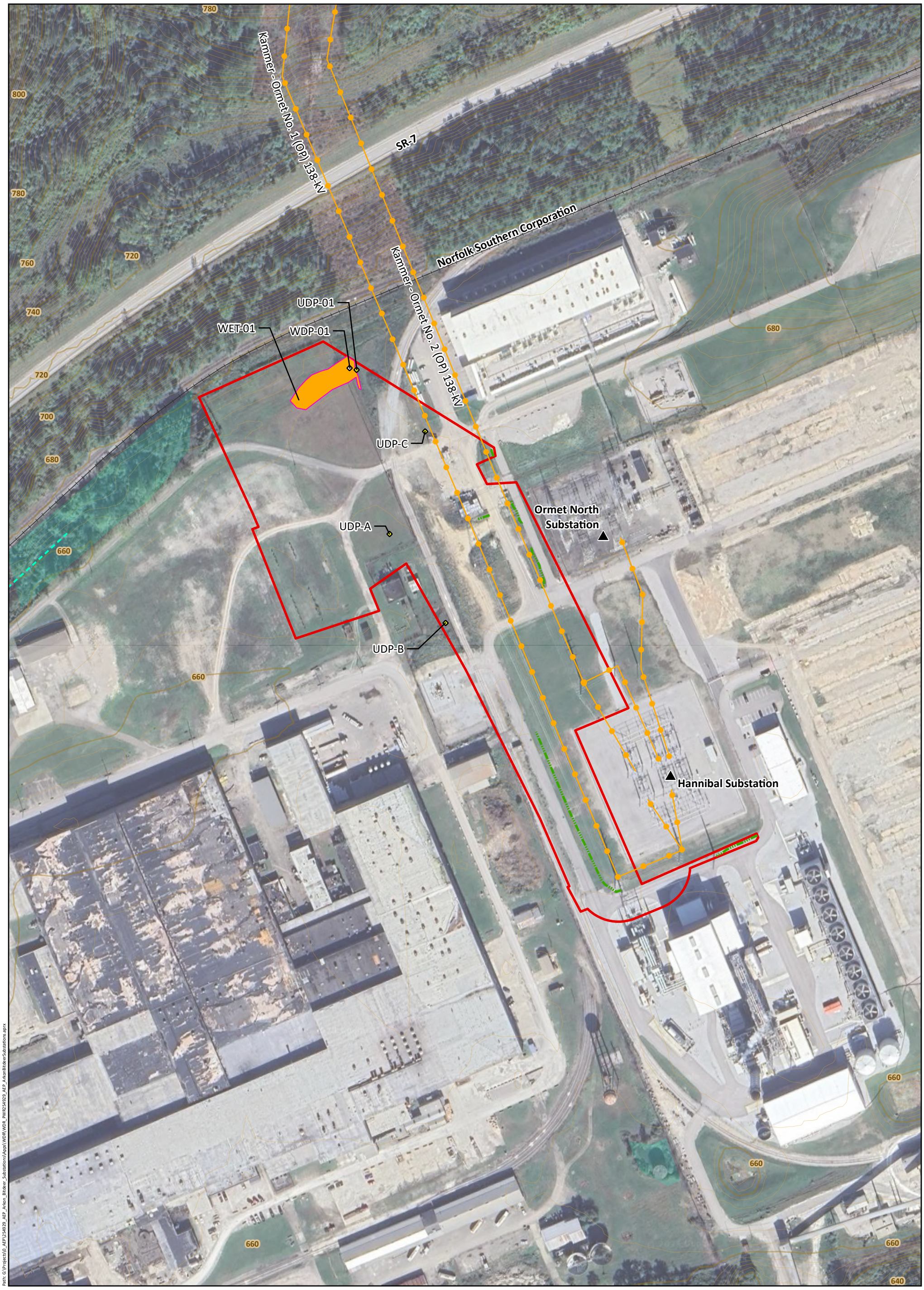
Date: 11/7/2025
Author: creed
Project: 254959

Overview

Hannibal-Bitdeer 138-kV TLE Project

Figure 2: Resource Location

POWER ENGINEERS
MEMBER OF WSP



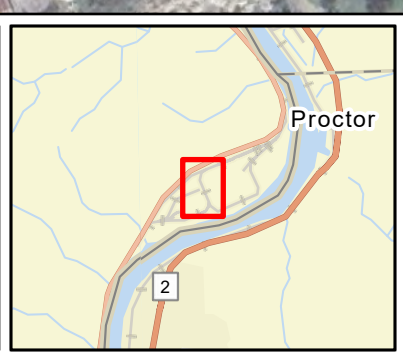
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- Upland Data Point
- Wetland Data Point
- Delineated Drainage Ditch or Swale
- Delineated Wetland (PEM)
- Survey Area
- Existing Substation
- Existing Transmission Line (138-kV - 345-kV)
- Road
- Railroad
- Waterway (NHD)
- Wetland (NWI)
- Index Contour (10')
- Intermediate Contour (2')

1" = 200'

0 100 200

Feet



Ohio Township
Monroe County,
Ohio

NAD 1983 StatePlane Ohio South FIPS 3402 Feet
Projection: Lambert Conformal Conic
Datum: North American 1983

Date: 11/7/2025
Author: creed
Project: 254959

Page 1 of 1

Hannibal-Bitdeer 138-kV TLE Project

Figure 2: Resource Location

POWER ENGINEERS
MEMBER OF WSP

APPENDIX A WETLAND DATA

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Hannibal-Bitdeer 138-kV TLE Project City/County: Monroe County Sampling Date: 2025-11-03

Applicant/Owner: AEP State: Ohio Sampling Point: WDP-01

Investigator(s): Alice Burney Section, Township, Range: sec 15 T002N R003W

Landform (hillside, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 0-2

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 39.706518 Long: -80.848536 Datum: WGS84

Soil Map Unit Name: Made land NWI classification: None

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

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

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

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

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

Remarks:
This point was determined to be in a wetland due to meeting all three wetland criteria.
Palustrine Emergent wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ✔ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✔ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✔ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✔ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ✔ No ____

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: WDP-01

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5' radius)			
1. Cyperus strigosus	30	Y	FACW
2. Setaria pumila	25	Y	FAC
3. Carex scoparia	25	Y	FACW
4. Persicaria punctata	10	N	OBL
5. Carex vulpinoidea	10	N	OBL
6.			
7.			
8.			
9.			
10.			
11.			
	100.0 =Total Cover		
50% of total cover: 50.0	20% of total cover: 20.0		
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	55	x 2 =	110
FAC species	25	x 3 =	75
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		205.00 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ___

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

SOIL

Sampling Point: WDP-01

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 4/2	95	10YR 5/6	5	C	M	CL	
5-7	10YR 2/1	40	5YR 4/4	60	C	M	SCL	
7-16	10YR 4/6	100					CL	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ✔ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

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

Instructions

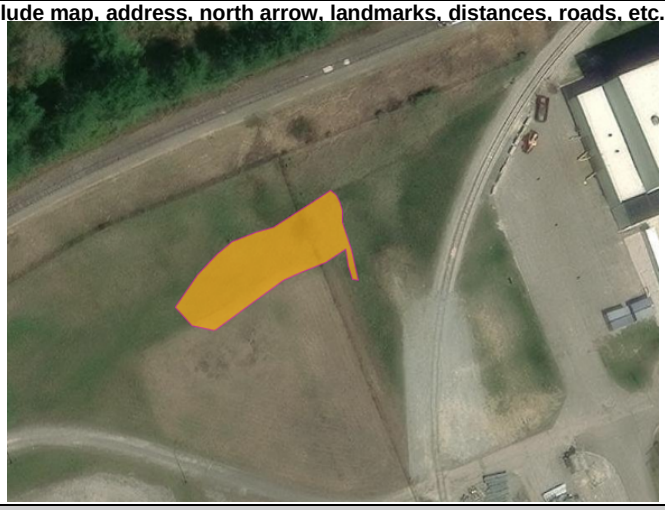
The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

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

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

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

Background Information

Name: Alice Burney
Date: 11/3/2025
Affiliation: POWER Engineers,Inc
Address: 6530 W. Campus Oval Suite 200, New Albany, OH 43054
Phone Number: 567-409-4417
e-mail address: alice.burney@wsp.com
Name of Wetland: WET-01
Vegetation Communit(ies): Herbaceous
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. 

Lat/Long or UTM Coordinate 39.706594, -80.848538	
USGS Quad Name New Martinsville	
County Monroe	
Township Ohio	
Section and Subsection 15, 2N 3W	
Hydrologic Unit Code 05030201100	
Site Visit 11/03/2025	
National Wetland Inventory Map None	
Ohio Wetland Inventory Map No	
Soil Survey Made land	
Delineation report/map See Environmental Report	

Name of Wetland: WET-01	
Wetland Size (acres, hectares):	0.19

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



Comments, Narrative Discussion, Justification of Category Changes:

Emergent wetland adjacent to industrial areas and active RR. Half of the wetland is regularly mowed by landowner.

Final score : 20 **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.

#	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.		✔

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	(NO) Go to Question 3
3	**Documented High Quality Wetland.** Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	(NO) Go to Question 4
4	**Significant Breeding or Concentration Area.** Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	(NO) Go to Question 5
5	**Category 1 Wetlands.** Is the wetland less than 0.5 hectares (1 acre) in size and **hydrologically isolated** and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by *Phalaris arundinacea, Lythrum salicaria,* or *Phragmites australis*, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	(NO) Go to Question 6
6	**Bogs.** Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly *Sphagnum* spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	(NO) Go to Question 7
7	**Fens.** Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral ph (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	(NO) Go to Question 8a
8a	**"Old Growth Forest."** Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	(NO) Go to Question 8b

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

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: WET-01	**Rater(s):** Alice Burney	**Date:** 11/03/2025

Metric 1. Wetland Area (size).

1 (max 6 pts.) | 1 (subtotal)

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

1 (max 14 pts.) | 2 (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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

7 (max 30 pts.) | 9 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select only one and assign score.

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

7 (max 20 pts.) | 16 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

16 (subtotal this page)

last revised 1 February 2001 jjm

Site: WET-01	**Rater(s):** Alice Burney	**Date:** 11/03/2025

16
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 16 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-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

4 max 20 pts. | 20 subtotal

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

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

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

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

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

20

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	7	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	20	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 over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	(NO)	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	(NO)	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	(YES) Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	(NO)	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	(NO) Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP **Date:** November 03, 2025 **Description:** WDP-01; Palustrine Emergent Wetland



Facing North



Facing East



Facing South



Facing West



View of Soil Profile



Overview of Wetland

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Hannibal-Bitdeer 138-kV TLE Project City/County: Monroe County Sampling Date: 2025-11-03

Applicant/Owner: AEP State: Ohio Sampling Point: UDP-01

Investigator(s): Alice Burney Section, Township, Range: sec 15 T002N R003W

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 39.706506 Long: -80.848479 Datum: WGS84

Soil Map Unit Name: Made land NWI classification: None

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

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

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

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

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

Remarks:
This point was determined not to be in a wetland due to lack of all three wetland criteria.
Herbaceous Upland habitat. Normal conditions.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants. Sampling Point: UDP-01

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	=Total Cover	
50% of total cover: 0.0		20% of total cover:	0.0
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0	=Total Cover	
50% of total cover: 0.0		20% of total cover:	0.0
Herb Stratum (Plot size: 5' radius)			
1. Setaria pumila	60	Y	FAC
2. Dipsacus fullonum	20	Y	FACU
3. Plantago lanceolata	10	N	UPL
4. Rosa multiflora	10	N	FACU
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100.0	=Total Cover	
50% of total cover: 50.0		20% of total cover:	20.0
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	0	=Total Cover	
50% of total cover: 0.0		20% of total cover:	0.0

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	60	x 3 =	180
FACU species	30	x 4 =	120
UPL species	10	x 5 =	50
Column Totals:	100 (A)		350.00 (B)

Prevalence Index = B/A = 3.5

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ___ **No** ✓

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

SOIL

Sampling Point: UDP-01

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-4	10YR 3/2	100					CL	Shovel refusal @ 4, gravel fill

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP **Date:** November 03, 2025 **Description:** UDP-01; Herbaceous Upland Habitat



Facing North



Facing East



Facing South



Facing West



View of Soil Profile

WETLAND DETERMINATION DATA FORM - Eastern Mountains and Piedmont Region

Project/Site: Hannibal-Bitdeer 138-kV TLE City/County: Monroe County Sampling Date: 10/11/2024
Applicant/Owner: American Electric Power State: OH Sampling Point: UDP-A
Investigator(s): Margaret Lange and Daniel Ware Section, Township, Range: 15, T2N, R3W
Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-1
Subregion (LRR or MLRA): Central Allegheny Plateau Lat: 39.705465 Long: -80.848234 Datum:
Soil Map Unit Name: Made Land NWI Classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No **X** (if no, explain in Remarks.)
Are Vegetation **No** ,Soil **No** ,or Hydrology **No** significantly disturbed? Are "Normal Circumstances" present? Yes **X** No ____
Are Vegetation **Yes** ,Soil **No** ,or Hydrology **No** naturally problematic? (If needed, explain any answers in Remarks.)

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

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

Remarks: The NWPL 2020 wetland ratings were used.
This point was determined not to be within a wetland due to the lack of all three wetland criteria.
Herbaceous Upland habitat. Drier than normal conditions.

HYDROLOGY

Wetland hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ____ FAC-Neutral Test (D5)

Field Observations:

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

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

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

Remarks:

No positive indication of wetland hydrology was observed.

VEGETATION (Four Strata) - Use scientific names of plants.

Sampling Point: **UDP-A**

	Absolute % cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30 feet)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
7.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Sapling/Shrub Stratum (Plot size: 15 feet)			
1. *None Observed*			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	= Total Cover		
50% of total cover:		20% of total cover:	
Herb Stratum (Plot size: 5 feet)			
1. *Trifolium pratense*	15	No	FACU
2. *Andropogon virginicus*	20	Yes	FACU
3. *Setaria pumila*	30	Yes	FAC
4. *Rhus typhina*	5	No	FAC
5. *Poa pratensis*	25	Yes	FACU
6. *Apocynum cannabinum*	1	No	FACU
7. *Rubus allegheniensis*	2	No	FACU
8.			
9.			
10.			
11.			
	98 = Total Cover		
50% of total cover:	49.00	20% of total cover:	19.60
Woody Vine Stratum (Plot size: 15 feet)			
1. *None Observed*			
2.			
3.			
4.			
5.			
	= Total Cover		
50% of total cover:		20% of total cover:	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: **33%** (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	**0**	x 1 =	**0**
FACW species	**0**	x 2 =	**0**
FAC species	**35**	x 3 =	**105**
FACU species	**63**	x 4 =	**252**
UPL species	**0**	x 5 =	**0**
Column Totals:	**98** (A)		**357** (B)

Prevalence Index = B/A = **3.64**

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤ 3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Four Vegetation Strata:

Tree - Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub - Woody plants, excluding woody vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vine - All woody vines greater than 3.28 ft in height.

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

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

No positive indication of hydrophytic vegetation was observed.

Vegetation has been disturbed by routine mowing

SOIL

Sampling Point: **UDP-A**

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	7.5YR 4/4	100	None	—	—	—	loam	shovel refusal

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

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

Hydric Soils Indicators:

- ____ Histosol (A1)
- ____ Histic Epipedon (A2)
- ____ Black Histic (A3)
- ____ Hydrogen Sulfide (A4)
- ____ Stratified Layers (A5)
- ____ 2 cm Muck (A10) **(LRR N)**
- ____ Depleted Below Dark Surface (A11)
- ____ Thick Dark Surface (A12)
- ____ Sandy Mucky Mineral (S1) **(LRR N, MLRA 147, 148)**
- ____ Sandy Gleyed Matrix (S4)
- ____ Sandy Redox (S5)
- ____ Stripped Matrix (S6)
- ____ Dark Surface (S7)
- ____ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ____ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ____ Loamy Gleyed Matrix (F2)
- ____ Depleted Matrix (F3)
- ____ Redox Dark Surface (F6)
- ____ Depleted Dark Surface (F7)
- ____ Redox Depressions (F8)
- ____ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ____ Umbric Surface (F13) **(MLRA 136, 122)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ____ Red Parent Material (F21) **(MLRA 127, 147)**

Indicators for Problematic Hydric Soils[3]:

- ____ 2 cm Muck (A10) **(MLRA 147)**
- ____ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ____ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ____ Very Shallow Dark Surface (TF12)
- ____ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

No positive indication of hydric soils was observed.

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE

Client Name: AEP **Date:** October 11, 2024 **Description:** UDP-A; Herbaceous Upland Habitat



Facing North



Facing East



Facing South



Facing West



View of Soil Profile

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Hannibal-Bitdeer 138-kV TLE Project City/County: Monroe County Sampling Date: 2025-11-06

Applicant/Owner: AEP State: Ohio Sampling Point: UDP-B

Investigator(s): Alice Burney Section, Township, Range: sec 15 T002N R003W

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR N, MLRA 222 Lat: 40.101338 Long: -82.818478 Datum: WGS84

Soil Map Unit Name: Made land NWI classification: None

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

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

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

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

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

Remarks:
This data point was determined to not be ina wetland due to lack of all three wetland criteria.
Herbaceous Upland habitat. Normal conditions.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UDP-B

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5' radius)			
1. Setaria pumila	30	Y	FAC
2. Carex scoparia	25	Y	FACW
3. Poa pratensis	15	N	FACU
4. Solidago altissima	10	N	FACU
5. Plantago lanceolata	10	N	UPL
6. Symphyotrichum pilosum	5	N	FAC
7. Trifolium repens	5	N	FACU
8.			
9.			
10.			
11.			
	100.0 =Total Cover		
50% of total cover: 50.0	20% of total cover: 20.0		
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	35	x 3 =	105
FACU species	30	x 4 =	120
UPL species	10	x 5 =	50
Column Totals:	100 (A)		325.00 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✓ **No** ___

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

SOIL

Sampling Point: UDP-B

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-2	10YR 3/3	100					FSL	Shovel refusal @ 2, gravel fill

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP **Date:** November 03, 2025 **Description:** UDP-B; Herbaceous Upland Habitat



Facing North



Facing East



Facing South



Facing West



View of Soil Profile

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Eastern Mountains and Piedmont Region
See ERDC/EL TR-12-9; the proponent agency is CECW-COR

OMB Control #: 0710-0024, Exp: 09/30/2027
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Hannibal-Bitdeer 138-kV TLE Project City/County: Monroe County Sampling Date: 2025-11-03

Applicant/Owner: AEP State: Ohio Sampling Point: UDP-C

Investigator(s): Alice Burney Section, Township, Range: sec 15 T002N R003W

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0-2

Subregion (LRR or MLRA): LRR N, MLRA 126 Lat: 39.706109 Long: -80.847928 Datum: WGS84

Soil Map Unit Name: Made land NWI classification: None

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

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

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

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

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

Remarks:
This point was determined to not be in a wetland due to lack of all three wetland criteria.
Herbaceous Upland habitat. Normal conditions.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ____ Surface Soil Cracks (B6)
- ____ Sparsely Vegetated Concave Surface (B8)
- ____ Drainage Patterns (B10)
- ____ Moss Trim Lines (B16)
- ____ Dry-Season Water Table (C2)
- ____ Crayfish Burrows (C8)
- ____ Saturation Visible on Aerial Imagery (C9)
- ____ Stunted or Stressed Plants (D1)
- ____ Geomorphic Position (D2)
- ____ Shallow Aquitard (D3)
- ____ Microtopographic Relief (D4)
- ✓ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? Yes ____ No ✓

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

Remarks:

VEGETATION (Four Strata) – Use scientific names of plants.

Sampling Point: UDP-C

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		
Herb Stratum (Plot size: 5' radius)			
1. Setaria pumila	25	Y	FAC
2. Cyperus odoratus	20	Y	FACW
3. Symphyotrichum pilosum	15	Y	FAC
4. Carex virescens	10	N	FACW
5. Plantago lanceolata	10	N	UPL
6. Persicaria punctata	5	N	OBL
7. Cyperus difformis	5	N	OBL
8. Trifolium repens	5	N	FACU
9. Ambrosia artemisiifolia	5	N	FACU
10.			
11.			
	100.0 =Total Cover		
50% of total cover: 50.0	20% of total cover: 20.0		
Woody Vine Stratum (Plot size: 30' radius)			
1.			
2.			
3.			
4.			
5.			
	0 =Total Cover		
50% of total cover: 0.0	20% of total cover: 0.0		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.00 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	30	x 2 =	60
FAC species	40	x 3 =	120
FACU species	10	x 4 =	40
UPL species	10	x 5 =	50
Column Totals:	100 (A)		280.00 (B)

Prevalence Index = B/A = 2.8

Hydrophytic Vegetation Indicators:

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

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

Definitions of Four Vegetation Strata:

Tree – Woody plants, excluding vines, 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/Shrub – Woody plants, excluding vines, less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody Vine – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✔ **No** ___

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

SOIL

Sampling Point: UDP-C

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 4/2	98	10YR 4/6	2	C	M	CL	Shovel refusal @ 4, gravel fill

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10) **(LRR N)**
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) **(MLRA 147, 148)**
- ___ Thin Dark Surface (S9) **(MLRA 147, 148)**
- ___ Loamy Mucky Mineral (F1) **(MLRA 136)**
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Iron-Manganese Masses (F12) **(LRR N, MLRA 136)**
- ___ Umbric Surface (F13) **(MLRA 122, 136)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 148)**
- ___ Red Parent Material (F21) **(MLRA 127, 147, 148)**

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(MLRA 147)**
- ___ Coast Prairie Redox (A16) **(MLRA 147, 148)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 136, 147)**
- ___ Red Parent Material (F21) **(outside MLRA 127, 147, 148)**
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP **Date:** November 03, 2025 **Description:** UDP-C; Herbaceous Upland Habitat



Facing North



Facing East



Facing South



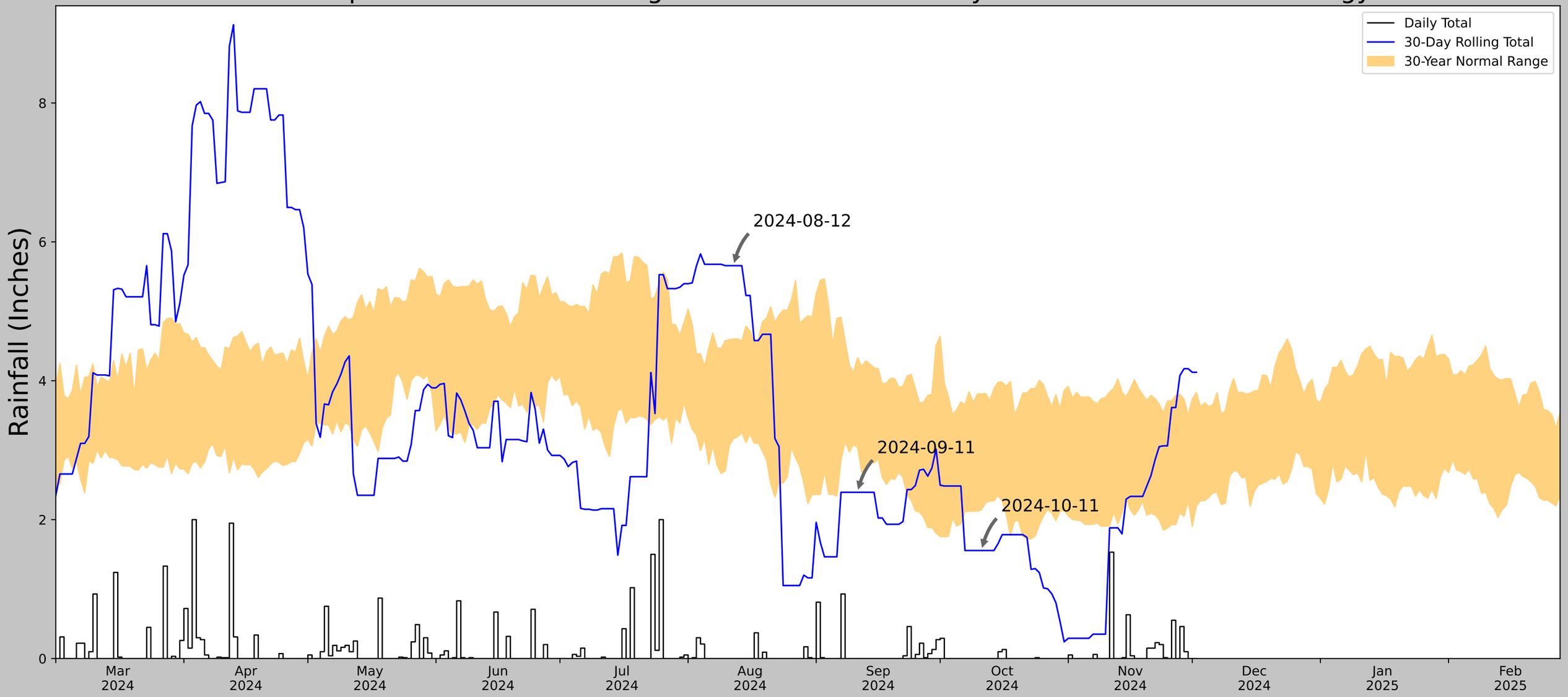
Facing West



View of Soil Profile

APPENDIX B USACE ANTECEDENT PRECIPITATION TOOL ANALYSIS

Antecedent Precipitation vs Normal Range based on NOAA's Daily Global Historical Climatology Network



Coordinates	39.704498, -80.846301
Observation Date	2024-10-11
Elevation (ft)	665.166
Drought Index (PDSI)	Severe drought
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-10-11	2.142126	3.809449	1.555118	Dry	1	3	3
2024-09-11	3.042913	4.33189	2.393701	Dry	1	2	2
2024-08-12	3.166536	4.602362	5.65748	Wet	3	1	3
Result							Drier than Normal - 8

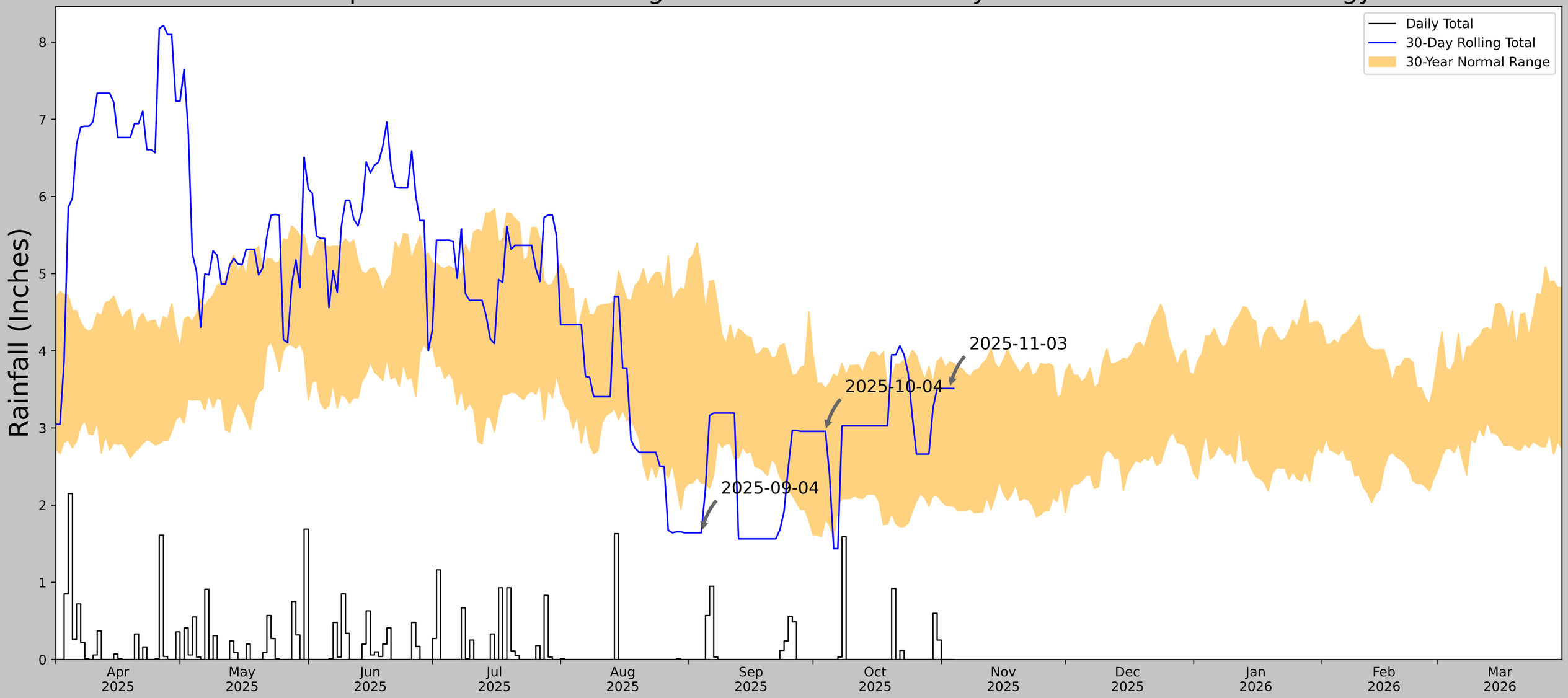
US Army Corps of Engineers

ERDC

Figures and tables made by the Antecedent Precipitation Tool Version 2.0

Developed by: U.S. Army Corps of Engineers and U.S. Army Engineer Research and Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
HANNIBAL LOCKS & DAM	39.6667, -80.8667	620.079	2.828	45.087	1.4	11306	90
SISTERSVILLE 6.1 ESE	39.537, -80.888	734.908	9.033	114.829	5.102	1	0
MOUNDSVILLE	39.9056, -80.755	620.079	17.539	0.0	7.893	44	0
MIDDLEBOURNE 3.2 ESE	39.47, -80.8571	761.155	13.6	141.076	8.039	2	0



Coordinates	39.70652, -80.84854
Observation Date	2025-11-03
Elevation (ft)	663.102
Drought Index (PDSI)	Not available (2025-10)
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2025-11-03	1.992913	3.856299	3.511811	Normal	2	3	6
2025-10-04	1.811811	3.511024	2.956693	Normal	2	2	4
2025-09-04	2.287008	5.074803	1.641732	Dry	1	1	1
Result							Normal Conditions - 11

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.
ERDC

Developed by:
U.S. Army Corps of Engineers and
U.S. Army Engineer Research and
Development Center

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
HANNIBAL LOCKS & DAM	39.6667, -80.8667	620.079	2.916	43.023	1.438	11308	90
SISTERSVILLE 6.1 ESE	39.537, -80.888	734.908	9.033	114.829	5.102	1	0
MOUNDSVILLE	39.9056, -80.755	620.079	17.539	0.0	7.893	42	0
MIDDLEBOURNE 3.2 ESE	39.47, -80.8571	761.155	13.6	141.076	8.039	2	0

APPENDIX C REPRESENTATIVE NON-JURISDICTIONAL FEATURES

Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP

Date: October 11, 2024 **Description:** Representative Stormwater Ditch





Date: November 03, 2025 **Description:** Representative Stormwater Ditch





Date: November 03, 2025 **Description:** Representative Stormwater Ditch





Photographic Record of Aquatic Resources

Site Location: Hannibal-Bitdeer 138-kV TLE Project

Client Name: AEP

Date: November 03, 2025 **Description:** Representative Stormwater Ditch





Date: November 03, 2025 **Description:** Representative Stormwater Ditch





Date: November 03, 2025 **Description:** Representative Stormwater Ditch





APPENDIX D AGENCY COORDINATION

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To: 10/09/2024 14:41:38 UTC
Project Code: 2025-0003763
Project Name: Bitdeer Station Project

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

https://www.fws.gov/sites/default/files/documents/endangered-species-consultation-handbook.pdf

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts, see https://www.fws.gov/program/migratory-bird-permit/what-we-do.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures, see https://www.fws.gov/library/collections/threats-birds.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/partner/council-conservation-migratory-birds.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

OFFICIAL SPECIES LIST

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

PROJECT SUMMARY

Project Code: 2025-0003763
Project Name: Bitdeer Station Project
Project Type: Distribution Line - New Construction - Above Ground
Project Description: Installation of new transmission line structures from Ormet Station to new Bitdeer Station.

Project Location:

The approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.7040873,-80.847001146937,14z



Counties: Monroe County, Ohio

ENDANGERED SPECIES ACT SPECIES

There is a total of 11 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

MAMMALS

NAME	STATUS
Indiana Bat *Myotis sodalis* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat *Perimyotis subflavus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

CLAMS

NAME	STATUS
Clubshell *Pleurobema clava* Population: Wherever found; Except where listed as Experimental Populations No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3789	Endangered
Longsolid *Fusconaia subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9880	Threatened
Pink Mucket (pearlymussel) *Lampsilis abrupta* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/7829	Endangered
Round Hickorynut *Obovaria subrotunda* There is **final** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9879	Threatened
Salamander Mussel *Simpsonaias ambigua* There is **proposed** critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/6208	Proposed Endangered
Sheepnose Mussel *Plethobasus cyphyus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/6903	Endangered
Snuffbox Mussel *Epioblasma triquetra* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135	Endangered

INSECTS

NAME	STATUS
Monarch Butterfly *Danaus plexippus*	Candidate

No critical habitat has been designated for this species.
Species profile: https://ecos.fws.gov/ecp/species/9743

CRITICAL HABITATS

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

YOU ARE STILL REQUIRED TO DETERMINE IF YOUR PROJECT(S) MAY HAVE EFFECTS ON ALL ABOVE LISTED SPECIES.

IPAC USER CONTACT INFORMATION

Agency:	Private Entity
Name:	Daniel Ware
Address:	6530 W. Campus Oval
Address Line 2:	Suite 200
City:	New Albany
State:	OH
Zip:	43054
Email	daniel.ware@powereng.com
Phone:	3045502882

United States Department of the Interior

FISH AND WILDLIFE SERVICE

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

November 7, 2024

Project Code: 2025-0003763

Dear Daniel Ware:

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

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

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

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

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

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

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

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

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

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

Sincerely,

Erin Knoll
Field Office Supervisor

cc: Matthew.Stooksbury@dnr.ohio.gov
Eileen.Wyza@dnr.ohio.gov

Department of Natural Resources
ohiodnr.gov

Mike DeWine, *Governor*
Jon Husted, *Lt. Governor*
Mary Mertz, *Director*

Office of Real Estate & Land Management
Tara Paciorek - Chief
2045 Morse Road – E-2
Columbus, Ohio 43229-6693

November 21, 2024

Daniel Ware
Power Engineers, Inc.
6530 W. Campus Oval Road, Suite 200
New Albany, Ohio 43054

Re: 24-1653 - Bitdeer Station

Project: The proposed project involves the installation of new transmission line structures from the Ormet Station to the new Bitdeer Station.

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

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

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

Tippecanoe Darter (*Etheostoma tippecanoe*), SC
Channel Darter (*Percina copelandi*), T
River Darter (*Percina shumardi*), T
Threehorn Wartyback (*Obliquaria reflexa*), SC

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

The species listed above are recorded within the boundaries of the specified project area. Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources.

Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

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

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

The project is within the vicinity of records for the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of a state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, the entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20 if possible.

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

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2022), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site.

Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the following listed fish species.

State Endangered
Ohio lamprey (*Ichthyomyzon bdellium*)

State Threatened
American eel (*Anguilla rostrata*)
channel darter (*Percina copelandi*)
river darter (*Percina shumardi*)

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 eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus hudsonius*), 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, the project is not likely to impact this species.

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

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

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

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

Expiration: *ODNR Environmental Reviews are typically valid for 2 years from the issuance date. If the scope of work, project area, construction limits, and/or anticipated impacts to natural resources have changed significantly from the original project submittal, then a new Environmental Review request should be submitted.*