CONSTRUCTION NOTICE FOR THE

Duke Energy Ohio, Inc.

Collinsville Transmission Line Relocation Project

OPSB Case No. 22-468-EL-BNR

Submitted to:

The Ohio Power Siting Board

Pursuant to OAC 4906-06

Submitted by:

Duke Energy Ohio, Inc.

May2022

TABLE OF CONTENTS

ATTACHMENTS

CONSTRUCTION NOTICE

This Construction Notice has been prepared by Duke Energy Ohio, Inc. (hereafter "Duke Energy Ohio") in accordance with Ohio Administrative Code (OAC) Chapter 4906-6 for the review of Accelerated Certificate Applications for the Duke Energy Ohio Collinsville Transmission Line Relocation Project (Project). The following section corresponds to the administrative code sections for the requirements of a Construction Notice.

4906-6-05(B) GENERAL INFORMATION

4906-6-05(B)(1) Project Description

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

Name of Project:

Duke Energy Ohio Collinsville Transmission Line Relocation Project

Reference Numbers:

OPSB Filing Number:	The Project has been assigned Ohio Power Siting Board (OPSB) Case Number 22-468-EL-BNR.
PJM Number:	This Project is a PJM supplemental project and was assigned project number s2659.
2021 LTFR:	This project was included in the 2021 ELTFR, on page 60, 61, and 62.
Circuit Reference:	Transmission Circuits 3821 and 13803, 138-kV transmission lines.

Brief Description of the Project:

Duke Energy Ohio proposes the relocation of approximately 430 linear feet of Circuit 3281 (College Corner to Trenton) and Circuit 13803 (College Corner to Hutchings Station), both being138-kilovolt (kV) transmission lines, in support of the proposed expansion of the existing Collinsville Distribution Substation. The proposed relocations, within existing alignment, will require the installation of four steel monopole structures on foundations in order to terminate the transmission lines on new positions on proposed take-off structures within the expanded Collinsville Distribution Substation.

The Project is located east of Richmond Road north of Trenton Oxford Road, in Milford Township, Ohio, adjacent to the existing Collinsville Distribution Substation Station.

The proposed relocation of the two 138-kV transmission lines is a part of the Collinsville distribution substation expansion project that will allow for the installation of additional equipment

to improve reliability, improve Duke Energy's electric transmission operation flexibility, and improve service to existing and future utility customers in the service area.

Construction Notice Requirement:

This Project qualifies as a Construction Notice filing because it meets the requirements of OAC 4906-1-01, Appendix A, item (1)(b) and (4)(b), *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.

4906-6-05(B)(2) Statement of Need

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

This project is part of Duke Energy's long-range planning to identify and carry out enhancements to the electrical framework that will improve the reliability for the area communities. The Collinsville Transmission Relocation Project will improve the overall reliability, capacity needs and flexibility of the transmission system to service customers.

4906-6-05(B)(3) Project Location

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

The location of the Project in relation to existing transmission lines and substations is shown on Figures 1 and 2 in Attachment A – Figures.

4906-6-05(B)(4) Alternatives Considered

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

The proposed Project will occur entirely within Duke Energy Ohio property or easements. No additional long-term impacts to adjacent properties are anticipated as a result of the Project. Therefore, the current alignment is the only reasonable alternative available and no other alternatives were considered.

4906-6-05(B)(5) Public Information Program

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

Information on the ongoing status of this Project and other Duke Energy Ohio projects can be found at the following website: www.duke-energy.com/Collinsville.

4906-6-05(B)(6) Construction Schedule

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

The transmission line project is expected to begin October of 2022 with vegetation clearing and the project has an anticipated completion and in-service date of May of 2023, pending approval of this Construction Notice.

4906-6-05(B)(7) Area Map

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

Figures 1 and 2, in Attachment A – Figures, provide a United States Geological Survey (USGS) quadrangle based topographic map and aerial map background, respectively, of the existing and proposed facilities at a scale of 1:24,000 for Figure 1 and 1:3,000 for Figure 2.

4906-6-05(B)(8) Property Agreements

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

This Project is located at the existing Collinsville Distribution Substation, which is located on parcel F2610020000012 owned by The Cincinnati Gas and Electric Company, a wholly owned subsidiary of Duke Energy Ohio, Inc.

4906-6-05(B)(9) Technical Features

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

Duke Energy Ohio proposes the replacement of three existing 138-kV monopole structures located outside the substation in order to realign the 138-kV circuits through the substation. These three structures will be replaced with four new steel monopole structures with foundations and will be constructed in locations adjacent to the three removed structures outside the substation. Currently, Circuit 3281 ties into the existing substation at two locations. The first location is from existing Structure 26BT-X2-66C, which will be replaced approximately 40-feet to the west by new Structure HL66C. The second location is from Structure 26BT-X2-66A, which will be replaced directly adjacent by new Structure HL66A. The 13803 Line currently does not connect into the

Collinsville Substation and is attached to Structure 26BT-X2-66B north of the existing substation. Existing Structure 26BT-X2-66B will be replaced by two new structures, both of which will be routed into the substation. The first new structure, Structure HL66B, will be located approximately 50-feet to the east of the existing structure and the second new structure, Structure HL66D, will be located approximately 130-feet to the west. Both new structures are located along the existing alignment. Four new takeoff structures within the substation will now receive both circuits, 13803 and 3281, before tying into the substation.

4906-6-05(B)(9)(a) Operating Characteristics
Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

This Project consists of the removal of three electric transmission structures and the installation of four steel monopole structures with foundations.

Voltage:	138-kV
Structure Type:	4 Engineered steel poles with foundations
Conductors:	Three 954 ACSR 45x7 “Rail”
Static Wire:	One (1) 7#8 Alumoweld
Insulators:	138-kV glass insulators and 138-kV polymer Jumpers
ROW:	Duke Energy Ohio, Inc. fee-owned property (no new easement)

Structure Number	Existing Height Above Ground (ft)	New Height Above Ground (ft)	New Diameter at Ground (ft)
HL66A 66BT-X2-66A	60.5	60	8
HL66B 66BT-X2-66B	115	108	10
HL66C 66BT-X2-66C	62.5	65	8
HL66D 66BT-X2-66D	-	117	10

4906-6-05(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.

4906-6-05(B)(9)(b)(i) Calculated Electric and Magnetic Field Levels
Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way.

No occupied residences or institutions are located within 100 feet of the proposed Project; therefore, no Electric and Magnetic Field (EMF) calculations are required by this code provision.

4906-6-05(B)(9)(b)(ii) Design Alternatives for EMF
A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

No occupied residences or institutions are located within 100 feet of the proposed Project; therefore, no design alternatives were considered for the Project.

4906-6-05(B)(9)(c) Project Cost
The estimated capital cost of the project.

The estimated capital cost of 138-kV transmission line relocation Project is $1,215,000.

4906-6-05(B)(10) Social and Ecological Impacts

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

4906-6-05(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 is located within Milford Township in the central portion of eastern Butler County. The Butler County Regional Planning Commission has adopted land use plans for portions of or all of the townships contained within the county, including Milford Township. Based on the available online Milford Township Zoning map, the Project area is zoned as Agricultural. The text for MilfordTownship land use plan is available at the Butler County Department of Development office.

The Project is located adjacent to the north and east of the existing Collinsville Substation, which is situated on the northern portion of the existing 12.6-acre Cincinnati Gas and Electric Co. property or easements that is mapped along State Route 177 (Hamilton Richmond Road), approximately 3,000 feet north of its intersection with State Route 73 (Trenton Oxford Road), approximately 3-miles east of the city of Oxford. The Bogan Elementary School resides on a parcel directly to the north of the Collinsville Substation. The surrounding lots consist of agricultural land with hedgerows and small areas of woodland. A few residences with associated agricultural-related structures exist along State Route 177 within the vicinity of Collinsville Substation.

4906-6-05(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 is located directly north and west of the existing substation, on the existing Duke Energy Ohio property or easements. None of this area is used for agricultural purposes. There will be no anticipated impacts to agricultural land as a result of the Project.

4906-6-05(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.

A Phase I cultural resource investigation was conducted for the proposed Project. The Phase I survey identified two previously unidentified archaeological resources (33BU1230 and 33BU1231). These two archaeological resources, from which a rather low frequency of non-diagnostic prehistoric and various historic artifacts were recovered, were recommended as not eligible for inclusion in the National Register of Historic Places (NRHP). In addition, there were no substantive historic resources within the viewshed of the Project. No additional cultural resources investigations were recommended for this Project, since the planned activities associated with the modifications of the existing Duke Energy Collinsville Substation will not affect any historic resources within the Project Area of Potential Effect (APE). On November 15, 2021, the Ohio State Historic Preservation Office (SHPO) responded affirming the report recommendations that the sites were not eligible for inclusion in the NRHP and no further coordination with Ohio SHPO is required. The Phase I report will be provided to Staff and the Ohio SHPO response letter is located in Appendix C.

4906-6-05(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.

The following list of agencies are known to have requirements that must be met in order to construct the Project:

- U.S. Fish and Wildlife Service must provide clearance under the Endangered Species Act.
- Ohio Department of Natural Resources must provide clearance.
- Ohio Environmental Protection Agency (OEPA) must authorize a Stormwater Pollution Prevention Plan (SWPPP) under OEPA's Authorization for Storm Water Discharges Associated with Construction Activity under the National Pollutant Discharge Elimination System (NPDES) Permit No. OHC000005.

4906-6-05(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.

The United States Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) website was reviewed for a list of threatened, endangered, and candidate to be listed species that may be impacted by the Project area. On August 8, 2021, coordination letters were sent to USFWS and the Ohio Department of Natural Resources (ODNR) soliciting responses. See Attachment B for the USFWS and ODNR coordination.

A response was received from the USFWS on October 13, 2021. The USFWS advised that the Project area occurs within the range of the federally endangered Indiana bat (*Myotis sodalis*), the federally threatened Northern long-eared bat (*Myotis septentrionalis*), and the federally listed Running buffalo clover (*Trifolium stoloniferum*; RBC).

The Indiana bat and Northern long-eared bat are federally listed endangered and threatened species known to occur in Butler County, Ohio. Potential summer roosting habitat for these species generally consists of sites that contain mature and/or standing dead trees with exfoliating bark, and/or stream/river corridors which serve as flight paths. Additionally, sites that contain caves could be used by the Indiana bat and Northern long-eared bat for winter hibernacula. The Project area consisted of maintained lawn with shrubs, upland forest, old field and industrial use (existing substation). Low quality potential roost habitat was identified within the Study Area, but none will be cleared for the proposed Project.

Running buffalo clover (*Trifolium stoloniferum*) is a federally listed endangered species known to occur in Butler County. This species is no longer listed as endangered as of September 7, 2021 with habitat for RBC not present at the project site.

A response was received from ODNR on September 17, 2021, in which ODNR Division of Wildlife (DOW) advised that the project area occurs within range of the Indiana bat, Northern long-eared bat, the state endangered little brown bat (*Myotis lucifugus*), the tri-colored bat (*Perimyotis subflavus*), the state and federally endangered rayed bean mussel (*Villosa fabalis*), the state threatened fawnfoot mussel (*Truncilla donaciformis*), the state endangered tonguetied minnow (*Exoglossum laurae*), the state threatened American eel (Anguilla rostrata), the state threatened Kirtland's snake (*Clonopis kirtlandii*), the state endangered cave salamander (*Euycea lucifuga*), the state threatened black-crowned night-heron (*Nycticorax nycticorax*), the state threatened least bittern (*Ixobrychus exilis*), the state endangered lark sparrow (*Chondestes grammacus*), and the state endangered upland sandpiper (*Bartramia longicauda*).

The little brown bat and tri-colored bat are state endangered species known to occur in Butler County, Ohio. Potential summer roosting habitat for these species generally consists of sites that

contain mature and/or standing dead trees with exfoliating bark, and/or stream/river corridors which serve as flight paths. Additionally, sites that contain caves could be used by the Indiana bat and Northern long-eared bat for winter hibernacula. The Project area consisted of maintained lawn with shrubs, upland forest, old field and industrial use (existing substation). Low quality potential roost habitat was identified within the Study Area, but none will be cleared for the proposed Project.

No in-water work is planned for the Project. ODNR DOW indicated that impacts to the rayed bean, fawnsfoot, tonguetied minnow, and American eel are not likely if in-water work is not planned for the project.

The Kirkland snake and cave salamander are known to occur in Butler County, Ohio. ODNR DOW indicated that impacts are not likely to this species due to the type of habitat within the Project area and the type of work proposed.

The black-crowned night-heron, least bittern, and upland sandpiper are known to occur in Butler County. ODNR DOW indicated that if habitat for these species should be impacted, it should occur outside of the species nesting period of May 1 through July 31 for the black-crowned night-heron and least bittern, and April 15 through July 31 for the upland sandpiper. Habitat for these species was not observed within the Project survey area. Therefore, the Project is not likely to impact these species.

The lark sparrow is known to occur in Butler County. ODNR DOW indicated that if habitat for these species should be impacted, construction should be avoided during the species nesting period of May 1 through July 31. This habitat is present within the Project survey area and construction will be avoided between May 1 through July 31.

Additional details regarding species are provided in Attachment B and the Natural Resource Assessment (Attachment D).

4906-6-05(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 Project study area is located in the Cotton Run-Four Mile Creek [USGS Hydrologic Unit Code (HUC) 050800020605] watershed (USGS, 2019 (Attachment D, Figure 1). Based on review of available data, two USGS National Hydrography Dataset (NHD) streams are mapped in the Project study area. These streams include:

- Darrs Run which flows to the southeast across approximately 850 feet of the Project study area. The Ohio EPA has assigned Darr's Run an aquatic life use designation of Warmwater Habitat (OEPA. 2021). Darr's Run was identified during the field survey as S-JBL-002 and,
- One unnamed tributary that flows into Darr's Run from the west. This mapped stream was identified as S-JBL-003.

A mapped NWI feature is located approximately 20-feet to the northeast of the Project study area border. This feature is a 0.9-acre, artificial, freshwater pond (USFWS. 2020). Water resources in the vicinity of the Project study area are presented in Attachment D, Figure 2.

No Ohio Wetlands Inventory wetlands (ODNR, 1991) are mapped within the Project area, with the nearest mapped feature located approximately 350 feet to the west. The Project is not located within a Federal Emergency Management Agency (FEMA) mapped regulatory (100-year) floodplain. The Butler County Soil Survey (U.S. Department of Agriculture (USDA), 2019) identifies five soil mapping units within the Project area. Soil map units are shown on Attachment D, Figure 2 and on Table 1.

Table 1. Soils in the Project Study Area

Soil Map Unit	Mapping Unit Symbol	Drainage Class	Hydric Status
Dana silt loam, 2 to 6 percent slopes	DaB	Moderately well drained	Hydric
Genesee loam	Gn	Well drained	No
Raub silt loam, 0 to 2 percent slopes	RdA	Somewhat poorly drained	Hydric
Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	RvB2	Well drained	No

The Project site is located adjacent to the existing Collinsville Substation and existing Duke Energy Ohio transmission lines. A site visit was performed on March 4, 2021. Four streams were identified as part of the Natural Resource Assessment and can be found in Attachment D.

Figure 4, in Attachment A – Figures, shows the NWI wetlands, FEMA floodplain, and soils within the Project vicinity.

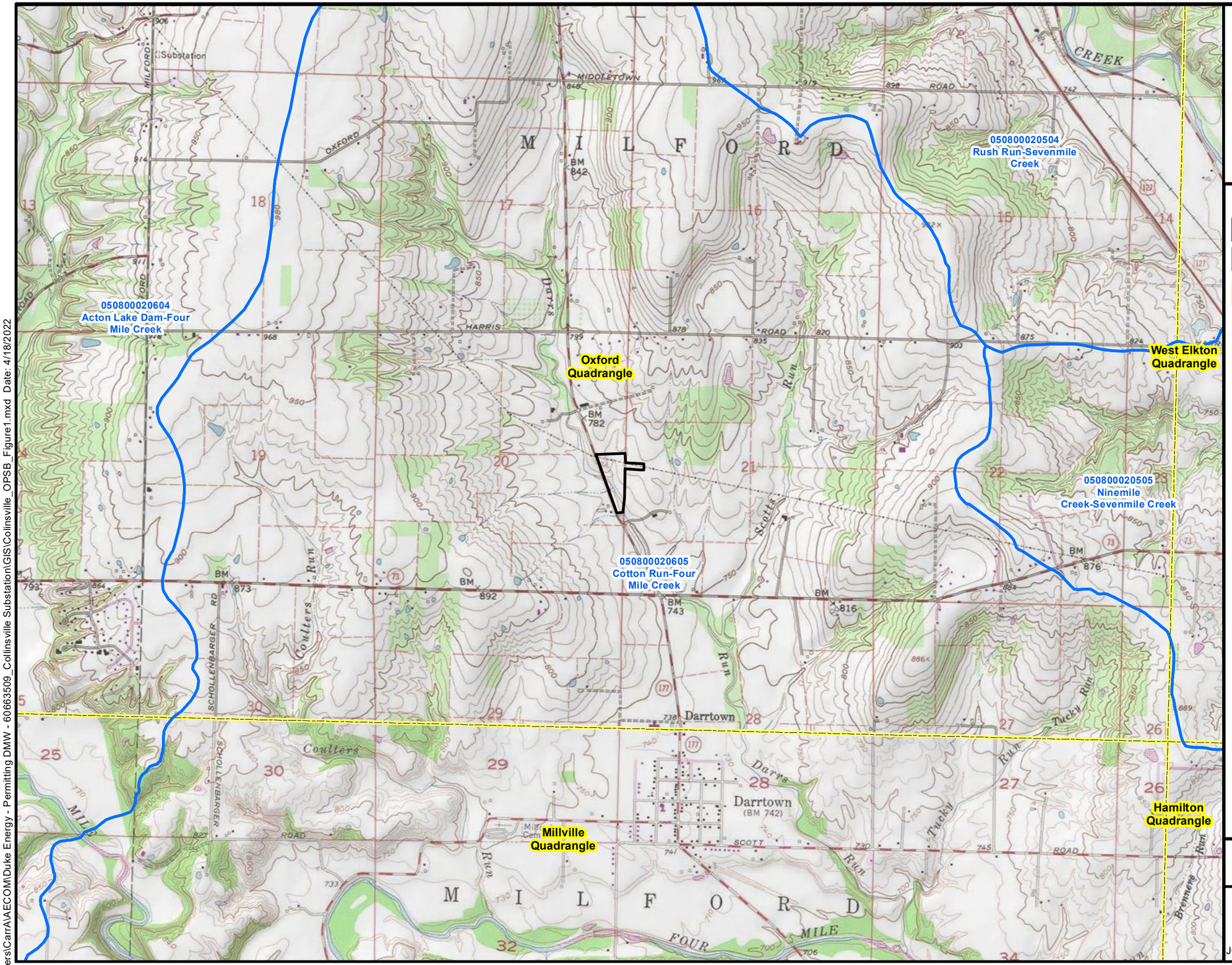
4906-6-05(B)(10)(g) Unusual Conditions
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of Duke Energy Ohio's knowledge, no unusual conditions exist that would result in environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration and will be in accordance with the requirements specified in the latest revision of the National Electric Code as adopted by the PUCO.

4906-6-07 SERVICE AND PUBLIC DISTRIBUTION OF ACCELERATED CERTIFICATE APPLICATIONS.

Copies of the Construction Notice have been sent to the appropriate public officials for Butler County and Milford Township, as well as to the County Public Library Hamilton Lane Branch. Information on how to request an electronic or paper copy of the Construction Notice as well as additional information on the ongoing status of this project can be found at the following website: www.duke-energy.com/Collinsville.

Attachment A – Figures



LEGEND:

- Project Study Area
- HUC12 Watershed (USGS)
- USGS 7.5" Topographical Quadrangle

N

0 2,000 4,000

Feet

1:24,000

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Colinsville Transmission Line Relocation Project

FIGURE 1
SITE LOCATION USGS TOPOGRAPHIC MAP
MILFORD TWP, BUTLER COUNTY, OH

JOB NO. 60663509

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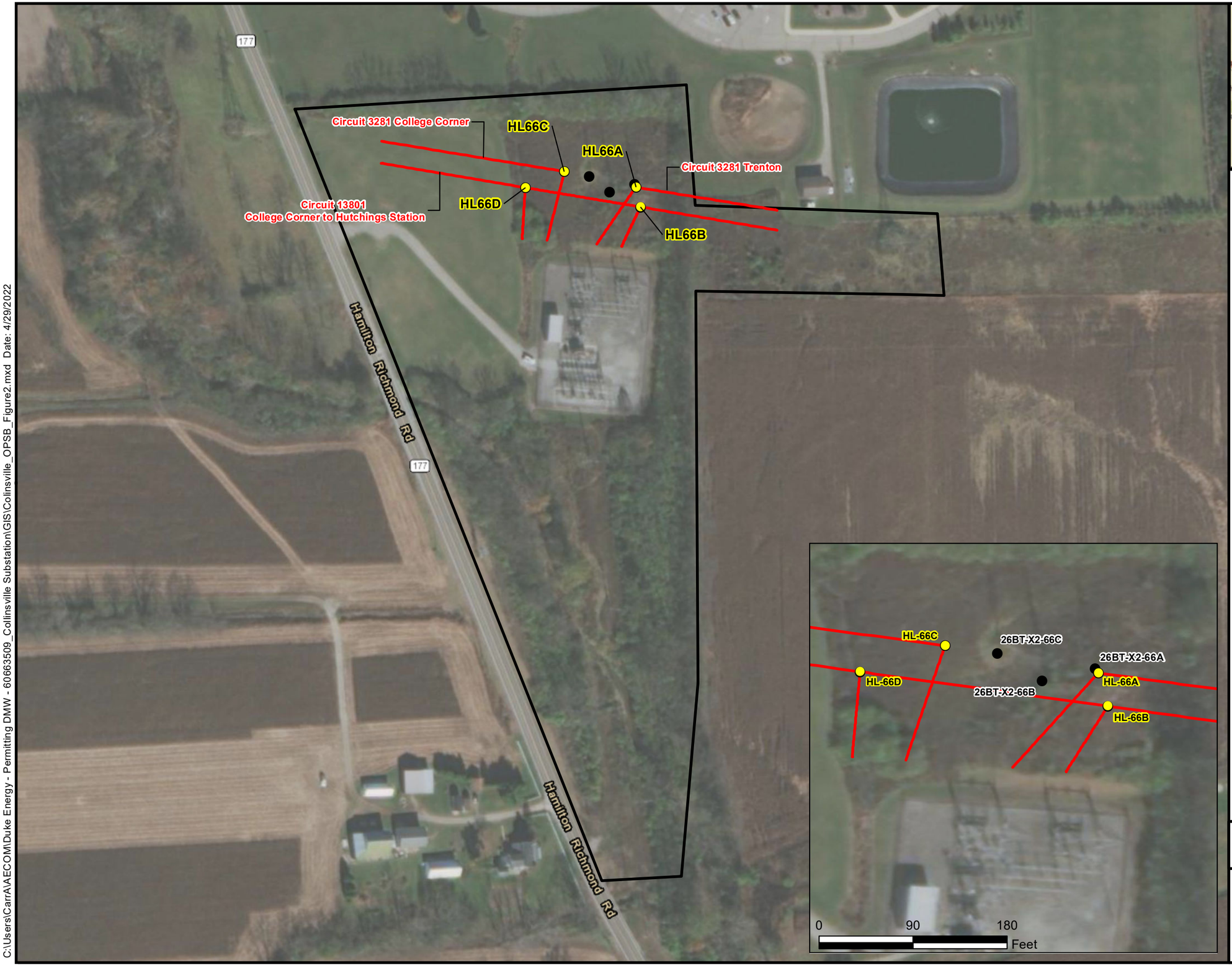

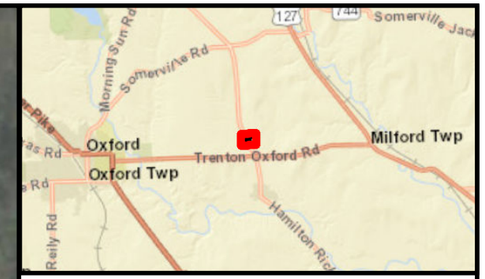

LEGEND:

- Proposed 138 kV Centerline
- Proposed Structure
- Structures to be Removed
- Project Study Area

N

0 150 300

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Colinsville Transmission Line Relocation Project

FIGURE 2
SITE LOCATION AERIAL MAP
MILFORD TWP, BUTLER COUNTY, OH

JOB NO. 60663509

AECOM

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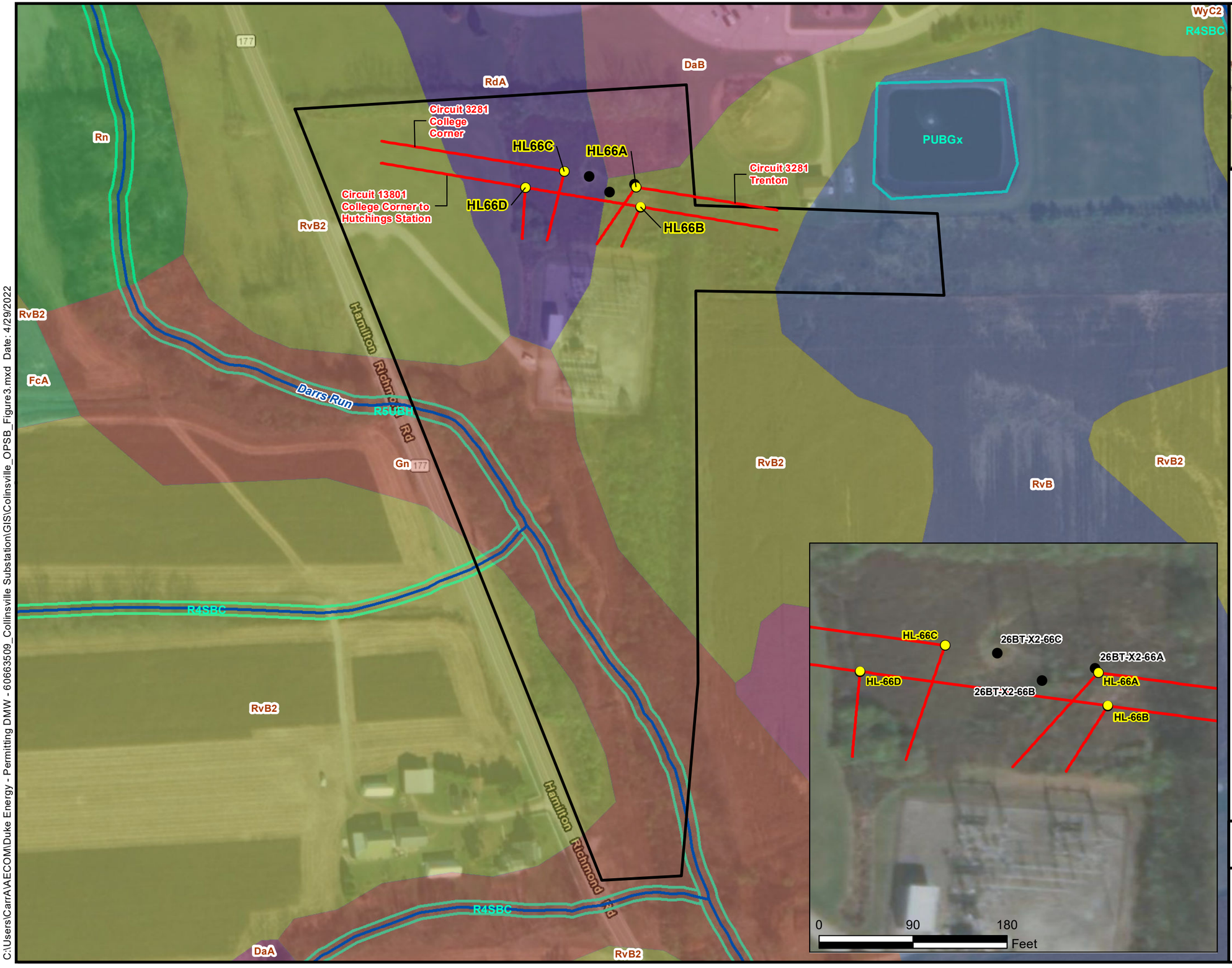

LEGEND:

- Proposed Structure
- Structures to be Removed
- Proposed 138 kV Centerline
- NHD Stream (USGS)
- NWI Wetland (USFWS)
- Project Study Area

Soil Unit Symbol | Unit Name

- DaA|Dana silt loam, 0 to 2 percent slopes
- DaB|Dana silt loam, 2 to 6 percent slopes
- FcA|Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes
- Gn|Genesee loam
- RdA|Raub silt loam, 0 to 2 percent slopes
- Rn|Ross loam, 0 to 2 percent slopes, occasionally flooded
- RvB2|Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded
- RvB|Russell-Miamian silt loams, 2 to 6 percent slopes
- WyC2|Wynn silt loam, 6 to 12 percent slopes, eroded

N

0 150 300
Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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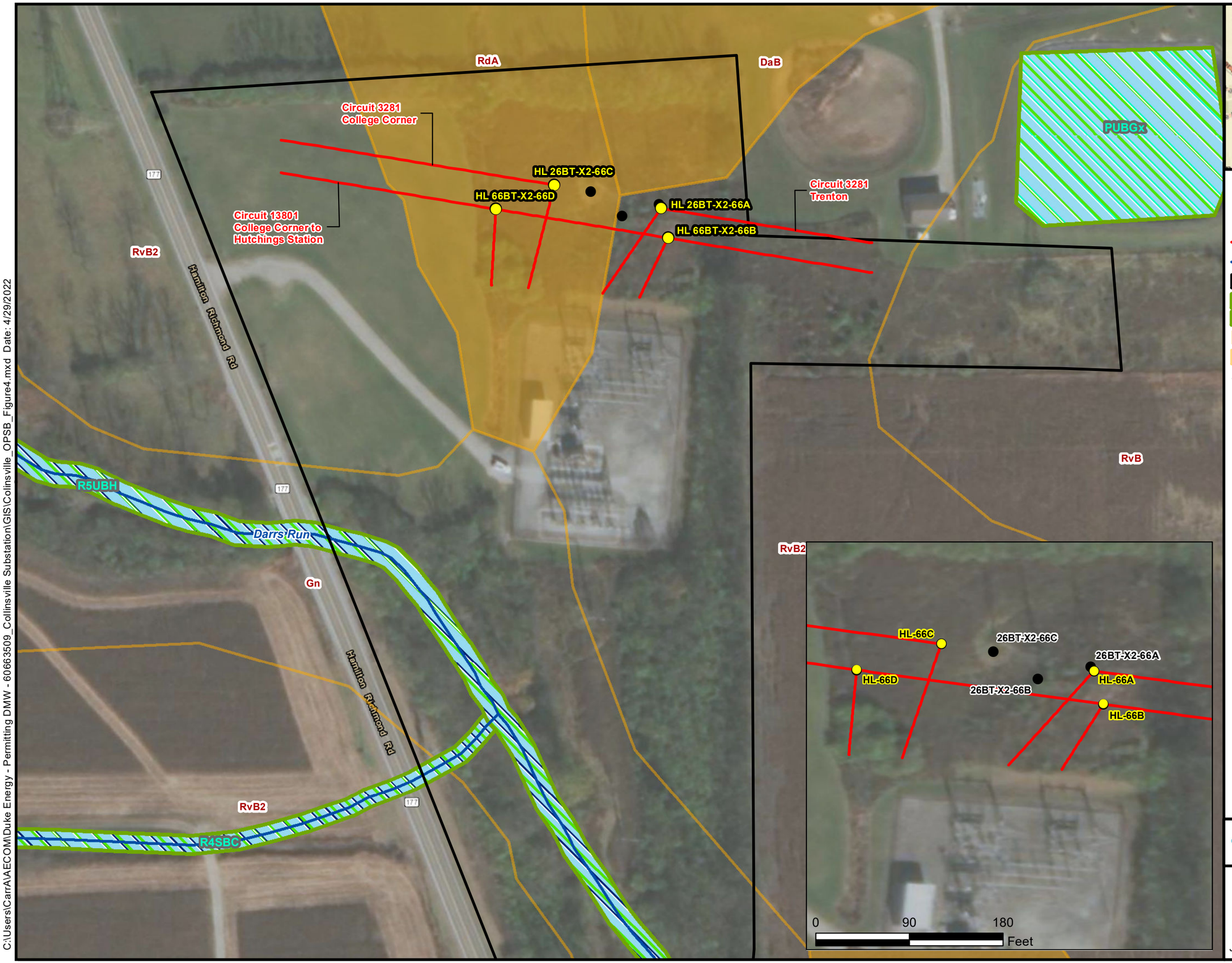
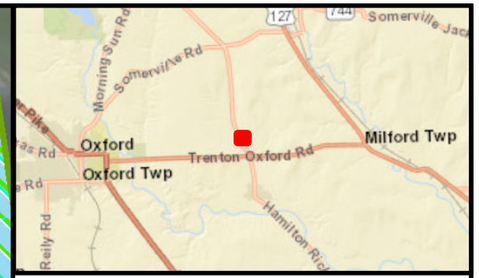
Colinsville Transmission Line Relocation Project

FIGURE 3
SITE LOCATION AERIAL MAP
WITH NRCS/NWI/NHD OVERLAY
MILFORD TWP, BUTLER COUNTY, OH

JOB NO. 60663509

AECOM





LEGEND:

- Proposed Structure
- Structures to be Removed
- Proposed 138 kV Centerline
- NHD Stream (USGS)
- Project Study Area
- NWI PUB Wetland
- NWI Riverine
- Hydric soils
- Soil Unit Boundary

Soil Unit Symbol | Unit Name

- DaA|Dana silt loam, 0 to 2 percent slopes
- DaB|Dana silt loam, 2 to 6 percent slopes
- FcA|Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes
- Gn|Genesee loam
- RdA|Raub silt loam, 0 to 2 percent slopes
- Rn|Ross loam, 0 to 2 percent slopes, occasionally flooded
- RvB|Russell-Miamian silt loams, 2 to 6 percent slopes
- RvB2|Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded
- WyC2|Wynn silt loam, 6 to 12 percent slopes, eroded
- XfB|Xenia silt loam, bedrock substratum, 2 to 6 percent slopes

N

0 100 200
Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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Colinsville Transmission Line Relocation Project

FIGURE 4
SITE LOCATION AERIAL DETAIL MAP
WITH NRCS/NWI/NHD OVERLAY
MILFORD TWP, BUTLER COUNTY, OH

JOB NO. 60663509

AECOM

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Attachment B – State Listed Species for Butler County

Ohio Department of Natural Resources

MIKE DEWINE, GOVERNOR MARY MERTZ, DIRECTOR

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

September 17, 2021

Bill Leopold
AECOM
525 Vine Street
Suite 1800
Cincinnati, Ohio 45202

Re: 21-0814; Collinsville Substation Project

Project: The proposed project involves the expansion of the Collinsville Substation.

Location: The proposed project is located in Milford Township, Hamilton 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 no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

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

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

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally threatened species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer (April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in the leaves. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cut, the DOW recommends cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH $\geq$ 20 if possible. If trees are present within the project area, and trees must be cut during the summer months, the DOW recommends a mist net survey or acoustic survey be conducted from June 1 through August 15, prior to any cutting. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the "*OHIO DIVISION OF WILDLIFE GUIDANCE FOR BAT SURVEYS AND TREE CLEARING*". If state listed bats are documented, DOW recommends cutting only occur from October 1 through March 31. However, limited summer tree cutting may be acceptable after consultation with the DOW (contact Erin Hazelton at Erin.hazelton@dnr.ohio.gov).

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

The project is within the range of the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, and the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact these species.

The project is within the range of the tonguetied minnow (*Exoglossum laurae*), a state endangered fish, and the American eel (*Anguilla rostrata*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet fields and meadows. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the cave salamander (*Eurycea lucifuga*), a state endangered species. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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

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

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

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

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

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

Mike Pettegrew
Environmental Services Administrator (Acting)

Anderson, Christy

From:	Leopold, Bill
Sent:	Tuesday, August 31, 2021 10:59 AM
To:	environmentalreviewrequest@dnr.state.oh.us
Cc:	McKnight, Carol; Kleinhenz, Josiah; Lubbers, Jake
Subject:	Request for Environmental Review, Collinsville Substation Project
Attachments:	Collinsville_ODNR_Request_for_Environmental_Review.pdf; LOD-Collinsville-Layout_08052021.zip

Greetings,

We are requesting an Environmental Review for the proposed Duke Energy Collinsville Substation Expansion project located in Butler County, Ohio, in support of a required USACE 404 permit application. Attached is the required information for the submission including a project description, proposed project impacts to habitats, a photolog of identified habitats and appropriate mapping, along with a shapefile of the project area.

I look forward to your response.
Cheers,

Bill Leopold
Senior Ecologist, Natural Resources & Permitting
Environment IAP, East, Mid-Atlantic, Cincinnati, OH
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ODNR Division of Wildlife
Attn: Environmental Review
2045 Morse Road, Building G
Columbus, Ohio 43229-6693
Email: environmentalreviewrequest@dnr.state.oh.us

Subject: Request for Environmental Review
Duke Energy Collinsville Substation Expansion Project
Butler County, Ohio

To Whom It May Concern,

AECOM has been retained by Duke Energy (Duke) to solicit the Ohio Department of Natural Resources (ODNR) for comments regarding the potential threatened and endangered species impacts during the Collinsville Substation Expansion Project (Project) located in Butler County, Ohio as shown on the attached Site Location USGS Topographic Map with FEMA/HUC Overlay (Figure 1).

Duke proposes to expand the existing Collinsville Substation. The Project study area is approximately 12.6-acres in size, located along Richmond Road north of Trenton Oxford Road, about three miles east of Oxford Township, Ohio, adjacent to the existing Substation Station.

AECOM performed a pedestrian survey of the Project survey area on July 21, 2021, to document habitat types, potential wetlands, waterbodies, and other regulated special aquatic sites encountered. Land use observed consisted of industrial land, maintained/disturbed grassland, old field, shrub-scrub, young upland woodland, as well as some aquatic communities. One perennial stream (Darr's Run), one ephemeral, and two intermittent streams that act as its tributaries were delineated within the project study area. No wetlands were identified or delineated within the Project study area. A brief description of the vegetative and aquatic communities documented follows.

Industrial
Approximately 1.2-acres of the Project study area is industrial use, including the existing electrical substation, gravel drives, and paved roadway with no vegetative cover.

Maintained/Disturbed Grassland
Approximately 2.8-acres of the Project study area is comprised of maintained lawn habitat. Vegetation was comprised primarily of Kentucky bluegrass (*Poa pratensis*) and the lawn is maintained in a closely mown state.

Old Field
Approximately 0.4-acre of the Project study area is comprised of old field located under the power transmission lines south of the existing substation. Vegetation of this community is composed primarily of Canadian goldenrod (*Solidago canadensis*), wild teasel (*Dipsacus fullonum*), garlic mustard (*Alliaria petiolata*), and field brome (*Bromus arvensis*). Tree diameters at breast height range from 2 to 12 inches.

Shrub-scrub
Approximately 2.8-acres of the Project study area is comprised of shrub scrub habitat. This habitat occupies the northeastern corner of the Project study area. Vegetation is comprised primarily of goldenrod (Solidago spp.), wild teasel (dipsacus fullonum), blackberry (Rubus ulmifolius), and amur honeysuckle (Lonicera maackii).

Upland Woodland
Approximately 4.7-acres of the Project study area is comprised of young upland forest. This habitat is located east and south of the existing substation. The vegetation of this community is comprised of a canopy dominated by black walnut (*Juglans nigra*), white mulberry (*Morus alba*), Hackberry (*Celtis occidentalis*), and American elm (*Ulmus americana*) and a subcanopy comprised of white mulberry

(Morus alba), Hackberry (Celtis occidentalis), and amur honeysuckle (*Lonicera maackii*). Tree diameters at breast height (DBH) range from two to twelve inches.

Aquatic Communities

Approximately 0.7-acre of the Project study area is comprised of aquatic communities including one perennial stream (Darr's Run) and its three unnamed, intermittent tributaries.

Four (4) streams were identified within the Project study area, occupying approximately 0.6 acre, with three (3) having been provisionally determined to be Waters of the U.S. (WOTUS). Two (2) of the identified streams (Stream 01 and Steam 03) have been preliminarily determined as having intermittent flow regimes with each being a direct tributary to the one perennial stream, Darrs Run (Stream 02). One (1) stream (Stream 04) has been categorized as having an ephemeral flow regime and is not determined to be one of the Waters of the U.S. (WOTUS). Stream assessment scores of the identified streams are provided in Table 1, below.

Table 1. Delineated Streams in the Study Area

Waters Name[1]	Waters Type[2]	Bankful Width (ft)	Delineated Length (linear feet)	Impact Amount (feet or acres)	Latitude/ Longitude	Category[3]	HHEI[3]	QHEI[3]	Impact Type	Permit Needs
Stream 01a	b	4	413	1,652 (ft^2) 0.038 acre	39.51531, -84.66746	Modified Class II PHW	48	N/A	Fill, drained	NWP 3
Stream 01b	b	4	99	N/A	39.51465, -84.66760	Modified Class II PHW	60	N/A	Avoided	None
Stream 02 (Darr's run)	b	32	880	N/A	39.51450, -84.66765	WWH	N/A	65	Avoided	None
Stream 03	b	6	149	N/A	39.51341, -84.66714	Modified Class II PHW	56	N/A	Avoided	None
Stream 04	c	3	171	N/A	39.51399, -84.66683	Class I PHW	24	N/A	Avoided	None

1. Field ID: INT = Intermittent, PER = Perennial
2. Waters Type: Based upon the Navigable Waters Protection Rule
   a. TNW – Traditional Navigable Waters
   b. Tributary – Perennial or Intermittent
   c. Ephemeral Stream
3. HHEI PHW Provisional Aquatic Life Use Classification (high quality substrate < 20%) follows;
Class I Primary Headwater = Ephemeral – Scores < 30
Class II Small Drainage Warmwater = Intermittent or Perennial – Scores 30 – <70
Spring Water = >=70
Modified = Non-natural channel
QHEI Provisional Aquatic Life Use follows:
MWH = Modified Warm Water Habitat – Scores 32 – 60
WWH = Warm Water Habitat – Scores >60

To address the Project's potential to impact state protected species, AECOM acquired the ODNR county list of species that may potentially be affected by the proposed Project. The 9 state listed endangered species, 12 state listed threatened species, and 28 state listed species of concern and observations of potential habitat present in the Project study area are provided in Table 2, below. The ODNR county list included additional species with other state-level status that are not included below (see Attachment A for full listing).

Table 2. State Listed Species for Butler County, Ohio

Common Name	Scientific Name	State Status	Potential Habitat Present (Yes/No)
Mammals			
Indiana Bat	*Myotis sodalis*	SE	Yes – Young Upland Forest
Northern Long-Eared Bat	*Myotis septentrionalis*	ST	Yes – Young Upland Forest
Big Brown Bat	*Eptesicus fuscus*	SSC	Yes – Young Upland Forest
Silver-haired Bat	*Lasionycteris noctivagans*	SSC	Yes – Young Upland Forest
Red Bat	*Lasiurus borealis*	SSC	Yes – Young Upland Forest
Hoary Bat	*Lasiurus cinereus*	SSC	Yes – Young Upland Forest
Little Brown Bat	*Myotis lucifugus*	SSC	Yes – Young Upland Forest
Tri-colored Bat	*Perimyotis subflavus*	SSC	Yes – Young Upland Forest
Southern Bog Lemming	*Synaptomys cooperi*	SSC	No
Common Gray Fox	*Urocyon cinereoargenteus*	SSC	Yes – Young Upland Forest
Mussels			
Black Sandshell	*Ligumia recta*	ST	No
Fawnsfoot	*Truncilla donaciformis*	ST	No
Elktoe	*Alasmidonta marginata*	SSC	No
Deertoe	*Truncilla truncata*	SSC	No
Birds			
Upland Sandpiper	*Bartramia longicauda*	SE	No
Lark Sparrow	*Chondestes grammacus*	SE	Yes – Young upland forest. Tree clearing scheduled after spring and summer fledging period.
Least Bittern	*Ixobrychus exilis*	ST	No
Black-crowned Night-heron	*Nycticorax nycticorax*	ST	No
Sharp-shinned Hawk	*Accipiter striatus*	SSC	No
Henslow's Sparrow	*Ammodramus henslowii*	SSC	No
Grasshopper Sparrow	*Ammodramus savannarum*	SSC	No
Great Egret	*Ardea alba*	SSC	No
Common Nighthawk	*Chordeiles minor*	SSC	No
Black-billed Cuckoo	*Coccyzus erythropthalmus*	SSC	Yes – Young upland forest. Tree clearing scheduled after spring and summer fledging period.
Northern Bobwhite	*Colinus virginianus*	SSC	Yes – Young upland forest. Tree clearing scheduled after summer fledging period.
Bobolink	*Dolichonyx oryzivorus*	SSC	No
American Coot	*Fulica americana*	SSC	No
Common Gallinule	*Gallinula galeata*	SSC	No
Red-headed Woodpecker	*Melanerpes erythrocephalus*	SSC	No
Vesper Sparrow	*Pooecetes gramineus*	SSC	No
Sora Rail	*Porzana carolina*	SSC	No
Prothonotary Warbler	*Protonotaria citrea*	SSC	No
Cerulean Warbler	*Setophaga cerulea*	SSC	Yes – Young upland forest. Tree clearing scheduled after spring and summer fledging period.
Insect			
Plains Clubtail	*Gomphus externus*	SE	No

Common Name	Scientific Name	State Status	Potential Habitat Present (Yes/No)
Blue corporal	*Ladona deplanata*	SE	No
Amphibian			
Cave Salamander	*Eurycea lucifuga*	SE	No
Eastern Cricket Frog	*Acris crepitans crepitans*	SSC	No
Reptile			
Kirtland's Snake	*Clonophis kirtlandii*	ST	No
Eastern Box Turtle	*Terrapene carolina carolina*	SCC	Yes – Eastern box turtle's prefer forest's but may inhabit wetlands. Given the small construction footprint, the species mobility, and short duration, impacts are unlikely.
Fish/Crayfish			
Tonguetied Minnow	*Exoglossum laurae*	SE	No
American Eel	*Anguilla rostrata*	ST	No
Muskellunge	*Esox masquinongy*	SCC	No
Sloan's Crayfish	*Orconectes (Rhoadesius) sloanii*	ST	Yes – Stream 01 and Stream 02. Impacts are unlikely due to species mobility
Vascular Plant			
Midland Sedge	*Carex mesochorea*	ST	No
Timid Sedge	*Carex timida*	ST	No
Missouri Gooseberry	*Ribes missouriense*	ST	Yes – known from roadsides and disturbed areas, moist soil, wooded slopes, waters edge and floodplains. No individuals were identified in the study area.
Snowy Campion	*Silene nivea*	SE	No
Soft-leaved Arrow-wood	*Viburnum molle*	ST	No
Running buffalo clover	*Trifolium stoloniferum*	SE	No

Ohio Division of Wildlife, Ohio Natural Heritage Database, Butler County, July, 2016.
Ohio Division of Wildlife, Butler County State Listed Animal Species, March, 2020.
State Status Codes:
SE = Endangered
SSC = Species of Special Concern
ST = Threatened

No ODNR managed areas were located within or adjacent to the Project survey area. No high-quality natural communities were identified within or immediately adjacent to the Project survey area.

Duke and AECOM opines that the proposed Project is not likely to adversely impact state protected species that could exist in the Project area due to the following:

- Approximately 0.31-acre of young upland forest is expected to be cleared. Trees that may be cleared by the proposed Project activities range from two to twelve inches in DBH and consist of American elm, white mulberry, hackberry and black walnut and has a dense understory of honeysuckle,
- No caves or cave-like structures were present in the Project study area,
- No high-quality or unique habitats were present in the Project study area, and
- Impacts to aquatic dependent species, are not anticipated due to existing modifications to the stream (Stream 01a and 01b) in the proposed Project vicinity.

We are requesting that ODNR review the proposed Project details provided above, and in the attached figures, and provide concurrence that the Project is not likely to adversely affect state protected species. Should you have any questions, please do not hesitate to contact me directly at 513-419-3455. We appreciate your timely review of this request.

Sincerely,

Carol McKnight
Program Manager
AECOM
Carol.mcknight@aecom.com
513-419-3455

Enclosures (6):

Attachment A – ODNR Butler County Species Lists
Attachment B – Photographic Record
Figure 1 – USGS Topographic Map with FEMA/HUC Overlay
Figure 2 – Project Study Area Map with Project Findings
Figure 3 – Land Use Map
Shapefile of Project study area (LOD-Collinsville-Layout_08052021.zip)

ATTACHMENT A

ODNR BUTLER COUNTY SPECIES LIST

Butler County

Scientific Name	Common Name	Last Observed	State Status	Federal Status
Arabis pycnocarpa var. adpressipilis	Southern Hairy Rock Cress	1965-04	P	
Arabis pycnocarpa var. pycnocarpa	Western Hairy Rock Cress	1990-05-03	X	
Bromus kalmii	Prairie Brome	2013-07-01	P	
Carex mesochorea	Midland Sedge	2005-06-05	T	
Carex timida	Timid Sedge	2011-06-14	T	
Cyperus acuminatus	Pale Umbrella-sedge	2014-09-19	P	
Echinodorus berteroi	Burhead	2014-09-19	P	
Ribes missouriense	Missouri Gooseberry	2013-07-01	T	
Salix caroliniana	Carolina Willow	1991-06-02	P	
Silene nivea	Snowy Campion	2013-07-01	E	
Viburnum molle	Soft-leaved Arrow-wood	2013-07-01	T	

Ohio Division of Wildlife
Ohio Natural Heritage Database
Date Accessed: March 6, 2015
Based on 2014-15 Rare Plant List.

Status:

X = Extirpated
E = Endangered
T = Threatened
P = Potentially Threatened

List Created: July 2016

Butler County State Listed Animal Species

Common Name	Scientific Name	Group	State Status	Federal Status
Cave Salamander	Eurycea lucifuga	Amphibian	Endangered	
Upland Sandpiper	Bartramia longicauda	Bird	Endangered	
Lark Sparrow	Chondestes grammacus	Bird	Endangered	
Plains Clubtail	Gomphus externus	Dragonfly	Endangered	
Blue corporal	Ladona deplanata	Dragonfly	Endangered	
Tonguetied Minnow	Exoglossum laurae	Fish	Endangered	
Indiana Myotis	Myotis sodalis	Mammal	Endangered	Endangered
Least Bittern	Ixobrychus exilis	Bird	Threatened	
Black-crowned Night-heron	Nycticorax nycticorax	Bird	Threatened	
Sloan's Crayfish	Orconectes (Rhoadesius) sloanii	Crayfish	Threatened	
American Eel	Anguilla rostrata	Fish	Threatened	
Black Sandshell	Ligumia recta	Mollusk	Threatened	
Fawnsfoot	Truncilla donaciformis	Mollusk	Threatened	
Kirtland's Snake	Clonophis kirtlandii	Reptile	Threatened	
Eastern Cricket Frog	Acris crepitans crepitans	Amphibian	Species of Concern	
Sharp-shinned Hawk	Accipiter striatus	Bird	Species of Concern	
Henslow's Sparrow	Ammodramus henslowii	Bird	Species of Concern	
Grasshopper Sparrow	Ammodramus savannarum	Bird	Species of Concern	
Great Egret	Ardea alba	Bird	Species of Concern	
Common Nighthawk	Chordeiles minor	Bird	Species of Concern	

Common Name	Scientific Name	Group	State Status	Federal Status
Black-billed Cuckoo	Coccyzus erythropthalmus	Bird	Species of Concern	
Northern Bobwhite	Colinus virginianus	Bird	Species of Concern	
Bobolink	Dolichonyx oryzivorus	Bird	Species of Concern	
American Coot	Fulica americana	Bird	Species of Concern	
Common Gallinule	Gallinula galeata	Bird	Species of Concern	
Red-headed Woodpecker	Melanerpes erythrocephalus	Bird	Species of Concern	
Vesper Sparrow	Pooecetes gramineus	Bird	Species of Concern	
Sora Rail	Porzana carolina	Bird	Species of Concern	
Prothonotary Warbler	Protonotaria citrea	Bird	Species of Concern	
Cerulean Warbler	Setophaga cerulea	Bird	Species of Concern	
Muskellunge	Esox masquinongy	Fish	Species of Concern	
Big Brown Bat	Eptesicus fuscus	Mammal	Species of Concern	
Silver-haired Bat	Lasionycteris noctivagans	Mammal	Species of Concern	
Red Bat	Lasiurus borealis	Mammal	Species of Concern	
Hoary Bat	Lasiurus cinereus	Mammal	Species of Concern	
Little Brown Bat	Myotis lucifugus	Mammal	Species of Concern	
Tri-colored Bat	Perimyotis subflavus	Mammal	Species of Concern	
Southern Bog Lemming	Synaptomys cooperi	Mammal	Species of Concern	
Common Gray Fox	Urocyon cinereoargenteus	Mammal	Species of Concern	
Elktoe	Alasmidonta marginata	Mollusk	Species of Concern	
Deertoe	Truncilla truncata	Mollusk	Species of Concern	
Eastern Box Turtle	Terrapene carolina carolina	Reptile	Species of Concern	

Common Name	Scientific Name	Group	State Status	Federal Status
Northern Saw-whet Owl	Aegolius acadicus	Bird	Special Interest	
Long-eared Owl	Asio otus	Bird	Special Interest	
Canada Warbler	Cardellina canadensis	Bird	Special Interest	
Veery	Catharus fuscescens	Bird	Special Interest	
Hermit Thrush	Catharus guttatus	Bird	Special Interest	
Brown Creeper	Certhia americana	Bird	Special Interest	
Least Flycatcher	Empidonax minimus	Bird	Special Interest	
Dark-eyed Junco	Junco hyemalis	Bird	Special Interest	
Nashville Warbler	Oreothlypis ruficapilla	Bird	Special Interest	
Northern Waterthrush	Parkesia noveboracensis	Bird	Special Interest	
Golden-crowned Kinglet	Regulus satrapa	Bird	Special Interest	
Black-throated Blue Warbler	Setophaga caerulescens	Bird	Special Interest	
Blackburnian Warbler	Setophaga fusca	Bird	Special Interest	
Magnolia Warbler	Setophaga magnolia	Bird	Special Interest	
Western Meadowlark	Sturnella neglecta	Bird	Special Interest	
Winter Wren	Troglodytes hiemalis	Bird	Special Interest	
Bell's Vireo	Vireo bellii	Bird	Special Interest	
Blue-headed Vireo	Vireo solitarius	Bird	Special Interest	

ATTACHMENT B

PHOTOGRAPHIC RECORD

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Upstream	

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Downstream	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Downstream

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Upstream

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Substrate

Stream 03

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Downstream

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Substrate

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Upstream

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Substrate

Old Field

Date:

July 21, 2021

Description:

South of substation, in powerline ROW

Facing South

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Shrub Scrub

Date:

July 21, 2021

Description:

North of Substation

Facing West

Upland Woodland

Date:

July 21, 2021

Description:

South of Substation

Facing East

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Industrial/Developed

Date:

July 21, 2021

Description:

Substation

Facing East

Maintained Lawn

Date:

July 21, 2021

Description:

West of substation

Facing West

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Subatation Facing Up-gradient	

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Down-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Substrate	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Up-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Down-gradient	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Substrate	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Up-gradient

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Down-gradient

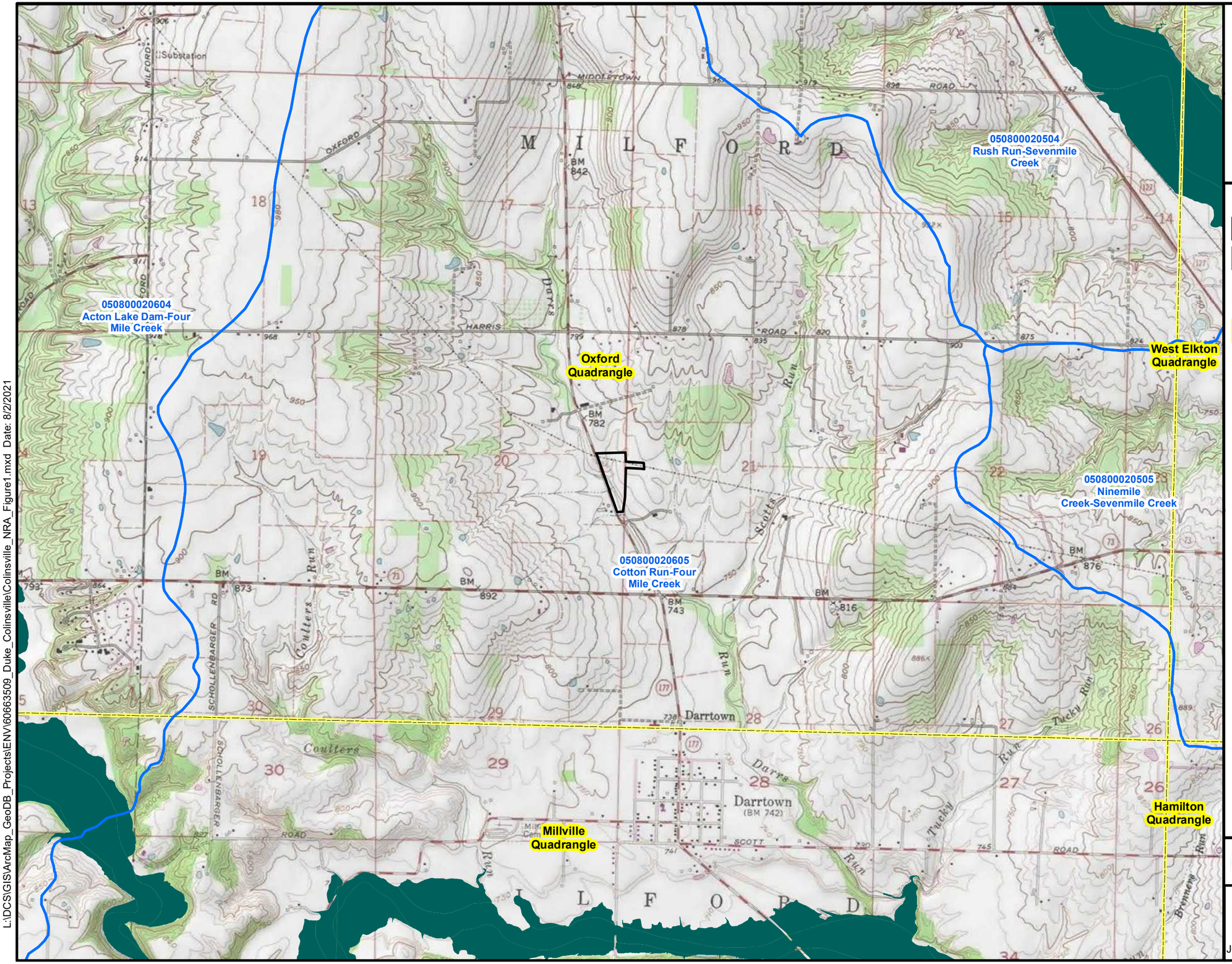
AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03	
Date: July 21, 2021	
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Substrate	

FIGURES



LEGEND:

- Project Survey Area
- HUC12 Watershed (USGS)
- NFHL 100-year Floodplain (FEMA)
- USGS 7.5" Topographical Quadrangle

N

0 2,000 4,000

Feet

1:24,000

DUKE ENERGY.

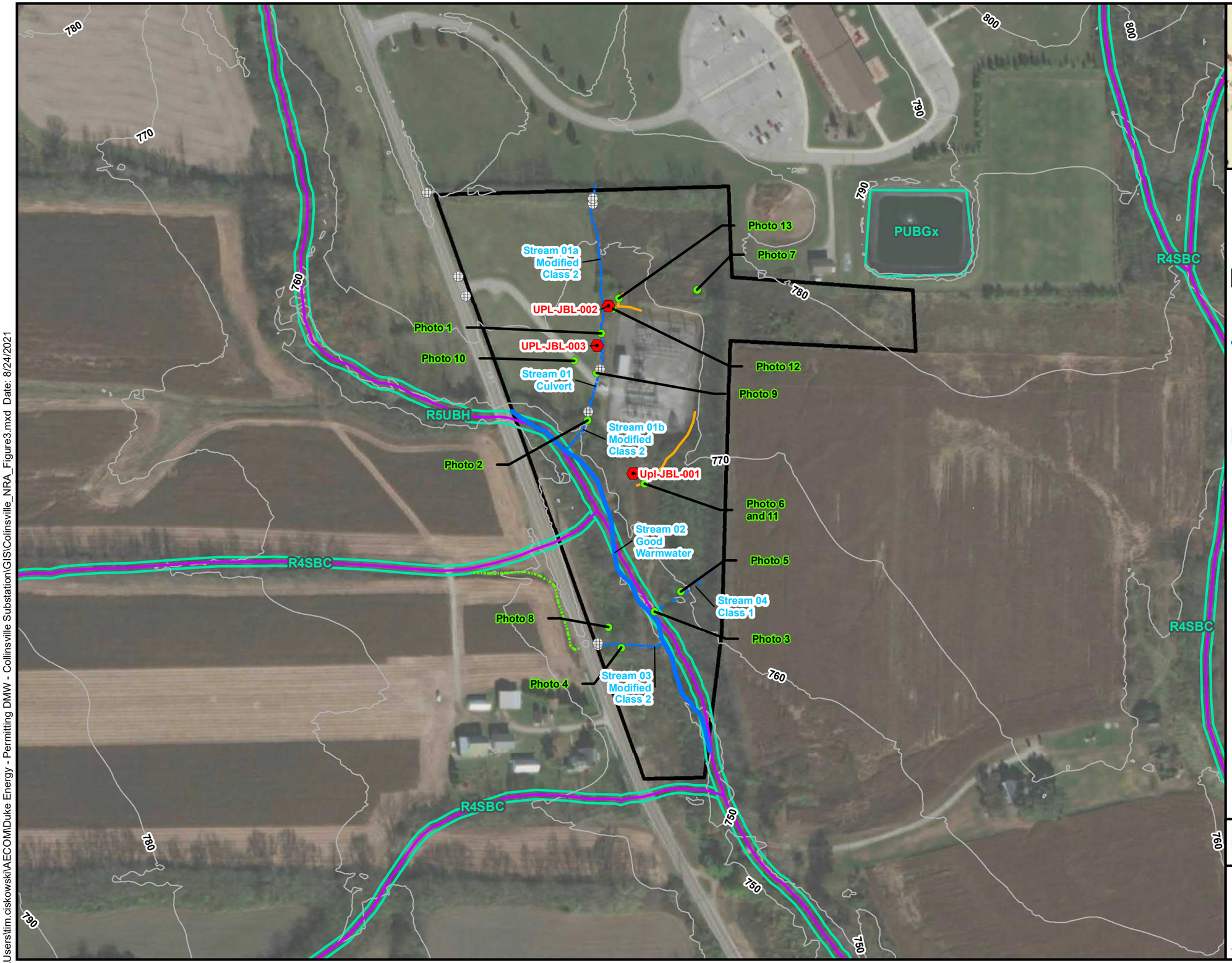
Colinsville Substation Expansion Project

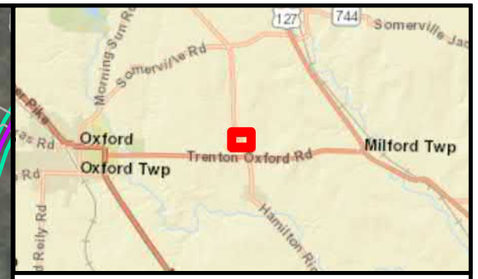
FIGURE 1
SITE LOCATION USGS TOPOGRAPHIC MAP WITH FEMA/HUC OVERLAY

JOB NO. 60663509

AECOM

L:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60663509_Duke_Colinsville\Colinsville_NRA_Figure1.mxd Date: 8/2/2021





LEGEND:

- Photo Point
- Upland Data Point
- Culvert
- Project Survey 'Area
- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream
- Upland Drainage Feature
- 10 ft Contour
- NHD Stream
- NWI Wetland (USFWS)
- Approximate Stream Location

N

0 200 400

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

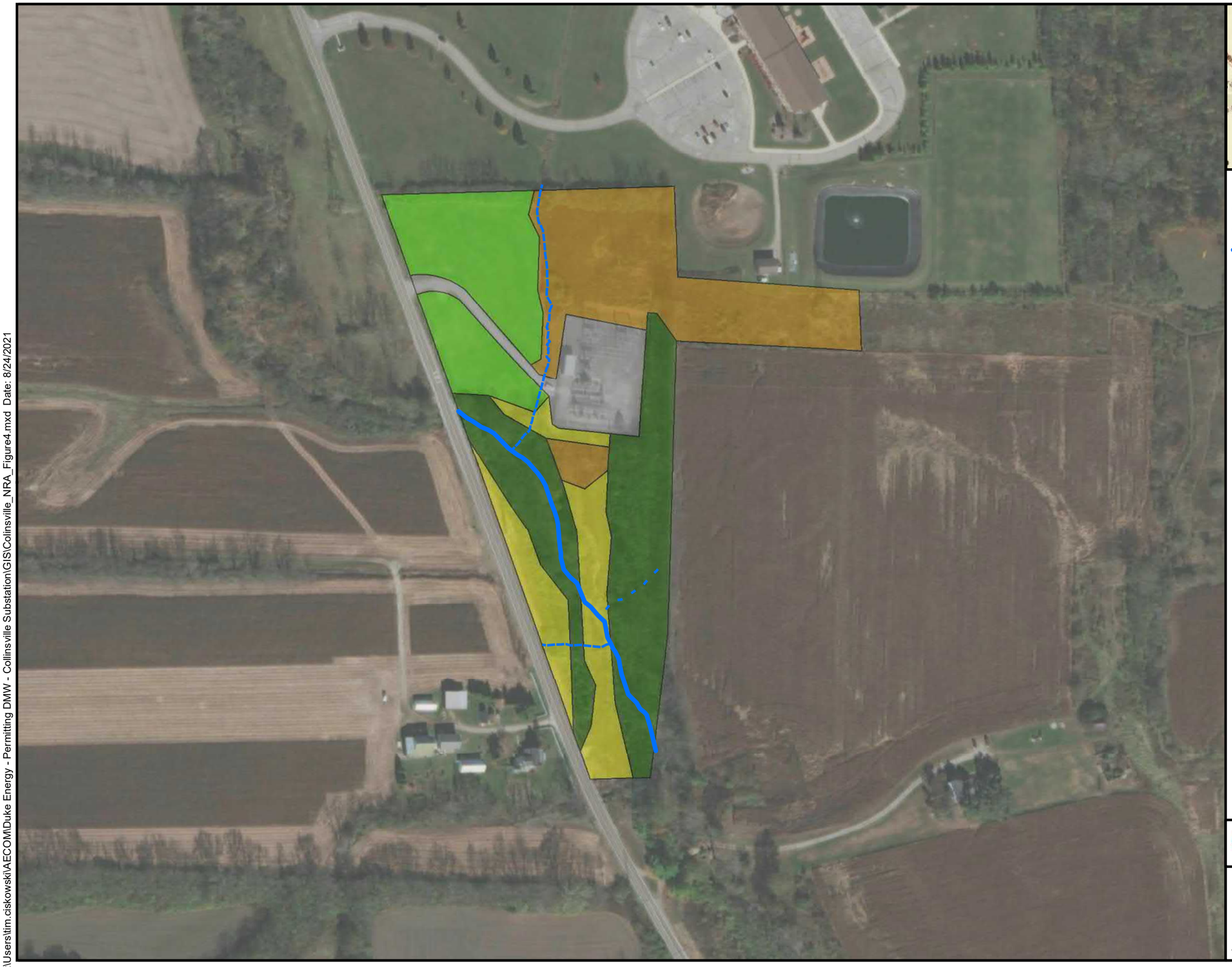
Collinsville Substation Expansion Project

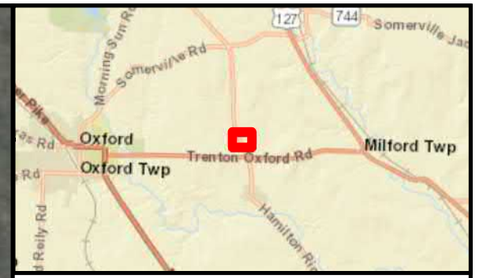
FIGURE 2
SITE LOCATION AERIAL MAP
WITH PROJECT FINDINGS

JOB NO. 60663509

AECOM

C:\Users\tim.ciskowski\AECOM\Duke Energy - Permitting DMW - Collinsville Substation\GIS\Collinsville_NRA_Figure3.mxd Date: 8/24/2021





LEGEND:

- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream

Land Use

- Developed
- Young Upland Forest
- Landscaped
- Old Field
- Shrub/Scrub

N

0 200 400

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

Collinsville Substation Expansion Project

FIGURE 3
LAND USE MAP

JOB NO. 60663509

AECOM

C:\Users\tim.ciskowski\AECOM\Duke Energy - Permitting DMW - Collinsville Substation\GIS\Collinsville_NRA_Figure4.mxd Date: 8/24/2021

Kleinhenz, Josiah

From: Ohio, FW3 <ohio@fws.gov>
Sent: Wednesday, October 13, 2021 9:02 AM
To: Kleinhenz, Josiah
Cc: McKnight, Carol; Lubbers, Jake; Leopold, Bill
Subject: [EXTERNAL] Duke Energy - Collinsville Substation Expansion, Butler County, Ohio

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS# 03E15000-2021-TA-1720

Dear Mr. Kleinhenz,

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: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*), 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.

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.

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

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

Sincerely,

Patrice Ashfield
Field Office Supervisor

Anderson, Christy

From:	Leopold, Bill
Sent:	Tuesday, August 31, 2021 11:11 AM
To:	Ohio@fws.gov
Cc:	McKnight, Carol; Kleinhenz, Josiah; Lubbers, Jake
Subject:	Informal Consultation-Duke Energy Collinsville Substation Expansion Project
Attachments:	Collinsville_USFWS_Request_for_Informal_Consultation.pdf; LOD-Collinsville-Layout_08052021.zip

Greetings,

We are requesting your concurrence on the preliminary determination of effects on federal listed species for the proposed Duke Energy Collinsville Substation Expansion project located in Butler County, Ohio, in support of a required USACE 404 permit application. Attached is the required information for the submission including a project description, proposed project impacts to habitats, a preliminary determination of effects on listed species, a photolog of identified habitats and appropriate mapping, along with a shapefile of the project area.

I look forward to your response.
Cheers,

Bill Leopold
Senior Ecologist, Natural Resources & Permitting
Environment IAP, East, Mid-Atlantic, Cincinnati, OH
M +1-859-640-5603
bill.leopold@aecom.com

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525 Vine Street
Suite 1800
Cincinnati, Ohio 45202, USA
T +1-513-419-3457
EASTERN TIME ZONE EST/EDT

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DELIVERD VIA ELECTRONIC MAIL

Dan Everson

Field Office Supervisor
U.S. Fish and Wildlife Service
4625 Morse Rd Suite 104
Columbus, OH, 43230
Ohio@fws.gov

Subject: **Request for Informal Consultation**
Duke Energy Collinsville Substation Expansion Project
Butler County, Ohio
Consultation Code: 03E15000-2021-SLI-1720

Dear Mr. Everson,

AECOM has been retained by Duke Energy (Duke) to solicit the U.S. Fish and Wildlife (USFWS) for comments regarding the potential of threatened and endangered species impacts for the Collinsville Substation Expansion Project (Project) located in Butler County, Ohio as shown on the attached Site Location USGS Topographic Map with FEMA/HUC Overlay (Figure 1).

Duke proposes to expand the existing Collinsville Substation. The Project study area is approximately 12.6-acres in size, located along Richmond Road north of Trenton Oxford Road, about three miles east of Oxford Township, Ohio, adjacent to the existing Substation Station.

AECOM performed a pedestrian survey of the Project survey area on July 21, 2021, to document habitat types, potential wetlands, waterbodies, and other regulated special aquatic sites encountered. Land use observed consisted of industrial land, maintained/disturbed grassland, old field, shrub-scrub, upland woodland, and aquatic communities. One perennial stream (Darr's Run), one ephemeral, and two intermittent streams that act as its tributaries were delineated within the project study area. No wetlands were identified or delineated within the Project study area. A brief description of the vegetative and aquatic communities documented follows.

Industrial
Approximately 1.2-acres of the Project study area is industrial use, including the existing electrical substation, gravel drives, and paved roadway with no vegetative cover.

Maintained/Disturbed Grassland
Approximately 2.8-acres of the Project study area is comprised of maintained lawn habitat. Vegetation was comprised primarily of Kentucky bluegrass (*Poa pratensis*) and the lawn is maintained in a closely mown state.

Old Field
Approximately 0.4-acre of the Project study area is comprised of old field located under the power transmission lines south of the existing substation. Vegetation of this community is composed primarily of Canadian goldenrod (*Solidago canadensis*), wild teasel (*Dipsacus fullonum*), garlic mustard (*Alliaria petiolata*), and field brome (*Bromus arvensis*).

Shrub-scrub
Approximately 2.8-acres of the Project study area is comprised of shrub scrub habitat. This habitat occupies the northeastern corner of the Project study area. Vegetation is comprised primarily of goldenrod (Solidago spp.), wild teasel (dipsacus fullonum), blackberry (Rubus ulmifolius), and amur honeysuckle (Lonicera maackii).

Upland Young Forest

Approximately 4.7-acres of the Project study area is comprised of young upland forest. This habitat is located east and south of the existing substation. The vegetation of this community is comprised of a canopy dominated by black walnut (*Juglans nigra*), white mulberry (*Morus alba*), Hackberry (*Celtis occidentalis*), and American elm (*Ulmus americana*) and a subcanopy comprised of white mulberry (Morus alba), Hackberry (Celtis occidentalis), and amur honeysuckle (*Lonicera maackii*). Tree diameters at breast height (DBH) range from two to twelve inches.

Aquatic Communities

Approximately 0.7-acre of the Project study area is comprised of aquatic communities including one perennial stream (Darr's Run) and its three unnamed, intermittent tributaries.

Four (4) streams were identified within the Project study area, occupying approximately 0.6 acre, with three (3) having been provisionally determined to be Waters of the U.S. (WOTUS). Two (2) of the identified streams (Stream 01 and Steam 03) have been preliminarily determined as having intermittent flow regimes with each being a direct tributary to the one perennial stream, Darrs Run (Stream 02). One (1) stream (Stream 04) has been categorized as having an ephemeral flow regime and not considered to be a Waters of the U.S. (WOTUS). Stream assessment scores of the identified streams are provided in Table 1, below.

One intermittent stream was assessed twice due to a significant change in substrate and bankfull width observed on either side of a culvert; identified as Stream 01a upstream and Stream 01b downstream of the culvert. This stream is classified as a Modified Class II PHW based on field data and qualifying HHEI scores. (Appendix A, Figure 1).

Table 1. Delineated Streams in the Study Area

Waters Name[1]	Waters Type[2]	Bankful Width (ft)	Delineated Length (linear feet)	Impact Amount (feet or acres)	Latitude/ Longitude	Category[3]	HHEI[3]	QHEI[3]	Impact Type	Permit Needs
Stream 01a	b	4	413	1,652 (ft^2) 0.038 acre	39.51531, -84.66746	Modified Class II PHW	48	N/A	Fill	NWP 57
Stream 01b	b	4	99	N/A	39.51465, -84.66760	Modified Class II PHW	60	N/A	Fill	NWP 57
Stream 02 (Darr's run)	b	32	880	N/A	39.51450, -84.66765	WWH	N/A	65	Avoided	None
Stream 03	b	6	149	N/A	39.51341, -84.66714	Modified Class II PHW	56	N/A	Avoided	None
Stream 04	c	3	171	N/A	39.51399, -84.66683	Class I PHW	24	N/A	Avoided	None

1. Field ID: INT = Intermittent, PER = Perennial
2. Waters Type: Based upon the Navigable Waters Protection Rule
   a. TNW – Traditional Navigable Waters
   b. Tributary – Perennial or Intermittent
   c. Ephemeral Stream
3. HHEI PHW Provisional Aquatic Life Use Classification (high quality substrate < 20%) follows;
Class I Primary Headwater = Ephemeral – Scores < 30
Class II Small Drainage Warmwater = Intermittent or Perennial – Scores 30 – <70
Spring Water = >=70
Modified = Non-natural channel
QHEI Provisional Aquatic Life Use follows:
MWH = Modified Warm Water Habitat – Scores 32 – 60
WWH = Warm Water Habitat – Scores >60

To address the Project's potential to impact federally protected species, AECOM acquired a USFWS IPaC Official Species List to determine species that may potentially be affected by the proposed Project. The resource list identified three species (federally endangered Indiana bat, federally threatened Northern long-eared bat, and federally endangered running buffalo clover) with ranges that cross the proposed Project (Table 2). No critical habitats were identified by IPaC at the Project study area.

Table 2. USFWS Federally-Listed Species in the Proposed Project Study Area

Common Name	Scientific Name	Federal Status	Habitat Present Within Limits of Disturbance
Mammals			
Indiana Bat	*Myotis sodalis*	Endangered	Yes Foraging Habitat – Young Upland Forest
Northern Long-Eared Bat	*Myotis septentrionalis*	Threatened	Yes Foraging Habitat – Young Upland Forest
Plants			
Running buffalo clover	*Trifolium stoloniferum*	Endangered	No – Project was either within full sun or full shade.

Indiana Bat and Northern Long-Eared Bat

Suitable habitat for the Indiana bat and northern long-eared bat includes caves, and occasionally abandoned structures, in the winter for hibernation and forests/trees in the summer for roost, travel, and foraging. The bats require cool humid caves with stable temperatures (4-8^0 C) for an approximate 6-month hibernation. The bats typically emerge from hibernation in the spring (generally April), and migrate to their summer habitat. Suitable summer roosting habitat for Indiana bats is characterized by trees (dead, dying, or alive) or snags with exfoliating bark, or containing cracks or crevices greater than 5 inches in diameter at breast height (DBH), while Northern long-eared bats can utilize trees great than 3 inches DBH. Maternity colonies (100 or more) typically consist of at least one relatively large roost tree (> 16 inches DBH) with loose, exfoliating bark and a high-degree of solar exposure. Indiana bats forage and travel in and along the edges of forested areas. They eat a variety of flying insects found along rivers, lakes, floodplain forests, forested wetlands, and in upland areas. Travel corridors are areas that link roosting and foraging habitat, including open-understory forest, wooded fence rows, and open paths through wooded areas, including streams, trails, and small roads with canopy cover.

Running Buffalo Clover

This species can be found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish, but cannot tolerate full-sun, full-shade, or severe disturbance. The original habitat for the species is believed to have been areas of rich soils in the ecotone between open forest and prairie. These areas are believed to have been maintained by the disturbance caused by bison.

A pedestrian survey was conducted on July 21, 2021. The Project study area contains maintained/ornamental land cover, exhibiting severe disturbance and a lack of partially shaded, somewhat open areas suitable for this species. The Project study area also contains young upland forest that is dominated by amur honeysuckle undergrowth. Therefore, no impact to running buffalo clover or its habitat is proposed for the Project.

On August 6, 2021, the USFWS published a final rule in the Federal Register removing Endangered Species Act (ESA) protections for running buffalo clover, a perennial plant previously listed as endangered. The final rule removing the running buffalo clover from the federal list of endangered and threatened wildlife and plants will become effective on September 6, 2021. The preliminary schedule for construction activities indicates that construction will take place after this date.

Duke and AECOM opine that the proposed Project is not likely to adversely effect federal protected species that could exist in the Project area as:

- Approximately 0.31-acre of young upland forest is expected to be cleared. Trees that may be cleared by the proposed Project activities range from two to twelve inches in DBH and consist of American elm, white mulberry, hackberry, and black walnut with a dense understory of amur honeysuckle; Duke intends to clear trees during the approved winter time window
- No caves or cave-like structures were identified within the Project study area; and

- No habitat for running buffalo clover was identified. Additionally, the species will be delisted September 6, 2021.

We are requesting that USFWS review the Project details provided above, and in the attached figures, and provide concurrence that the Project is not likely to adversely affect federally protected species. Should you have any questions, please do not hesitate to contact the me directly at 513-419-3455. We appreciate your timely review of this request.

Sincerely,

Carol McKnight
Program Manager
AECOM
Carol.mcknight@aecom.com
513-419-3455

Enclosures (5):

Attachment A – Photographic Record
Figure 1 – USGS Topographic Map with FEMA/HUC Overlay
Figure 2 – Project Study Area Map with Project Findings
Figure 3 – Land Use Map
Shapefile of Project study area (LOD-Collinsville-Layout_08052021.zip)

ATTACHMENT A

PHOTOGRAPHIC RECORD

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Upstream	

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Downstream	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Downstream

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Upstream

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Substrate

Stream 03

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Downstream

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Substrate

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Upstream

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Substrate

Old Field

Date:

July 21, 2021

Description:

South of substation, in powerline ROW

Facing South

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Shrub Scrub

Date:

July 21, 2021

Description:

North of Substation

Facing West

Upland Woodland

Date:

July 21, 2021

Description:

South of Substation

Facing East

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Industrial/Developed

Date:

July 21, 2021

Description:

Substation

Facing East

Maintained Lawn

Date:

July 21, 2021

Description:

West of substation

Facing West

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Subatation Facing Up-gradient	

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Down-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Substrate	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Up-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Down-gradient	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Substrate	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Up-gradient

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Down-gradient

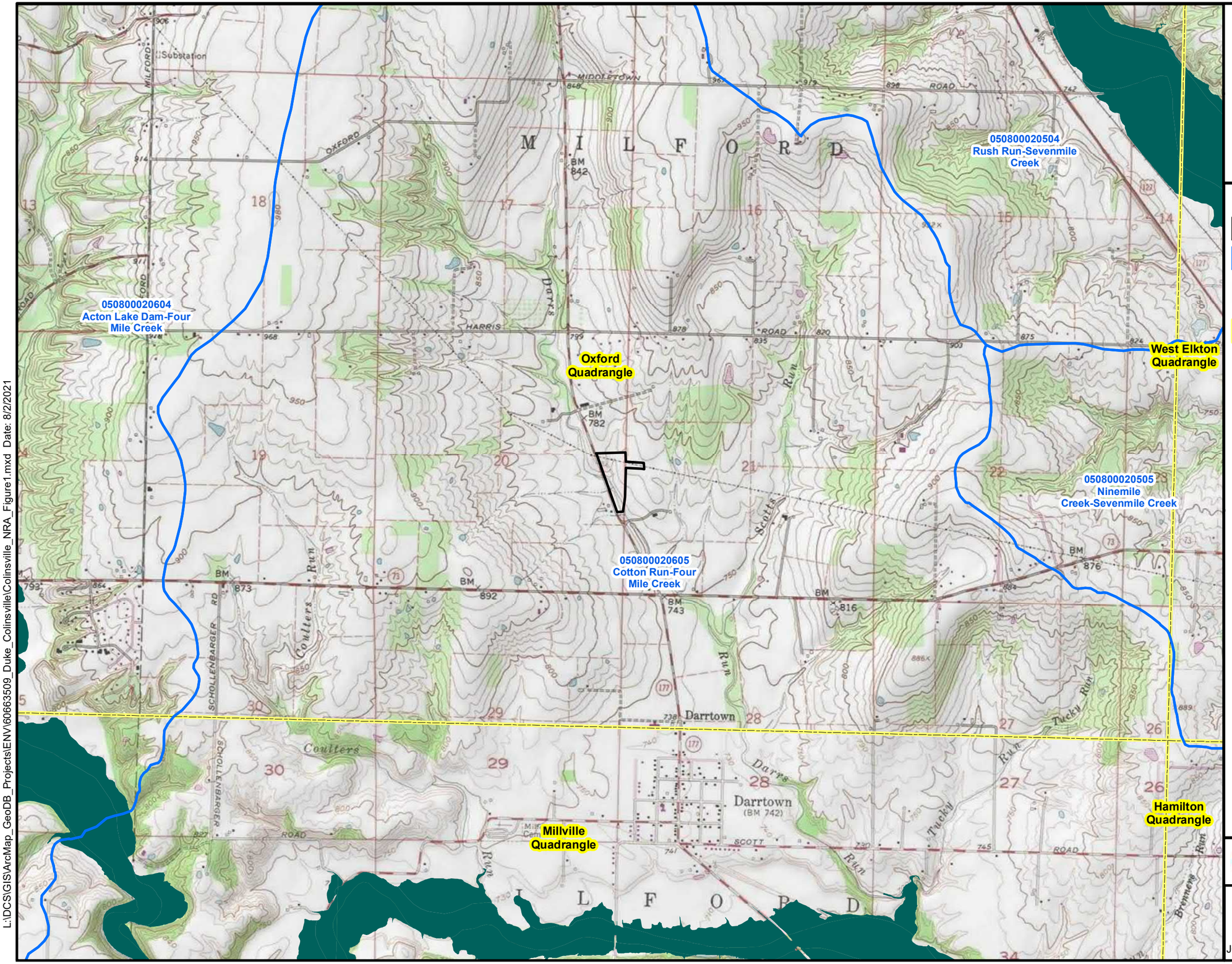
AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03	
Date: July 21, 2021	
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Substrate	

FIGURES



LEGEND:

- Project Survey Area
- HUC12 Watershed (USGS)
- NFHL 100-year Floodplain (FEMA)
- USGS 7.5" Topographical Quadrangle

N

0 2,000 4,000

Feet

1:24,000

DUKE ENERGY.

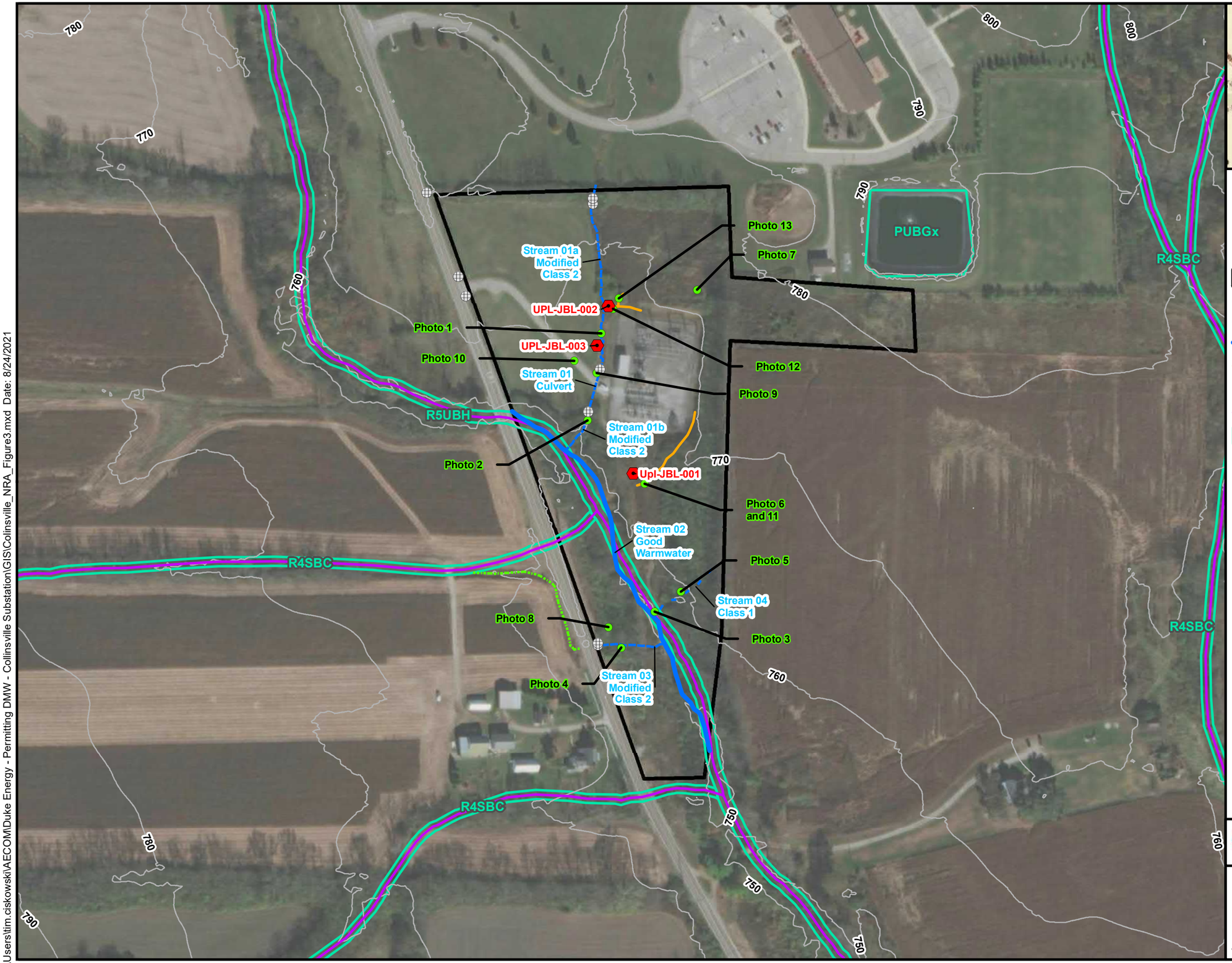
Colinsville Substation Expansion Project

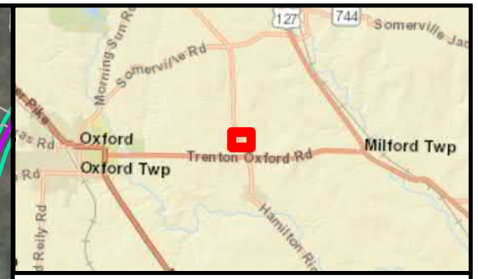
FIGURE 1
SITE LOCATION USGS TOPOGRAPHIC MAP WITH FEMA/HUC OVERLAY

JOB NO. 60663509

AECOM

L:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60663509_Duke_Colinsville\Colinsville_NRA_Figure1.mxd Date: 8/2/2021





LEGEND:

- Photo Point
- Upland Data Point
- Culvert
- Project Survey 'Area
- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream
- Upland Drainage Feature
- 10 ft Contour
- NHD Stream
- NWI Wetland (USFWS)
- Approximate Stream Location

N

0 200 400

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

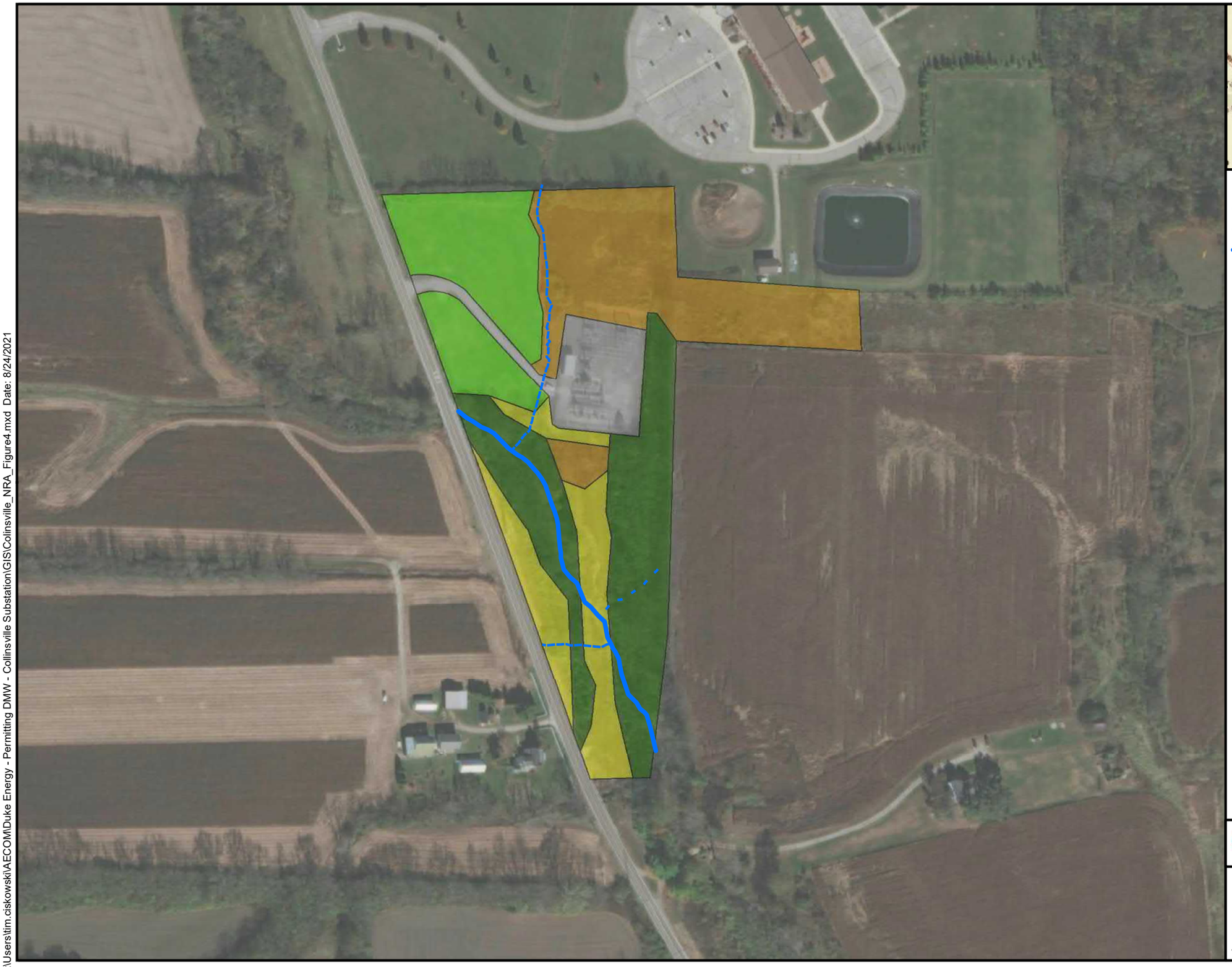
Collinsville Substation Expansion Project

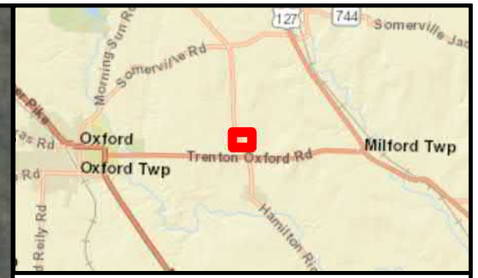
FIGURE 2
SITE LOCATION AERIAL MAP
WITH PROJECT FINDINGS

JOB NO. 60663509

AECOM

C:\Users\tim.ciskowski\AECOM\Duke Energy - Permitting DMW - Collinsville Substation\GIS\Collinsville_NRA_Figure3.mxd Date: 8/24/2021





LEGEND:

- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream

Land Use

- Developed
- Young Upland Forest
- Landscaped
- Old Field
- Shrub/Scrub

N

0 200 400

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

Collinsville Substation Expansion Project

FIGURE 3
LAND USE MAP

JOB NO. 60663509

AECOM

C:\Users\tim.ciskowski\AECOM\Duke Energy - Permitting DMW - Collinsville Substation\GIS\Collinsville_NRA_Figure4.mxd Date: 8/24/2021

Attachment C – Cultural Resources Desktop Review

In reply refer to
2021-BUT-53049

November 15, 2021

Stephen Hinks
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Dear Mr. Hinks:

RE: Duke Energy Collinsville Substation Expansion and Transmission Line Project, Butler County, Ohio

This is in response to the receipt, on October 21, 2021, *Phase I Archaeological Survey of the Duke Energy Collinsville Substation Expansion and Transmission Line Project, Butler County, Ohio.* The comments of the Ohio Historic Preservation Office are submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended.

Subsurface testing and intensive visual inspection of the project area resulted in the identification of two previously unrecorded archaeological sites. These sites, 33BU1230 and 33BU1231 are both small prehistoric and historic artifacts typical of short-term occupations. These sites are not likely to yield additional information about Ohio prehistory or history. Based on the information provided, it is my opinion that these properties are not eligible for inclusion in the National Register of Historic Places. Therefore the project will not affect historic properties. No further coordination is required unless the project changes or additional archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as per 36 CFR 800.13.

Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs. If you have any questions, please contact me at (614) 298-2000, or by email at nyoung@ohiohistory.org. Please note the Ohio SHPO now accepts electronic-only submissions for state and/or federal review under Section 106 and ORC 149.53. Please send your submissions to section106@ohiohistory.org. We have also updated our Survey Report Submission Standards

Sincerely,

Nathan J. Young

Nathan J. Young, Project Reviews Manager
Resource Protection and Review

Attachment D – Natural Resources Assessment

NATURAL RESOURCE ASSESSMENT REPORT

Collinsville Substation Expansion Project
Butler County, Ohio

Duke Energy Detail Project No.: AMOH14445

Duke Energy
Transmission Siting, Permitting, & Engagement
315 Main Street
Cincinnati, Ohio 45202

August 2021

NATURAL RESOURCE ASSESSMENT REPORT

Collinsville Substation Expansion Project
Butler County, Ohio

Duke Energy Detail Project No.: AMOH14445

Prepared by:

AECOM Technical Services, Inc.
525 Vine Street, Suite 1800
Cincinnati, Ohio 45212

Prepared for:

Duke Energy
Transmission Siting, Permitting, & Engagement
315 Main Street
Cincinnati, Ohio 45202

August 2021

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LIST OF TABLES

1.0 INTRODUCTION

Duke Energy is proposing the Collinsville Substation Expansion Project and T-line work (Project) at the existing Collinsville Substation in Union Town, Butler County, Ohio (Appendix A, Figure 1). T-Line work will be required to the south on 69kv line and to the north on 138kv lines (2 separate circuits). The approximate 12.6-acre Project study area is located on Hamilton Richmond Road, just north of Trenton Oxford Road, approximately 3 miles east of the city of Oxford in Milford Township.

AECOM Technical Services, Inc. (AECOM) was retained by Duke Energy to provide a Natural Resources Assessment Report for this project. The scope of work includes the following services:

- A delineation of Waters of the United States (WOTUS) and isolated waters;
- Collection of data using sub-meter accuracy Global Positioning System (GPS) equipment;
- A habitat evaluation for federal and state-listed protected species;
- A report documenting the natural resources within the Project study area.

This Natural Resources Assessment Report has been prepared to assist Duke Energy in their preliminary planning, so that construction activities may attempt to avoid or minimize impacts to environmental resources identified within the Project study area.

2.0 METHODOLOGY

AECOM performed background research prior to commencing fieldwork with additional research conducted following completion of fieldwork. Research included publicly available information on soils, water resources, geology, mapped wetlands, and rare species. Sources included, but were not limited to:

- U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps (USFWS, 2020),
- U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) Soil Survey Geographic Database (SSURGO) for Butler County, Ohio (USDA, 2019,
- U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle for Oxford, Ohio (USGS, 2016),
- Federal Emergency Management Agency (FEMA) floodplain mapping (FEMA, 2019),
- USFWS Information for Planning and Consultation (IPaC) resource list (USFWS, 2021) and
- Ohio Department of Natural Resources (ODNR) State Listed Wildlife and Plant Species for Butler County (ODNR, March 2020).

On July 21 2021, AECOM biologists surveyed the Project study area for WOTUS, including wetlands, as well as isolated waters. The survey included identification of habitat types, wetlands, waterbodies, and other regulated special aquatic sites encountered. Wetlands were identified using the U.S. Army Corps of Engineers (USACE) Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (USACE. 2010), utilizing the USACE routine on-

site method for wetland delineation. Representative plots were sampled wherever there was an observed change in the vegetation, soils, or hydrology. AECOM documented, using the most current USACE wetland determination data form, sample plots for each identified wetland and at least one representative upland plot. Identified wetlands were assessed utilizing the Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method (ORAM) version 5.0 (Mack, 2001) qualitative wetland assessment. AECOM classified each wetland according to the USFWS Classification of Wetlands and Deepwater Habitats of the United States (Cowardin, et al., 1979). Identified wetlands were photographed from the datapoint at the four cardinal directions as well as the soil pit.

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005). Each identified stream was assessed using either the OEPA Headwater Habitat Evaluation Index (HHEI) (OEPA, 2020) or the OEPA Qualitative Habitat Evaluation Index (QHEI) data form (Rankin, 2006), depending upon stream watershed size. Additionally, AECOM collected specific information about width, depth, and bank characteristics for all identified stream features. Identified streams were photographed showing upstream, downstream, and substrate images.

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OWHM (USACE, 2005), and are equivalent to a swale or an erosional feature as described by the USACE: "generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale" (USACE, 2007).

AECOM mapped the location of each field-delineated boundary using GPS EOS Arrow units with sub-meter accuracy in conjunction with the ESRI ArcCollector application on iPad tablets. The GPS data was imported into ESRI ArcMap Geographic Information System (GIS) software, where the data was reviewed, edited for quality and accuracy, and compiled in a format suitable for transfer and use by Duke Energy. GIS analysis was performed on the field data to produce tables and maps required for a USACE Jurisdictional Determination.

Land uses observed within the Project study area were assigned a general classification based upon the principal land characteristics and vegetation cover of the location. These habitat community types were compared to the habitat preferences of known listed federal or state species.

3.0 DESKTOP REVIEW FINDINGS - PHYSICAL RESOURCES

3.1 Study Area Setting

The Project study area is geographically situated within the Loamy High Lime Till Plains ecoregion of Ohio (USEPA, 2002). The Project site is located on the Oxford, Ohio USGS quadrangle (Appendix A, Figure 1). Elevations in the Project study area range from approximately

750 feet above mean sea level (MSL) to approximately 780 feet above MSL (Appendix A, Figure 3). A desktop review of aerial imagery (ESRI, 2021) indicates that land use in the Project study area consists of industrial (existing electrical substation) with upland woodland to the north, south and east, and maintained lawn/landscape habitat to the west.

3.2 Soils

The Butler County Soil Survey (USDA, 2019) identifies five (5) soil mapping units within the Project study area (Table 1). These soil mapping units are characterized as somewhat poorly drained to well drained in terms of drainage class. Two soil unit types are classified as hydric. Soil map units are shown on Appendix A, Figure 2.

Table 1. Soils in the Project Study Area

Soil Map Unit	Mapping Unit Symbol	Drainage Class	Hydric Status
Dana silt loam, 2 to 6 percent slopes	DaB	Moderately well drained	Hydric
Genesee loam	Gn	Well drained	No
Raub silt loam, 0 to 2 percent slopes	RdA	Somewhat poorly drained	Hydric
Russell-Miamian silt loams, 2 to 6 percent slopes	RvB	Well drained	No
Russell-Miamian silt loams, 2 to 6 percent slopes, moderately eroded	RvB2	Well drained	No

3.3 Water Resources

The Project study area is located in the Cotton Run-Four Mile Creek [USGS Hydrologic Unit Code (HUC) 050800020605] watershed (USGS, 2019 (Appendix A, Figure 1). This watershed is designated as possibly eligible for coverage under Ohio EPA's 401 Water Quality Certification for 2017 Nationwide Permits (OEPA. 2017). Based on review of available data, two USGS National Hydrography Dataset (NHD) streams are mapped in the Project study area. These streams include:

- Darrs Run which flows to the southeast across approximately 850 feet of the Project study area. The Ohio EPA has assigned Darr's Run an aquatic life use designation of Warmwater Habitat (OEPA. 2021).Darr's Run was identified during the field survey as S-JBL-002 and,
- One unnamed tributary that flows into Darr's Run from the west. This mapped stream was identified as S-JBL-003.

A mapped NWI feature is located approximately 20-feet to the northeast of the Project study area border. This feature is a 0.9 acre, artificial, freshwater pond (USFWS. 2020). Water resources in the vicinity of the Project study area are presented in Appendix A, Figure 2.

3.4 Floodplains

The Project study area is not located within a FEMA mapped regulatory (100-year) floodplain. The nearest mapped floodplain to the Project study area is approximately 1.5 miles to the south.

FEMA designated 100-year floodplain in the Project study area vicinity are presented in Appendix A, Figure 1.

4.0 SITE DESCRIPTION - BIOTIC RESOURCES

4.1 Terrestrial Communities

A pedestrian survey of the Project study area was conducted on July 21, 2021. Land use in the 12.6-acre Project study area consisted of maintained lawn/landscaped, shrub scrub, young upland forest, old field, aquatic communities and industrial land use (Figure 4).

4.1.1 Maintained Grassland

Approximately 2.4 acres of the Project study area was comprised of maintained lawn/landscaped habitat. Vegetation was comprised primarily of Kentucky bluegrass (*Poa pratensis*) and fescue (*Schedonorus arundinaceus*).

4.1.2 Shrub Scrub

Approximately 3.6 acres of the Project study area was comprised of shrub scrub habitat. This habitat mainly occupies the northeastern corner of the Project study area. Vegetation was comprised primarily of blackberry (*Rubus allegheniensis*), and amur honeysuckle (*Lonicera maackii*) with smaller amounts of goldenrod (*Solidago* spp.) and common teasel (*Dipsacus fullonum*). Foliage height ranges from four feet to eight feet tall and diameter at breast height ranges from half an inch to four inches.

4.1.3 Young Upland Forest

Approximately 3.6 acres of the Project study area was comprised of upland forest. This habitat was located east and south of the existing substation. The vegetation of this community is comprised of a canopy dominated by black walnut (*Juglans nigra*), white mulberry (*Morus alba*), Hackberry (*Celtis occidentalis*), and American elm (*Ulmus americana*) and a subcanopy comprised of white mulberry, Hackberry, and amur honeysuckle. Diameter at breast height ranges from two to twelve inches.

4.1.4 Old Field

Approximately 1.8 acre of the Project study area was comprised of old field located within the existing transmission line right of way (ROW) south of the existing substation. Vegetation of this community was composed primarily of Canadian goldenrod (*Solidago canadensis*), common teasel, garlic mustard (*Alliaria petiolata*), and field brome (*Bromus arvensis*).

4.1.5 Industrial

At the center of the Project study area was industrial land use comprised of the existing electrical substation. This existing land use and access occupy approximately 1.2 acres of the Project study area.

5.0 CULTURAL RESOURCES

AECOM will complete a cultural desktop literature review for the Project, collecting data on previously inventoried cultural resources/studies within one mile of the Project study area, as well as a Phase I archaeological survey. This report would be suitable for submittal to the OHPO to initiate consultation and seek comment on the need, if any, for additional coordination and/or field studies. This report will be provided under a separate cover.

6.0 REGULATORY ISSUES

6.1 Clean Water Act Waters of the U.S

Jurisdictional waters of the United States, including wetlands, are protected under Section 404 of the Clean Water Act (CWA). The USACE and U.S. Environmental Protection Agency (USEPA) jointly define wetlands as "those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas" (Wetlands Definitions. Code of Federal Regulations, Title 40, Pt. 230.3, Revised 2019.) The USACE's 1987 Wetlands Delineation Manual, as amended by the 2010 Midwest regional supplement, requires evidence of hydric soils, positive hydrological indicators, and a prevalence of hydrophytic vegetation for determination that an area is a wetland. Section 404 jurisdictional waters other than wetlands include streams, rivers, and lakes. Presence of an OHWM and a continuous bed and bank are used to identify streams and tributaries.

Both federal and state programs regulate activities conducted in wetlands in order to minimize the continued reduction and degradation of these resources and strive to achieve a "no net loss" policy. The federal program is based on Section 404 of the CWA and the USACE's implementing regulations (33 CFR Parts 320-330). The OEPA is tasked with administering Section 401 of the CWA. The State of Ohio Section 401 Water Quality Certification has been waived for the 2021 NWPs.

6.1.1 Identified Jurisdictional WOTUS Features

These are wetlands or waterbodies provisionally classified as jurisdictional to the USACE under the CWA. Final jurisdictional determination of WOTUS can only be established by the USACE.

6.1.1.1 Wetlands

No wetlands were identified within or adjacent to the Project study area. USACE wetland determine forms for upland areas are provided in Appendix D.

6.1.1.2 Streams

Four (4) streams were identified within the Project study area, occupying approximately 0.6 acre, with three (3) having been provisionally determined to be Waters of the U.S. (WOTUS). Two (2) of the identified streams (Stream 01 and Steam 03) have been preliminarily determined as having intermittent flow regimes with each being a direct tributary to the one perennial stream, Darrs Run (Stream 02). One (1) stream (Stream 04) has been categorized as having an ephemeral flow regime

and is provisionally considered not a Waters of the U.S. (WOTUS). Stream assessment scores of the identified streams are provided in Table 3, below.

One intermittent stream was assessed twice due to a significant change in substrate and bankfull width observed on either side of an existing culvert; identified as Stream 01a upstream (north) and Stream 01b downstream (south) of the culvert. This stream was classified as a Modified Class II PHW based on field data and qualifying HHEI scores. (Appendix A, Figure 1).

Table 2. Delineated Streams in the Study Area

Waters Name[1]	Waters Type[2]	Bankfull Width (ft)	Delineated Length (linear feet)	Latitude/ Longitude	Flow Regime/Classification	HHEI[3]	QHEI[3]
Stream 01a	b	4	413	39.51531 -84.66746	Intermittent/Modified Class II PHW	48	N/A
Stream 01b	b	8	99	39.51465 -84.66760	Intermittent/Modified Class II PHW	60	N/A
Stream 02 (Darr's Run)	b	32	880	39.51450 -84.66765	Perennial/WWH	N/A	65
Stream 03 (unnamed trib to Darr's Run)	b	6	149	39.51341 -84.66714	Intermittent/Modified Class II PHW	56	N/A
Stream 04	c	3	171	39.51399 -84.66683	Ephemeral/Class I PHW	24	N/A

1. Form ID: converted from field ID
2. Waters Type: Based upon the Navigable Waters Protection Rule
   a. TNW – Traditional Navigable Waters
   b. Tributary – Perennial or Intermittent
   c. Ephemeral stream
3. HHEI PHW Provisional Aquatic Life Use Classification (high quality substrate < 20%) follows;
Class I PWH = Ephemeral – Scores < 30
Class II PWH = Intermittent or Perennial – Scores 30 – <70
Class III PWH = >=70
Modified = Non-natural channel
QHEI Provisional Aquatic Life Use follows:
MWH = Modified Warm Water Habitat – Scores 32 – 60
WWH = Warm Water Habitat – Scores >60

6.2 Isolated Waterbodies

Waterbodies not identified as WOTUS by the USACE are considered isolated. Ohio regulates isolated wetlands and ephemeral streams through OEPA under Ohio's Isolated Wetlands Law (Ohio Revised Code 6111.02 through 6111.028). These are waterbodies provisionally classified as not jurisdictional to the USACE under the CWA, Navigable Waters Protection Rule (NWPR). Non-WOTUS features include ephemeral streams and isolated (not adjacent to a jurisdictional waterbody) wetlands. Certain features which were constructed in upland or non-jurisdictional waters (such as some artificial lakes/ponds, ditches and stormwater control features) may be considered as an excluded waterbody from the NWPR and would not be considered a WOTUS.

6.2.1 Identified Isolated Features

These are wetlands or waterbodies provisionally classified as not jurisdictional to the USACE under the CWA. Non-WOTUS features include ephemeral streams and isolated (not adjacent to a

jurisdictional waterbody) wetlands. Final jurisdictional determination of WOTUS can only be established by the USACE.

6.2.1.1 Wetlands

No isolated wetlands were identified within or adjacent to the Project study area.

6.2.1.2 Streams

Stream 04 was identified as ephemeral based on HHEI score therefore it is provisionally considered not a WOTUS.

6.2.1.3 Excluded Features

Three upland drainage features were identified in the study area, one located southeast of the existing substation and two to the northwest. These features appear to carry water during rain events but lack sufficient bed and bank characteristics and OHWM to be classified as a stream. All were vegetated either sparsely or heavily throughout the channel. USACE wetland determination forms were completed at these locations to show the non-wetland conditions present in each area. As such, these features would be exempt from CWA Section 404 and 401 and OEPA isolated waterbody regulations. Representative photographs of these features are attached in Appendix E

6.3 Rivers and Harbors Act Section 10 Navigable Waters

No Section 10 streams were identified within the Project study area.

6.4 Endangered Species Act Protected Species

Species with the federal listing of Threatened or Endangered are protected under the Endangered Species Act (ESA) of 1976, as amended (16 U.S.C. 1531 et seq.). AECOM obtained federally listed endangered and threatened species data from the USFWS IPaC Official Species List (Appendix B) which generates a list of species and other resources that are known or expected to be within or near the Project study area. The IPaC includes considerations for species range and potential indirect impacts. The IPaC Official Species List indicates that no critical habitat was identified within the vicinity of the Project. A discussion of the federal listed species identified on the IPaC Official Species List, along with the Biological Conclusion rendered based on survey results in the study area, is presented in Table 3, below. Coordination with the USFWS Ohio Ecological Services Office is included in Appendix B.

Table 3. Official Species List of Federally Protected Species for the Project Study Area

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Vertebrate:				
Myotis sodalis	Indiana Bat	E	Yes	Young upland forest may provide foraging habitat. No caves or cave-like features for winter.

Scientific Name	Common Name	Federal Status	Habitat Present	Biological Conclusion
Myotis septentrionalis	Northern Long-eared Bat	T	Yes	Young upland forest may provide foraging habitat No caves or cave-like features for winter.
Flowering Plants:				
Trifolium stoloniferum	Running Buffalo Clover	E	No	No Effect

E –Endangered
T –Threatened

Indiana bat – Potential Foraging Habitat, No Potential Roost Habitat Observed
USFWS Recommended Survey Window: habitat = year-round; species = May 15th -August 15th

Biological Conclusion: Not Likely to Adversely Affect

Indiana bats hibernate in fissure caves in felsic rocks during the winter. In summer, they typically roost in trees with clumps of leaves or behind loose bark found along creeks and rivers which they likely forage. A pedestrian survey was conducted on July 21, 2021. No caves or karst features were observed within the Project study area. The Project study area consists of maintained/lawn, industrial land cover, scrub shrub, young upland forest, and old field land. Low quality potential roost habitat was identified in the Project study area; trees that may need to be cleared for the proposed Project include black walnut, hackberry, and American elm which do not present suitable roost habitat for Indiana bats..

If clearing is conducted in the winter clearing window, construction is not likely to adversely affect the Indiana bat or its roosting habitat.

Northern long-eared bat – Potential Foraging Habitat, No Potential Roost Habitat Observed
USFWS Recommended Survey Window: habitat = year-round; species = May 15th -August 15th

Biological Conclusion: Not Likely to Adversely Affect

The Northern long-eared bat (NLEB) spend winters hibernating in caves and mines with constant temperatures and no air currents. During the summer, the NLEB roost underneath sloughing bark similar to that of white oak (*Quercus alba*) or shagbark hickory (*Carya ovata*), and in cavities or crevices of living or dead trees. These species are also rarely found roosting in structures such as barns or sheds. A pedestrian survey was conducted on July 21, 2021. No caves or karst features were observed within the Project study area. The Project study area consists of maintained lawn, Industrial land use, shrub scrub, old field and young upland forestland cover. Low quality potential roost habitat was identified in the Project study area; trees that may need to be cleared for the proposed Project include black walnut, hackberry, and American elm which do not present suitable roost habitat for NLEB.

If clearing is conducted in the winter clearing window, construction is not likely to adversely affect the Indiana bat or its roosting habitat.

.

Running Buffalo Clover – No Potential Habitat Observed
USFWS Recommended Survey Window: flowering season, mid-May through June

Biological Conclusion: No Effect

This species can be found in partially shaded woodlots, mowed areas (lawns, parks, cemeteries), and along streams and trails. Running buffalo clover requires periodic disturbance and a somewhat open habitat to successfully flourish, but cannot tolerate full-sun, full-shade, or severe disturbance. The original habitat for the species is believed to have been areas of rich soils in the ecotone between open forest and prairie. These areas are believed to have been maintained by the disturbance caused by bison. A pedestrian survey was conducted on July 21, 2021. The Project study area contains maintained/ornamental land cover, exhibiting severe disturbance and a lack of partially shaded, somewhat open areas suitable for this species. The Project study area also contains young upland forest that is dominated by amur honeysuckle undergrowth. Therefore, no impact to running buffalo clover or its habitat is proposed for the Project.

On August 6, 2021, the USFWS published a final rule in the Federal Register removing Endangered Species Act (ESA) protections for running buffalo clover, a perennial plant previously listed as endangered. The final rule removing the running buffalo clover from the federal list of endangered and threatened wildlife and plants will become effective on September 6, 2021. The preliminary schedule for construction activities indicates that construction will take place after this date.

6.5 Bald Eagle and Golden Eagle Protection Act

Habitat for the bald eagle (*Haliaeetus leucocephalus*) primarily consists of mature forest in proximity to large bodies of open water for foraging. Large, dominant trees are utilized for nesting sites, typically within one-mile of open water. A desktop GIS assessment of the Project study area, as well as the area within a one-mile of the project limits, was performed in August, 2021 using color aerial imagery from 2020 (ESRI, 2020). No eagle nests were observed in the vicinity of the Project study area during the pedestrian survey on July 21, 2021. No trees suitable for hosting an eagle nest are present in the Project study area, and the proposed Project will not disturb any existing power poles or other structures that might present such a nesting location.

6.6 Endangered Species Act Candidate Species and Species of Concern

The USFWS Ohio Ecological Services Office provides a list of federally-protected species by county in Ohio (USFWS 2018). According to the information for Butler County, except for the species listed in Section 6.4 and Section 6.5, other listed species include the state endangered rayed bean, and state threatened eastern massasauga. No suitable habitat was identified for either species within the Project study area.

6.7 State-Listed Species

AECOM reviewed the ODNR Butler County State Listed Animal Species and Butler County State Listed Plant Species (Appendix B; ODNR 2020 & ODNR 2016) for state-listed species that are known from Butler County. Known habitats and ranges were reviewed for the 32 state listed endangered species, 5 state listed threatened species, 9 state listed potentially threatened species, 37 state listed species of concern, and 16 state listed special interest species. Table 4provides a list of those ODNR listed species and observations of potential habitat present in the Project study area. The ODNR county lists included an additional 4 extirpated or extinct species which are not included below (see Appendix B for full list).

Table 4. ODNR State Listed Species for Butler County, Ohio

Common Name	Scientific Name	State Status	Potential Habitat Present (Yes/No)
Mammals			
Indiana Bat	*Myotis sodalis*	SE	Yes: young upland forest
Northern Long-Eared Bat	*Myotis septentrionalis*	ST	Yes: young upland forest
Big Brown Bat	*Eptesicus fuscus*	SSC	Yes: young upland forest
Silver-haired Bat	*Lasionycteris noctivagans*	SSC	Yes: young upland forest
Red Bat	*Lasiurus borealis*	SSC	Yes: young upland forest
Hoary Bat	*Lasiurus cinereus*	SSC	Yes: young upland forest
Little Brown Bat	*Myotis lucifugus*	SSC	Yes: young upland forest
Tri-colored Bat	*Perimyotis subflavus*	SSC	Yes: young upland forest
Southern Bog Lemming	*Synaptomys cooperi*	SSC	No
Common Gray Fox	*Urocyon cinereoargenteus*	SSC	Yes: young upland forest
Mussels			
Black Sandshell	*Ligumia recta*	ST	No
Fawnsfoot	*Truncilla donaciformis*	ST	No
Elktoe	*Alasmidonta marginata*	SSC	No
Deertoe	*Truncilla truncata*	SSC	No
Birds			
Upland Sandpiper	*Bartramia longicauda*	SE	No
Lark Sparrow	*Chondestes grammacus*	SE	Yes: young upland forest. Tree clearing scheduled after spring and summer fledging period.
Least Bittern	*Ixobrychus exilis*	ST	No
Black-crowned Night-heron	*Nycticorax nycticorax*	ST	No
Sharp-shinned Hawk	*Accipiter striatus*	SSC	No

Common Name	Scientific Name	State Status	Potential Habitat Present (Yes/No)
Henslow's Sparrow	*Ammodramus henslowii*	SSC	No
Grasshopper Sparrow	*Ammodramus savannarum*	SSC	No
Great Egret	*Ardea alba*	SSC	No
Common Nighthawk	*Chordeiles minor*	SSC	No
Black-billed Cuckoo	*Coccyzus erythropthalmus*	SSC	Yes: young upland forest. Tree clearing scheduled after spring and summer fledging period.
Northern Bobwhite	*Colinus virginianus*	SSC	Yes: young upland forest. Tree clearing scheduled after summer fledging period.
Bobolink	*Dolichonyx oryzivorus*	SSC	No
American Coot	*Fulica americana*	SSC	No
Common Gallinule	*Gallinula galeata*	SSC	No
Red-headed Woodpecker	*Melanerpes erythrocephalus*	SSC	No
Vesper Sparrow	*Pooecetes gramineus*	SSC	No
Sora Rail	*Porzana carolina*	SSC	No
Prothonotary Warbler	*Protonotaria citrea*	SSC	No
Cerulean Warbler	*Setophaga cerulea*	SSC	Yes: young upland forest. Tree clearing scheduled after spring and summer fledging period.
Insect			
Plains Clubtail	*Gomphus externus*	SE	No
Blue corporal	*Ladona deplanata*	SE	No
Amphibian			
Cave Salamander	*Eurycea lucifuga*	SE	No
Eastern Cricket Frog	*Acris crepitans crepitans*	SSC	No
Reptile			
Kirtland's Snake	*Clonophis kirtlandii*	ST	No
Eastern Box Turtle	*Terrapene carolina carolina*	SCC	Yes – Eastern box turtle's prefer forest's but may inhabit wetlands. Given the small construction footprint, the species mobility, and short duration, impacts are unlikely.
Fish/Crayfish			
Tonguetied Minnow	*Exoglossum laurae*	SE	No
American Eel	*Anguilla rostrata*	ST	No
Muskellunge	*Esox masquinongy*	SCC	No
Sloan's Crayfish	*Orconectes (Rhoadesius) sloanii*	ST	Yes Stream 01 and Stream 02. Impacts are unlikely due to species mobility

Common Name	Scientific Name	State Status	Potential Habitat Present (Yes/No)
Vascular Plant			
Midland Sedge	*Carex mesochorea*	ST	No
Timid Sedge	*Carex timida*	ST	No
Missouri Gooseberry	*Ribes missouriense*	ST	No
Snowy Campion	*Silene nivea*	SE	No
Soft-leaved Arrow-wood	*Viburnum molle*	ST	No
Running buffalo clover	*Trifolium stoloniferum*	SE	No

Ohio Division of Wildlife, Ohio Natural Heritage Database, Butler County, July, 2016.
Ohio Division of Wildlife, Butler County State Listed Animal Species, March, 2020.
State Status Codes:
SE = Endangered
SSC = Species of Special Concern
ST = Threatened

6.8 State-Listed Natural and Managed Areas

AECOM reviewed the Protected Areas Database for the United States (PAD-US) data for Ohio (USGS, 2018) for environmental easements, government-owned and privately-owned properties dedicated to the preservation of biological diversity and other natural, recreational or cultural uses. The PAD-US identified no resources in the vicinity of the Project study area:

7.0 CONCLUSION AND RECOMMENDATIONS

AECOM conducted a pedestrian survey of the approximately 12.6-acre Project study area on July 21, 2021. This survey identified:

- The Project study area is comprised of maintained lawn, upland forest, old field, shrub scrub habitat, aquatic habitat, and developed land.
- No wetlands present,
- Four streams present,
- No high-quality or unique habitats in or immediately adjacent.

The four streams included one perennial warmwater habitat stream (Stream 02), two modified class II PHW intermittent streams (Steam 01a, Stream 01b and Stream 03), and one ephemeral class I PHW (Stream 04). Stream 01a/b is located just west of the existing substation and within the proposed 100 foot westward expansion.

Potentially suitable habitat for federally listed bat species was identified within the Project study area. Woody vegetation required to be cleared for the proposed Project consists of shrub scrub land, and young upland forest. No potential roost trees were identified in the Project study area, however the young upland forest may provide foraging habitat or sub-optimal roosting habitat for the Northern long-eared bat and the Indiana bat. Construction is not likely to adversely affect either species.

Potential habitat for Sloans crayfish was identified in Darr's Run (Stream 02). Habitat for ODNR Butler County listed species was found to be present for the threatened Northern long-eared bat, endangered Indiana bat and special concern species including big brown bat, silver haired bat, red bat, hoary bat, little brown bat, and tri-colored bat. This habitat consisted of young upland forest with a canopy mostly comprised of hackberry, black walnut, and American elm.

Based on the preliminary design, the Project would require the following permits and clearances during the OPSB review process:

- Nationwide Permit #57, pre-construction notification;
- USFWS clearance; and
- ODNR clearance.

8.0 REFERENCES

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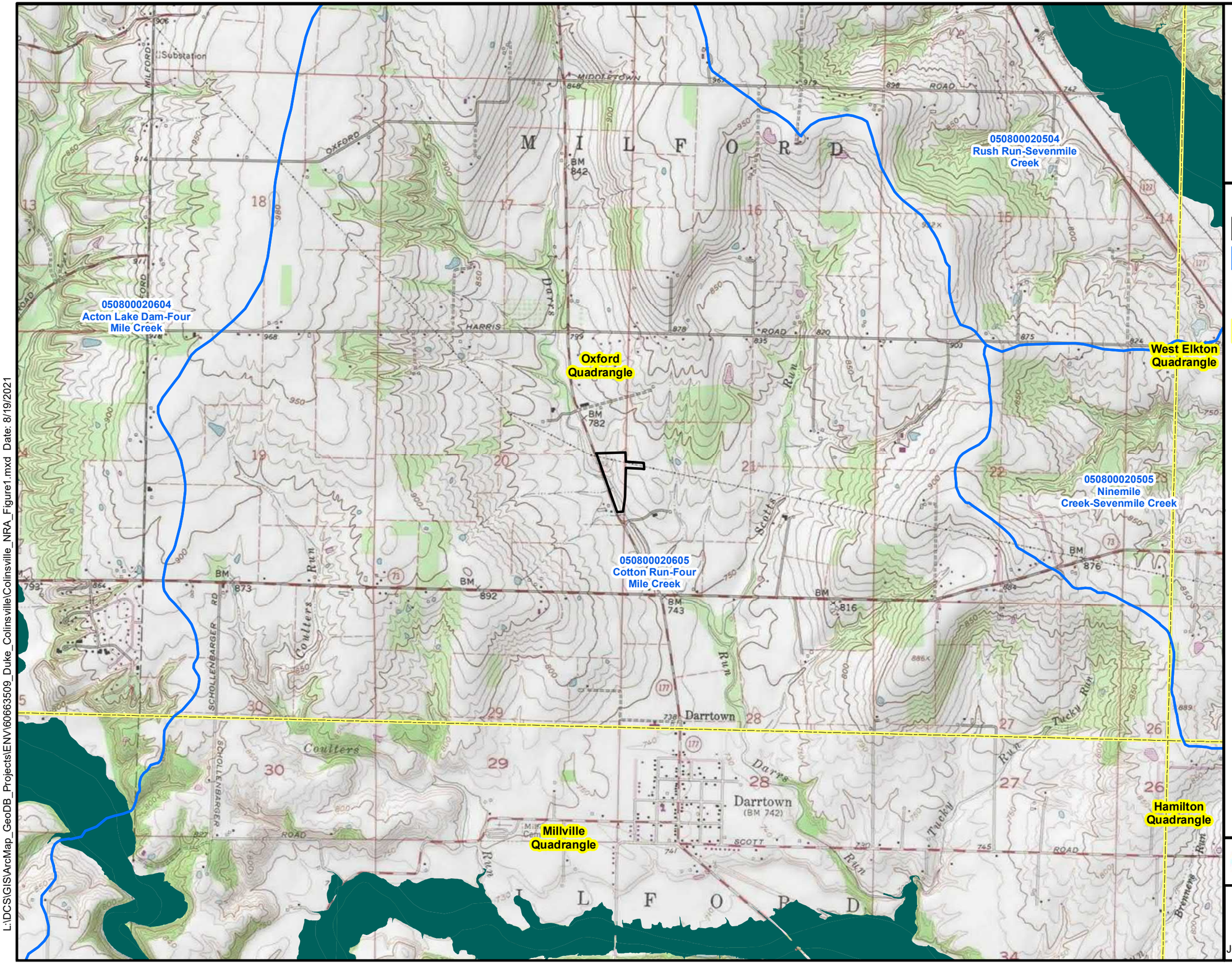
APPENDIX A

FIGURES



LEGEND:

- Project Study Area
- HUC12 Watershed (USGS)
- NFHL 100-year Floodplain (FEMA)
- USGS 7.5" Topographical Quadrangle

N

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Feet

1:24,000

DUKE ENERGY.

Colinsville Substation Expansion Project

FIGURE 1
SITE LOCATION USGS TOPOGRAPHIC MAP WITH FEMA/HUC OVERLAY

JOB NO. 60663509

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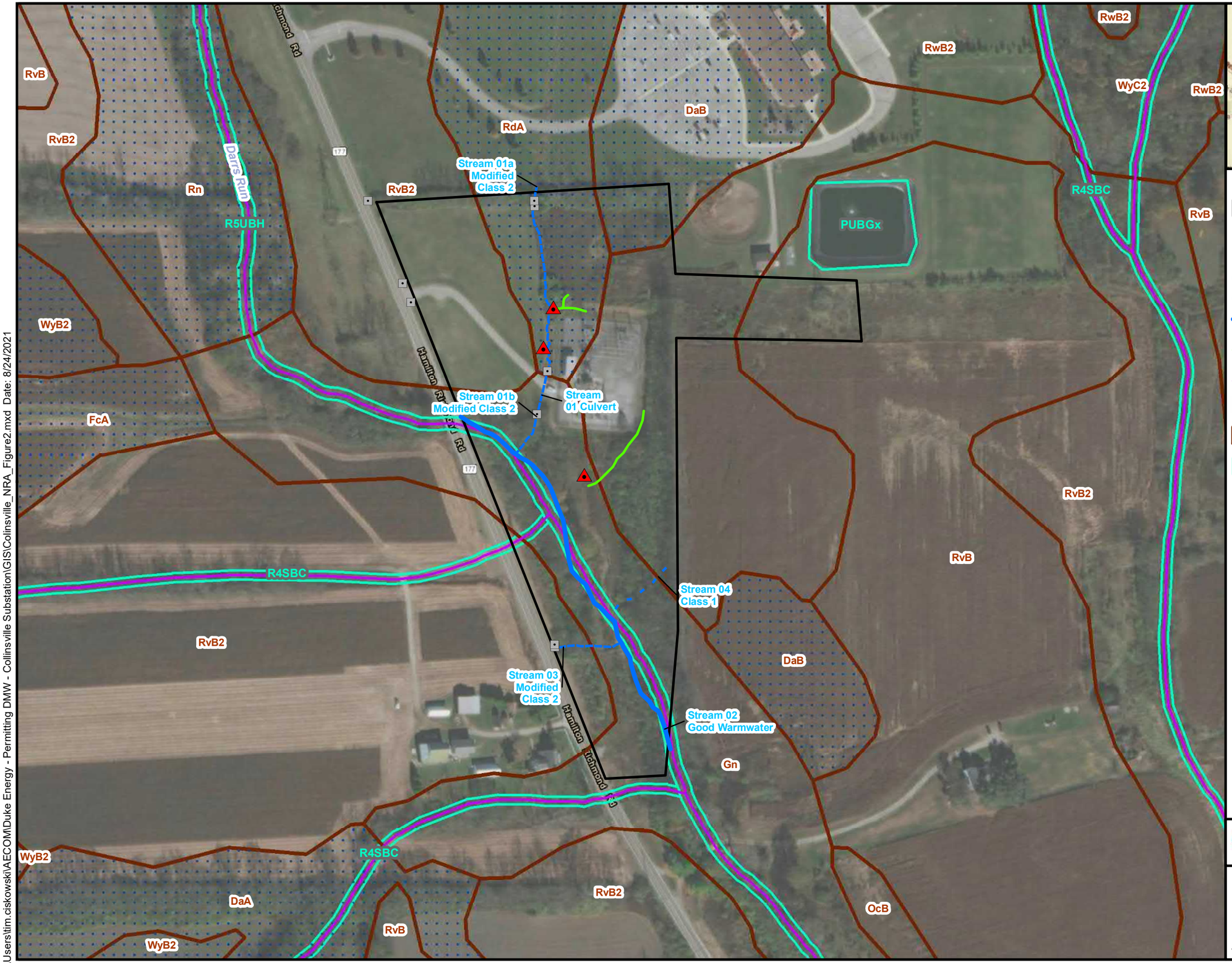

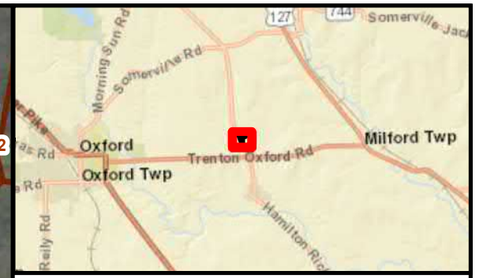

LEGEND:

- Project Study Area
- Upland Data Point
- Master Culvert
- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream
- Non-Jurisdictional Upland Drainage Feature (UDF)
- NHD Stream (USGS)
- SSURGO Hydric Soil (NRCS)
- SSURGO Soil Map Unit Area (NRCS)
- NWI Wetland (USFWS)

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Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

Colinsville Substation Expansion Project

FIGURE 2
SITE LOCATION AERIAL MAP
WITH NRCS/NWI/NHD OVERLAY
AND PROJECT FINDINGS

JOB NO. 60663509

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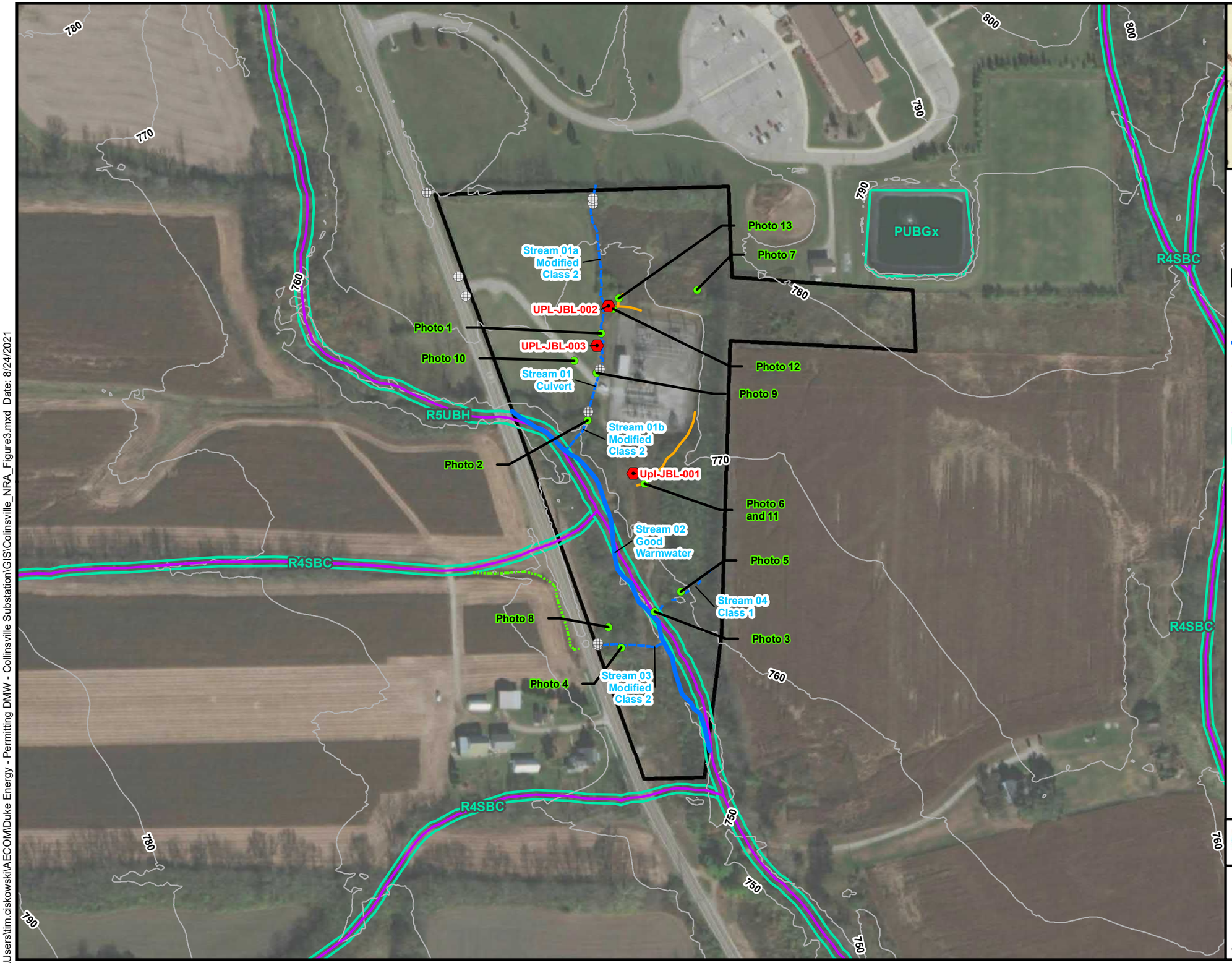

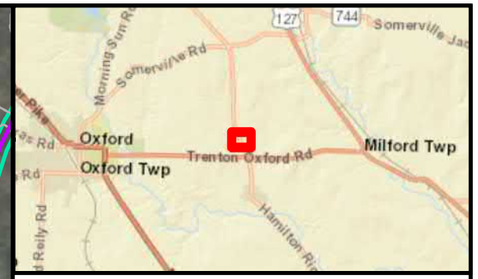

LEGEND:

- Photo Point
- Upland Data Point
- Culvert
- Project Survey Area
- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream
- Upland Drainage Feature
- 10 ft Contour
- NHD Stream
- NWI Wetland (USFWS)
- Approximate Stream Location

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Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

Collinsville Substation Expansion Project

FIGURE 3
SITE LOCATION AERIAL MAP
WITH PROJECT FINDINGS

JOB NO. 60663509

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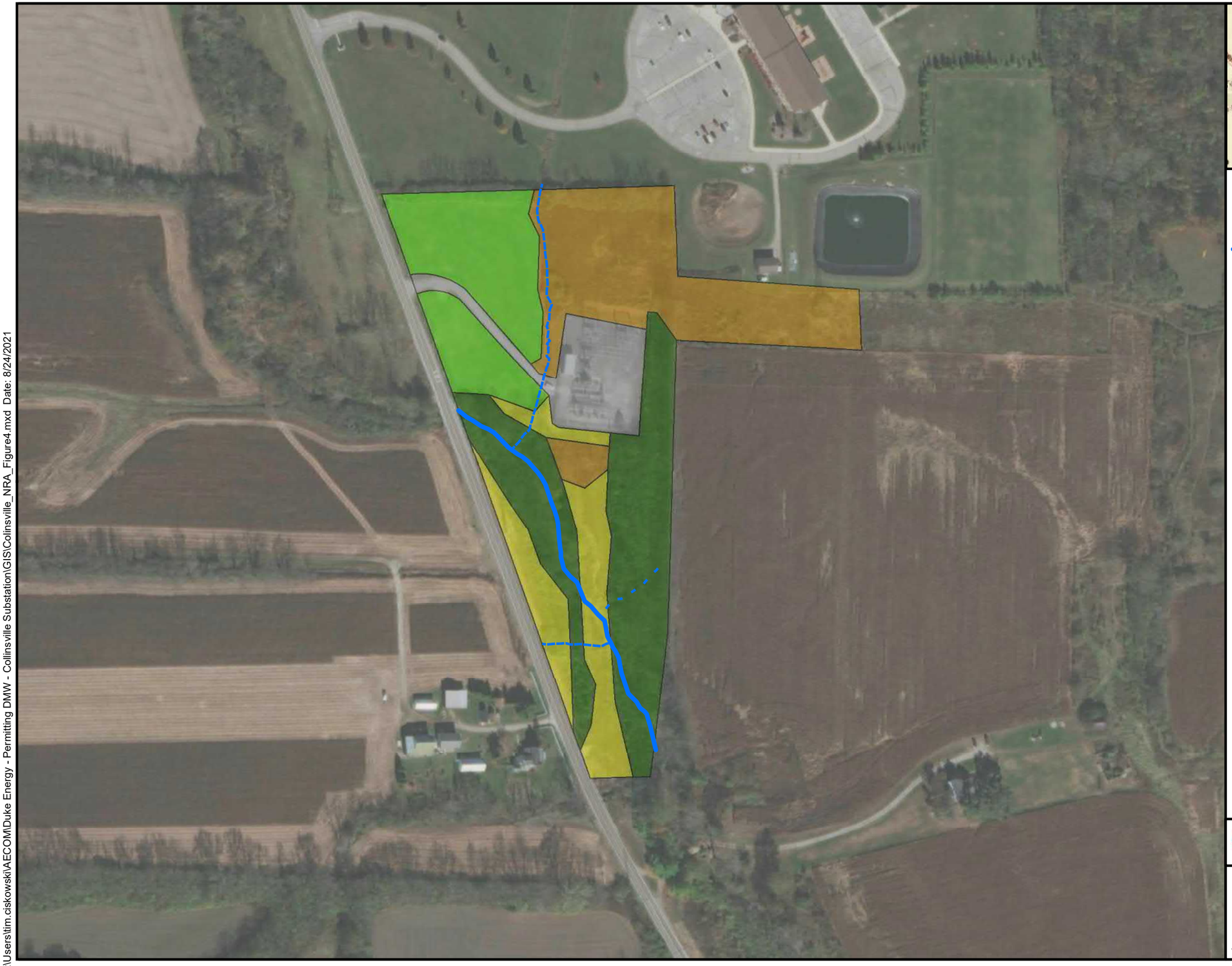

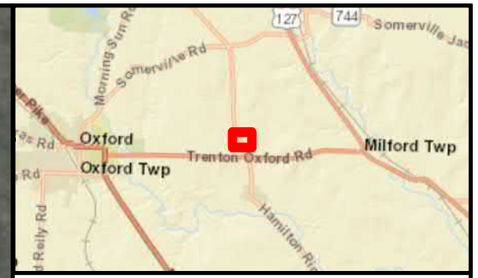

LEGEND:

- Delineated Ephemeral Stream
- Delineated Intermittent Stream
- Delineated Perennial Stream

Land Use

- Developed
- Young Upland Forest
- Landscaped
- Old Field
- Shrub/Scrub

N

0 200 400

Feet

BASE MAP SOURCE:
Source: Esri, Maxar, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community
Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

DUKE ENERGY.

Collinsville Substation Expansion Project

FIGURE 4
LAND USE MAP

JOB NO. 60663509

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APPENDIX B

THREATENED AND ENDANGERED SPECIES INFORMATION

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: July 19, 2021
Consultation Code: 03E15000-2021-SLI-1720
Event Code: 03E15000-2021-E-02485
Project Name: Substation Expansion

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 ECOS-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 ECOS-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:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.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 http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

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 http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

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 http://www.fws.gov/migratorybirds/AboutUS.html.

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

Consultation Code: 03E15000-2021-SLI-1720
Event Code: 03E15000-2021-E-02485
Project Name: Substation Expansion
Project Type: TRANSMISSION LINE
Project Description: Electric power substation expansion.
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@39.5137627,-84.66663574226284,14z

Counties: Butler County, Ohio

Endangered Species Act Species

There is a total of 3 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. Note that 1 of these species should be considered only under certain conditions.

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. The location of the critical habitat is not available. 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. This species only needs to be considered under the following conditions: ▪ Incidental take of the northern long-eared bat is not prohibited at this location. Federal action agencies may conclude consultation using the streamlined process described at https://www.fws.gov/midwest/endangered/mammals/nleb/s7.html Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Flowering Plants

NAME	STATUS
Running Buffalo Clover *Trifolium stoloniferum* Population: No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/2529	Endangered

Critical habitats

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

Butler County

Scientific Name	Common Name	Last Observed	State Status	Federal Status
Arabis pycnocarpa var. adpressipilis	Southern Hairy Rock Cress	1965-04	P	
Arabis pycnocarpa var. pycnocarpa	Western Hairy Rock Cress	1990-05-03	X	
Bromus kalmii	Prairie Brome	2013-07-01	P	
Carex mesochorea	Midland Sedge	2005-06-05	T	
Carex timida	Timid Sedge	2011-06-14	T	
Cyperus acuminatus	Pale Umbrella-sedge	2014-09-19	P	
Echinodorus berteroi	Burhead	2014-09-19	P	
Ribes missouriense	Missouri Gooseberry	2013-07-01	T	
Salix caroliniana	Carolina Willow	1991-06-02	P	
Silene nivea	Snowy Campion	2013-07-01	E	
Viburnum molle	Soft-leaved Arrow-wood	2013-07-01	T	

Ohio Division of Wildlife
Ohio Natural Heritage Database
Date Accessed: March 6, 2015
Based on 2014-15 Rare Plant List.

Status:

X = Extirpated
E = Endangered
T = Threatened
P = Potentially Threatened

List Created: July 2016

Butler County State Listed Animal Species

Common Name	Scientific Name	Group	State Status	Federal Status
Cave Salamander	Eurycea lucifuga	Amphibian	Endangered	
Upland Sandpiper	Bartramia longicauda	Bird	Endangered	
Lark Sparrow	Chondestes grammacus	Bird	Endangered	
Plains Clubtail	Gomphus externus	Dragonfly	Endangered	
Blue corporal	Ladona deplanata	Dragonfly	Endangered	
Tonguetied Minnow	Exoglossum laurae	Fish	Endangered	
Indiana Myotis	Myotis sodalis	Mammal	Endangered	Endangered
Least Bittern	Ixobrychus exilis	Bird	Threatened	
Black-crowned Night-heron	Nycticorax nycticorax	Bird	Threatened	
Sloan's Crayfish	Orconectes (Rhoadesius) sloanii	Crayfish	Threatened	
American Eel	Anguilla rostrata	Fish	Threatened	
Black Sandshell	Ligumia recta	Mollusk	Threatened	
Fawnsfoot	Truncilla donaciformis	Mollusk	Threatened	
Kirtland's Snake	Clonophis kirtlandii	Reptile	Threatened	
Eastern Cricket Frog	Acris crepitans crepitans	Amphibian	Species of Concern	
Sharp-shinned Hawk	Accipiter striatus	Bird	Species of Concern	
Henslow's Sparrow	Ammodramus henslowii	Bird	Species of Concern	
Grasshopper Sparrow	Ammodramus savannarum	Bird	Species of Concern	
Great Egret	Ardea alba	Bird	Species of Concern	
Common Nighthawk	Chordeiles minor	Bird	Species of Concern	

Common Name	Scientific Name	Group	State Status	Federal Status
Black-billed Cuckoo	Coccyzus erythropthalmus	Bird	Species of Concern	
Northern Bobwhite	Colinus virginianus	Bird	Species of Concern	
Bobolink	Dolichonyx oryzivorus	Bird	Species of Concern	
American Coot	Fulica americana	Bird	Species of Concern	
Common Gallinule	Gallinula galeata	Bird	Species of Concern	
Red-headed Woodpecker	Melanerpes erythrocephalus	Bird	Species of Concern	
Vesper Sparrow	Pooecetes gramineus	Bird	Species of Concern	
Sora Rail	Porzana carolina	Bird	Species of Concern	
Prothonotary Warbler	Protonotaria citrea	Bird	Species of Concern	
Cerulean Warbler	Setophaga cerulea	Bird	Species of Concern	
Muskellunge	Esox masquinongy	Fish	Species of Concern	
Big Brown Bat	Eptesicus fuscus	Mammal	Species of Concern	
Silver-haired Bat	Lasionycteris noctivagans	Mammal	Species of Concern	
Red Bat	Lasiurus borealis	Mammal	Species of Concern	
Hoary Bat	Lasiurus cinereus	Mammal	Species of Concern	
Little Brown Bat	Myotis lucifugus	Mammal	Species of Concern	
Tri-colored Bat	Perimyotis subflavus	Mammal	Species of Concern	
Southern Bog Lemming	Synaptomys cooperi	Mammal	Species of Concern	
Common Gray Fox	Urocyon cinereoargenteus	Mammal	Species of Concern	
Elktoe	Alasmidonta marginata	Mollusk	Species of Concern	
Deertoe	Truncilla truncata	Mollusk	Species of Concern	
Eastern Box Turtle	Terrapene carolina carolina	Reptile	Species of Concern	

Common Name	Scientific Name	Group	State Status	Federal Status
Northern Saw-whet Owl	Aegolius acadicus	Bird	Special Interest	
Long-eared Owl	Asio otus	Bird	Special Interest	
Canada Warbler	Cardellina canadensis	Bird	Special Interest	
Veery	Catharus fuscescens	Bird	Special Interest	
Hermit Thrush	Catharus guttatus	Bird	Special Interest	
Brown Creeper	Certhia americana	Bird	Special Interest	
Least Flycatcher	Empidonax minimus	Bird	Special Interest	
Dark-eyed Junco	Junco hyemalis	Bird	Special Interest	
Nashville Warbler	Oreothlypis ruficapilla	Bird	Special Interest	
Northern Waterthrush	Parkesia noveboracensis	Bird	Special Interest	
Golden-crowned Kinglet	Regulus satrapa	Bird	Special Interest	
Black-throated Blue Warbler	Setophaga caerulescens	Bird	Special Interest	
Blackburnian Warbler	Setophaga fusca	Bird	Special Interest	
Magnolia Warbler	Setophaga magnolia	Bird	Special Interest	
Western Meadowlark	Sturnella neglecta	Bird	Special Interest	
Winter Wren	Troglodytes hiemalis	Bird	Special Interest	
Bell's Vireo	Vireo bellii	Bird	Special Interest	
Blue-headed Vireo	Vireo solitarius	Bird	Special Interest	

APPENDIX C

OHIO EPA STREAM EVALUATION FORMS

Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) **48**

SITE NAME/LOCATION: Collinsville Substation Expansion Project S-JBL-001a-INT

SITE NUMBER: 01a RIVER BASIN: 050800020043 RIVER CODE: _____ DRAINAGE AREA (mi²): 0.16

LENGTH OF STREAM REACH (ft): 200 LAT: 39.51531 LONG: -84.66746 RIVER MILE: _____

DATE: 07/21/2021 SCORER: JBL COMMENTS: intermittent

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

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

channelized, culvert,

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	25%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	20%	☐	CLAY or HARDPAN [0 pt]	15%
☑	GRAVEL (2-64 mm) [9 pts]	25%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	10%	☐	ARTIFICIAL [3 pts]	5%

Substrate Percentage Check

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 20.00%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 12

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 6

HHEI Metric Points

Substrate Max = 40: **18**

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 feet)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☑	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: 3 inches

MAXIMUM POOL DEPTH (centimeters): 7.62

Pool Depth Max = 30: **15**

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☑	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: 4 feet ohwm 3.2

AVERAGE BANKFULL WIDTH (meters): 1.22

Bankfull Width Max=30: **15**

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)

L	R	
☐	☐	Wide >10m
☐	☐	Moderate 5-10m
☑	☑	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R	
☐	☐	Mature Forest, Wetland
☐	☐	Immature Forest, Shrub or Old Field
☐	☑	Residential, Park, New Field
☐	☐	Fenced Pasture

L	R	
☐	☐	Conservation Tillage
☑	☐	Urban or Industrial
☐	☐	Open Pasture, Row Crop
☐	☐	Mining or Construction

COMMENTS: _____

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

☑ Stream Flowing
☐ Subsurface flow with isolated pools (interstitial)
☐ Moist Channel, isolated pools, no flow (intermittent)
☐ Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐ None	☐ 1.0	☑ 2.0	☐ 3.0
☐ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Darrs Run Distance from Evaluated Stream 200 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangle Name: Oxford NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Butler Township/City: Union Town

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/17/2021 Quantity: 0.65"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 80

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

Field Measures: Temp (°C) 27.5 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.8 Conductivity (umhos/cm) _____

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

Additional comments/description of pollution impacts: _____

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

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): none

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): none

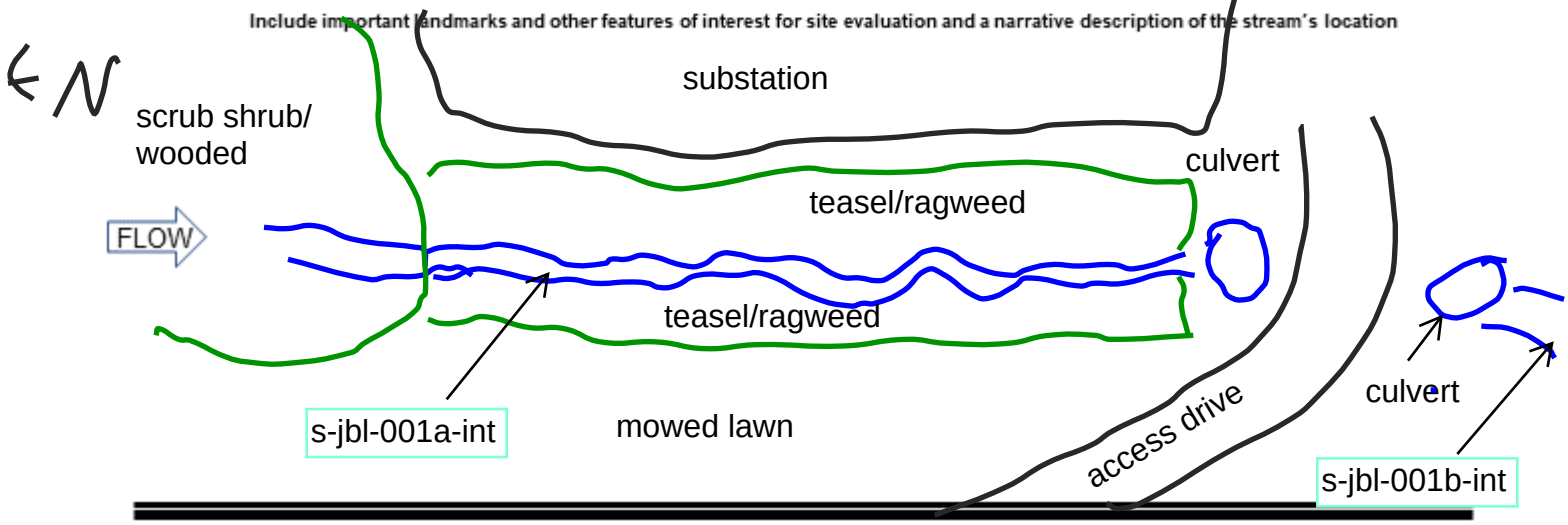
Salamanders Observed? (Y/N) N Species observed (if known): none

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): none

Comments Regarding Biology: _____

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

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



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) **60**

SITE NAME/LOCATION: Collinsville Substation Expansion Project S-JBL-001b-INT

SITE NUMBER: 01b RIVER BASIN: 050800020043 RIVER CODE: _____ DRAINAGE AREA (mi²): 0.16

LENGTH OF STREAM REACH (ft): 200 LAT: 39.51465 LONG: -84.66760 RIVER MILE: _____

DATE: 07/21/2021 SCORER: JBL COMMENTS: intermittent.channel conditions different than section to north

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

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

channelized, culvert,

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☐	SILT [3 pt]	15%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	0%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☑	COBBLE (65-256 mm) [12 pts]	50%	☐	CLAY or HARDPAN [0 pt]	0%
☑	GRAVEL (2-64 mm) [9 pts]	25%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	10%	☐	ARTIFICIAL [3 pts]	0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 50.00%

Substrate Percentage Check

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 21

TOTAL NUMBER OF SUBSTRATE TYPES: (B) 4

HHEI Metric Points

Substrate Max = 40: **25**

A + B

2. Maximum Pool Depth (*Measure the maximum pool depth within the 61 meter (200 feet)* evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☑	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: 2 inches

MAXIMUM POOL DEPTH (centimeters): 5.08

Pool Depth Max = 30: **15**

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (≤ 3' 3") [5 pts]
☑	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: 8 feet ohwm 6

AVERAGE BANKFULL WIDTH (meters): 2.44

Bankfull Width Max=30: **20**

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)

L	R	
☐	☐	Wide >10m
☑	☑	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

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

☑	Stream Flowing	☐	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐	None	☐	1.0	☐	2.0	☐	3.0
☑	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Darrs Run Distance from Evaluated Stream 0 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangle Name: Oxford NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Butler Township/City: Union Town

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 07/17/2021 Quantity: 0.65"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 0

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

Field Measures: Temp (°C) 26.5 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.7 Conductivity (umhos/cm) _____

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

Additional comments/description of pollution impacts: _____

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

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): none

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): none

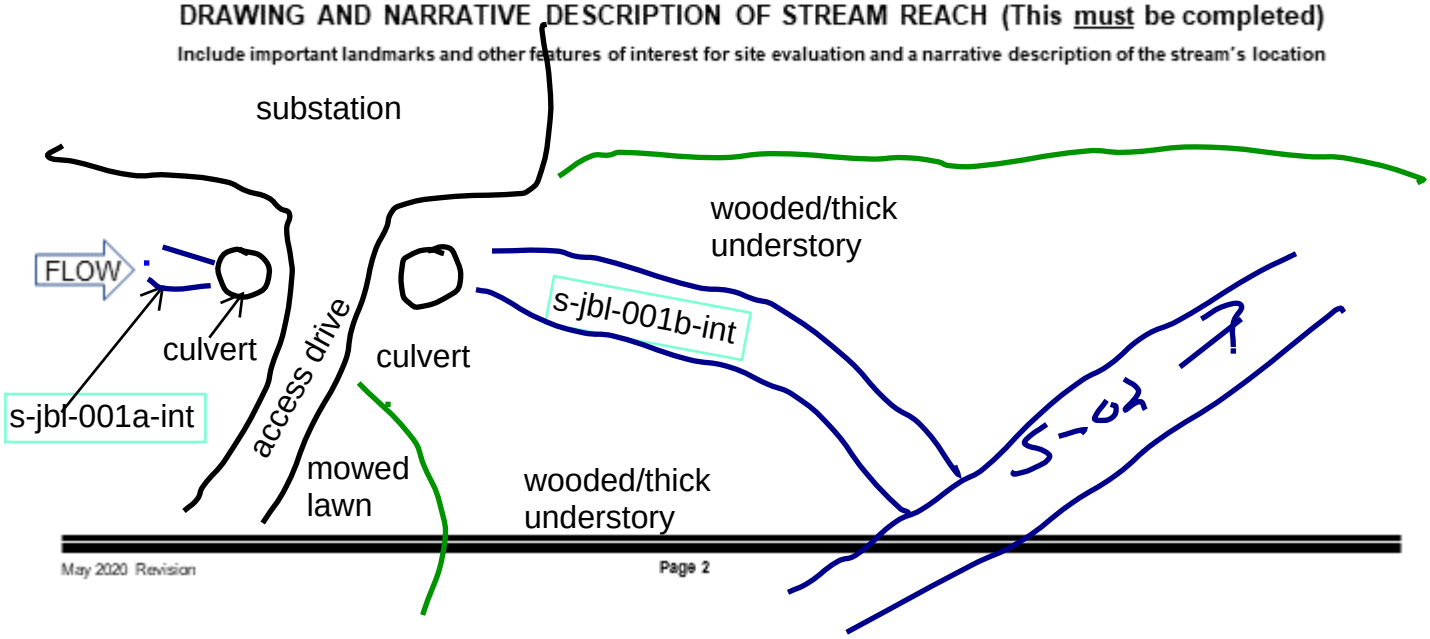
Salamanders Observed? (Y/N) N Species observed (if known): none

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): none

Comments Regarding Biology: _____

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

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



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 65.0

Stream & Location: Collinsville Substation S-JBL-002-PER RM: _ _ _._ Date: 7 / 20 / 21

HUC 05080002000403 Scorers Full Name & Affiliation: JBL, AECOM

River Code: _ _ _-_ _ _-_ _ _ STORET #: _ _ _ _ _ _ Lat./ Long.: location ☐ Office verified

1] SUBSTRATE

Check *ONLY* **Two** substrate *TYPE BOXES*; estimate % or note every type present

(NAD 83 - decimal °) **39.51396, -84.66733**

BEST TYPES	POOL	RIFFLE
☐ ☐ BLDR /SLABS [10]		
☐ ☐ BOULDER [9]		5
☒ ☐ COBBLE [8]	10	60
☐ ☒ GRAVEL [7]	60	30
☐ ☐ SAND [6]	20	5
☐ ☐ BEDROCK [5]		

OTHER TYPES	POOL	RIFFLE
☐ ☐ HARDPAN [4]		
☐ ☐ DETRITUS [3]		
☐ ☐ MUCK [2]		
☐ ☐ SILT [2]	10	
☐ ☐ ARTIFICIAL [0]		

(Score natural substrates; ignore sludge from point-sources)

NUMBER OF BEST TYPES: ☒ 4 or more [2] ☐ 3 or less [0]

ORIGIN
- ☒ LIMESTONE [1]
- ☐ TILLS [1]
- ☐ WETLANDS [0]
- ☐ HARDPAN [0]
- ☐ SANDSTONE [0]
- ☐ RIP/RAP [0]
- ☐ LACUSTURINE [0]
- ☐ SHALE [-1]
- ☐ COAL FINES [-2]

QUALITY

SILT
- ☐ HEAVY [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ FREE [1]

EMBEDDEDNESS
- ☐ EXTENSIVE [-2]
- ☐ MODERATE [-1]
- ☒ NORMAL [0]
- ☐ NONE [1]

Substrate 18 Maximum 20

Comments

2] INSTREAM COVER

Indicate presence 0 to 3: **0**-Absent; **1**-Very small amounts or if more common of marginal quality; **2**-Moderate amounts, but not of highest quality or in small amounts of highest quality; **3**-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functional pools.

1	UNDERCUT BANKS [1]	0	POOLS > 70cm [2]	0	OXBOWS, BACKWATERS [1]
1	OVERHANGING VEGETATION [1]	1	ROOTWADS [1]	0	AQUATIC MACROPHYTES [1]
0	SHALLOWS (IN SLOW WATER) [1]	1	BOULDERS [1]	1	LOGS OR WOODY DEBRIS [1]
1	ROOTMATS [1]				

AMOUNT Check ONE (*Or 2 & average*)
- ☐ EXTENSIVE >75% [11]
- ☒ MODERATE 25-75% [7]
- ☒ SPARSE 5-<25% [3]
- ☐ NEARLY ABSENT <5% [1]

Comments

1 1 0 1 0 1 1 0 0 1

Cover Maximum 20: 11

3] CHANNEL MORPHOLOGY

Check ONE in each category (*Or 2 & average*)

SINUOSITY
- ☐ HIGH [4]
- ☐ MODERATE [3]
- ☒ LOW [2]
- ☐ NONE [1]

DEVELOPMENT
- ☐ EXCELLENT [7]
- ☒ GOOD [5]
- ☐ FAIR [3]
- ☐ POOR [1]

CHANNELIZATION
- ☐ NONE [6]
- ☒ RECOVERED [4]
- ☐ RECOVERING [3]
- ☐ RECENT OR NO RECOVERY [1]

STABILITY
- ☐ HIGH [3]
- ☒ MODERATE [2]
- ☐ LOW [1]

Comments

Channel Maximum 20: 13

4] BANK EROSION AND RIPARIAN ZONE

Check **ONE** in each category for *EACH BANK* (*Or 2 per bank & average*)

River right looking downstream

EROSION

L	R	
☐	☐	NONE / LITTLE [3]
☐	☒	MODERATE [2]
☒	☐	HEAVY / SEVERE [1]

RIPARIAN WIDTH

L	R	
☐	☐	WIDE > 50m [4]
☒	☐	MODERATE 10-50m [3]
☐	☒	NARROW 5-10m [2]
☐	☐	VERY NARROW < 5m [1]
☐	☐	NONE [0]

FLOOD PLAIN QUALITY

L	R	
☐	☐	FOREST, SWAMP [3]
☒	☒	SHRUB OR OLD FIELD [2]
☐	☐	RESIDENTIAL, PARK, NEW FIELD [1]
☐	☐	FENCED PASTURE [1]
☐	☐	OPEN PASTURE, ROWCROP [0]

L	R	
☐	☐	CONSERVATION TILLAGE [1]
☐	☐	URBAN OR INDUSTRIAL [0]
☐	☐	MINING / CONSTRUCTION [0]

Indicate predominant land use(s) past 100m riparian.

Comments

2 + 3 + 2

Riparian Maximum 10: 6.00

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH Check **ONE** (*ONLY!*)
- ☐ > 1m [6]
- ☐ 0.7-<1m [4]
- ☒ 0.4-<0.7m [2]
- ☐ 0.2-<0.4m [1]
- ☐ < 0.2m [0]

CHANNEL WIDTH Check ONE (*Or 2 & average*)
- ☐ POOL WIDTH > RIFFLE WIDTH [2]
- ☒ POOL WIDTH = RIFFLE WIDTH [1]
- ☐ POOL WIDTH < RIFFLE WIDTH [0]

CURRENT VELOCITY Check ALL that apply
- ☐ TORRENTIAL [-1]
- ☐ VERY FAST [1]
- ☒ FAST [1]
- ☒ MODERATE [1]
- ☒ SLOW [1]
- ☐ INTERSTITIAL [-1]
- ☐ INTERMITTENT [-2]
- ☐ EDDIES [1]

Indicate for reach - pools and riffles.

Recreation Potential
Primary Contact
Secondary Contact
(circle one and comment on back)

Comments

20"

Pool / Current Maximum 12: 6

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species: Check ONE (*Or 2 & average*). ☐ NO RIFFLE [metric=0]

RIFFLE DEPTH
- ☐ BEST AREAS > 10cm [2]
- ☐ BEST AREAS 5-10cm [1]
- ☒ BEST AREAS < 5cm [metric=0]

RUN DEPTH
- ☐ MAXIMUM > 50cm [2]
- ☒ MAXIMUM < 50cm [1]

RIFFLE / RUN SUBSTRATE
- ☐ STABLE (e.g., Cobble, Boulder) [2]
- ☒ MOD. STABLE (e.g., Large Gravel) [1]
- ☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]

RIFFLE / RUN EMBEDDEDNESS
- ☐ NONE [2]
- ☒ LOW [1]
- ☐ MODERATE [0]
- ☐ EXTENSIVE [-1]

Comments

Riffle / Run Maximum 8: 3

6] GRADIENT

(52.00 ft/mi)

DRAINAGE AREA

(4.18 mi²)

- ☐ VERY LOW - LOW [2-4]
- ☐ MODERATE [6-10]
- ☒ HIGH - VERY HIGH [10-6]

%POOL: 20.00 %GLIDE: 5.00

%RUN: 50.00 %RIFFLE: 25.00

Gradient Maximum 10: 8

A] SAMPLED REACH

Check ALL that apply

METHOD

- [ ] BOAT
- [x] WADE
- [ ] L. LINE
- [ ] OTHER

STAGE

1st -sample pass-		2nd
☐	HIGH	☐
☐	UP	☐
☒	NORMAL	☐
☐	LOW	☐
☐	DRY	☐

DISTANCE

- [ ] 0.5 Km
- [ ] 0.2 Km
- [ ] 0.15 Km
- [■] 0.12 Km
- [ ] OTHER

meters

CLARITY

1st --sample pass--		2nd
☐	< 20 cm	☐
☐	20-<40 cm	☐
☐	40-70 cm	☐
■	> 70 cm/ CTB	☐
☐	SECCHI DEPTH	☐

1st pass _____ cm

2nd _____ cm

CANOPY

- [ ] > 85%- OPEN
- [ ] 55%-<85%
- [ ] 30%-<55%
- [■] 10%-<30%
- [ ] <10%- CLOSED

Comment RE: Reach consistency/ Is reach typical of steam?, *Recreation/* Observed - Inferred, *Other/* Sampling observations, Concerns, Access directions, etc.

pH-9.2, T-27.5 C

OHW= 15feet

BF = 32

B] AESTHETICS

- [ ] NUISANCE ALGAE
- [ ] INVASIVE MACROPHYTES
- [ ] EXCESS TURBIDITY
- [ ] DISCOLORATION
- [ ] FOAM / SCUM
- [ ] OIL SHEEN
- [■] TRASH / LITTER
- [ ] NUISANCE ODOR
- [ ] SLUDGE DEPOSITS
- [ ] CSOs/SSOs/OUTFALLS

C] RECREATION

POOL: AREA ☐ >100ft² DEPTH ☐ >3ft

D] MAINTENANCE

PUBLIC / PRIVATE / BOTH / NA
ACTIVE / HISTORIC / BOTH / NA
YOUNG-SUCCESSION-OLD
SPRAY / SNAG / REMOVED
MODIFIED / DIPPED OUT / NA
LEVEED / ONE SIDED
RELOCATED / CUTOFFS
MOVING-BEDLOAD-STABLE
ARMOURED / SLUMPS
ISLANDS / SCOURED
IMPOUNDED / DESICCATED
FLOOD CONTROL / DRAINAGE

Circle some & *COMMENT*

county road and T Line row clearing

E] ISSUES

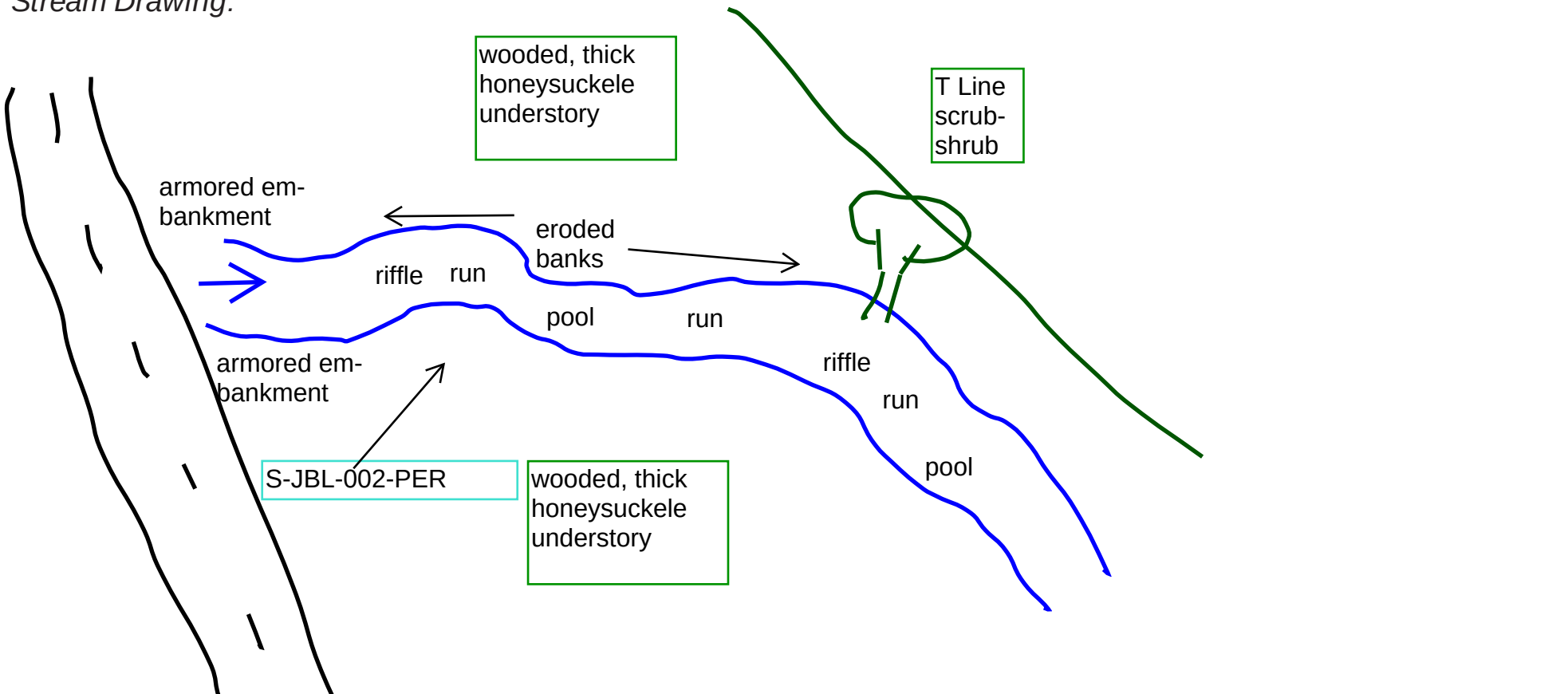
WWTP / CSO / NPDES / INDUSTRY
HARDENED / URBAN / DIRT&GRIME
CONTAMINATED / LANDFILL
BMPs-CONSTRUCTION-SEDIMENT
LOGGING / IRRIGATION / COOLING
BANK / EROSION / SURFACE
FALSE BANK / MANURE / LAGOON
WASH H_20 / TILE / H_20 TABLE
ACID / MINE / QUARRY / FLOW
NATURAL / WETLAND / STAGNANT
PARK / GOLF / LAWN / HOME
ATMOSPHERE / DATA PAUCITY

F] MEASUREMENTS

- $\bar{x}$ width 15
- $\bar{x}$ depth
- max. depth 20"
- $\bar{x}$ bankfull width 32
- bankfull $\bar{x}$ depth
- W/D ratio
- bankfull max. depth
- floodprone x^2 width
- entrench. ratio

Legacy Tree:

Stream Drawing:



Headwater Habitat Evaluation Index Field Form

Ohio Environmental Protection Agency

HHEI Score (sum of metrics 1+2+3) **56**

SITE NAME/LOCATION: Collinsville Substation Expansion Project S-JBL-003-INT

SITE NUMBER: 03 RIVER BASIN: 050800020043 RIVER CODE: _____ DRAINAGE AREA (mi²): 0.11

LENGTH OF STREAM REACH (ft): 200 LAT: 39.51341 LONG: -84.66714 RIVER MILE: _____

DATE: 07/21/2021 SCORER: JBL COMMENTS: intermittent

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

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

culvert,

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	30%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	10%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☑	COBBLE (65-256 mm) [12 pts]	25%	☐	CLAY or HARDPAN [0 pt]	0%
☐	GRAVEL (2-64 mm) [9 pts]	20%	☐	MUCK [0 pts]	0%
☐	SAND (<2 mm) [6 pts]	10%	☐	ARTIFICIAL [3 pts]	5%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 25.00%

Substrate Percentage Check

(A) SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 15

(B) TOTAL NUMBER OF SUBSTRATE TYPES: 6

HHEI Metric Points

Substrate Max = 40: **21**

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 feet)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☑	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☐	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: 3 inches

MAXIMUM POOL DEPTH (centimeters): 7.62

Pool Depth Max = 30: **15**

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☐	≤ 1.0 m (≤ 3' 3") [5 pts]
☑	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: 6 feet ohwm 4

AVERAGE BANKFULL WIDTH (meters): 1.83

Bankfull Width Max=30: **20**

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)

L	R	
☐	☐	Wide >10m
☑	☑	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

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

☐	Stream Flowing	☑	Moist Channel, isolated pools, no flow (intermittent)
☐	Subsurface flow with isolated pools (interstitial)	☐	Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐	None	☐	1.0	☐	2.0	☐	3.0
☑	0.5	☐	1.5	☐	2.5	☐	>3

STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Darrs Run Distance from Evaluated Stream 0 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangle Name: Oxford NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Butler Township/City: Union Town

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 7/17/21 Quantity: 0.65"

Photo-documentation Notes: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 10

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

Field Measures: Temp (°C) 28 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.9 Conductivity (umhos/cm) _____

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

Additional comments/description of pollution impacts: _____

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

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): none

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): none

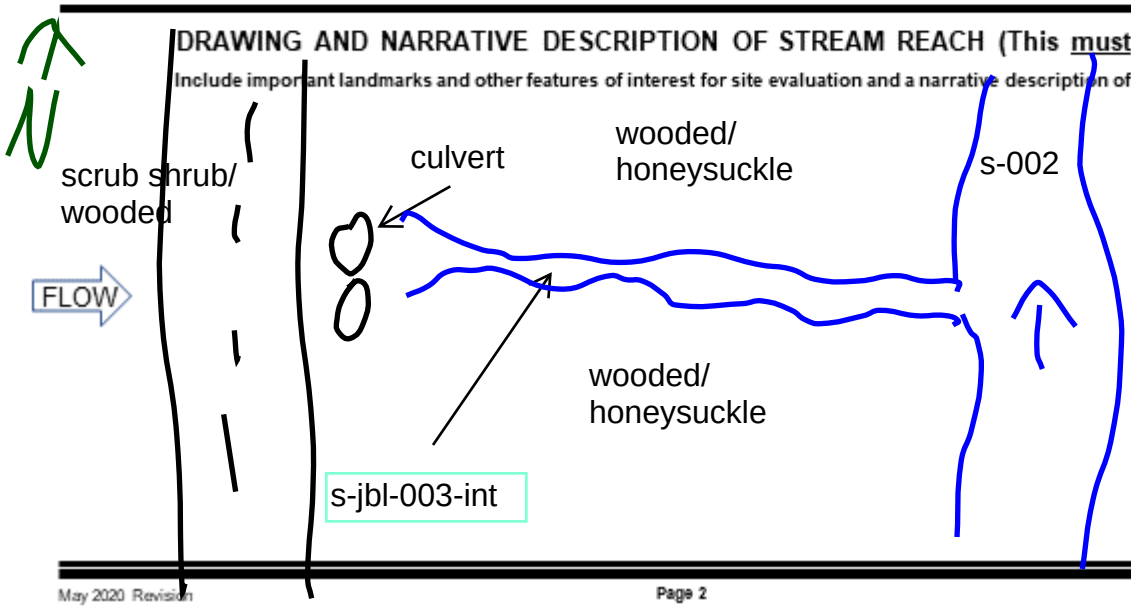
Salamanders Observed? (Y/N) N Species observed (if known): none

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): none

Comments Regarding Biology: _____

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

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



Headwater Habitat Evaluation Index Field Form

HHEI Score (sum of metrics 1+2+3) **24**

SITE NAME/LOCATION: Collinsville Substation Expansion Project S-JBL-004-INT

SITE NUMBER: 04 RIVER BASIN: 050800020043 RIVER CODE: _____ DRAINAGE AREA (mi²): 0.01

LENGTH OF STREAM REACH (ft): 171 LAT: 39.51399 LONG: -84.66683 RIVER MILE: _____

DATE: 07/21/2021 SCORER: JBL COMMENTS: intermittent

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

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

field tile below surface suspcted present from east, but not seen

1. SUBSTRATE (Estimate percent of every type present). Check *ONLY* two predominant substrate *TYPE* boxes. (Max of 32). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]	0%	☑	SILT [3 pt]	60%
☐	BOULDER (>256 mm) [16 pts]	0%	☐	LEAF PACK/WOODY DEBRIS [3 pts]	10%
☐	BEDROCK [16 pts]	0%	☐	FINE DETRITUS [3 pts]	0%
☐	COBBLE (65-256 mm) [12 pts]	0%	☐	CLAY or HARDPAN [0 pt]	10%
☐	GRAVEL (2-64 mm) [9 pts]	5%	☐	MUCK [0 pts]	0%
☑	SAND (<2 mm) [6 pts]	15%	☐	ARTIFICIAL [3 pts]	0%

Substrate Percentage Check

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock: 0.00%

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: (A) 9 TOTAL NUMBER OF SUBSTRATE TYPES: (B) 5

HHEI Metric Points

Substrate Max = 40: **14**

A + B

2. Maximum Pool Depth ***(Measure the maximum pool depth within the 61 meter (200 feet)*** evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check *ONLY* one box):

☐	> 30 centimeters [20 pts]	☐	5 cm - 10 cm [15 pts]
☐	> 22.5 - 30 cm [30 pts]	☑	< 5 cm [5pts]
☐	> 10 - 22.5 cm [25 pts]	☐	NO WATER OR MOIST CHANNEL [0pts]

COMMENTS: 1 inches MAXIMUM POOL DEPTH (centimeters): 2.54

Pool Depth Max = 30: **5**

3. BANK FULL WIDTH (Measured as the average of 3 - 4 measurements) (Check *ONLY* one box):

☐	> 4.0 meters (> 13') [30 pts]	☐	> 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
☐	> 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	☑	≤ 1.0 m (≤ 3' 3") [5 pts]
☐	> 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]		

COMMENTS: 3 feet ohwm 2 ft AVERAGE BANKFULL WIDTH (meters): 0.91

Bankfull Width Max=30: **5**

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)

L	R	
☑	☑	Wide >10m
☐	☐	Moderate 5-10m
☐	☐	Narrow <5m
☐	☐	None

FLOODPLAIN QUALITY (Most Predominant per Bank)

L	R		L	R	
☐	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☑	☑	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	Fenced Pasture	☐	☐	Mining or Construction

COMMENTS: _____

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

☑ Stream Flowing ☐ Moist Channel, isolated pools, no flow (intermittent)

☐ Subsurface flow with isolated pools (interstitial) ☐ Dry channel, no water (ephemeral)

COMMENTS: _____

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

☐ None ☑ 1.0 ☐ 2.0 ☐ 3.0

☐ 0.5 ☐ 1.5 ☐ 2.5 ☐ >3

STREAM GRADIENT ESTIMATE

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

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

QHEI PERFORMED? ☐ Yes ☑ No QHEI Score _____ (If Yes, Attach Completed QHEI form)

DOWNSTREAM DESIGNATED USE(S)

☑ WWH Name: Darrs Run Distance from Evaluated Stream 0 ft

☐ CWH Name: _____ Distance from Evaluated Stream _____

☐ EWH Name: _____ Distance from Evaluated Stream _____

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

USGS Quadrangle Name: Oxford NRCS Soil Map Page: _____ NRCS Soil Map Stream Order: _____

County: Butler Township/City: Union Town

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 7/17/21 Quantity: 0.65"

Photo-documentation Notes: _____

Elevated Turbidity?(Y/N): N Canopy (% open): 20%

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

Field Measures: Temp (°C) 21 Dissolved Oxygen (mg/l) _____ pH (S.U.) 8.6 Conductivity (umhos/cm) _____

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

Additional comments/description of pollution impacts: _____

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

BIOLOGICAL OBSERVATIONS

(Record all observations below)

Fish Observed? (Y/N) N Species observed (if known): none

Frogs or Tadpoles Observed? (Y/N) N Species observed (if known): none

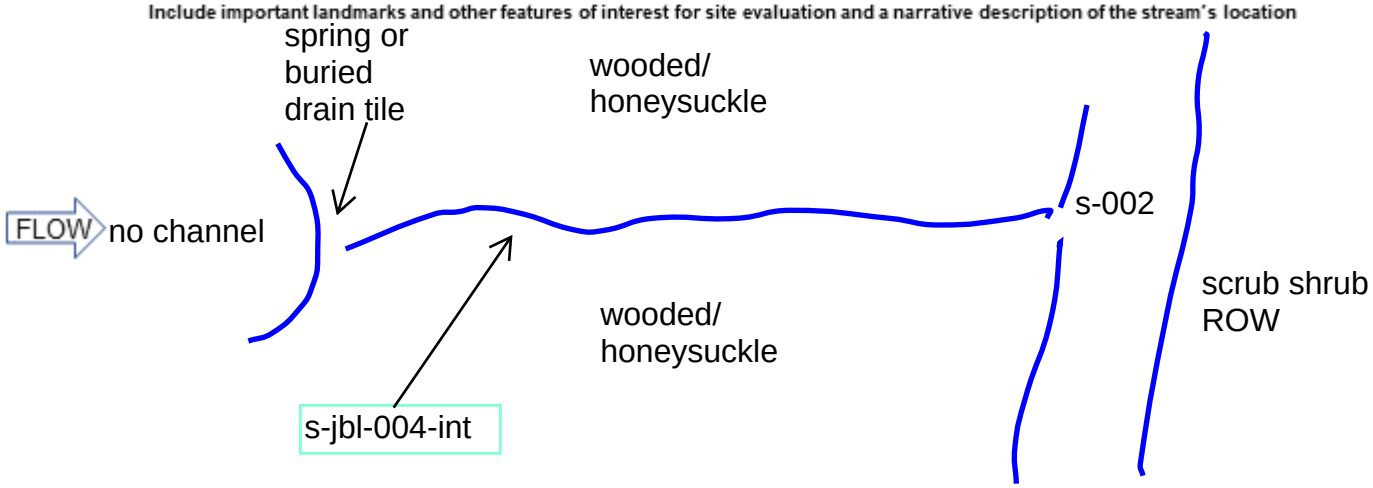
Salamanders Observed? (Y/N) N Species observed (if known): none

Aquatic Macroinvertebrates Observed? (Y/N) N Species observed (if known): none

Comments Regarding Biology: _____

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

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



APPENDIX D

WETLAND DATA DETERMINATION FORMS

Upland 01

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Collinsville Substation Expansion Project | City/County: Butler Coutny | Sampling Date: 07/20/21

Applicant/Owner: Duke Energy | State: OH | Sampling Point: UPL-JBL-001

Investigator(s): jbl, jk | Section, Township, Range: S20 T5N R2E

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

Slope (%): 2 | Lat: 39.51443 | Long: -84.66720 | Datum: NAD 83

Soil Map Unit Name: Gn- Genesee loam | NWI classification: N/A

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

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

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

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

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

Remarks:
timber matting formerly placd in area for T line work. Sample point UPL-JBL-001 in ROW. Not a wetland point as hydrophytic vegetation, soils and hydrology criteria not met.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Pyrus calleryana*	5	Yes	UPL
2.			
3.			
4.			
5.			
	5 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Solidago canadensis*	30	Yes	FACU
2. *Carex annectens*	25	Yes	FACW
3. *Dipsacus fullonum*	10	No	FACU
4. *Alliaria petiolata*	10	No	FAC
5. *Carex frankii*	10	No	OBL
6. *Acer negundo*	5	No	FAC
7. *Bromus arvensis*	5	No	FACU
8.			
9.			
10.			
	95 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *Toxicodendron radicans*	20	Yes	FAC
2.			
	20 =Total Cover		

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	25	x 2 =	50
FAC species	35	x 3 =	105
FACU species	45	x 4 =	180
UPL species	5	x 5 =	25
Column Totals:	120 (A)		370 (B)

Prevalence Index = B/A = 3.08

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation criteria not met at this sample point. Dominant species inlcude FACU and FACW.

Upland 01

SOIL

Sampling Point: UPL-JBL-001

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/3	100					Loamy/Clayey	
12-16	10YR 4/3	98	10YR 4/6	2	C	PL/M	Loamy/Clayey	Distinct redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

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

Remarks:
This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)
Hydric soil indicators not present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:
no wetland hydrological indicators present.

Upland 02

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Collinsville Substation Expansion Project | City/County: Butler Coutny | Sampling Date: 07/20/21

Applicant/Owner: Duke Energy | State: OH | Sampling Point: UPL-JBL-002

Investigator(s): jbl, jgk | Section, Township, Range: S20 T5N R2E

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

Slope (%): 2 | Lat: 39.51539 | Long: -84.66742 | Datum: NAD 83

Soil Map Unit Name: RdA-Raub silt loam, 0 to 2 percent slopes | NWI classification: N/A

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

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

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

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

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

Remarks:
Sample point UPL-JBL-002 in non jd upland drainage way before flowing into stream S-JBL-001a-INT. Drainageway was constructed along northern boundary of the substation. Sample point did not meet the wetland vegetaion and soil criteria

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 5')	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 5')			
1. *Lonicera maackii*	20	Yes	UPL
2.			
3.			
4.			
5.			
	20 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Vernonia gigantea*	30	Yes	FAC
2. *Solidago altissima*	25	Yes	FACU
3. *Dipsacus fullonum*	20	Yes	FACU
4. *Leersia oryzoides*	5	No	OBL
5. *Cirsium arvense*	10	No	FACU
6. *Eupatorium perfoliatum*	5	No	OBL
7. *Carex blanda*	5	No	FAC
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 5')			
1. *Parthenocissus quinquefolia*	20	Yes	FACU
2.			
	20 =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: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 20.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	10	x 1 =	10
FACW species	0	x 2 =	0
FAC species	35	x 3 =	105
FACU species	75	x 4 =	300
UPL species	20	x 5 =	100
Column Totals:	140 (A)		515 (B)

Prevalence Index = B/A = 3.68

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
plot confined to 5' plot within swale to avoid adjacent upland slopes. Hydrophytic vegetation indicators not observed.

Upland 02

SOIL

Sampling Point: UPL-JBL-002

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 3/2	100					Loamy/Clayey	
12-16	10YR 3/3	98	10YR 4/4	2	C	PL/M	Loamy/Clayey	Faint redox concentrations

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____
Depth (inches): _____

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

Remarks:
This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)
Hydric soil indicators not observed

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

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

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

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

Remarks:
secondary hydrology indicators of drainage patterns and geomorphic position observed.

Upland 03

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Collinsville Substation Expansion Project | City/County: Butler Coutny | Sampling Date: 07/20/21

Applicant/Owner: Duke Energy | State: OH | Sampling Point: UPL-JBL-003

Investigator(s): jbl, jk | Section, Township, Range: S20 T5N R2E

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

Slope (%): 2 | Lat: 39.51516 | Long: -84.66750 | Datum: NAD 83

Soil Map Unit Name: | NWI classification:

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

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes 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 X	No
Hydric Soil Present?	Yes	No X
Wetland Hydrology Present?	Yes	No X
Is the Sampled Area within a Wetland?	**Yes**	**No** X

Remarks:
sample point 03 in low area near stream 01. Wetland Soil and hydrologic indicators not observed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *N/A*			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *N/A*			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	30	Yes	FAC
2. *Setaria pumila*	15	Yes	FAC
3. *Dipsacus fullonum*	10	No	FACU
4. *Alliaria petiolata*	15	Yes	FAC
5. *Conium maculatum*	15	Yes	FACW
6. *Schedonorus arundinaceus*	15	Yes	FACU
7. *Ambrosia trifida*	10	No	FAC
8.			
9.			
10.			
	110 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1. *N/A*			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	70	x 3 =	210
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	110 (A)		340 (B)

Prevalence Index = B/A = 3.09

Hydrophytic Vegetation Indicators:

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

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

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

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegeation indicator of dominance test met. Dominant vegeation consists of FAC, FACW and FACU species.

Upland 03

SOIL

Sampling Point: UPL-JBL-003

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 3/2	100					Loamy/Clayey	
8-16	10YR 3/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:

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

Indicators for Problematic Hydric Soils[3]:

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

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

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

No hydric soil indicators observed

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

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

Field Observations:

Surface Water Present? Yes ___ No 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 hydrologic indicators obsvered.

APPENDIX E

REPRESENTATIVE PHOTOGRAPHS

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Upstream	

Stream 01a **Date:** July 21, 2021 **Description:** Intermittent Modified Class II PHW Facing Downstream	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01a

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Downstream

Stream 01b

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Substrate

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Upstream

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 02

Date:

July 21, 2021

Description:

Perennial

Darr's Run

Warmwater Habitat

Facing Substrate

Stream 03

Date:

July 21, 2021

Description:

Intermittent

Modified Class II PHW

Facing Upstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Downstream

Stream 03
Date:
July 21, 2021
Description:
Intermittent
Modified Class II PHW
Facing Substrate

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Upstream

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Downstream

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Stream 04

Date:

July 21, 2021

Description:

Ephemeral

Class I PHW

Facing Substrate

Old Field

Date:

July 21, 2021

Description:

South of substation, in powerline ROW

Facing South

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Shrub Scrub

Date:

July 21, 2021

Description:

North of Substation

Facing West

Upland Woodland

Date:

July 21, 2021

Description:

South of Substation

Facing East

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Industrial/Developed

Date:

July 21, 2021

Description:

Substation

Facing East

Maintained Lawn

Date:

July 21, 2021

Description:

West of substation

Facing West

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Subatation Facing Up-gradient	

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Down-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 01 **Date:** July 21, 2021 **Description:** UDF-JBL-001 Upland Drainage Feature Southeast of Substation Facing Substrate	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Up-gradient	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Down-gradient	

Upland Drainage Feature 02 **Date:** July 21, 2021 **Description:** UDF-JBL-002 Upland Drainage Feature Northeast of Substation Facing Substrate	

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Up-gradient

Upland Drainage Feature 03
Date: July 21, 2021
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Down-gradient

AECOM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
Duke Energy	Collinsville Substation Expansion Project	60663509

Upland Drainage Feature 03	
Date: July 21, 2021	
Description: UDF-JBL-003 Upland Drainage Feature Northeast of Substation Facing Substrate	

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

5/12/2022 9:45:58 AM

in

Case No(s). 22-0468-EL-BNR

Summary: Application Construction Notice of Duke Energy Ohio, Inc. Collinsville Transmission Line Relocation Project OPSB Case No. 22-468-EL-BNR electronically filed by Mrs. Tammy M. Meyer on behalf of Duke Energy Ohio Inc. and D'Ascenzo, Rocco and Kingery, Jeanne W. and Akhbari, Elyse Hanson and Vaysman, Larisa