AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY

CONSTRUCTION NOTICE

DOBBINS-TORONTO 138kV-TRANSMISSION LINE TOWER REPLACEMENT PROJECT

OPSB Case No.: 26-0141-EL-BNR

May 19, 2026

American Transmission Systems, Incorporated
341 White Pond Drive
Akron, Ohio 44320

CONSTRUCTION NOTICE
DOBBINS-TORONTO 138 kV TRANSMISSION LINE-
TOWER REPLACEMENT PROJECT

The following information is being provided in accordance with Chapter 4906-6 of the Ohio Administrative Code ("Adm.Code") for the application and review of Accelerated Certificate Applications. Based upon the requirements found in Appendix A to Adm.Code 4906-1-01, this Project qualifies for submittal to the Ohio Power Siting Board ("OPSB") as a Construction Notice application.

4906-6-05(B): CONSTRUCTION NOTICE REQUIREMENTS

4906-6-05(B)(1): Name and Reference Number

Name of Project: Dobbins-Toronto 138 kV Transmission Line-Tower Replacement Project ("Project")

Reference Number: 2001-4

4906-6-05(B)(1): Brief Description of Project

In this Project, American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, proposes to replace a steel lattice structure, Structure No. 8118, on the existing six-wired Dobbins–Toronto 138 kV Transmission Line with two new single steel monopole structures on concrete foundations, installed on the existing transmission line centerline in existing right-of-way ("ROW"). The lattice tower has experienced creek-related erosion, resulting in full exposure of one tower leg and jeopardizing a second tower leg. To address this condition and maintain system reliability, one steel monopole structure, (Structure No. 8118), will be located approximately 328 feet south of existing structure No. 8118, and the other steel monopole structure, (Structure No. 8118A), will be located 499 feet north of existing structure No. 8118. The existing conductor and shield wire will be transferred to the new structures. Following completion of the structure installation, the existing lattice tower will be removed.

The Project is in Fairfield and Elkrun Townships, Columbiana County, Ohio. The general location of the Project is shown in **Exhibit 1**, a partial copy of the United States Geologic Survey ("USGS") Topographic Map, Columbiana County, OH, Quad Map. **Exhibit 2** is a partial copy of ESRI aerial imagery. The general layout of the Project is shown in **Exhibit 3**.

4906-6-05(B)(1): Construction Notice Requirement

The Project meets the requirements for a Construction Notice application because the Project is within the types of projects defined by Item (2)(a) of the Application Requirement Matrix for Electric Power Transmission Lines. Appendix A of Adm.Code 4906-1-01. This item states:

> *(2) Adding new circuits on existing structures designed for multiple circuit use, replacing conductors on existing structures with larger or bundled conductors, adding structures to an existing transmission line, or replacing structures with a different type of structure, for a distance of:*
>
> *(a) Two miles or less.*

The proposed Project is within the requirements of Item (2)(a) because it involves the replacement of a transmission structure with a different type of structure for less than two miles.

4906-6-05 (B)(2): Need for the Project

The proposed Project is needed to replace an existing steel lattice structure, No. 8118, due to extensive erosion on two of the four tower legs on the eastern side of the structure**.** One tower leg is fully exposed and located within Little Bull Creek. This tower leg is showing accelerated deterioration due to being located within the water. A second leg is at risk of becoming exposed as this creek continues to erode the existing creek bank. As compared to the existing steel lattice structure, which was installed in 1925, the proposed monopoles meet the statutory definition of "advanced transmission

technology" because they are "hardware technologies that increase the *** reliability or safety of an existing *** transmission system." R.C. 4906.01(M) (as amended by House Bill 15).

4906-6-05(B)(3): Location of the Project Relative to Existing or Proposed Lines

The location of the Project relative to existing or proposed transmission lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of the FirstEnergy Corp. 2025 Long-Term Forecast Report ("LTFR"). This map was submitted to the Public Utilities Commission of Ohio ("PUCO") in Case No. 25-0504-EL-FOR under Adm.Code 4901:5-5:04 (C)(2)(b). The map is incorporated by reference only. This Project is not included in the 2025 LTFR because the Project does not entail any topology or rating change.

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

The only alternative considered was creek bank restoration, which would have required realignment of the creek and installation of erosion protection at both compromised foundation legs. This alternative was rejected due to the age of the structure (installed in 1925) and the significant resulting environmental impact to the creek.

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

ATSI's manager of External Affairs will advise local officials of the features and the status of the proposed Project, as necessary. ATSI will maintain a copy of this Construction Notice, along with other Project information, on FirstEnergy's website: https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

Finally, during all phases of this Project, the public may contact ATSI through the transmission projects hotline at 1-888-311-4737 or via email at: transmissionprojects@firstenergycorp.com where the public may ask questions or leave comments on the Project for ATSI.

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

Construction on the Project is expected to begin as early as August 17, 2026, and be completed and placed in-service by December 14, 2026.

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

Exhibit 1 provides a partial copy of the USGS Topographic Map, Columbiana County OH, Quad Map. **Exhibit 2** is a copy of ESRI aerial imagery of the Project area. The general layout of the Project is shown in **Exhibit 3**.

4906-6-05(B)(8): Properties List

The Project is located within existing right-of-way on parcel 16-00539.000, the same property as existing structure No. 8118. No new easements will be required.

4906-6-05(B)(9): TECHNICAL FEATURES OF THE PROJECT

4906-6-05(B)(9)(a): Operating Characteristics

The transmission line construction will have the following characteristics:

Voltage:	138 kV
Conductors:	Existing 138 kV – (3) 795 kcmil 26/7 ACSR Existing 138 kV – (3) 300 kcmil 19-Strand Copper
Shield Wire:	Existing– 134.6 kcmil 12/7 ACSR
Insulators:	Porcelain
ROW Width:	200 feet
Land Requirements:	Existing
Structure Types:	**Exhibit 4**: 138 kV Double Circuit Tubular Steel Suspension Structure on a Drilled Pier Concrete Foundation (Qty. 2)

4906-6-05 (B)(9)(b): Electric and Magnetic Fields

There are no occupied residences or institutions within 100 feet of the Project and therefore no Electric and Magnetic Field ("EMF") calculations are required by this code provision.

4906-6-05(B)(9)(c): Estimated Cost

The estimated cost for the proposed Project is $812,000. Although not statutorily required for approval, at the request of OPSB Staff, ATSI confirms that the estimate is a Class 4 estimate and that ATSI's costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

4906-6-05(B)(10): SOCIAL AND ECOLOGICAL IMPACTS

4906-6-05(B)(10)(a): Land Uses

The Project is located in Fairfield and Elkrun Township, Columbiana County, Ohio. The main land use in the Project area is maintained transmission line ROW and open field. No significant changes or impacts to the current or future land use are anticipated.

4906-6-05(B)(10)(b): Agricultural Land

Agricultural land does not exist within the Project's Area of Potential Effect ("APE").

4906-6-05 (B)(10)(c): Archaeological or Cultural Resources

As part of the investigation for this Construction Notice, TRC Environmental Corporation, ("TRC") submitted a request to the Ohio Historic Preservation Office (SHPO) on behalf of ATSI to review and provide comments for the Project Study Area (Area of Potential Effects or APE) with a one (1)-mile search radius. On January 12, 2026, SHPO replied to the request and the response is attached as **Exhibit 5**. SHPO concurred that the Project, as proposed, will have no effect on historic properties and no cultural resource studies are warranted. No further coordination is required for this Project unless the scope of work changes or archaeological remains are discovered during the Project's completion.

The SHPO database also includes listings on the Ohio Historic Inventory (OHI), the Ohio Archaeological Inventory (OAI), previous cultural resource surveys, and the Ohio Genealogical Society (OGS) cemetery inventory. The search identified two (2) above-ground historic resources that have not yet been evaluated for NRHP eligibility and one (1) OGS cemetery that are mapped within one (1)-mi of the Project.

The SHPO database includes a catalog of all historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP), including districts, sites, building, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The results of the search identified one (1) NRHP above-ground historic district, Hiram Bell Farmstead (Reference No.: 99001496), located 0.16-mile to west of the Project.

In addition, one (1) archaeological survey has been completed within one (1)-mi of the proposed project area. The survey does not overlap with the Project Study Area or APE. No archaeological sites are recorded within one (1)-mi of the Project Study Area.

4906-6-05 (B)(10)(d): Construction Filings with Local, State and Federal Governmental Agencies

Coordination with ODOT will be necessary to obtain a right-of-way permit if maintenance of the existing driveway from the north side of OH-517 is required. Less than one (1) acre of earth disturbance is proposed in the Project scope. Therefore, a submittal of a Notice of Intent (NOI) application to the Ohio EPA will not be required for coverage under the general construction stormwater permit (OHC000006), and a Storm Water Pollution Prevention Plan (SWPPP) will be submitted to the Columbiana Soil & Water Conservation District (CSWCD) and the Columbiana County Engineer's office. The Project scope is not proposed within a 100-year FEMA floodplain and therefore will not require a Floodplain Hazard Development Permit. All permitting and/or coordination necessary to comply with local, state, and federal agencies with jurisdiction regarding this Project will be completed prior to the commencement of construction. A list of potential government agency requirements is provided in **Table 1** below.

Table 1. List of Government Agency Requirements

Agency	Requirement
Ohio EPA	General NPDES Construction Storm Water Permit OHC000006
Columbiana County Soil & Water Conservation District	SWPPP Review
Columbiana County Engineer's office	SWPPP Review
ODOT	ROW Permit
NWP-57 (USACE)	Utility Line General Permit

A separate NWP 57 – Electric Utility Line and Telecommunications will be utilized for the planned structure replacements. NWP 57 authorizes the construction of access roads for the construction and maintenance of electric utility lines or telecommunication lines, including overhead lines and substations, in nontidal waters of the United States, provided the activity does not cause the loss of greater than 0.5-acre of waters of the United States. Permanent impacts for the planned structure replacements will be less than 0.1-acre.

Nationwide Permit Regional General Conditions were reviewed regarding this Project. This Project is in Fairfield and Elkrun Townships, Columbiana County, Ohio and within the USACE Pittsburgh Regulatory District. Fairfield Township is listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species). Therefore, a Section 404 PCN to USACE is required as a part of the permit package application for both the NWP 6 and NWP 57. It is anticipated that due to the nature of the Project, jurisdictional resources will be temporarily impacted by the proposed Project activity. Permanent impacts for the planned structure replacements will be less than 0.1-acre. A Section 404 NWP 6 PCN Application was submitted to USACE for the proposed exploratory geotechnical borings and was received on February 25, 2026.

4906-6-05 (B)(10)(e): Endangered, Threatened, Rare and Designated Species Investigation

TRC submitted a request to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review. As part of the Environmental Review, the Ohio Department of Natural Resources (ODNR) Office of Real Estate searches the ODNR Division of Wildlife (DOW) Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project Study Area. The ODNR's Office of Real Estate's response dated January 6, 2026, stated that there are no records of state and/or federally listed plants or animals located within a one (1) mile radius of the Project Study Area. ODNR's response indicated that the Project is within the range of 11 state and/or federally listed animal species. A copy of ODNR's Office of Real Estate's response is included as **Exhibit 6**. A list of all endangered, threatened, and rare species, as identified by ODNR, within the range of the Project is provided in **Table 2.**

Table 2. List of Endangered and Threatened Species within Range of Project Study Area

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Amphibian				
Eastern hellbender	*Cryptobranchus alleganiensis alleganiensis*	Species of concern	Endangered	Perennial streams with large flat rocks.
Bird				
Northern harrier	*Circus hudsonius*	N/A	Endangered	Marshes and grasslands.
Fish				
Gilt darter	*Percina evides*	N/A	Endangered	Perennial streams.
American eel	*Anguilla rostrata*	N/A	Threatened	Perennial streams.
Channel darter	*Percina copelandi*	N/A	Threatened	Perennial streams.
River darter	*Percina shumardi*	N/A	Threatened	Perennial streams.
Mammals				
Indiana Bat	*Myotis sodalis*	Endangered	Endangered	Trees, forests, caves, and caverns.
Little Brown Bat	*Myotis lucifugus*	N/A	Endangered	Trees, forests, caves, and caverns.

Northern Long-eared Bat	*Myotis septentrionalis*	Endangered	Endangered	Trees, forests, caves, and caverns.
Tricolored Bat	*Perimyotis subflavus*	Proposed Endangered	Endangered	Trees, forests, caves, and caverns.
Reptile				
Eastern massasauga	*Sistrurus catenatus*	Threatened	Endangered	Wet prairies, fens, and other wetlands, as well as drier upland habitat.

Based on the information received from correspondence with ODNR, the Project is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. These bat species predominantly roost in trees behind loose, exfoliating bark, in crevices, and cavities, or in the leaves. These species are dependent on the forest structure surrounding the roost tress. The DOW recommended a desktop bat hibernaculum assessment to be completed for the Project, which TRC completed for ATSI and submitted to ODNR for concurrence on January 20, 2026. ODNR responded on January 21, 2026**, Exhibit 7**, concurring that no caves, cliffs, or mine openings occur in the Project Study Area. Furthermore, ODNR stated that because the Project does not involve blasting or impacting the bedrock, the Project is not likely to impact hibernating bats that may be present in the nearby underground mines. In assessing compliance with NWP General Condition 18, TRC determined that tree clearing is not anticipated within the Project Study Area; therefore, no impacts to bat species are anticipated as a result of the construction of this Project.

The Project is also within the range of the following listed fish species: one (1) state endangered species: gilt darter (*Percina evides*); and three (3) state threatened species: the American eel (*Anguilla rostrata*), channel darter (*Percina copelandi*), and river darter (*Percina shumardi*). The DOW recommends no in-water work in perennial streams from March 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. Since no in-water work is proposed in a perennial stream, this Project will not impact these or other aquatic species.

The Project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and federally threatened species. This species is known to inhabit wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat within the Project Study Area, and the type of work proposed, this Project is not likely to impact this species.

The Project is within range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered salamander species and federal species of concern. Due to the location, and that the on-site perennial stream is not of sufficient size to provide suitable habitat, this Project is not likely to impact this species.

The Project is within the range of the northern harrier (*Circus hudsonius*), a state endangered bird. Nesters occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. Construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. The Project Study Area contains wetland habitat, which supports animals that can be used for prey by the northern harrier. Due to the degree of human disturbance observed within the Project Study Area, it is unlikely the northern harrier would occupy a region within the Project Study Area. As a result, it is not likely this species will be impacted by activities associated with this Project.

In addition, TRC submitted a request to USFWS on December 15, 2025, to research the presence of any endangered, threatened, rare, or designated species within the Project Study Area. A copy of the USFWS' response, dated December 16, 2025, is included as **Exhibit 8**. Due to the Project, type, size, and location, no adverse effects are anticipated to federally endangered, threatened, or proposed species or proposed or designated critical habitat.

4906-6-05 (B)(10)(f): Areas of Ecological Concern

TRC performed field investigations to identify and delineate wetlands and waterbodies for the Project, as shown in **Exhibit 9.** The Project Study Area is 6.85-acre in Fairfield

and Elkrun Townships, Columbiana County, Ohio. One (1) emergent wetland and two (2) streams were identified during field investigations. The streams identified within the Project Study Area include the perennial stream Little Bull Creek and an unnamed tributary to Little Bull Creek, an intermittent channel.

The Project Study Area consists of an existing, maintained utility ROW within residential and agricultural land use and a minor amount of forested habitat. TRC did not observe the presence of any of the ODNR or federally listed species during the field investigations due to the highly maintained nature of the utility ROW and agricultural land use; therefore, no impacts are anticipated to any of the listed species detailed in the ODNR correspondence.

The Limits of Disturbance (LOD) will be completely within the Project Study Area and will temporarily impact the emergent wetland feature with timber matting for access. The proposed Project will utilize an existing gravel access road and timber matting for avoidance of permanent impacts to the emergent wetland. Nationwide Permit (NWP) 57 - Electric Utility Line and Telecommunications Activities (effective March 15, 2026, valid through March 15, 2031), authorizes survey activities, such as core sampling, seismic exploratory operations, plugging of seismic shot holes and other exploratory type bore holes, exploratory trenching, soil surveys, sampling, sample plots or transects for wetland delineations, and historic resources surveys. This NWP authorizes the construction of temporary pads, provided the discharge of dredged or fill material does not exceed 1/10-acre in waters of the U.S.

A review of the USGS Protected Areas Database (www.usgs.gov/programs/gap-analysis-project/science/protected-areas) revealed no conservation easements or protected areas within the Project Study Area. The National Conservation Easement Database is no longer in use due to the database no longer being actively updated and supported.

4906-6-05(B)(10)(g): Other Information

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the National Electrical Safety Code ("NESC") as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

No other or unusual conditions are expected that will result in significant environmental, social, health or safety impacts.

4906-6-07: Documentation of Construction Notice Transmittal and Availability for Public Review

This Construction Notice (CN) application is being provided concurrently with its docketing with the Board to the following officials.

Columbiana County

Mike Halleck
Columbiana County Commissioner
105 S. Market St.
Lisbon, OH 44432
mhalleck@cccommissioners.org

Roy Paparodis
Columbiana County Commissioner
105 S. Market St.
Lisbon, OH 44432
rpaparodis@cccommissioners.org

Tim Ginter
Columbiana County Commissioner
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tginter@ccommissioners.org

Bert Dawson, P.E., P.S.
Columbiana County Engineer
235 S. Market Street
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engineer@cceng.org

Pete Conkle
Columbiana County SWCD
District Program Administrator
1834-B S. Lincoln Ave.
Salem, OH 44460
Pete.conkle@oh.nacdnet.net

Fairfield Township

Bob Hum II
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3062 Fairfield School Road
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Adam Booth
Fiscal Officer
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Elkrun Township

Randy Perrino
Chair-Trustee
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Lisbon, OH 44432
elkruntownship@att.net

Anthony Sweeney
Trustee
41725 SR 154
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Kurt Seacrist
Trustee
41725 SR 154
Lisbon, OH 44432
elkruntownship@att.net

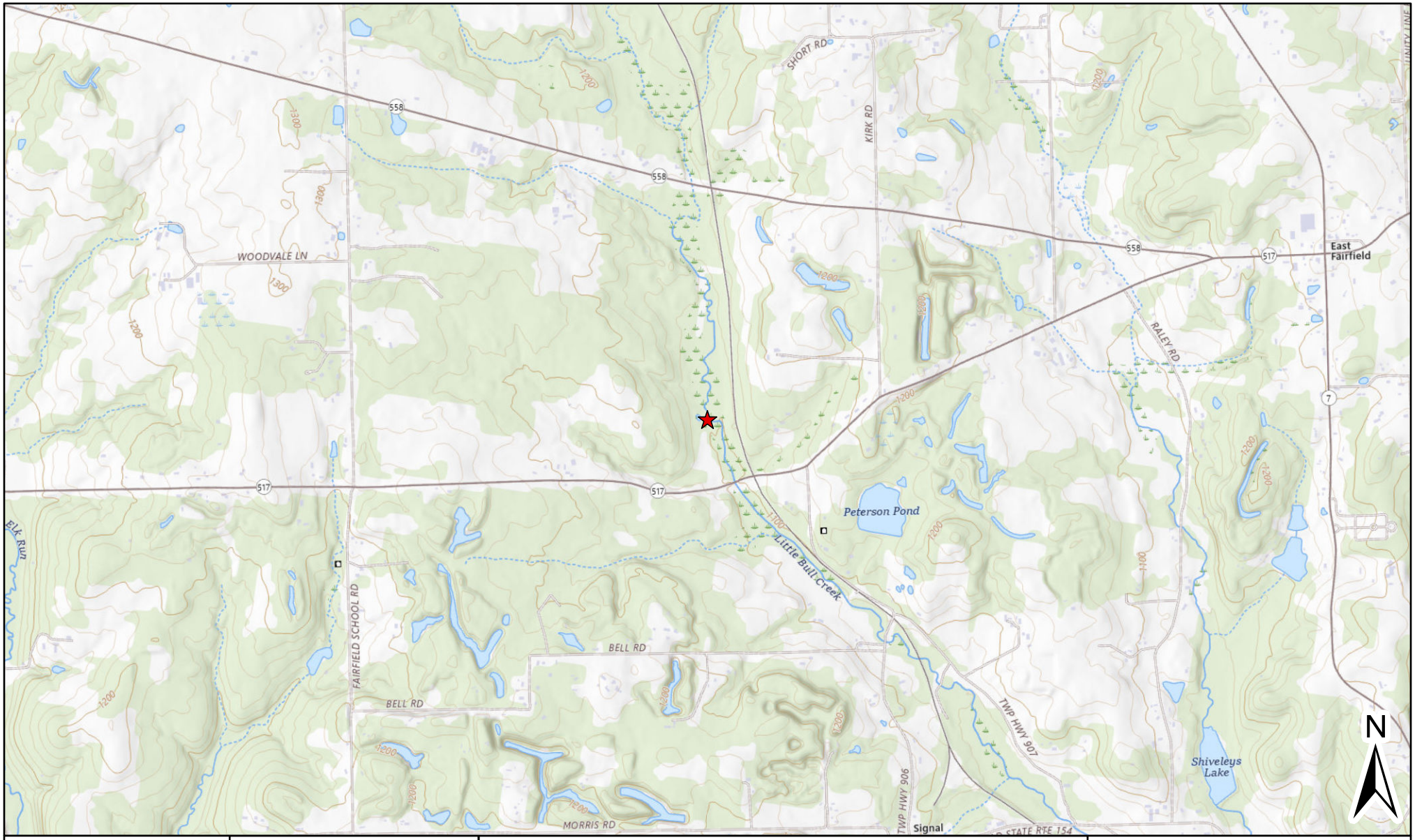
Tracey Wonner
Fiscal Officer
41725 SR 154
Lisbon, OH 44432
elkruntownship@att.net

Library

Kathy Bennett
Director
Columbiana Public Library
332 North Middle Street
Columbiana, OH 44408
director@columbiana.lib.oh.us

Copies of the transmittal letters to these officials have been included with this application as proof of compliance under Adm.Code 4906-6-07(B) to provide the Board with proof of notice to local officials as required by Adm.Code 4906-6-07(A)(1) and to libraries per Adm.Code 4906-6-07(A)(2).

Information is posted at:
https://www.firstenergycorp.com/about/transmission_projects/ohio.html on how to request an electronic or paper copy of this Construction Notice application. The link to this website is being provided to meet the requirements of Adm.Code 4906-6-07(B) and to provide the Board with proof of compliance with the notice requirements in Adm.Code 4906-6-07(A)(3).



Legend

★ Project Location

0 1,000 2,000 4,000

Feet

Reference Scale: 1:24,000

References:
ESRI Aerial Imagery, USGS National Map, ODOT

Coordinate System:
NAD 1983 2011 StatePlane Ohio North FIPS 3401 Ft US

ATSI®

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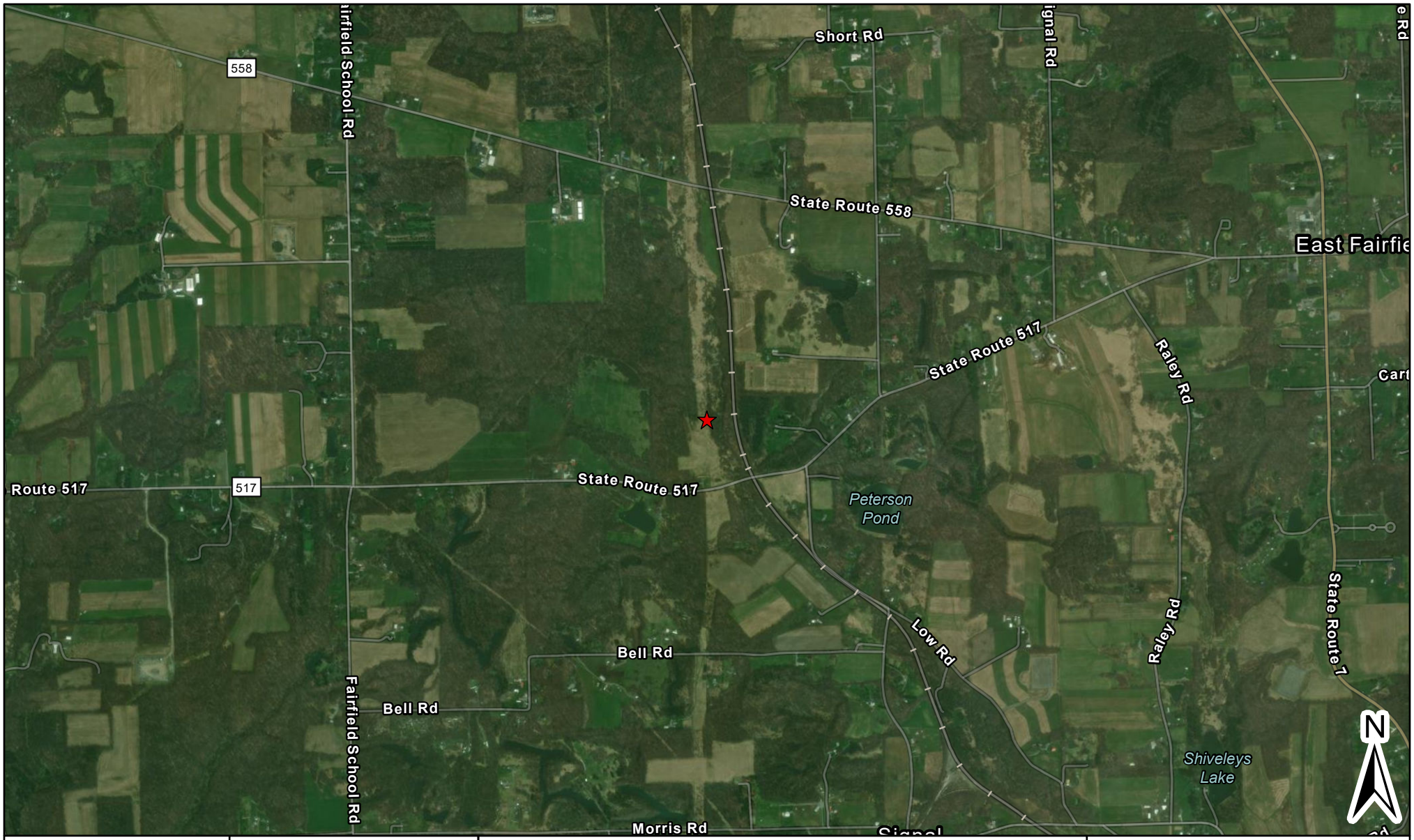
Dobbins-Toronto 138 kV - Transmission Line - Tower Replacement Project

EXHIBIT 1



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Reference Scale: 1:24,000

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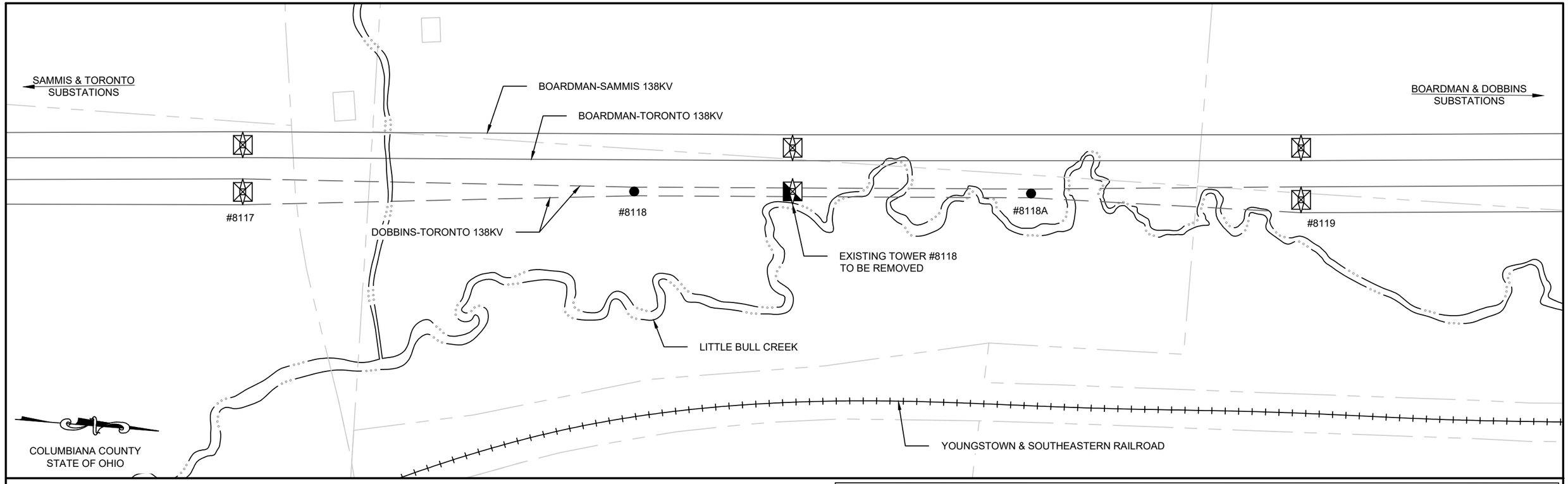
Dobbins-Toronto 138 kV - Transmission Line - Tower Replacement Project

EXHIBIT 2



LEGEND

- PROPOSED TRANSMISSION STRUCTURE
- EXISTING LATTICE TOWER
- EXISTING LATTICE TOWER TO BE REMOVED
- RAILROAD
- BUILDING
- PROPERTY LINE
- EXISTING TRANSMISSION LINE
- EXISTING TRANSMISSION LINE TO BE TRANSFERED
- WATER'S EDGE

0' 200' 400'

VERTICAL SCALE IN FEET

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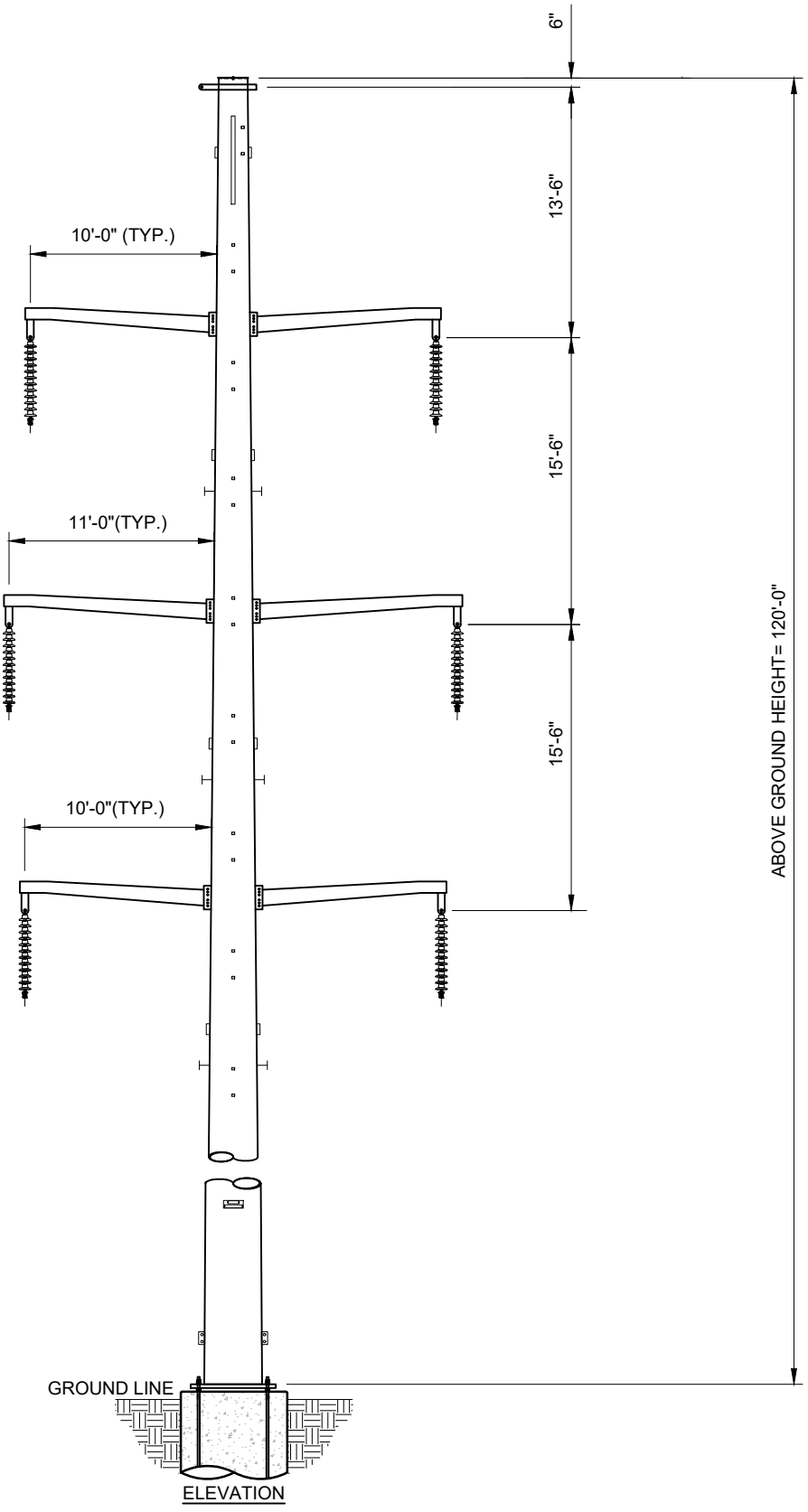
DOBBINS-TORONTO 138KV
REPLACE TOWER #8118

GENERAL PROJECT LAYOUT

EXHIBIT 3



ELEVATION

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Dobbins-Toronto 138 kV - Transmission Line - Tower Replacement Project

138KV DOUBLE CIRCUIT TUBULAR STEEL SUSPENSION SINGLE POLE STRUCTURE

EXHIBIT 4

SCALE: N.T.S.

EXHIBIT 5

In reply refer to:
2024-COL-60071

January 12, 2026

Justin McKissick, MA, RPA
Senior Archaeologist/Project Manager
TRC Environmental Corporation
317 E Carson Street, Suite 113
Pittsburgh, PA 15219
Email: JMcKissick@trccompanies.com

RE: Section 106 Review: Dobbins-Toronto 138kV Tower Replacement Project, Elkrun and Fairfield Townships, Columbiana County, Ohio

Dear Mr. McKissick:

This letter is in response to the correspondence received on December 15, 2025, regarding the above-referenced project in Columbiana County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code (O.R.C.) and the Ohio Power Siting Board rules for siting this project. The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The SHPO originally reviewed and commented on this project on January 17, 2024. However, since that time the scope of the project has changed to include an expansion of the Area of Potential Effect (APE) to accommodate geotechnical borings. The APE has expanded from 0.72-acres to 6.85-acres. Based on the information submitted by you and a check of our records, no historic properties, districts, or archaeological sites are located within the APE. Therefore, based on this information coupled with the presence of poorly drained soils, it is the SHPO's opinion that no cultural resource studies are warranted for this portion of the project. Furthermore, as proposed, the project will have no effect on historic properties. No further coordination is required for this project unless the scope of work changes again or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as required by 36 CFR § 800.13. If you have any questions concerning this review, please contact me via email at sbiehl@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Stephen M. Biehl

Stephen M. Biehl, Project Reviews Manager-Archaeology
Resource Protection and Review
State Historic Preservation Office

RPR Serial No. 1112137

"Please be advised that this is a Section 106 decision. This review decision may not extend to other SHPO programs."

Department of Natural Resources
ohiodnr.gov

EXHIBIT 6

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

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

January 6, 2026

Emma Given
TRC Companies, Inc.
781 Science Boulevard, Suite 200
Gahanna, Ohio 43230

Re: 25-1970_Dobbins-Toronto 138kV Tower Replacement

Project: The proposed project involves exploratory geotechnical boring to learn about subsurface conditions for planned transmission line structure replacements.

Location: The proposed project is located in Elkrun and Fairfield townships, Columbiana County, Ohio.

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

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

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

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

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

The entire state of Ohio is within the range of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a state endangered species, and the tricolored bat (*Perimyotis subflavus*), a state endangered species. During the spring and summer

(April 1 through September 30), these species of bats predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in clusters of dead leaves on tree limbs. However, these species are also dependent on the forest structure surrounding roost trees. If trees are present within the project area, and trees must be cleared, the DOW recommends tree and/or tree limb clearing only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with a Diameter Breast Height (DBH) ≥ 20" if possible. If trees are present within the project area, and trees and/or tree limbs must be cleared 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 clearing. Mist net and acoustic surveys should be conducted in accordance with the most recent version of the OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS. If state-listed bats are documented, DOW recommends tree clearing only occur from October 1 through March 31. However, limited summer tree clearing may be acceptable after consultation with the DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

For every project, the DOW also recommends that a winter bat habitat assessment is conducted to determine if potential hibernacula are present within the project area. This is to limit possible disturbances that seasonal tree clearing and/or subsurface work (e.g., trenching, blasting, etc.) may cause to hibernating bats. Potential hibernacula include rocky outcroppings, caves, and underground mines. Direction on how to conduct winter habitat assessments can be found in the joint guidance linked above. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile permanent tree clearing buffer around the hibernaculum entrance. Limited summer or winter tree clearing may be acceptable after consultation with the DOW. If a habitat assessment for projects involving subsurface disturbance finds that a potential hibernaculum is present within 5 miles of the project area, please consult with Eileen Wyza for project recommendations. If no tree clearing or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2025), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the gilt darter (*Percina evides*), a state endangered fish, the American eel (*Anguilla rostrata*), a state threatened fish, the channel darter (*Percina copelandi*), a state threatened fish, and the river darter (*Percina shumardi*), 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 eastern massasauga (*Sistrurus catenatus*), a state endangered and a federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. 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 eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. This long-lived, entirely aquatic salamander inhabits perennial streams with large flat rocks. In-water work in hellbender streams can reduce availability of large cover rocks and can destroy hellbender nests and/or kill adults and juveniles. The contribution of additional sediment to hellbender streams can smother large cover rocks and gravel/cobble substrate (used by juveniles), making them unsuitable for refuge and nesting. Projects that contribute to altered flow regimes (e.g., by increasing areas of impervious surfaces or modifying the floodplain) can also adversely affect hellbender habitat. Due to the location, this project is not likely to impact this species.

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

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

Water Resources: The Division of Water Resources has not conducted a project specific review and/or comments, however, the guidance provided below should be reviewed by the Environmental Review applicant for applicability on this project and subsequent compliance.

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

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

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

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

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

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

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

EXHIBIT 7

From: Eileen.Wyza@dnr.ohio.gov
To: Given, Emma
Cc: Molnar, Maggie; Falkinburg, Brad; kaadolph@burnsmcd.com
Subject: RE: [EXTERNAL] 25-1970_TRC - Dobbins-Toronto 138kV Tower Replacement - ODNR Comments
Date: Wednesday, January 21, 2026 10:31:58 AM
Attachments: image003.png
image005.png
image006.png
image007.png
image008.png
image009.png
image010.png
image001.png

Hello Emma,

Per review of the desktop survey provided for the Dobbins-Toronto 138kV Tower Replacement Project, the Ohio Division of Wildlife concurs with your assessment that no caves, cliffs, or mine openings occur in the project area. Additionally, because the project does not involve blasting or impacting the bedrock, the project is not likely to impact hibernating bats that may be present in the nearby underground mines.

Should any reported conditions change before or during construction, please contact me for additional guidance.

Thank you,

Eileen Wyza, Ph.D.
(she/her/hers)
Wildlife Biologist
Ohio Division of Wildlife
Phone: 614-265-6764
Email: Eileen.Wyza@dnr.ohio.gov

From: Given, Emma <EGiven@trccompanies.com>
Sent: Tuesday, January 20, 2026 12:44 PM
To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>
Cc: Molnar, Maggie <MMolnar@trccompanies.com>; Falkinburg, Brad <BFalkinburg@trccompanies.com>; kaadolph@burnsmcd.com
Subject: RE: [EXTERNAL] 25-1970_TRC - Dobbins-Toronto 138kV Tower Replacement - ODNR Comments

Hi Eileen,

In response to ODNR's DOW recommendations (attached), TRC completed a desktop habitat assessment to determine if potential hibernaculum is present within FirstEnergy's proposed Dobbins-Toronto 138kV Tower Replacement Project located in Fairfield and Elkrun Townships, Columbiana County, Ohio.

Please let us know if you have any questions on the provided desktop assessment.

Thank you,

Emma Given, Ph.D., PWS
Ecologist
Planning, Permitting, and Licensing

TRC

1382 W 9th St, Suite 400, Cleveland, OH 44113
C 330.446.0265 | Egiven@trccompanies.com
LinkedIn | Instagram | TRCcompanies.com

From: EnvironmentalReviewRequest@dnr.ohio.gov <EnvironmentalReviewRequest@dnr.ohio.gov>
Sent: Tuesday, January 6, 2026 5:20 PM
To: Given, Emma <EGiven@trccompanies.com>
Cc: Molnar, Maggie <MMolnar@trccompanies.com>; Falkinburg, Brad

<BFalkinburg@trccompanies.com>; kaadolph@burnsmcd.com
Subject: [EXTERNAL] 25-1970_TRC - Dobbins-Toronto 138kV Tower Replacement - ODNR Comments

Please see the attached ODNR Environmental Review comment letter for your Environmental Review request.

Any questions regarding the letter should be directed to Mike Pettegrew at mike.pettegrew@dnr.ohio.gov.

Thank you,

Mike Pettegrew
Environmental Services Administrator
Ohio Department of Natural Resources, Office of Real Estate & Land Management
2045 Morse Road, Building E-2
Columbus, Ohio 43229
Office: (614) 265-6387
mike.pettegrew@dnr.ohio.gov
https://ohiodnr.gov/wps/portal/gov/odnr/discover-and-learn/safety-conservation/about-ODNR/real-estate/environmental-review/

EXHIBIT 8

United States Department of the Interior

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

December 16, 2025

Project Code: 2024-0007631

Dear Dr. Given:

The U.S. Fish and Wildlife Service (Service) 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 effects 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, and location, we do not anticipate any effect to federally endangered, threatened, or proposed species or proposed or designated critical habitat. If there are any project modifications during the term of this action, or additional information for listed or proposed species or their critical habitat becomes available, or if new information reveals effects of the action that were not previously considered, then please contact us for additional project review.

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

Sincerely,

Erin Knoll
Field Office Supervisor

EXHIBIT 9

Surface Water Delineation Report

Dobbins-Toronto 138kV Tower Replacement Project

December 2025

Project Manager: Brad Falkinburg, PWS
Phone: (440) 666-2890
Email: BFalkinburg@trccompanies.com

Elkrun Township and Fairfield Township, Columbiana County, Ohio

Prepared For:

FirstEnergy Corporation
341 White Pond Drive, Building B3
Akron, Ohio 44320

Prepared By:
TRC Environmental Corporation
1382 West Ninth Street, Suite 400
Cleveland, Ohio 44113

TRC Project Number: 664675 Phase 4

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TABLES

APPENDICES

ACRONYMS AND DEFINITIONS

1987 Manual	United States Army Corps of Engineers 1987 Wetland Delineation Manual
APT	Antecedent Precipitation Tool
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FirstEnergy	FirstEnergy Corporation
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
OAC	Ohio Administrative Code
OBL	Obligate Wetland
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary High-Water Mark
ORAM	Ohio Rapid Assessment Method
Project	Dobbins-Toronto 138kV Tower Replacement Project
Project Study Area	6.85 acres, located in Elkrun Township and Fairfield Township, Columbiana County, Ohio
QHEI	Qualitative Habitat Evaluation Index
Redox	Redoximorphic
Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)
Report	Surface Water Delineation Report
TRC	TRC Environmental Corporation
UPL	Obligate Upland
USACE	United States Army Corps of Engineers
USDA-NRCS	United States Department of Agriculture – Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
WWH	Warmwater Habitat

1.0 Introduction

On behalf of FirstEnergy Corporation (FirstEnergy), TRC Environmental Corporation (TRC) performed a surface water delineation for the Dobbins-Toronto 138kV Tower Replacement Project (Project). The proposed Project Study Area is 6.85 acres and is located in Elkrun Township and Fairfield Township, Columbiana County, Ohio. The proposed Project involves exploratory geotechnical boring to learn about subsurface conditions within the Project Study Area. This information will be used to enhance the stability and safety of the planned transmission line structure replacements. On behalf of FirstEnergy, TRC has prepared this Surface Water Delineation Report (Report) for the Project. A site location map of the Project Study Area can be found in **Appendix A, Figure 1.**

TRC personnel performed field investigations to evaluate and delineate surface water resources (i.e., wetlands and streams) located within the Project Study Area on June 28, 2023, and October 19, 2023. The delineations were conducted by qualified wetland scientists in accordance with the United States Army Corps of Engineers (USACE) parameters. The objective was to evaluate and delineate potential surface water resources within the Project Study Area, such that the resources could be considered during each phase of the Project. This Report describes the surface water delineation methodology implemented and the existing surface water resources identified within the Project Study Area during field investigations.

The Project Study Area is located at the following northern terminus coordinates: 40.8186296, -80.6702595 and southern terminus: 40.8127373, -80.6698310, and is located in Elkrun Township and Fairfield Township in Columbiana County, Ohio. The Project Study Area consists of an existing, maintained, utility right-of-way (ROW) and is surrounded by residential, agricultural, and undeveloped (forested) habitat. Based upon review of available historic aerial imagery (1985-2004), land use surrounding the Project Study Area in years prior to the field investigations was dominated by forested habitat and agricultural and residential land use. The existing, maintained utility ROW is observed in 1985 historical arial mapping. Access to the Project Study Area will be used to conduct exploratory geotechnical boring. The Project Study Area will be accessed along the roadway ROW, through existing, maintained FirstEnergy ROW, and via an existing gravel access road. **Appendix A, Figure 1** and **Figure 2,** provide further information on the location of the proposed Project Study Area.

1.1 Statement of Qualifications

TRC has extensive experience managing and conducting wetland delineations and threatened and endangered species habitat surveys across the United States. TRC's biologists and ecologists have been trained to properly and consistently apply the methods set forth in the 1987 Corps of Engineers *Wetland Delineation Manual (1987 Manual)* (USACE, 1987) and applicable regional supplement. They have direct experience identifying and documenting indicators of hydrophytic vegetation, wetland hydrology, and hydric soil and are experienced in dealing with naturally problematic and disturbed conditions. Additionally, they are experienced in reviewing and identifying appropriate habitat conditions for threatened and endangered species.

Jenna Slabe, PWS is a certified Professional Wetland Scientist (PWS) with seven (7) years of experience as an Ecologist conducting field-based research within a variety of ecosystems. Ms. Slabe contributed to the field investigations and reporting related to this Project. She specializes in stream and wetland delineations, habitat assessments, plant and animal surveys/identification, and waterway permitting. Ms. Slabe has conducted U.S. Army Corps of Engineers protocol wetland delineations in states across the country including Colorado, Iowa, Michigan, Nebraska, New Mexico, North Dakota, Ohio, South Dakota, Texas, Utah, and Wyoming. In the office she supports the preparation and submission of technical reports and permitting documents for transportation, power, mining, oil/gas and renewable energy projects for clients in both the private and public sector. She has completed numerous Section 404 Permit applications including NWP applications, PCN's, and Permit Determinations for ODOT.

Emma Given, Ph.D. is an Ecologist with ten years of diverse experience in natural resources and the environmental field. Emma led the field investigation and authored the delineation report for this Project. She holds her Professional Wetland Scientist credential as certified by the Society of Wetland Scientists and is experienced in USACE aquatic resources delineation and associated reporting. Dr. Given is also experienced in FHWA traffic noise modeling (TNM 2.5), USACE Collision Risk Modeling, USGS Evidence of Absence (V2), ESA post-construction mortality monitoring, and Regulated Materials Review for ODOT. She has authored numerous surface water delineation reports, Section 404 NWP PCNs and NWP compliance documents, ODOT Permit Determinations, threatened and endangered pre- and post- construction monitoring reports, habitat conservation plans, and WVDOH noise studies. She has served as a lead delineator for numerous transmission line and transportation projects. Her research background is in stream and wetland ecosystem function and disturbance dynamics.

Jeffrey Vandeveer, PWS is a Professional Wetland Scientist and contributed to field delineations for this Project. Mr. Vandeveer has ten years of experience performing environmental site assessments, habitat assessments, wetland delineations, and environmental monitoring. He has authored due diligence reports, delineation reports, monitoring reports, USACE Section 401 and Section 404 permit applications, PADEP Chapter 102 and Chapter 105 permit applications. He has provided these services for projects in the renewable energy industry, oil/gas industry, transportation industry, and private residential/commercial industry throughout Pennsylvania, Ohio, New York, West Virginia, and Virginia. Jeff has additional expertise in technical writing, field safety, GIS services, and project management.

2.0 Methodology

To complete the surface water delineation and evaluation of the Project Study Area, TRC followed the guidelines and methods outlined by the USACE and Ohio Environmental Protection Agency (OEPA), as described within this section.

2.1 Wetland Parameters

Delineations were completed following the *1987 Manual* (USACE, 1987) Level 2 Routine Approach *(Part IV, Section D., Subsection 2 - Onsite Inspection Necessary)* for areas equal to or less than 5 acres in size, the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (USACE, 2012) *(Regional Supplement).*

Furthermore, the March 6, 1992 guidance memorandum (Williams, 1992) emphasizes a three-parameter approach to wetland boundary determination in the field. This approach involves the following:

i. Evidence of wetland hydrology;
ii. Presence of hydric soils; and
iii. Predominance of hydrophytic vegetation as defined by the *2022 National Wetland Plant List* (USACE, 2023).

Positive indicators of all three parameters are normally present in wetlands and serve to distinguish between both dry land and transitional plant communities.

2.1.1 Hydrology

The *1987 Manual* and *Regional Supplement* provide guidelines for determining the presence of wetland hydrology. Criteria for wetland hydrology are met if the area is inundated or saturated at the soil surface during the growing season for a time sufficient to develop hydric soils and to support hydrophytic vegetation.

2.1.2 Hydric Soils

Hydric soils are defined as soils "that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil" (Federal Register, 1994). Hydric soil indicators described in the United States Department of Agriculture – Natural Resources Conservation Service's (USDA-NRCS) *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils Version 9.2* (USDA, NRCS, 2025) were used to identify and document hydric soils per the *Regional Supplement*.

2.1.3 Hydrophytic Vegetation

To determine the presence of hydrophytic vegetation, the dominant and non-dominant species in each major vegetative stratum (e.g., tree, shrub/sapling, herbaceous, and woody vine) were identified and recorded.

Plants are placed into indicator status categories depending on their probability of occurring in a wetland in accordance with the USACE's *The National Wetland Plant List: 2022 wetland ratings* (USACE, 2023). There are five indicator status categories for plants:

1. Obligate wetland plants (OBL): plants that occur almost always (>99%) in wetlands in natural conditions, but which may also occur rarely (<1%) in non-wetlands;
2. Facultative wetland plants (FACW): plants that occur usually (>67-99%) in wetlands but also occur (1-33%) in non-wetlands;
3. Facultative plants (FAC): plants with a similar likelihood (33-67%) of occurring in both wetlands and non-wetlands;
4. Facultative upland plants (FACU): plants that occur sometimes (1-<33%) in wetlands, but occur more often (>67-99%) in non-wetlands; and
5. Obligate upland plants (UPL): plants that occur rarely (<1%) in wetlands but occur almost always (>99%) in non-wetlands under natural conditions.

A prevalence of dominant species that are FAC, FACW, and/or OBL indicates the presence of hydrophytic vegetation.

2.2 USACE Wetland Delineation

Qualified wetland scientists from TRC conducted surface water field investigations on June 28, 2023, and October 19, 2023. The surface water field investigations were conducted within the predetermined Project Study Area (**Appendix A, Figure 1**) that was developed in accordance with the Project location information provided by FirstEnergy. Surface water delineations were conducted using the Level 2 Federal Routine Determination Method presented in the *1987 Manual* and *Regional Supplement*, including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams, 1992), and the USACE and Environmental Protection Agency (EPA) guidance on jurisdictional forms (USACE, 2008). USACE Wetland Determination Data Forms – Northcentral and Northeast Region are provided within **Appendix D**.

Hydrology was determined based on a number of indicators that are divided into two categories, primary and secondary. The *1987 Manual* defines hydrology as present when at least one primary indicator or two secondary indicators are identified. One primary indicator is sufficient to determine if hydrology is present; however, if these are absent then two or more of the secondary indicators are required to determine hydrology. If other probable hydrologic evidence was found, then this was subsequently documented on the data form.

Soils were examined in the field by using a tile spade, generally to a depth of at least 22 inches below the soil surface, until refusal, or positive hydric soil indicators were met above 22 inches, whichever was shallower. Soil coloration was identified using a Munsell Soil Color Chart (Munsell Color Company, 2009). Other characteristics, such as the presence of redoximorphic (Redox) concentrations and depletions and soil texture were also recorded. Redox concentrations and depletions are created when the soil is saturated and has anaerobic conditions (without oxygen gas) which leads to changes in the chemical processes in the soil that produce visible color changes in the soil. Hydric characteristics such as organic soil layers, depleted matrix, gleying, and hydrogen sulfide odor, were noted when observed. Soils at both wetland (if present) and dry land data plot locations were characterized and recorded on the data form.

The presence of hydrophytic vegetation was determined using the procedures described in the *Regional Supplement* and recorded on the data form. Vegetation in both dry land and wetland communities was characterized using a real dominance method, with a radius of 30-feet around the soil sample location for trees and woody vines, 15-foot radius for saplings and shrubs, and a 5-foot radius for herbaceous plants. Plant communities meeting the "50/20" Rule or meeting one of the other indicators set forth in the *1987 Manual, Regional Supplement,* and guidance memorandums are considered hydrophytic for the purposes of the wetland classification criteria. In areas where the vegetation was disturbed or not identifiable due to seasonal conditions, soil and hydrology characteristics, and professional judgment/experience were utilized in assessing the primary determining factors for classification as wetlands.

If the soils, hydrology, and vegetation characteristics at a survey point indicated that it was within a wetland, the boundary of the wetland was determined, and the approximate boundary was flagged using wetland flagging and recorded using a handheld Juniper Systems Geode and Trimble R1 with sub-meter accuracy. Areas observed to have problematic or difficult situations were delineated utilizing the procedures identified in the *Regional Supplement*, Section 5 – "Difficult Wetland Situations in the Northcentral and Northeast Region". Data from the Global Positioning System (GPS) survey was downloaded and integrated into a Geographic Information System database for the proposed work areas and used to make the accompanying figures. Identified wetlands were classified according to Cowardin et al. (Cowardin, Carter, Golet, & LaRoe, 1979). Photographs are included in **Appendix C**.

2.3 Ohio Environmental Protection Agency's Ohio Rapid Assessment Method

According to the Ohio Wetland Water Quality Standards, a wetland quality category (Category 1, Category 2, or Category 3) must be assigned for each wetland if a project will require discharge of dredged or fill material into jurisdictional wetlands. In general, Category 1 wetlands are considered to be of "low quality", Category 2 wetlands are considered to be of "moderate quality," and Category 3 wetlands are considered to be of "high quality."

The OEPA has developed the Ohio Rapid Assessment Method (ORAM), which can be utilized to evaluate wetland habitat quality based on the apparent functions and values of the wetland resource. The two primary components of the ORAM are the Narrative Rating and the Quantitative Rating. TRC completed ORAM (Version 5.0) Quantitative Rating forms for all the wetland resources identified within the Project Study Area. Each delineated wetland resource received a provisional category designation based on the results of the ORAM Narrative and Quantitative Ratings and review of narrative criteria in the Ohio Administrative Code (OAC) 3745-1-54(C) (Mack, 2000). OEPA ORAM Rating and Categorization Forms are provided within **Appendix D**.

2.4 USACE Waterbody Identification

During field investigations, other waterbody features including streams, ponds, lakes, etc. were investigated. Streams within the Project Study Area were identified by the presence of an ordinary high-water mark (OHWM) and scoured channel or defined bed and banks. The OHWM was

delineated based on 33 CFR Part 328.3 and 33 CFR 329.4 (as applicable), in accordance with the Regulatory Guidance Letter No. 05-05, and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and* Streams (USACE, 2005; USACE and EPA, 2025). All streams identified in the Project Study Area that were wider than five feet were demarcated via GPS from bank-to-bank. Streams that were less than five feet wide had the centerline demarcated. Streams identified during the course of the investigations were classified as perennial, intermittent, or ephemeral waterways in accordance with the rationale defined by the USACE Pittsburgh Regulatory District.

The Project Study Area was also investigated for areas that were considered "open water" by the USACE. These open waters were also delineated based on their (USACE, 2005). According to the USACE, an open water is an area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an OHWM can be determined. Aquatic vegetation within the area of flowing or standing water is either non-emergent, sparse, or absent. Vegetated shallows are considered to be open waters. Examples of "open waters" may include rivers, lakes, and ponds. Artificial "open water" features may include stormwater retention basins, fish hatchery ponds, drainage tile pump stations, etc.

2.5 OEPA Waterbody Quality Quantification

In addition, streams were evaluated utilizing OEPA approved methods for stream habitat assessment which include the Qualitative Habitat Evaluation Index (QHEI) (OEPA, 2006) (Rankin, 1989) and/or the Headwater Habitat Evaluation Index (HHEI) (OEPA, 2020) assessment method. These approved assessment methods provide an empirical, quantified evaluation of streams as required by the State of Ohio for permitting and mitigation purposes. These methods assess stream habitat to provide a qualitative index (or score) to determine the level of compensatory mitigation that may be needed for impacts to waters of the United States (i.e., streams).

Use of the QHEI or HHEI assessment method is determined based on the size of the stream's drainage area and/or the stream's pool depths. Where coverage was available, the drainage area was calculated using automated basin characteristics from StreamStats v 4.30.0 (USGS, 2019).

2.5.1 Qualitative Habitat Evaluation Index

Following OEPA guidance, streams with a drainage area of greater than 1.0 square mile (2.6 square kilometers) or which have pools with maximum depths over 15.8 inches (40.0 centimeters), as determined by measuring pool depth within the stream, were evaluated using the QHEI. Data on these streams were collected on the QHEI form provided by the OEPA. The QHEI is composed of six principal metrics: substrate, instream cover, channel morphology, riparian zone and bank erosion, pool/glide and riffle-run quality, and map gradient. Each metric is scored separately and summed to obtain the total QHEI score. Using the scoring methods associated with these forms, the stream is placed into the following general narrative ranges, dependent upon stream size; for smaller streams ($\leq$20 sq. mi): Excellent >70, Good 55-69, Fair 43-54, Poor 30-42, and Very Poor <30; for larger streams (>20 sq. mi): Excellent >75, Good 60-74, Fair 45-59, Poor 30-44, and Very Poor <30.

2.5.2 Headwater Habitat Evaluation Index

The HHEI was utilized to score streams with a drainage area of <1.0 square mile (2.6 square kilometers). Data on these streams was collected on the HHEI forms, provided by the OEPA (OEPA, 2020). Observational data regarding the physical nature of the stream corridor including stream flow, riparian zone land use and buffer width, and channel modification was recorded. Measurements included bankfull width, maximum pool depth, and substrate composition.

3.0 Results

3.1 Site Description

The Project Study Area is 6.85 acres located in Elkrun Township and Fairfield Township, Columbiana County, Ohio. The Project Study Area is located within the Little Bull Creek (12-Digit Hydrologic Unit Code (HUC) 05030101 0604) sub-watershed (USGS, 2022).

The Project Study Area is shown on the Elkton, Ohio United States Geological Survey 7.5-minute series topographic quadrangles (**Appendix A, Figure 1**) (USGS, 2023).

There are three (3) United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) features mapped within the Project Study Area. The three (3) NWI features include two (2) freshwater forested/ shrub wetlands and one (1) riverine feature (**Appendix A, Figure 4**) (USFWS, 2023).

The USGS National Hydrography Dataset (NHD) (USGS, 2018) Downloadable Data Collection from The National Map is a comprehensive set of digital spatial data that encodes information about naturally occurring and constructed bodies of surface water (e.g., lakes, ponds, and reservoirs), paths through which water flows (e.g., canals, ditches, streams, and rivers) and related entities such as point features (e.g., springs, wells, stream gages, and dams). There is one (1) NHD streams mapped within the Project Study Area (**Appendix A, Figure 4**).

According to Federal Emergency Management Agency Flood Insurance Rate Map Panel 39029C0210E (eff. 5/2/2012), the Project Study Area is not located within a mapped 100-year floodplain (**Appendix A, Figure 4**) (FEMA, 2024).

The USACE Antecedent Precipitation Tool (APT) Version 3.0 (USACE, 2025) was used to collect 90-day antecedent precipitation data. The following nearby (~15 miles or less) weather stations were used for collecting APT data for the June 28, 2023 and October 19, 2023 field investigations: Beaver Falls 1 NE, New Brighton 3.0 NE, and Montgomery L&D. Compared to historical data, antecedent hydrologic conditions in June 2023 were considered to be drier than normal and the drought index reported incipient drought (USACE, 2025). Compared to historical data, antecedent hydrologic conditions in October 2023 were considered to be normal. Typical conditions for the time of year (wet season) were observed and the drought index also reported normal conditions (USACE, 2025). APT results are provided within **Appendix B**.

Data from the nearest stream or tidal gages within the Project Study Area watershed was also reviewed. The Little Beaver Creek near East Liverpool OH (USGS-03109500) gaging station is located approximately 16 miles downstream of the Project Study Area (USGS, 2025). Over the seven (7) days prior to the June 28, 2023 field investigation, stream gage height ranged from 2.54 to 3.44 ft. Over the seven (7) days prior to the October 19, 2023 field investigation, stream gage height ranged from 2.31 to 3.08 ft. The mean ten-year field measured gage height for this station is 4.04 ft, therefore during both the June and October 2023 investigations, gage height was slightly below this average.

The USDA-NRCS Web Soil Survey (USDA-NRCS, 2016) was used to identify the soil types contained within the Project Study Area (**Appendix A, Figure 3**). **Table 1** provides a summary of the soils identified within proposed Project Study Area.

Table 1. Soils Type Summary

Map Unit Symbol	Map Unit Name	Hydric Status	Acres Within Project Study Area	Percent Cover in Project Study Area
CcC	Canfield silt loam, 6 to 12 percent slopes	Non-Hydric	0.04	0.6%
OdA	Olmsted and Valley soils, 0 to 2 percent slopes	Hydric	2.56	37.4%
ZeA	Zepernick silt loam, 0 to 2 percent slopes, occasionally flooded	Non-Hydric with Hydric Inclusions	4.25	62.0%
		Total	**6.85**	**100.00%**

Notes:
Accessed online December 2025 at: http://websoilsurvey.sc.egov.usda.gov.

3.2 Surface Water Resource Field Delineations

TRC performed field investigations on June 28, 2023 and October 19, 2023. During the 72 hours prior to the June 28, 2023 field investigation, the surrounding area averaged 0.07 inches of rainfall per day, and the average temperature was 64 degrees Fahrenheit. During the 72 hours prior to the October 19, 2023 field investigation, the surrounding area averaged 0.01 inches of rainfall per day, and the average temperature was 48 degrees Fahrenheit. During the field investigations, overall on-site observations of hydrology revealed normal conditions. The results of the APT are discussed in Section 3.1 and can be found in **Appendix B**. Native and non-native herbaceous vegetation was observed within the Project Study Area. The USACE maintains the final authority that determines jurisdiction; therefore, statements about jurisdiction within this Report are preliminary and subject to final determination by the USACE and OEPA.

3.2.1 Wetlands

During the field investigations, one (1) wetland was identified and delineated within the Project Study Area. The delineated wetland boundary and sample points are shown on **Figure 5** in

Appendix A. Representative photographs of sample points and other areas of interest are provided in **Appendix C**. Data was collected and recorded on the USACE Wetland Determination Data Forms – Northcentral and Northeast Region (**Appendix D**) and a wetland functional assessment was completed using the ORAM (**Appendix D**). The delineated wetland within the Project Study Area is summarized in **Table 2** below.

Table 2. Delineated Wetland Feature Summary

Wetland Sample Point ID[1]	Latitude, Longitude	Delineation Date	Extends Outside Project Study Area (Y/N)?	Cowardin Classification[2]	Water Regime Modifier[3]	Connection[4]	Apparent downstream Connectivity	Provisional Jurisdictional Status[5]	ORAM Score	ORAM Category[6]	Approximate Delineated Area within Project Study Area[7] (acres)
W-EKG-01_PEM-1	40.816461, -80.670114	10/19/2023	Y	PEM	Semi-permanently Flooded	Abutting/ Adjacent	Wetland W-EKG-1 -> Little Bull Creek -> Bull Creek -> North Fork Little Beaver Creek -> Ohio River (TNW)	USACE Jurisdictional Wetland	51.5	Cat. 2	6.13
W-EKG-01_PEM-2	40.813342, -80.669876	06/30/2023									
										Total:	**6.13**

[1]TRC resource identification. Due to the overall large size of this wetland feature, two USACE wetland data points were completed for this resource (Wetland W-EKG-1).
[2]Cowardin Wetland Classification within Project Study Area (approximation based upon field identification and delineation) (Cowardin, Carter, Golet, & LaRoe, 1979): PEM – Palustrine Emergent
[3]National Wetland Inventory Wetlands and Deepwater Map Code Diagram – Modifiers for non-tidal waters (USFWS, 2019)
[4]Connection to a jurisdictional waterway: Isolated or Abutting/Adjacent as determined by TRC; subject to USACE verification. Wetland connection is pending an update from EPA and USACE based on the EPA vs. Sackett case. TNW = Traditional Navigable Waterway
[5]Jurisdiction status is based upon field observations and mapping review of apparent connectivity or adjacency of the resource to Waters of the United States and the assumption that a preliminary jurisdictional determination process will be utilized for the project.
[6]ORAM Category assigned based on scoring breakpoints from Table 2 of the ORAM v. 5.0 Quantitative Score Calibration.
[7]Area is rounded to nearest 0.01 acre, based upon GPS data.

3.2.2 Streams and Waterbodies

During the field investigations, two (2) streams were delineated within the Project Study Area. A detailed summary of the streams identified is provided in **Table 3** below and **Appendix A**, **Figure 5**. Data points were recorded to provide a characterization of the delineated stream resources located within the Project Study Area, which were recorded on the OEPA HHEI and QHEI data forms. HHEI and QHEI data forms are provided within **Appendix D**. Representative photographs of the described streams identified within the Project Study Area can be found in **Appendix C**.

Table 3. Delineated Stream and Waterbody Features Summary

Stream ID[1]	Latitude, Longitude	Delineation Date	Resource / Downstream Flow Path[2]	Flow Regime	OEPA Use Designation[3]	Existing Use Designation[4]	HHEI Score[5]	QHEI Score[6]	Approximate Delineated Length within Project Study Area[7] linear feet (acre)
S-EKG-1	40.813273, -80.670072	10/19/2023	S-EKG-1 (UNT to Little Bull Creek) -> Little Bull Creek-> Bull Creek -> North Fork Little Beaver Creek -> Ohio River (TNW)	Intermittent	NA	Modified Class II PHW	35	-	123 (0.01 acre)
S-EKG-2 (Little Bull Creek)	40.818292, -80.669956	10/19/2023	Little Bull Creek-> Bull Creek -> North Fork Little Beaver Creek -> Ohio River (TNW)	Perennial	EWH, CWH, AWS, IWS, PCR	Good	-	55	275 (0.25 acre)
								TOTAL	**398 feet (0.26 acre)**

Notes:

[1]TRC resource identification.

[2]UNT = Unnamed Tributary; TNW = Traditional Navigable Waterway

[3]Determined by OEPA and listed in OAC §3745-1-15 Little Beaver Creek drainage basin (Ohio Administrative Code Rule 3745-1-15). EWH = Exceptional Warmwater Habitat, CWH = Coldwater Habitat, AWS = Agricultural Water Supply, IWS = Industrial Water Supply, PCR = Primary Contact Recreation.

[4]Determined by TRC, subject to verification by OEPA. PHW = Primary Headwater

[5]HHEI, for streams with drainage areas of less than 1.0 square mile and a maximum pool depth of less than 40 centimeters.

[6]QHEI, for streams with drainage areas of greater than 1.0 square mile and a maximum pool depth greater than 40 centimeters.

[7]Length is rounded to nearest foot, based upon GPS data. Area is rounded to nearest 0.01 acre, based upon GPS data. Resources comprising <0.01 acre are tabulated within the total as 0.01 acre.

4.0 Permitting Considerations

It is anticipated that due to the nature of the Project, jurisdictional resources may be impacted by the proposed Project activities. It is TRC's understanding that this Project would fall under Nationwide Permit (NWP) 6 - Survey Activities (USACE, 2022). This Project is located in Elkrun Township and Fairfield Township in Columbiana County, Ohio. The Project is located within the USACE Pittsburgh Regulatory District. Fairfield Township is listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species); therefore, a Section 404 Pre-Construction Notification (PCN) must be made to the Pittsburgh District.

Additionally, the Project is located within an "Ineligible" area according to OEPA's Stream Eligibility for the Nationwide Permit Program and therefore is ineligible for coverage under the OEPA 401 Water Quality Certification for Nationwide Permits (OEPA, 2017) (**Appendix A, Figure 6**). Based on the 401 Water Quality Certification Stream Eligibility Flow Chart, if impacts to Little Bull Creek (Stream S-EKG-2) are proposed as a result of this Project, a Director's Authorization may be required (USACE, 2022). Currently as proposed, stream impacts are not anticipated as a result of this Project.

4.1 USACE Verification

The USACE has the authority to determine and/or verify the geographical boundaries of Waters of the United States in accordance with 33 Code of Federal Regulations (CFR) 328 and 33 CFR 329; therefore, the results of this Report are termed "preliminary" until verified and accepted by the USACE. This verification is part of the Jurisdictional Determination process, which is required for approval under Section 404 Clean Water Act, Section 401 Water Quality Certification, and/or isolated wetland permitting process through OEPA. It is the responsibility of any party that intends to discharge dredge or fill material into Waters of the United States to comply with all applicable regulations.

5.0 Limitations

This Report is limited in scope to the specific terms of the Agreement previously entered into between TRC and FirstEnergy. This Report represents the conditions within the Project Study Area identified herein, as of the inspection dates.

Should the Project change from the scope described herein, TRC should be immediately notified such that additional investigations may be conducted to amend the content of the Report herein. Human-induced and/or natural changes within the Project Study Area may occur after the date of these investigations and may result in changes to the presence, extent, and classification of the surface water resources identified within this Report.

6.0 References

Cowardin, L., Carter, V., Golet, F., & LaRoe, E. (1979). Classification of Wetland and Deepwater Habitats of the United States. 103 pp. U.S. Fish and Wildlife Service.

Federal Register. (1994, July 13). Changes in hydric soils of the United States.

FEMA. (2024, March). *FEMA Flood Map Service Center*. Retrieved December 2025, from U.S. Department of Homeland Security: Federal Emergency Management Agency: https://msc.fema.gov/portal

Mack, J. (2000). ORAM v. 5.0 Quantitative Score Calibration. Columbus, Ohio: Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit.

Munsell Color Company. (2009). X-Rite Munsell Soil Color Book 2009 Revised Edition.

OEPA. (2006). *Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI).* Columbus, OH: Division of Surface Water, Ohio Environmental Protection Agency.

OEPA. (2017). 401 Water Quality Certification for Nationwide Permit Eligibility Online Map. Retrieved December 2025, from https://www.arcgis.com/apps/webappviewer/index.html?id=e6b46d29a38f46229c1eb47deefe49b6

OEPA. (2020). *Field Methods for Evaluating Primary Headwater Streams in Ohio(Version 4.1) (HHEI).* Columbus, OH: Division of Surface Water, Ohio Environmental Protection Agency.

Ohio Administrative Code Rule 3745-1-15. (n.d.). Little Beaver Creek drainage basin, Table 15-1. *Use Designations for Water Bodies in the Little Beaver Creek drainage basin*.

Rankin, E. T. (1989, November 6). The Qualitative Habitat Evaluation Index (QHEI): Rationale, Methods, and Application. Columbus, Ohio: Ohio Environmental Protection Agency, Division of Surface Water.

USACE. (1987). *Corps of Engineers Wetlands Delineation Manual.* Vicksburg, MS: Environmental Laboratory U.S. Army Corps of Engineers.

USACE. (2005, December 7). Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification.

USACE. (2008, D 26). Regulatory Guidance Letter, Subject: Jurisdictional Determinations.

USACE. (2012). *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0).* Vicksburg: U.S. Army Engineer Research and Development Center Environmental Laboratory: U.S. Army Corps of Engineers.

USACE. (2022, February 23). *Nationwide Permits for the State of Ohio.*

USACE. (2023). *The 2022 National Wetland Plant List, version 3.6*. Retrieved from http://wetland-plants.usace.army.mil/

USACE. (2025). *Antecedent Precipitation Tool (APT) Version 3.0.8. ERDC/TN WRAP-25-1.* Vicksburg, MS: USACE Engineer Research and Development Center. Retrieved December 2025, from APT GitHub repository

USACE and EPA. (2025, January). National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams. (C. R. Laboratory, Ed.) Hanover, NH 03755-1290: The US Army Engineer Research and Development Center.

USDA, NRCS. (2025). Field Indicators of Hydric Soils in the United States, Version 9.2. (L. Vasilas, G. Hurt, & C. Noble, Eds.) USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.

USDA-NRCS. (2016). Web Soil Survey. Retrieved December 2025, from http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx

USFWS. (2019, Feburary 1). Wetlands and Deepwater Habitat Classification Diagram. Retrieved from https://www.fws.gov/sites/default/files/documents/wetlands-and-deepwater-map-code-diagram.pdf

USFWS. (2023). National Wetlands Inventory. Retrieved December 2025, from http://www.fws.gov/wetlands/Data/Mapper.html

USGS. (2018). National Hydrography Dataset. Retrieved December 2025, from https://nhd.usgs.gov/data.html

USGS. (2019). *The StreamStats Program, v 4.30.0*. (U.S. Geological Survey) Retrieved December 2025, from StreamStats Ohio: https://streamstats.usgs.gov/ss/

USGS. (2022, February). *The National Map (TNM)*. Retrieved December 2025, from https://apps.nationalmap.gov/viewer/

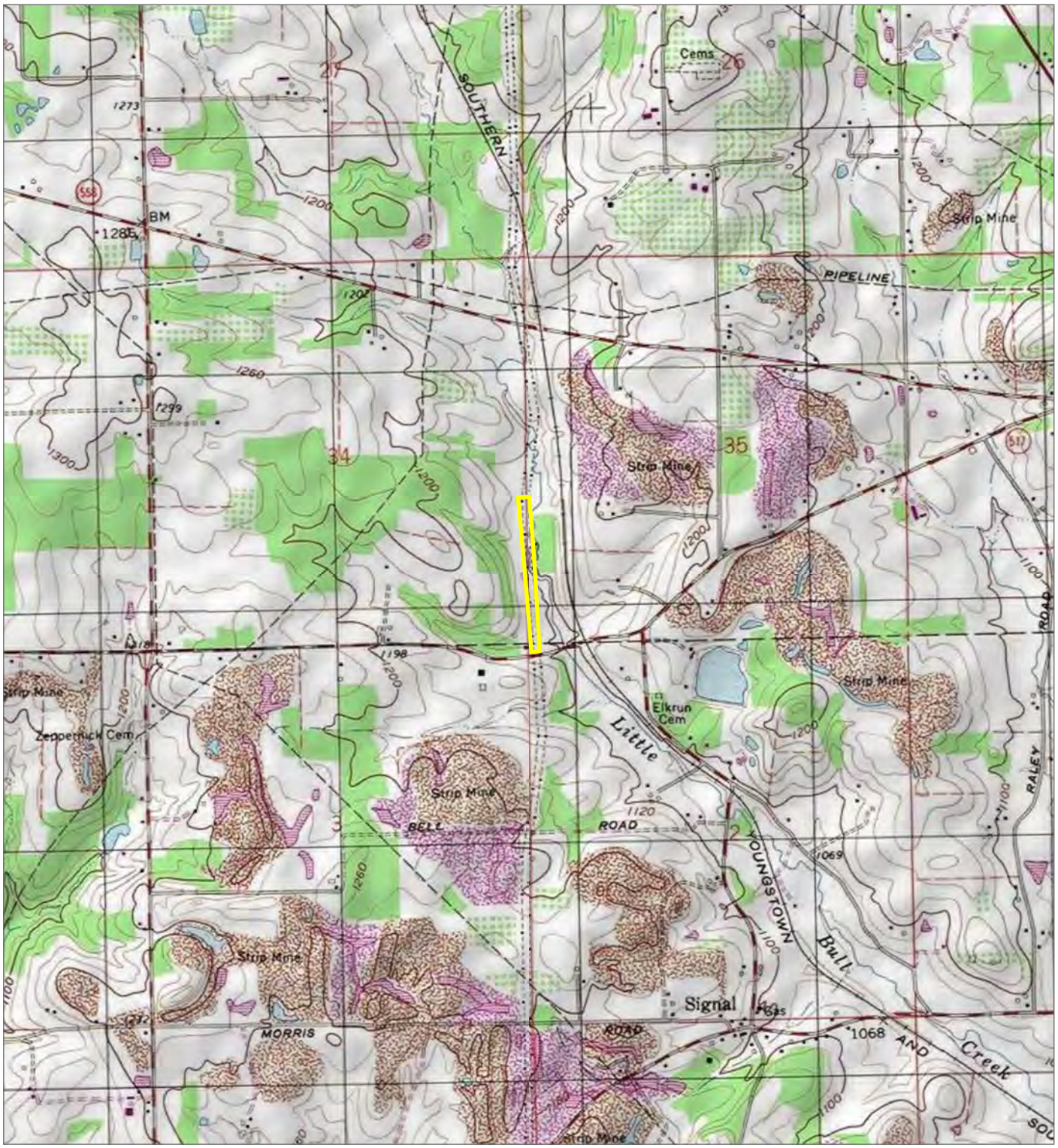
USGS. (2023). Topographical Quadrangle Maps (7.5 minute series). *Elkton, OH 7.5 minute Quadrangle*. U.S. Geological Survey.

USGS. (2025). *National Water Dashboard*. Retrieved December 2025, from https://dashboard.waterdata.usgs.gov/app/nwd/en/?region=lower48

Williams, A. (1992). Memorandum: Clarification and Interpretation of the 1987 Manual. U.S. Army Corps of Engineers.

Appendix A

Figures



PROJECT STUDY AREA

BASE MAP: USA TOPO MAPS MAP SERVICE. ELKTON QUAD

N

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FEET

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PROJECT: **FIRSTENERGY - DOBBINS-TORONTO 138KV TOWER REPLACEMENT PROJECT COLUMBIANA COUNTY, OH**

TITLE: **SITE LOCATION MAP**

DRAWN BY:	M. OPEL	PROJ. NO.:	664675 P4
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 1**
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRV2

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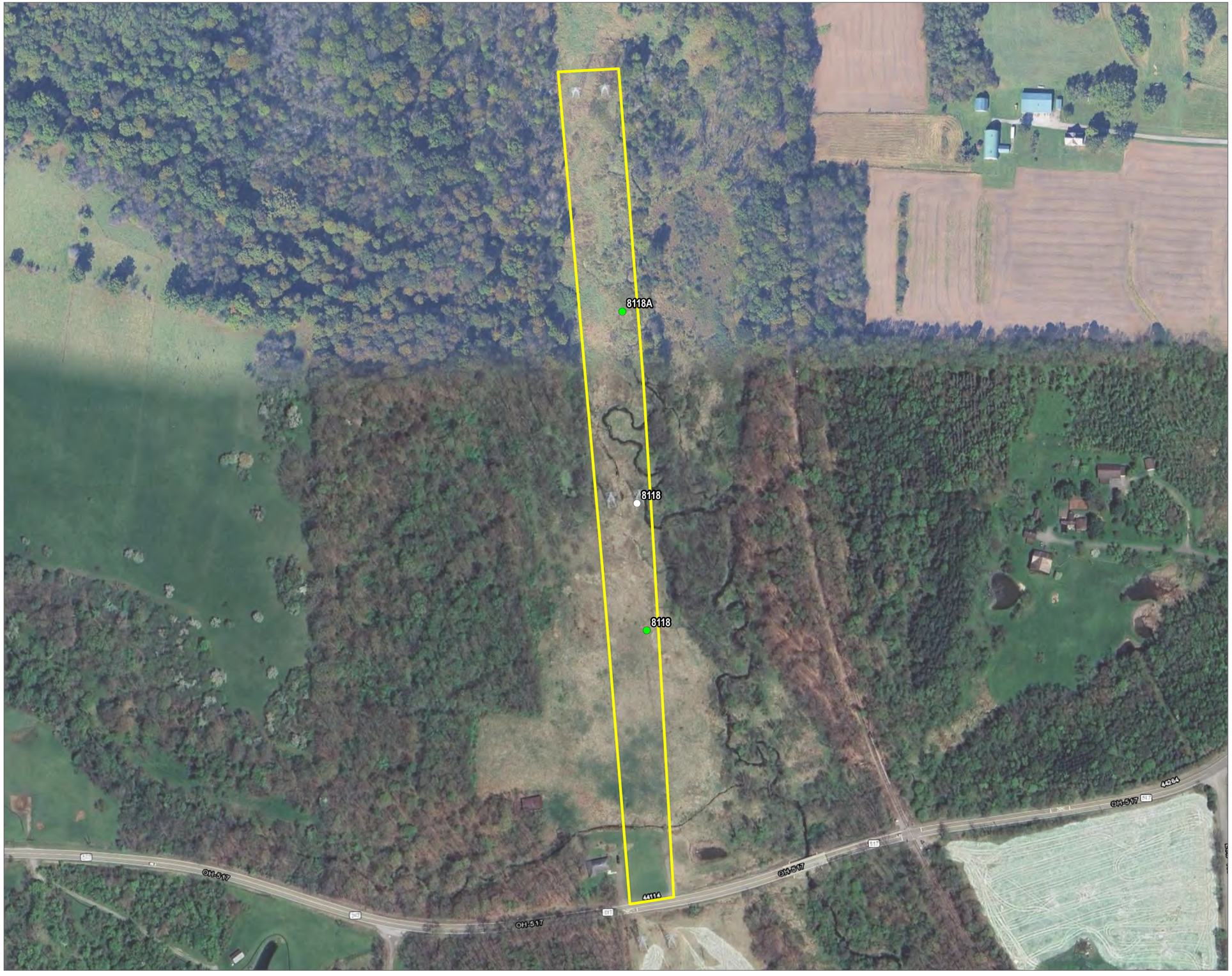

PROJECT STUDY AREA
EXISTING STRUCTURE
PROPOSED STRUCTURE

BASE MAP: GOOGLE MAPS.

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1" = 250'

0 250 500 FEET

PROJECT: **FIRSTENERGY - DOBBINS-TORONTO 138KV TOWER REPLACEMENT PROJECT COLUMBIANA COUNTY, OH**

TITLE: **AERIAL MAP**

DRAWN BY:	M. OPEL	PROJ. NO.:	664675 P4
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 2**
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
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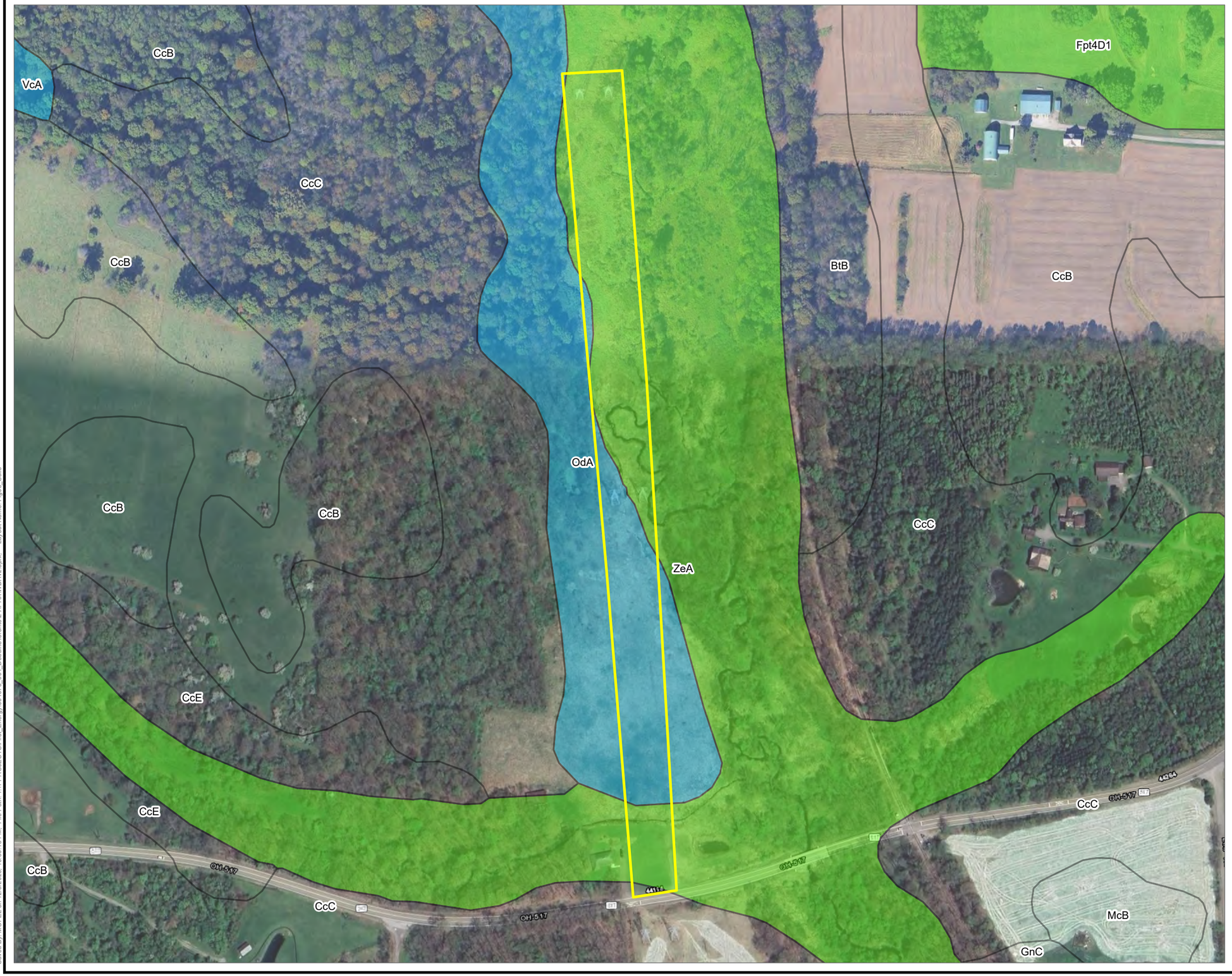

PROJECT STUDY AREA
HYDRIC SOIL
NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
NON-HYDRIC SOIL

BASE MAP: GOOGLE MAPS.
DATA SOURCES: SOILS DATA ACQUIRED FROM USDA/NRCS SSURGO DATABASE.

1:3,000
1" = 250'

0 250 500 FEET

PROJECT:
FIRSTENERGY - DOBBINS-TORONTO
138KV TOWER REPLACEMENT PROJECT
COLUMBIANA COUNTY, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	664675 P4
CHECKED BY:	M. MOLNAR		**FIGURE 3**
APPROVED BY:	B. FALKINBURG		
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet; Map Rotation: 0
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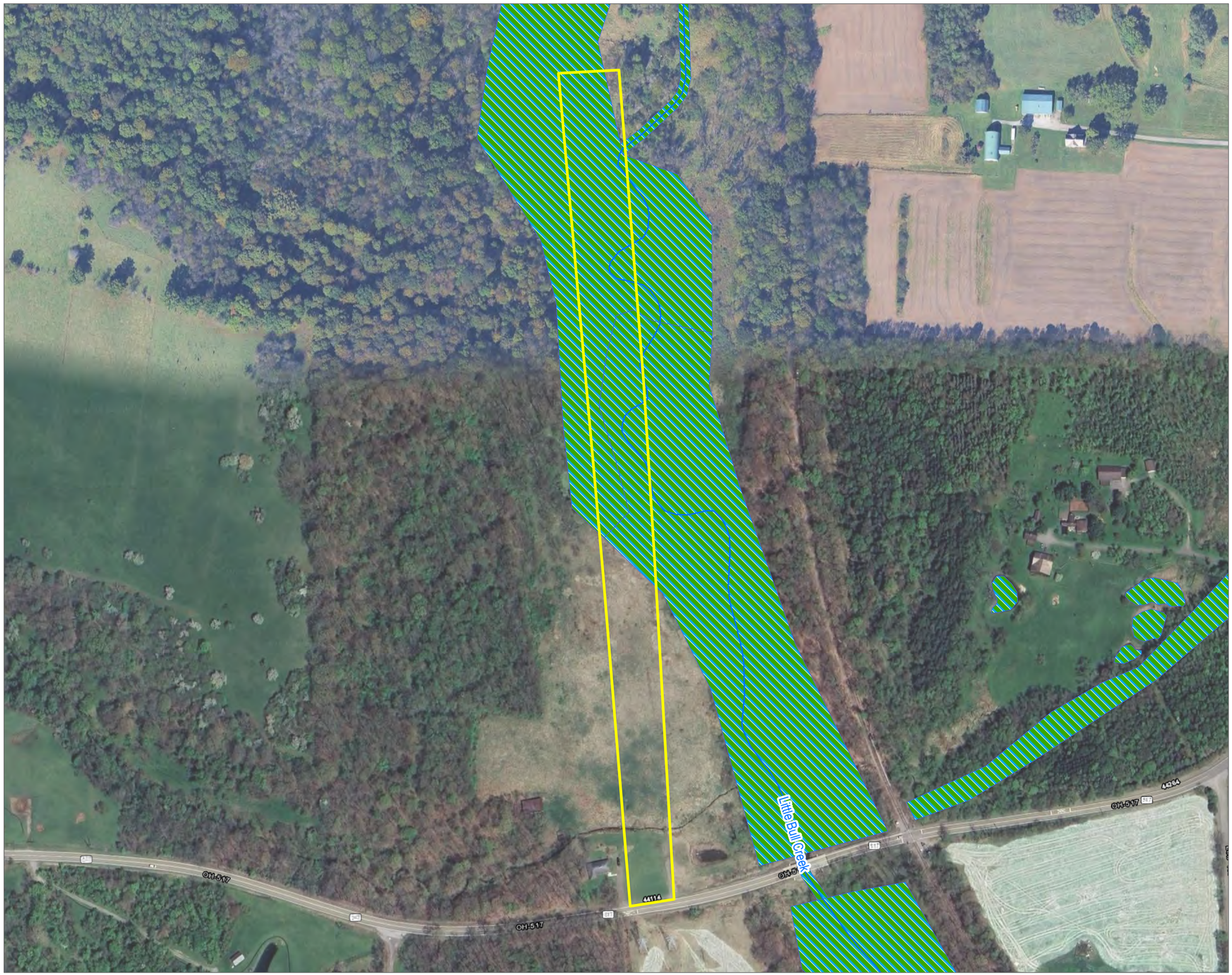

PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: WETLAND DATA ACQUIRED FROM U.S. FISH & WILDLIFE SERVICE, NATIONAL WETLANDS INVENTORY (NWI). STREAM DATA ACQUIRED FROM USGS, NATIONAL HYDROGRAPHY DATASET (NHD). FLOOD DATA ACQUIRED FROM FEMA, NATIONAL FLOOD HAZARD LAYER (NFHL).

1:3,000
1" = 250'

0 250 500 FEET

PROJECT:
FIRSTENERGY - DOBBINS-TORONTO 138KV TOWER REPLACEMENT PROJECT COLUMBIANA COUNTY, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	664675 P4
CHECKED BY:	M. MOLNAR		**FIGURE 4**
APPROVED BY:	B. FALKINBURG		
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet, Map Rotation: 0
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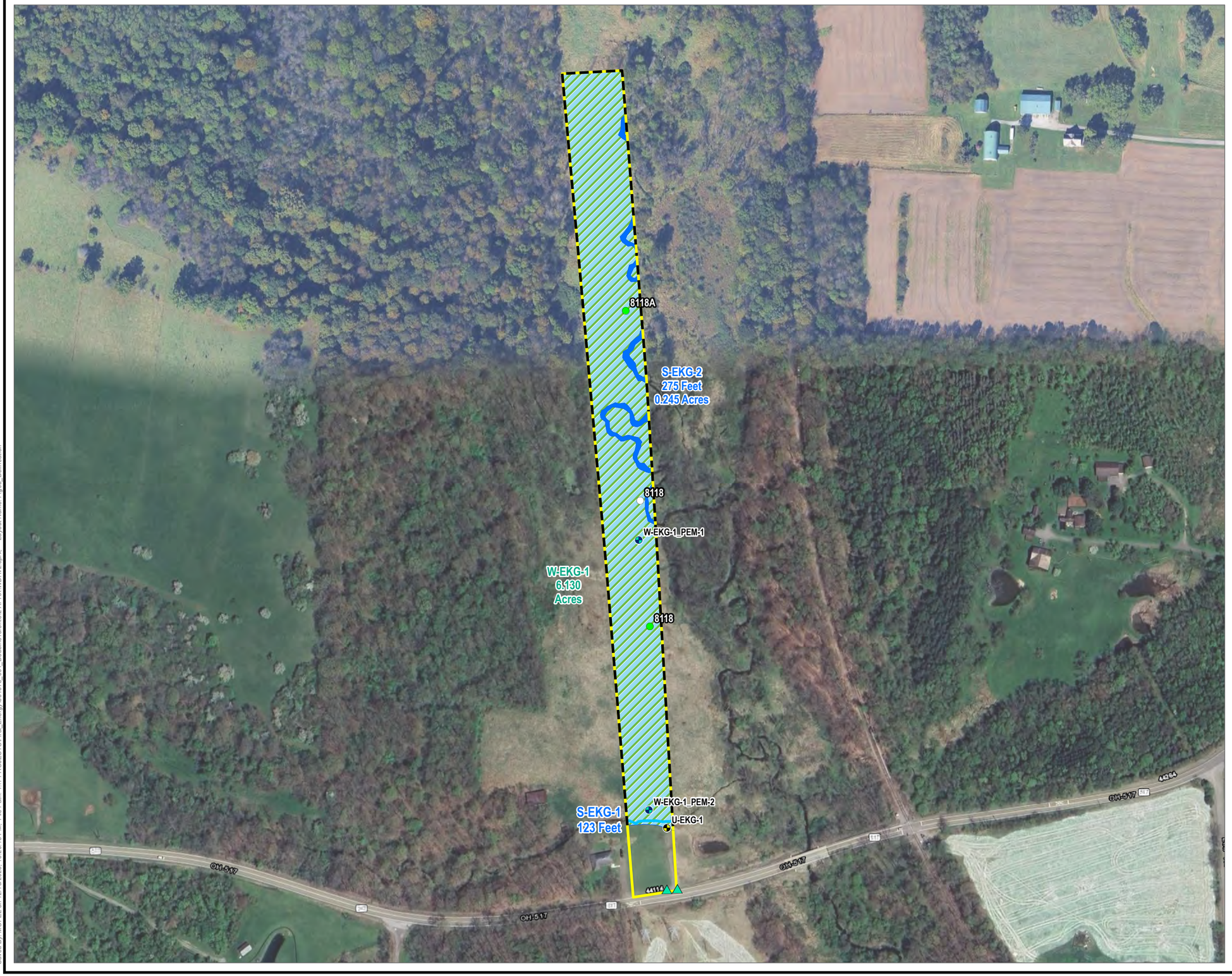

PROJECT STUDY AREA
EXISTING STRUCTURE
PROPOSED STRUCTURE
CULVERT
PERENNIAL STREAM
INTERMITTENT STREAM
PEM WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED JUNE 28, 2023 AND OCTOBER 19, 2023.

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0 250 500 FEET

PROJECT:
FIRSTENERGY - DOBBINS-TORONTO
138KV TOWER REPLACEMENT PROJECT
COLUMBIANA COUNTY, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	664675 P4
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 5**
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

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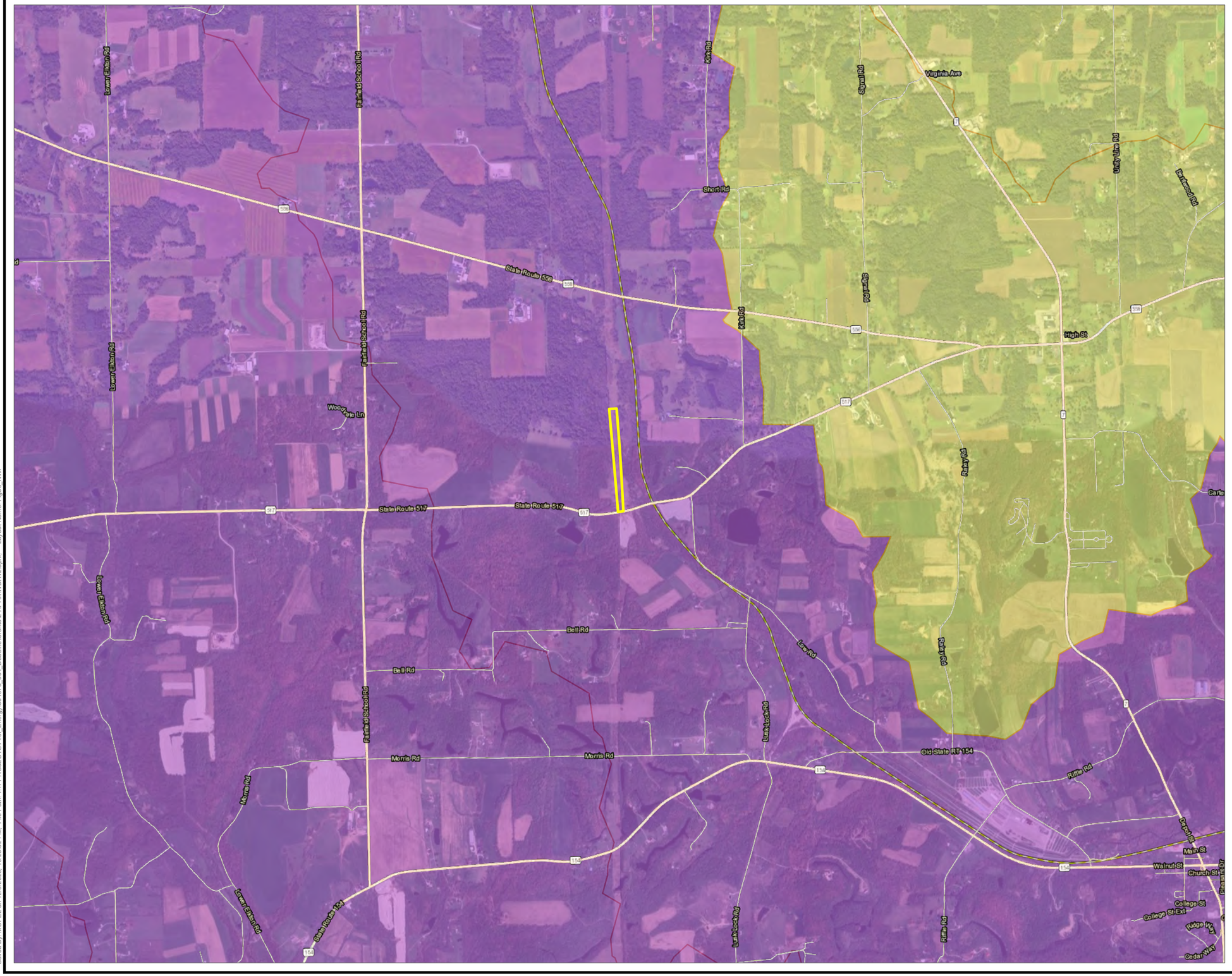
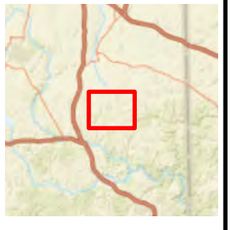


PROJECT STUDY AREA

OHIO EPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

- INELIGIBLE
- POSSIBLY ELIGIBLE
- ELIGIBLE

BASE MAP: GOOGLE MAPS.
DATA SOURCES: NATIONWIDE PERMITS STREAM DATA ACQUIRED FROM THE OHIO EPA.



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PROJECT:
FIRSTENERGY - DOBBINS-TORONTO 138KV TOWER REPLACEMENT PROJECT COLUMBIANA COUNTY, OH

TITLE:
NATIONWIDE PERMITS STREAM ELIGIBILITY MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	664674 P4
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 6**
DATE:	DECEMBER 2025		

TRC
1382 WEST NINTH STREET
SUITE 400
CLEVELAND, OH 44113
PHONE: 216-344-3072

FILE: WDRv2.aprx

Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet, Map Rotation: 0
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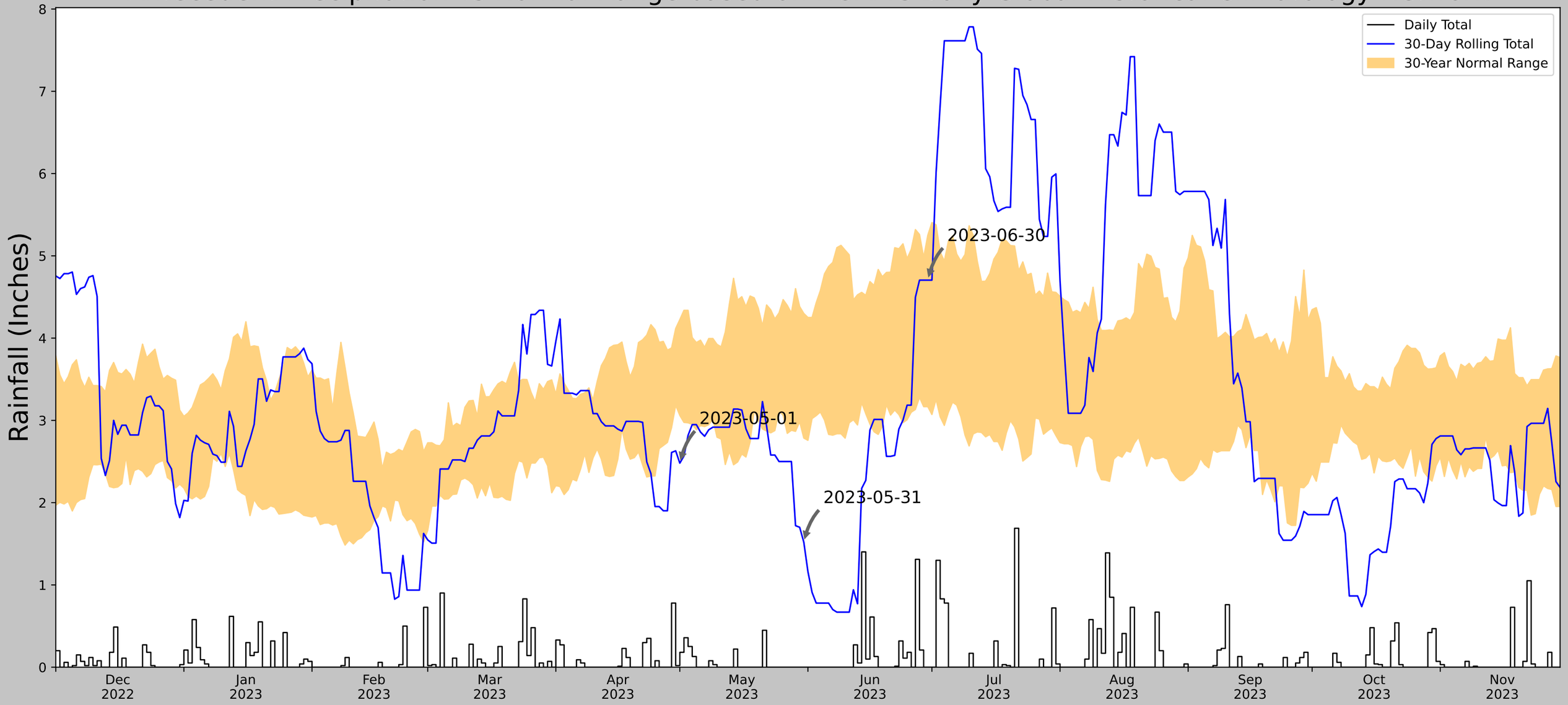
Appendix B

Antecedent Precipitation Table



Coordinates	40.81333, -80.66986
Observation Date	2023-06-30
Elevation (ft)	1106.396
Drought Index (PDSI)	Incipient drought
WebWIMP H_2O Balance	Dry Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-06-30	3.166929	5.250788	4.704725	Normal	2	3	6
2023-05-31	2.785039	4.3	1.519685	Dry	1	2	2
2023-05-01	3.06063	4.225197	2.480315	Dry	1	1	1
Result							Drier than Normal - 9

Figures and tables made by the Antecedent Precipitation Tool Version 3.0

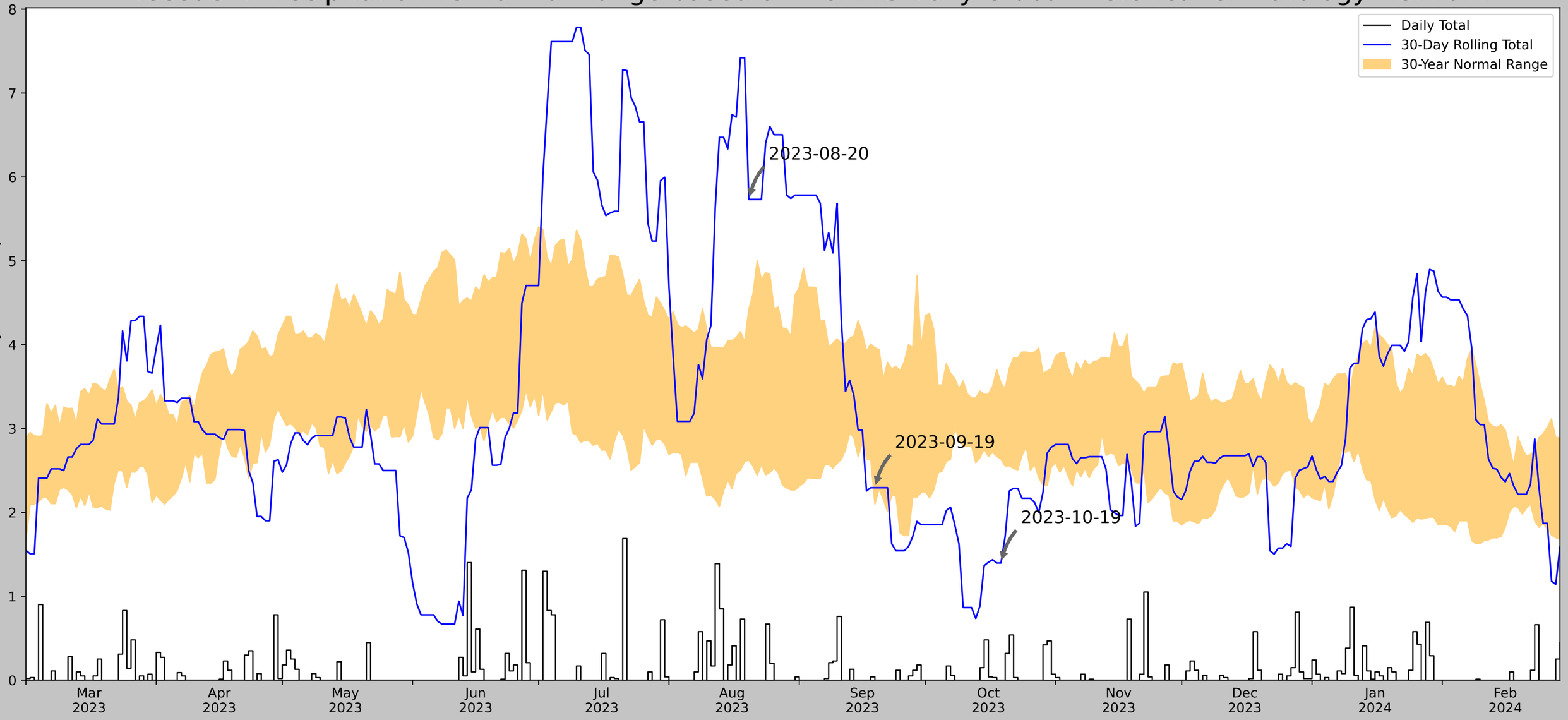
US Army Corps of Engineers.

ERDC

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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BEAVER FALLS 1 NE	40.7628, -80.3133	759.843	18.977	346.553	15.116	11031	90
NEW BRIGHTON 3.0 NE	40.7694, -80.2729	1230.971	2.163	471.128	1.992	5	0
MONTGOMERY L&D	40.6475, -80.3861	689.961	8.832	69.882	4.592	317	0

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



Coordinates	40.81591, -80.66988
Observation Date	2023-10-19
Elevation (ft)	1101.237
Drought Index (PDSI)	Normal
WebWIMP H_2O Balance	Wet Season

30 Days Ending	30^{th} %ile (in)	70^{th} %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-10-19	2.636221	3.541732	1.397638	Dry	1	3	3
2023-09-19	2.098819	3.96378	2.295276	Normal	2	2	4
2023-08-20	2.62441	4.422441	5.732284	Wet	3	1	3
Result							Normal Conditions - 10

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0

US Army Corps of Engineers.
ERDC

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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
BEAVER FALLS 1 NE	40.7628, -80.3133	759.843	19.011	341.394	15.045	11030	90
NEW BRIGHTON 3.0 NE	40.7694, -80.2729	1230.971	2.163	471.128	1.992	5	0
MONTGOMERY L&D	40.6475, -80.3861	689.961	8.832	69.882	4.592	317	0

Appendix C

Photographic Record

PHOTOGRAPHIC RECORD

Dobbins-Toronto 138kV
Tower Replacement Project

Client Name:	**Site Location:**	**Project No.**
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 1.	
Photo Date: 10/19/2023	
Description: Stream S-EKG-1 (intermittent), looking upstream, facing west.	

Photo No. 2.	
Photo Date: 10/19/2023	
Description: Stream S-EKG-1 (intermittent), looking downstream, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 3. **Photo Date:** 10/19/2023 **Description:** Stream S-EKG-1 (intermittent), looking down at substrate.	

Photo No. 4. **Photo Date:** 10/19/2023 **Description:** Stream S-EKG-2 (Little Bull Creek) looking upstream, facing northwest.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 5.	
Photo Date: 10/19/2023	
Description: Stream S-EKG-2 (Little Bull Creek) looking downstream, facing southeast.	

Photo No. 6.	
Photo Date: 10/19/2023	
Description: Stream S-EKG-2 (Little Bull Creek) looking down at substrate.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 7. **Photo Date:** 10/19/2023 **Description:** Wetland W-EKG-1_PEM-1, facing north.	

Photo No. 8. **Photo Date:** 10/19/2023 **Description:** Wetland W-EKG-1_PEM-1, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 9. **Photo Date:** 10/19/2023 **Description:** Wetland W-EKG-1_PEM-1, facing south.	

Photo No. 10. **Photo Date:** 10/19/2023 **Description:** Wetland W-EKG-1_PEM-1, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 11. **Photo Date:** 06/28/2023 **Description:** Wetland W-EKG-1_PEM-2, facing north.	

Photo No. 12. **Photo Date:** 06/28/2023 **Description:** Wetland W-EKG-1_PEM-2, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 13.	
Photo Date: 06/28/2023	
Description: Wetland W-EKG-1_PEM-2, facing south.	

Photo No. 14.	
Photo Date: 06/28/2023	
Description: Wetland W-EKG-1_PEM-2, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy	Elkrun and Fairfield Townships, Columbiana County, Ohio	664675 Phase 4

Photo No. 15. **Photo Date:** 10/19/2023 **Description:** Representative photo of the Project Study Area, facing north.	

Photo No. 16. **Photo Date:** 10/19/2023 **Description:** Representative photo of the Project Study Area, facing south.	

Appendix D

Data Forms

USACE Wetland Determination Data Forms – Northcentral and Northeast Region

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dobbins-Toronto 138kV Tower Replacement Proje City/County: Columbiana, Columbiana County Sampling Date: 2023-10-19
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-01_PEM-1
Investigator(s): EKG, JMS Section, Township, Range: 35 12N 2W
Landform (hillslope, terrace, etc): Flood Plain Local relief (concave, convex, none): Concave Slope (%): 1 to 3
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 40.8153504 Long: -80.6698076 Datum: WGS84
Soil Map Unit Name: Zepernick silt loam, 0 to 2 percent slopes, occasionally flooded NWI Classification: PFO1/SS1C
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

If yes, optional Wetland Site ID: W-EKG-01_PEM-1

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ✘ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

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

Field Observations:

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

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION ─ Use scientific names of plants. Sampling Point: W-EKG-01_PEM-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)				
1.	*Phalaris arundinacea*	75	Yes	FACW
2.	*Eupatorium perfoliatum*	5	No	OBL
3.	*Solidago gigantea*	5	No	FACW
4.	*Impatiens capensis*	5	No	FACW
5.	*Onoclea sensibilis*	5	No	FACW
6.	*Verbesina alternifolia*	5	No	FACW
7.				
8.				
9.				
10.				
11.				
12.				
	100	= Total Cover		

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	5	x 1 =	5
FACW species	95	x 2 =	190
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		195 (B)

Prevalence Index = B/A = 2

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

✘ 3 - Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

Sapling/shrub ─ Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines ─ All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 7	10YR 4/1	90	10YR 4/6	10	C	PL	Silty Clay Loam	
7 to 20	10YR 3/1	85	10YR 4/6	15	C	M/PL	Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ✘ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Gravel
Depth (inches): 20

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dobbins-Toronto 138kV Tower Replacement Proje City/County: Columbiana, Columbiana County Sampling Date: 2023-6-28
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-01_PEM-2
Investigator(s): Jeff Vandeveer, Mike Whitacre, Emma Given Section, Township, Range: 35 12N 2W
Landform (hillslope, terrace, etc): Flood Plain Local relief (concave, convex, none): Concave Slope (%): 2 to 5
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 40.8133417054 Long: -80.6698758 Datum: WGS84
Soil Map Unit Name: Zepernick silt loam, 0 to 2 percent slopes, occasionally flooded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ✘ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

If yes, optional Wetland Site ID: W-EKG-01_PEM-2

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is PEM. Based on the presence of all three parameters, this area is a wetland. powerline ROW .

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)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)
- ___ Surface Soil Cracks (B6)
- ✘ Drainage Patterns (B10)
- ___ Moss Trim Lines (B16)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ✘ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ✘ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ Microtopographic Relief (D4)
- ✘ FAC-Neutral Test (D5)

Field Observations:
Surface Water Present? Yes ____ No ✘ Depth (inches): ____
Water Table Present? Yes ____ No ✘ Depth (inches): ____
Saturation Present? Yes ✘ No ____ Depth (inches): 1
(includes capillary fringe)

Wetland Hydrology Present? Yes ✘ No ____

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

Remarks:
The criterion for wetland hydrology is met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EKG-01_PEM-2

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft radius)			
1. *Poa palustris*	35	Yes	FACW
2. *Phalaris arundinacea*	30	Yes	FACW
3. *Carex lurida*	20	Yes	OBL
4. *Carex grayi*	10	No	FACW
5. *Eupatorium perfoliatum*	5	No	FACW
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	80	x 2 =	160
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		180 (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:

✘ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

✘ 3 - Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 18	10YR 4/2	92	10YR 6/4	8	C	M	Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Iron Monosulfide (A18)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) **(LRR R, MLRA 149B)**
- ___ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- ___ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- ___ Loamy Mucky Mineral (F1) **(LRR K, L)**
- ___ Loamy Gleyed Matrix (F2)
- ✘ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- ___ Coast Prairie Redox (A16) **(LRR K, L, R)**
- ___ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- ___ Dark Surface (S7) **(LRR K, L)**
- ___ Polyvalue Below Surface (S8) **(LRR K, L)**
- ___ Thin Dark Surface (S9) **(LRR K, L)**
- ___ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- ___ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- ___ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Not present
Depth (inches): ___

Hydric Soil Present? Yes ✘ **No** ___

Remarks:
The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Dobbins-Toronto 138kV Tower Replacement City/County: Columbiana, Columbiana County Sampling Date: 2023-10-19
Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-01_UPL-1
Investigator(s): Emma Given, Jenna Slabe Section, Township, Range: 35 12N 2W
Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 40.8132082667 Long: -80.6696947833 Datum: WGS84
Soil Map Unit Name: Zepernick silt loam, 0 to 2 percent slopes, occasionally flooded NWI Classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✘ No ____ (If no, explain in Remarks.)
Are Vegetation ____ , Soil ____ , or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ✘ No ____
Are Vegetation ____ , Soil ____ , or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

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

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

If yes, optional Wetland Site ID: ____

Remarks: (Explain alternative procedures here or in a separate report.)
Covertype is UPL. Based on the absence of all three parameters, this area is an upland.

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)
- ___ Marl Deposits (B15)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

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

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

Wetland Hydrology Present? Yes ____ No ✘

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

Remarks:
The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants. Sampling Point: W-EKG-01_UPL-1

Tree Stratum (Plot size: 30 ft radius)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15 ft radius)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	

Herb Stratum (Plot size: 5 ft radius)				
1.	*Poa pratensis*	75	Yes	FAC
2.	*Trifolium repens*	10	No	FACU
3.	*Plantago lanceolata*	10	No	FACU
4.	*Daucus carota*	5	No	UPL
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
		100	= Total Cover	

Woody Vine Stratum (Plot size: 30 ft radius)			
1.			
2.			
3.			
4.			
	0	= 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: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	75	x 3 =	225
FACU species	20	x 4 =	80
UPL species	5	x 5 =	25
Column Totals:	100 (A)		330 (B)

Prevalence Index = B/A = 3.3

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

✘ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

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

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

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

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

Hydrophytic Vegetation Present? **Yes** ✘ **No** __

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

The criterion for hydrophytic vegetation is met.

SOIL Sampling Point: W-EKG-01_UPL-1

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 to 6	10YR 4/6	65					Silty Clay Loam	
0 to 6	10YR 6/8	35					Sandy Clay Loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated 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)
- __ Depleted Below Dark Surface (A11)
- __ Thick Dark Surface (A12)
- __ Iron Monosulfide (A18)
- __ Sandy Mucky Mineral (S1)
- __ Sandy Gleyed Matrix (S4)
- __ Sandy Redox (S5)
- __ Stripped Matrix (S6)
- __ Dark Surface (S7) **(LRR R, MLRA 149B)**
- __ Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- __ Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- __ Loamy Mucky Mineral (F1) **(LRR K, L)**
- __ Loamy Gleyed Matrix (F2)
- __ Depleted Matrix (F3)
- __ Redox Dark Surface (F6)
- __ Depleted Dark Surface (F7)
- __ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- __ 2 cm Muck (A10) **(LRR K, L, MLRA 149B)**
- __ Coast Prairie Redox (A16) **(LRR K, L, R)**
- __ 5 cm Muck Peat or Peat (S3) **(LRR K, L, R)**
- __ Dark Surface (S7) **(LRR K, L)**
- __ Polyvalue Below Surface (S8) **(LRR K, L)**
- __ Thin Dark Surface (S9) **(LRR K, L)**
- __ Iron-Manganese Masses (F12) **(LRR K, L, R)**
- __ Piedmont Floodplain Soils (F19) **(MLRA 149B)**
- __ Mesic Spodic (TA6) **(MLRA 144A, 145, 149B)**
- __ Red Parent Material (F21)
- __ Very Shallow Dark Surface (TF12)
- __ Other (Explain in Remarks)

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

Restrictive Layer (if present):
Type: Fill,Gravel
Depth (inches): 6

Hydric Soil Present? Yes ____ **No** ✘

Remarks:
The criterion for hydric soil is not met.

OEPA ORAM Field Form

Background Information

Name: Emma Given; Jenna Slabe
Date: 10/19/2023
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400 Cleveland, OH 44113
Phone Number: (330) 446-0265
e-mail address: egiven@trccompanies.com
Name of Wetland: W-EKG-01
Vegetation Communit(ies): PFO, PSS, PEM
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EKG-01 is located north of OH Route 517 in Elkrun Township and Fairfield Township, Columbiana Co. OH.

Lat/Long or UTM Coordinate	40.815685, -80.669918
USGS Quad Name	Elkton
County	Columbiana
Township	Elkrun & Fairfield
Section and Subsection	N/A
Hydrologic Unit Code	05030101 0604
Site Visit	10/19/2023
National Wetland Inventory Map	PFO1/SS1C
Ohio Wetland Inventory Map	N/A
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EKG-01	
Wetland Size (acres, hectares):	~20 acres (8.09 hectares)

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

Please see Figure 5 Delineated Resources Map located in Appendix A of the Surface Water Delineation Report.

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 51.5	**Category:**	2

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: FirstEnergy, Dobbins-Toronto 138kV Tower Replacement Project	**Rater(s):** Emma Given, Jenna Slabe	**Date:** 2023-10-19

Metric 1. Wetland Area (size).

5 max 6 pts. | 5 subtotal

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

12 max 14 pts. | 17 subtotal

2a. Calculate average buffer width. Select only one and assign score. Do not double check.

- [x] WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- [ ] MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [ ] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

16 max 30 pts. | 33 subtotal

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

11.5 max 20 pts. | 44.5 subtotal

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

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

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

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

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

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

Check all disturbances observed

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

44.5 subtotal this page

TRC Environmental Corp.
781 Science Boulevard, Suite 200
Gahanna, Ohio 43230

Site: FirstEnergy, Dobbins-Toronto 138kV Tower Replacement Project	**Rater(s):** Emma Given, Jenna Slabe	**Date:** 2023-10-19

44.5
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 44.5 subtotal

Check all that apply and score as indicated.

- [ ] Bog (10)
- [ ] Fen (10)
- [ ] Old growth forest (10)
- [ ] Mature forested wetland (5)
- [ ] Lake Erie coastal/tributary wetland-unrestricted hydrology (10)
- [ ] Lake Erie coastal/tributary wetland-restricted hydrology (5)
- [ ] Lake Plain Sand Prairies (Oak Openings) (10)
- [ ] Relict Wet Prairies (10)
- [ ] Known occurrence state/federal threatened or endangered species (10)
- [ ] Significant migratory songbird/water fowl habitat or usage (10)
- [ ] Category 1 Wetland. See Question 1 Qualitative Rating (-10)

Metric 6. Plant communities, interspersion, microtopography.

7 max 20 pts. | 51.5 subtotal

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

- [ ] Aquatic Bed
- [2] Emergent
- [1] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other _____

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

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

Invasive Species Present:
purple loosestrife
reed canary grass

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

51.5

CATEGORY 2

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES (NO)	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	5	
	Metric 2. Buffers and surrounding land use	12	
	Metric 3. Hydrology	16	
	Metric 4. Habitat	11.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	7	
	TOTAL SCORE	51.5	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

OEPA Stream Forms

Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : **35**

SITE NAME/LOCATION S-EKG-01. FirstEnergy - Dobbins-Toronto 138kV Tower Replacement. north of OH-517 in Fairfield Twp, OH

SITE NUMBER ____ RIVER CODE 05030101 RIVER BASIN Little Beaver Creek DRAINAGE AREA (mi^2) 0.43

LENGTH OF STREAM REACH (ft) 200 LAT. 40.8132428833 LONG. -80.6697003167 RIVER MILE ____

DATE 2023-10-19 SCORER EKG COMMENTS ____

NOTE: Complete All Items On This Form - Refer to "Field Evaluation Manual for Ohio's PHWH Streams" for Instructions

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

1. SUBSTRATE: Estimate percent of every type of substrate 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]**	____	☑	SILT **[3 pts]**	45
☐	BOULDER (>256 mm) **[16 pts]**	____	☐	LEAF PACK/WOODY DEBRIS **[3 pts]**	15
☐	BEDROCK **[16 pts]**	____	☐	FINE DETRITUS **[3 pts]**	____
☐	COBBLE (65-256 mm) **[12 pts]**	____	☐	CLAY or HARDPAN **[0 pts]**	____
☑	GRAVEL (2-64 mm) **[9 pts]**	40	☐	MUCK **[0 pts]**	____
☐	SAND (<2 mm) **[6 pts]**	____	☐	ARTIFICIAL **[3 pts]**	____

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 **(A)**

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 12

TOTAL NUMBER OF SUBSTRATE TYPES: 3 **(B)**

HHEI Metric Points

Substrate Max = 40

15

A + B

2. Maximum Pool Depth ***Measure the maximum pool depth within the 61 meter (200 ft)*** 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 **[5 pts]**
☐	> 10 - 22.5 cm **[25 pts]**	☐	NO WATER OR MOIST CHANNEL **[0 pts]**

COMMENTS____

MAXIMUM POOL DEPTH (centimeters): 10

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 (> 9' 7" - 4' 8") **[20 pts]**		

COMMENTS____

AVERAGE BANKFULL WIDTH (meters): 0.5

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	FLOODPLAIN QUALITY (Most Predominant per Bank) L	R		L	R	
☑	☐	Wide >10m	☑	☐	Mature Forest, Wetland	☐	☐	Conservation Tillage
☐	☑	Moderate 5-10m	☐	☐	Immature Forest, Shrub or Old Field	☐	☐	Urban or Industrial
☐	☐	Narrow <5m	☐	☑	Residential, Park, New Field	☐	☐	Open Pasture, Row Crop
☐	☐	None	☐	☐	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: ____ Distance from Evaluated Stream ____

☐ CWH Name: ____ Distance from Evaluated Stream ____

☑ EWH Name: Little Bull Creek Distance from Evaluated Stream 93 meters

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

USGS Quadrangle Name: Elkrun NRCS Soil Map Page: N/A NRCS Soil Map Stream Order N/A

County: Columbiana Township / City: Fairfield

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 2023-10-17 Quantity: 0.11 inches

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): N Canopy (% open): 100

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

Field Measures: Temp (°C) 9.6 Dissolved Oxygen (mg/l) _ pH (S.U.) 8.31 Conductivity (µmhos/cm) _

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

Additional comments/description of pollution impacts:

BIOLOGICAL OBSERVATIONS

(Record all observations below)

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

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

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

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

Comments Regarding Biology:

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

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

FLOW →

SEE PAGE 3

Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 55.00

Stream & Location: S-EKG-2 (Little Bull Run) north of OH-517 Fairfield Twp, OH **RM:** 5.6 **Date:** 10 / 19 / 23

FE Dobbins-Toronto 138kV Tower Replacement Project **Scorers Full Name & Affiliation:** E. Given & J. Slabe, TRC

River Code: _ _ _ - _ _ _ - _ _ _ **STORET #:** _ _ _ _ _ _ **Lat./ Long.:** (NAD 83 - decimal °) 40 . 815569 /8 0 . 66986 ☑ Office verified location

1] SUBSTRATE

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

Check ONE (*Or 2 & average*)

BEST TYPES	POOL	RIFFLE	OTHER TYPES	POOL	RIFFLE	ORIGIN	QUALITY
☐ BLDR /SLABS [10]			☐ HARDPAN [4]			☐ LIMESTONE [1]	☐ HEAVY [-2]
☐ BOULDER [9]	3	5	☐ DETRITUS [3]	10	5	☑ TILLS [1]	☑ MODERATE [-1]
☑ COBBLE [8]	35	40	☐ MUCK [2]			☐ WETLANDS [0]	☐ NORMAL [0]
☐ GRAVEL [7]	15	24	☑ SILT [2]	37	26	☐ HARDPAN [0]	☐ FREE [1]
☐ SAND [6]			☐ ARTIFICIAL [0]			☐ SANDSTONE [0]	☐ EXTENSIVE [-2]
☐ BEDROCK [5]						☐ RIP/RAP [0]	☑ MODERATE [-1]
						☐ LACUSTURINE [0]	☐ NORMAL [0]
						☐ SHALE [-1]	☐ NONE [1]
						☐ COAL FINES [-2]	

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

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

SILT / EMBEDDEDNESS

Comments

Substrate 9.00 *Maximum 20*

2] INSTREAM COVER

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

2 UNDERCUT BANKS [1]	____ POOLS > 70cm [2]	____ OXBOWS, BACKWATERS [1]	**AMOUNT** (Check ONE (*Or 2 & average*))
2 OVERHANGING VEGETATION [1]	1 ROOTWADS [1]	____ AQUATIC MACROPHYTES [1]	☐ EXTENSIVE >75% [11]
____ SHALLOWS (IN SLOW WATER) [1]	1 BOULDERS [1]	1 LOGS OR WOODY DEBRIS [1]	☑ MODERATE 25-75% [7]
____ ROOTMATS [1]			☐ SPARSE 5-<25% [3]
			☐ NEARLY ABSENT <5% [1]

Comments

Cover 12.00 *Maximum 20*

3] CHANNEL MORPHOLOGY

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

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY
☐ HIGH [4]	☐ EXCELLENT [7]	☐ NONE [6]	☐ HIGH [3]
☑ MODERATE [3]	☑ GOOD [5]	☐ RECOVERED [4]	☐ MODERATE [2]
☐ LOW [2]	☐ FAIR [3]	☑ RECOVERING [3]	☑ LOW [1]
☐ NONE [1]	☐ POOR [1]	☐ RECENT OR NO RECOVERY [1]	

Comments

Channel 12.00 *Maximum 20*

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)	RIPARIAN WIDTH (L R)	FLOOD PLAIN QUALITY (L R)	(L R)
☑ ☐ NONE / LITTLE [3]	☑ ☐ WIDE > 50m [4]	☑ ☐ FOREST, SWAMP [3]	☐ ☐ CONSERVATION TILLAGE [1]
☐ ☑ MODERATE [2]	☐ ☐ MODERATE 10-50m [3]	☐ ☑ SHRUB OR OLD FIELD [2]	☐ ☐ URBAN OR INDUSTRIAL [0]
☐ ☐ HEAVY / SEVERE [1]	☐ ☑ NARROW 5-10m [2]	☐ ☐ RESIDENTIAL, PARK, NEW FIELD [1]	☐ ☐ MINING / CONSTRUCTION [0]
	☐ ☐ VERY NARROW < 5m [1]	☐ ☐ FENCED PASTURE [1]	
	☐ ☐ NONE [0]	☐ ☐ OPEN PASTURE, ROWCROP [0]	

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

Comments

Riparian 8.00 *Maximum 10*

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY	
Check **ONE** (*ONLY!*)	Check ONE (*Or 2 & average*)	Check ALL that apply	
☐ > 1m [6]	☑ POOL WIDTH > RIFFLE WIDTH [2]	☐ TORRENTIAL [-1]	☑ SLOW [1]
☐ 0.7-<1m [4]	☐ POOL WIDTH = RIFFLE WIDTH [1]	☐ VERY FAST [1]	☐ INTERSTITIAL [-1]
☑ 0.4-<0.7m [2]	☐ POOL WIDTH > RIFFLE WIDTH [0]	☐ FAST [1]	☐ INTERMITTENT [-2]
☐ 0.2-<0.4m [1]		☑ MODERATE [1]	☐ EDDIES [1]
☐ < 0.2m [0]		*Indicate for reach - pools and riffles.*	

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

Comments

Pool / Current 6.00 *Maximum 12*

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

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS
☐ BEST AREAS > 10cm [2]	☐ MAXIMUM > 50cm [2]	☐ STABLE (e.g., Cobble, Boulder) [2]	☐ NONE [2]
☑ BEST AREAS 5-10cm [1]	☑ MAXIMUM < 50cm [1]	☑ MOD. STABLE (e.g., Large Gravel) [1]	☑ LOW [1]
☐ BEST AREAS < 5cm [metric=0]		☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	☐ MODERATE [0]
			☐ EXTENSIVE [-1]

Comments

Riffle / Run 4.00 *Maximum 8*

6] GRADIENT

(61.7 ft/mi) ☑ VERY LOW - LOW [2-4] ☐ MODERATE [6-10] ☐ HIGH - VERY HIGH [10-6]

DRAINAGE AREA (3.37 mi²)

%POOL: 30 %GLIDE: 0 %RUN: 40 %RIFFLE: 30

Gradient 4.00 *Maximum 10*

A] SAMPLED REACH

Check ALL that apply

METHOD

- ☐ BOAT
- ☑ WADE
- ☐ L. LINE
- ☐ OTHER

DISTANCE

- ☐ 0.5 Km
- ☐ 0.2 Km
- ☐ 0.15 Km
- ☐ 0.12 Km
- ☑ OTHER

0.6 meters

STAGE

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

CLARITY

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

CANOPY

- ☑ > 85%- OPEN
- ☐ 55%-<85%
- ☐ 30%-<55%
- ☐ 10%-<30%
- ☐ <10%- CLOSED

1st pass _____ cm

2nd _____ cm

C] RECREATION

POOL: ☐ >100ft² ☐ >3ft

AREA DEPTH

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

pH: 8.07; Temperature: 4.6 C. Recreation inferred due to proximity of residential property and roadway.

B] AESTHETICS

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

D] MAINTENANCE

Circle some & *COMMENT*

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

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 2.6m
- $\bar{x}$ depth 0.25m
- max. depth 0.56m
- $\bar{x}$ bankfull width
- bankfull $\bar{x}$ depth
- W/D ratio 10.4
- bankfull max. depth
- floodprone x2 width
- entrench. ratio

Legacy Tree:

Stream Drawing: