AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY

CONSTRUCTION NOTICE

CARLISLE-LORAIN Q-24 138 KV TRANSMISSION LINE SWITCH REPLACEMENT PROJECT

OPSB CASE NO.: 25-0162-EL-BNR

June 23, 2025

American Transmission Systems, Incorporated
76 South Main Street
Akron, Ohio 44308

CONSTRUCTION NOTICE
CARLISLE-LORAIN 138 KV Q-24 TRANSMISSION LINE
SWITCH 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 ("Board") as a Construction Notice.

4906-6-05: ACCELERATED APPLICATION REQUIREMENTS

4906-6-05: Name and Reference Number

Name of Project:	Carlisle-Lorain 138 kV Q-24 Transmission Line Switch Replacement Project ("Project").
Reference Number:	2075

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

In this Project, American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, proposes to relocate and replace two existing switches on the Carlisle-Lorain 138 kV Q-24 Transmission Line, as well as replace the existing tap structure to National Bronze Substation (structure #12826). The Project is located in Sheffield Village, Lorain County, Ohio. The general location of the Project is shown in **Exhibit 1**, a partial copy of the United States Geologic Survey, Lorain County OH, Quad Map. **Exhibit 2** provides a partial copy of ESRI aerial imagery of the Project area.

Specifically, as shown on the General Layout at **Exhibit 3** and starting at the southern end of the Project Area:

- Existing switch structure 4170 will be replaced with a new monopole wood structure and the existing switch (A-170) will be removed and retired.

- Existing wood structure 4167 will be replaced with a new steel monopole switch structure and a new 1200A SCADA controlled switch (A-562) will be installed.
- Existing wood structure 4166 will be removed and a new steel structure 4166 will be installed approximately 20 feet north of the current location. This new structure is proposed to be the new tap to National Bronze Substation. A new intermediate steel structure, 4166A, will be placed along the centerline of the tap to National Bronze Substation to balance the loading of the steel members on existing double circuit structure 42905.
- Existing wood structure 12826, which is currently the tap to National Bronze Substation, will be removed and a new steel switch structure 12826, along with a new 1200A, SCADA controlled switch (A-563) will be installed approximately 55 feet northeast of the current location.
- Existing switch structure 4152 will be replaced with a new monopole wood structure and existing switch (A-152) will be removed and retired.
- To match the existing conductor on the Carlisle-Lorain 138 kV Transmission Line, new 795 ACSR 36/1 "COOT" conductor will be strung from new structure 4167 to new structure 12826. Similarly, new 336.4 ACSR 26/7 "LINNET" conductor will be strung from new structure 4166 to new structure 4166A along the tap to National Bronze Substation.
- The existing conductor will be re-tensioned from existing structure 4168 to new structure 4167, from existing structure 42905 to new structure 4166A, and from new structure 12826 to existing structure 4165.

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) as it involves the addition of structures to an existing transmission line and the replacement of transmission line structures with a different structure type, for a distance of less than two miles.

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

The Project is needed to replace an inoperable switch and update another switch on the existing Carlisle-Lorain 138 kV Q-24 Transmission Line. In addition, the Project is needed to improve safety, reduce environmental impacts and reduce acute structure angles on the existing customer transmission line tap feeding National Bronze Substation.

Currently, existing switch A-170, located on structure #4170, is inoperable and non-repairable, meaning the switch is locked in the closed position and can no longer perform necessary switching. To aid in customer outage planning and line sectionalization, ATSI proposes to replace this switch with the new standard switch configuration, SCADA controlled motor operated switch. Likewise, existing switch A-152, located on structure #4152, no longer meets FirstEnergy's engineering standards for design or safety and its condition is worsening with time. The condition of switch A-152 is leading to an inevitable failure and has been identified as a priority for replacement.

ATSI's standard switch configuration places switches as close to a tap point as possible, but the existing switches are approximately 1.2-miles apart, with the National Bronze tap being between the two switches. This Project proposes to move both switches to the structures on either side of the National Bronze tap, providing safer and easier access for

maintenance. To maximize construction efficiency, minimize landowner impact, and restore the intended safety features inherent to transmission switches, it is in ATSI's best interest to replace & relocate both A-170 and A-152 in one construction effort and in one customer outage.

As a safety precaution, maintenance and construction crews are required to see a visible air gap on switch structures before work can be done on the de-energized portion of the line. The aforementioned 1.2-mile distance between switches makes the simultaneous visibility of both open switches impossible. In this current configuration, the customer tap needs to be completely taken out of service before work can safely be performed. Moving the switches to be near the tap and to each other allows the customer tap to remain energized while work is being done on either side of the tap.

Failure to replace existing switch A-170 could result in a drop of service to National Bronze Substation in the event of an outage at either Carlisle or Lorain Substations. By having both switches in a working condition, an outage of this type could be prevented by sectionalizing the line via opening the switch connection, continuing service to National Bronze Substation.

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 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. This map was submitted to the Public Utility Commission of Ohio ("PUCO") in Case No. 25-0504-EL-FOR under Adm.Code 4901:5-5:04 (C)(2)(b). The Carlisle-Lorain 138 kV Q-24 Transmission Line Switch Replacement Project is included on page 72 in the 2025 Long-Term Forecast Report.

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

One alternative considered would be to replace only switch A-170. This option is not preferred because switch A-152 is not a SCADA controlled switch, therefore a crew would be required to perform switching on-site, rather than remotely, thus posing safety concerns for the switchman. In addition, this switch is deteriorating towards inevitable replacement and in an effort to minimize the number of outages to the customer, both switches will be replaced at once. Another reason this option is not preferred is the position of the existing switches. This alternative would not move the switches to be close to the National Bronze tap, presenting a safety concern as detailed above.

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

ATSI's manager of External Affairs will advise local officials of 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.

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

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

Construction on this Project is expected to begin as early as July 2025 and be completed by March 2026, at which time the Project will be placed in service.

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

Exhibit 1 provides a partial copy of the USGS Topographic Map, Lorain County, Ohio, Quad Map. **Exhibit 2** provides a partial copy of ESRI aerial imagery.

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

The project is located within existing right-of-way ("ROW") and will not require any easement modifications. A table of impacted properties is included as Table 1.

Table 1. Property List

Parcel Number	Easement Status
0300073000062	Existing
0300013503001	Existing
0300072000034	Existing (Fee Owned)
0300073000034	Existing
0300073000061	Existing (Fee Owned)

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
ROW Width:	100 ft
Conductors:	795 kcmil 36/1 ACSR, 336.4 ACSR 26/7
Static Wire:	7#10 Alumoweld
Insulators:	Porcelain
Structure Type:	**Exhibit 4**: Single Circuit Tubular Steel Structure
	Exhibit 5: Single Circuit Tubular Steel Switch Structure
	Exhibit6: Single Circuit Monopole Wood Structure
	Exhibit 7: Single Circuit Tubular Steel Tap Structure

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

There is one (1) occupied residence or institution within 100 feet from the proposed transmission line. However, as this is not a new facility, no Electric and Magnetic Field ("EMF") calculations are required by this subsection.

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

The estimated cost for the proposed Project is $502,000 Although not statutorily required for approval, at the request of OPSB Staff, ATSI confirms 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 the Sheffield Village, Lorain County, Ohio. The land use within the vicinity of the proposed Project is mixed use, with some agricultural, commercial, and transportation. This project will take place entirely within existing ROW.

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

There is one parcel within the Project Area designated as an Agricultural District property: Parcel 0300073000062 (10.52 acres and has an agricultural district expiration date of 2027). Access will not impact this parcel, and there are no structure replacements within the parcel, therefore there will be no impact to any agricultural land.

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

As part of the investigation for this Construction Notice, on May 2, 2025, TRC Companies, Inc. (TRC) submitted a request to the Ohio Historic Preservation Office (OHPO) 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 June 9, 2025, SHPO replied to the request and the response is attached as **Exhibit 8**. While several Ohio Historic Inventory (OHI) properties and National Register-listed properties were identified in the literature review, none of these properties are located within the APE. Furthermore, no previously recorded archaeological sites are mapped within or adjacent to the APE. SHPO concurred that the Project, as proposed, will not affect any historic properties or cultural resources.

No further coordination is required unless the scope of work changes or new/additional archaeological deposits are discovered during construction.

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

No additional government agency authorizations or permits are required for this Project.

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

As part of the investigation, ATSI hired TRC to conduct the necessary environmental surveys. TRC submitted requests to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Reviews. As part of the Environmental Review, the ODNR Office of Real Estate conducted a search of the ODNR Division of Wildlife's Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. The ODNR's Office of Real Estate's response on May 16, 2025, indicated that the following four (4) state and/or federally listed plants or animals have been recorded within a one (1) mile radius of the Project Study Area: round-leaved dogwood (Cornus rugosa), pumpkin ash (Fraxinus profunda), Canada buffalo-berry (Shepherdia canadensis), and tower mustard (Turritis glabra). In addition, the Project is within the range of eight (8) state and/or federally listed animal species. A copy of ODNR's Office of Real Estate's response is included as **Exhibit 9.** 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, Threatened, and Rare Species.

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
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.
Mussels				
Pondhorn	*Uniomerus tetralasmus*	N/A	Threatened	Perennial streams.
Fish				
American Eel	*Anguilla rostrata*	N/A	Threatened	Perennial streams.
Bigmouth Shiner	*Notropis dorsalis*	N/A	Threatened	Perennial streams.
Channel Darter	*Percina copelandi*	N/A	Threatened	Perennial streams.
Lake Sturgeon	*Acipenser fulvescens*	N/A	Endangered	Perennial streams.
Ohio Lamprey	*Ichthyomyzon bdellium*	N/A	Endangered	Perennial streams.
Spotted Gar	*Lepisosteus oculatus*	N/A	Endangered	Perennial streams.
Reptiles				
Spotted Turtle	*Clemmys guttata*	N/A	Threatened	Fens, bogs and marshes, wet prairies, meadows, wet woods and pond edges.

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 be completed for the Project, which TRC completed for FirstEnergy and submitted to ODNR for concurrence on May 27, 2025. ODNR responded on June 2, 2025, attached as **Exhibit 10** concurring that no caves, cliffs, or mine openings occur in the Project Study Area; therefore, the Project is not likely to impact hibernating bats. In assessing compliance with NWP General Condition 18, TRC determined that tree clearing is not anticipated within the Project Study Area. If minor tree clearing is needed as a result of this Project, it will take place within the USFWS recommended tree clearing dates (October 1 – March 31); therefore, no impacts to bat species are anticipated as a result of the construction of this Project.

The Project is within the range of the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel species. Due to the location, and that there is no in-water work proposed in a perennial stream, this Project is not likely to impact this species.

The response from ODNR, DOW indicated that the Project is within the range of a total of six (6) state listed fish species. This included three (3) state endangered fish species: lake sturgeon (*Acipenser fulvescens*), Ohio lamprey (*Ichthyomyzon bdellium*), spotted gar (Lepisosteus oculatus); and three (3) state threatened fish species: bigmouth shiner (*Notropis dorsalis*), American eel (*Anguilla rostrata*), and the channel darter (*Percina copelandi*). No in-water work is proposed in a perennial stream; therefore, this Project is not likely to impact these or other aquatic species.

The Project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. If wetland habitat cannot be avoided, ODNR recommended that an approved herpetologist conduct a habitat suitability survey to determine if suitable habitat is present within the Project Study Area. Based upon the recommendation of ODNR, a habitat survey was conducted by Mr. Jeffrey G. Davis to determine if the Project Study Area contains suitable habitat for the spotted turtle. Mr. Davis conducted the site visit on May 25, 2025, and determined that the vegetation within the Project Study Area was not indicative of spotted turtle habitat. Additionally, there was no evidence of a migration corridor that might allow the species to immigrate from other sites. Therefore, Mr. Davis concluded that a Presence/Absence Survey is not recommended, and no further concern is warranted regarding the spotted turtle within the Project Study Area.

As part of the investigation, TRC also submitted a request to the U.S. Fish and Wildlife Service ("USFWS") for an Ecological Review to research the presence of any endangered, threatened, rare, or designated species within one (1) mile of the Project Area. Copies of USFWS's Ecological Review response, dated April 29, 2025, are included as **Exhibit 11.** The responses indicate that the USFWS does not anticipate adverse effects to federally endangered, threatened, or proposed species or designated critical habitat due to the type, size, and location of the Project.

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

On April 3, 2025, TRC biologists conducted a wetland and waterways delineation for the Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project. The Project Study Area is 3.10 acres in size and is located in the Village of Sheffield, Lorain County, Ohio. One (1) palustrine emergent wetland (W-EVN-1) was identified and delineated, totaling 0.833-acre in size within the Project Study Area. No other ecological features, including streams, were identified or delineated within the Project Study Area.

The Project Study Area consists mainly of an existing, maintained utility right-of-way, surrounded by developed commercial and agricultural land use. TRC did not observe the presence of any of the ODNR or federally listed species during the field investigation due to the highly maintained nature of the utility ROW and surrounding land use. Therefore, no impacts are anticipated to any of the listed species detailed in the ODNR correspondence.

The Limits of Disturbance will be completely within the Project Study Area and will predominantly include access and workspace utilizing timber matting to access several structures and associated switches along the Carlisle-Lorain 138kV transmission line. Nationwide Permit (NWP) 57 - Electric Utility Line and Telecommunications Activities (effective March 15, 2021, valid through March 14, 2026), 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. Nationwide Permit Regional General Conditions were reviewed regarding this Project.

It is anticipated that due to the nature of the Project, there will be minor impacts to jurisdictional resources (Wetland W-EVN-1) from the proposed Project activities. Disturbances to potentially jurisdictional features are anticipated to be less than 0.5-acre. If the Project impacts remain under the 0.5-acre NWP impact threshold for potentially jurisdictional features, it is TRC's understanding that this Project would fall under NWP 57. Nationwide Permit Regional General Conditions were reviewed regarding this Project. This Project is located in the Village of Sheffield, Lorain County, Ohio, which is within the USACE Buffalo Regulatory District. The Project location is not listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species), which would trigger the need for a Section 404 Pre-Construction Notification (PCN). A Section 404 PCN may be required if NWP 57 conditions are not met and/or notification thresholds are exceeded. As currently proposed, NWP 57 conditions are met and there is no potential

trigger for a Section 404 PCN to USACE. The surface water delineation report and photographic record are included in **Exhibit 12.**

A review of the National Conservation Easement Database (www.conservationeasement.us) revealed no conservation easements in the Project Area.

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 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 application is being provided concurrently with its docketing with the Board to the following officials in the Village of Sheffield, Lorain County, Ohio. A copy will also be provided to the South Branch Library for public review/reference.

Lorain County

Mr. David J. Moore
Lorain County Commissioner
dmoore@loraincounty.us
226 Middle Avenue, 4th Floor
Elyria, Ohio 44035

Mr. Marty Gallagher
Lorain County Commissioner
mgallagher@loraincounty.us
226 Middle Avenue, 4th Floor
Elyria, Ohio 44035

Mr. Jeff Riddell
Lorain County Commissioner
jriddell@loraincounty.us
226 Middle Avenue, 4th Floor
Elyria, Ohio 44035

Mr. Ken Carney, P.E., P.S.
Lorain County Engineer
kcarney@loraincountyengineer.com
247 Hadaway Street
Elyria, OH 44035

Lorain SWCD
conservation@loraincounty.us
42110 Russia Road
Elyria Ohio 44035

Sheffield Village

Mr. Matthew Bliss
Sheffield Village Council Member
councilmemberbliss@sheffieldvillage.com
4340 Colorado Avenue
Sheffield Village, OH 44054

Mr. Mitchell Carr
Sheffield Village Council Member
councilmembercarr@sheffieldvillage.com
4340 Colorado Avenue
Sheffield Village, OH 44054

Mr. Daniel Forror
Sheffield Village Council Member
councilmemberforror@sheffieldvillage.com
4340 Colorado Avenue
Sheffield Village, OH 44054

Mr. Kevin Watkinson
Sheffield Village Council Member
councilmemberwatkinson@sheffieldvillage.com
4340 Colorado Avenue
Sheffield Village, OH 44054

Mr. Stan Bielawski
Sheffield Village Council Member
councilmemberbielawski@sheffieldvillage.com
4340 Colorado Avenue
Sheffield Village, OH 44054

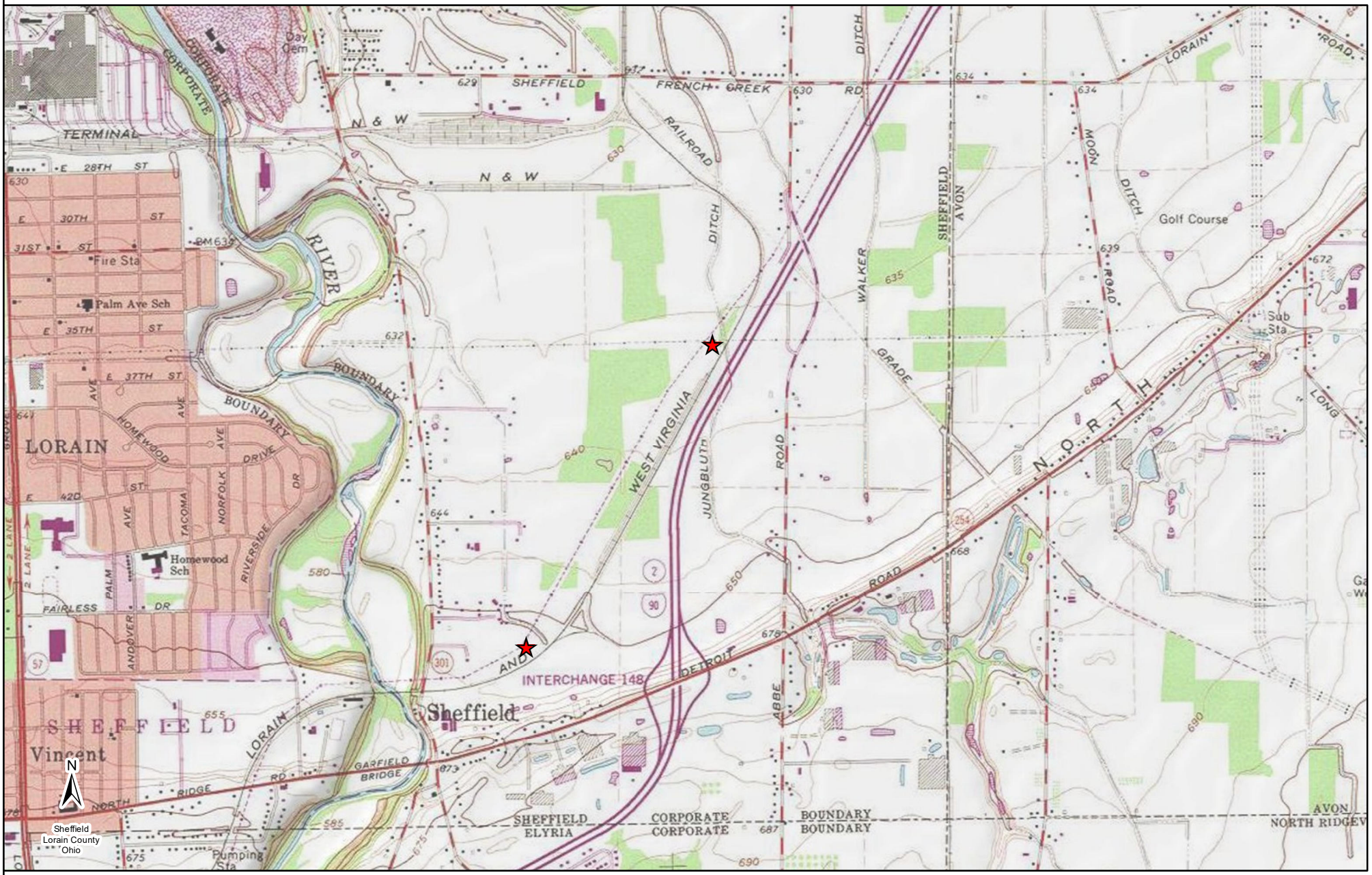
Library

Danielle Coward, Branch Manager
Lorain Public Library, South Lorain Branch
2121 Homewood Drive
Lorain, OH 44055

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 the library per Adm.Code 4906-6-07 (A)(2).

Information is posted at www.firstenergycorp.com/about/transmission_project/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 Area

0 1,000 2,000 4,000

Feet

Reference:
USGS Topographical Overlay

Coordinate System:
NAD_1983_StatePlane_Ohio_North_FIPS_3401_Feet
WKID: 3734 Authority: EPSG

EXHIBIT 1

ATSI®
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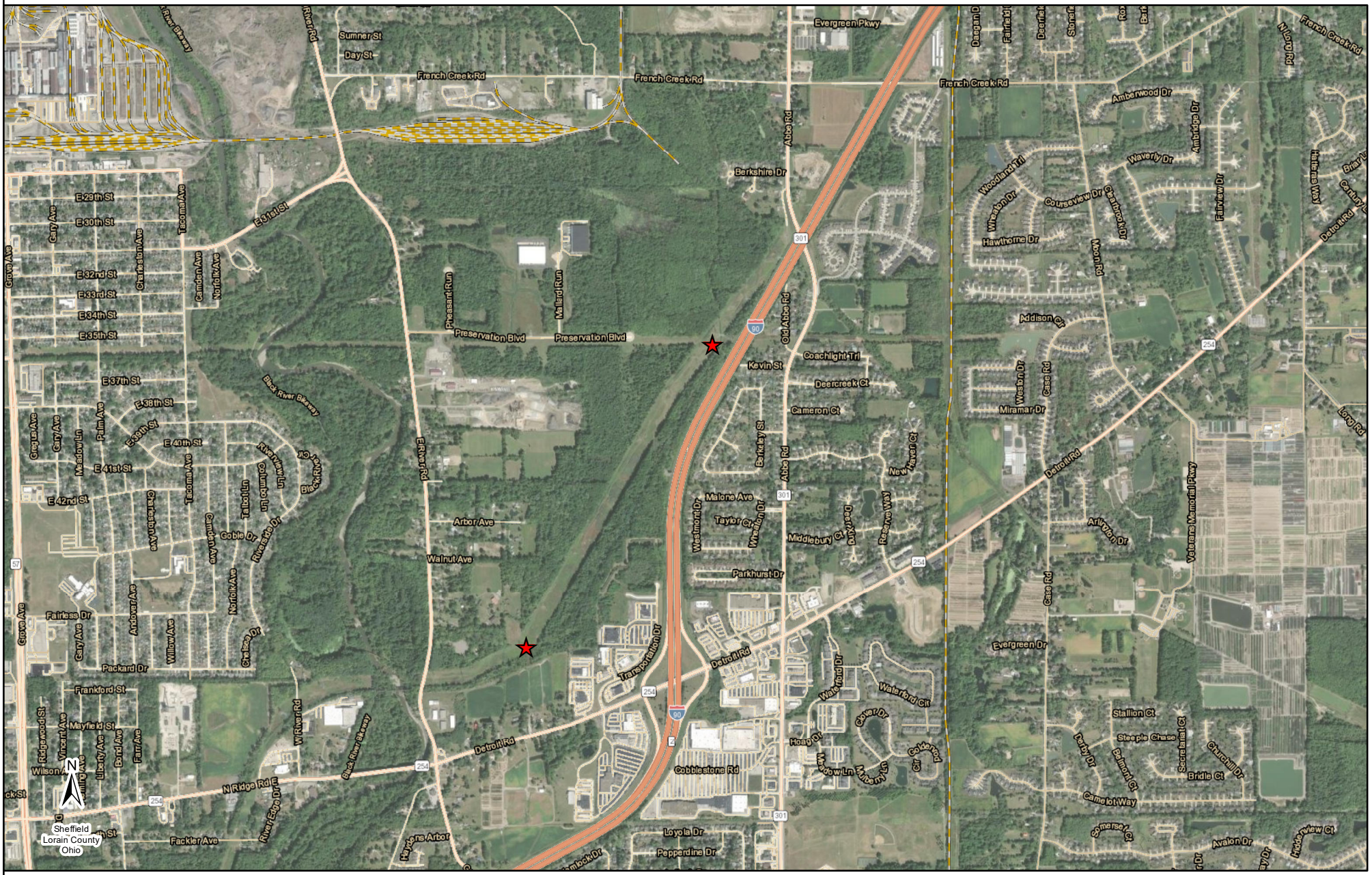
Carlisle-Lorain Q-24 138 kV Transmission Line Switch Replacement Project



LEGEND:

★ Project Area

0 1,000 2,000 4,000

Feet

Reference:
USGS Topographical Overlay

Coordinate System:
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WKID: 3734 Authority: EPSG

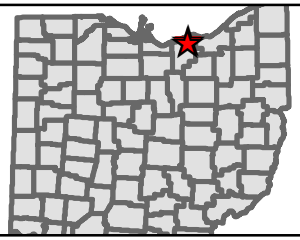

EXHIBIT 2

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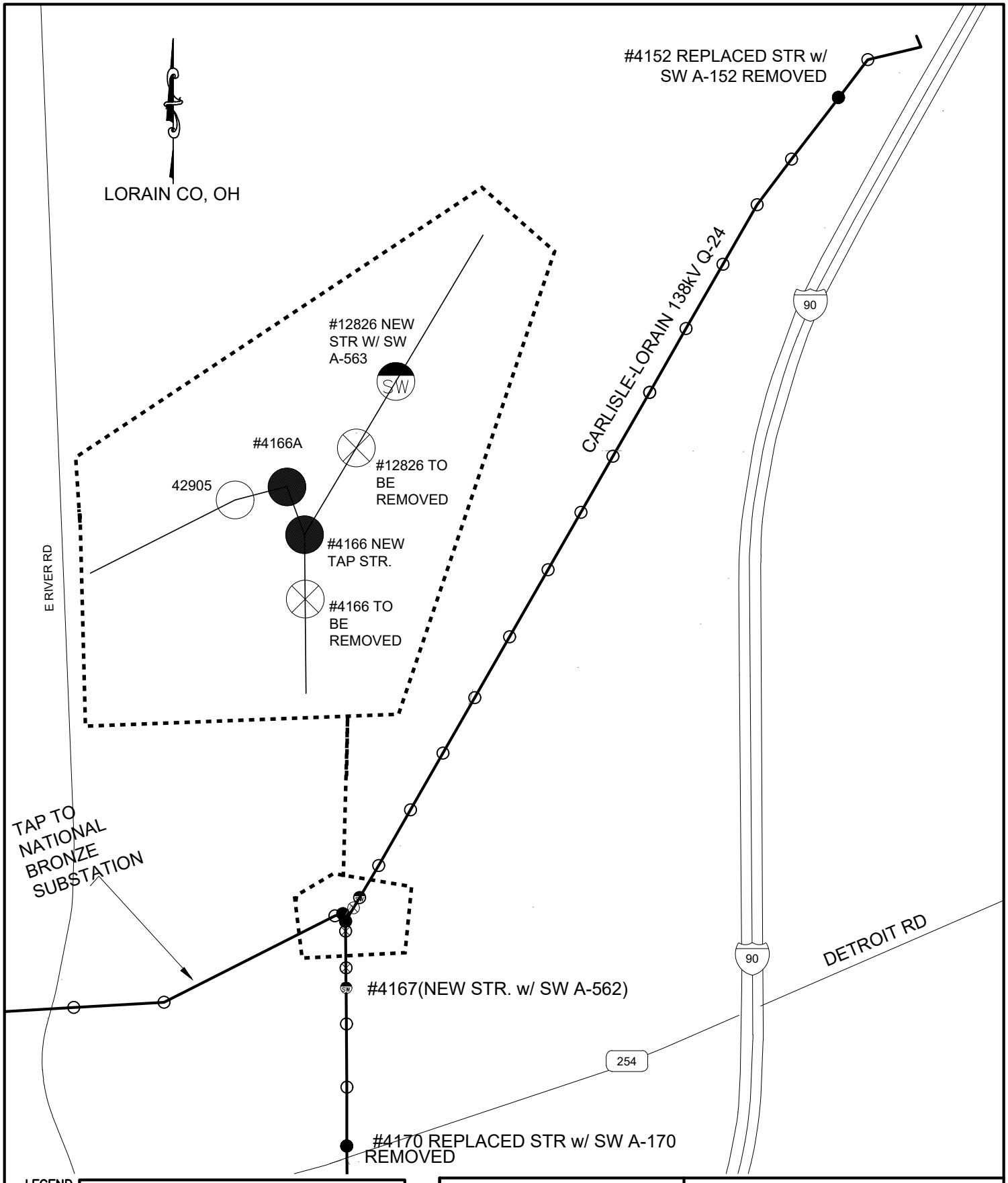
Carlisle-Lorain Q-24 138 kV Transmission Line Switch Replacement Project



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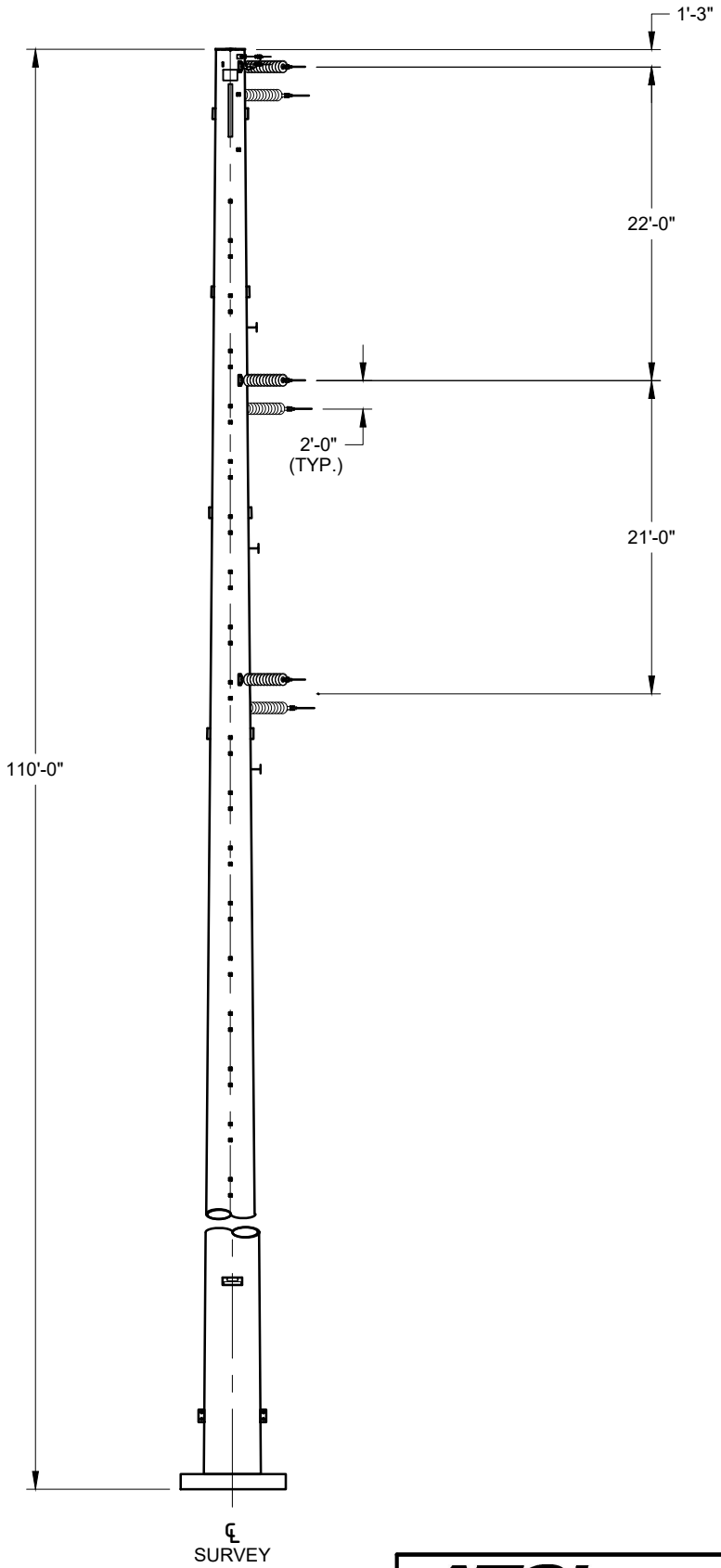
Carlisle-Lorain Q-24 138 kV
Transmission Line Switch
Replacement Project

GENERAL LAYOUT

Exhibit 3

PAPER SIZE: 8.5X11

SCALE: NTS



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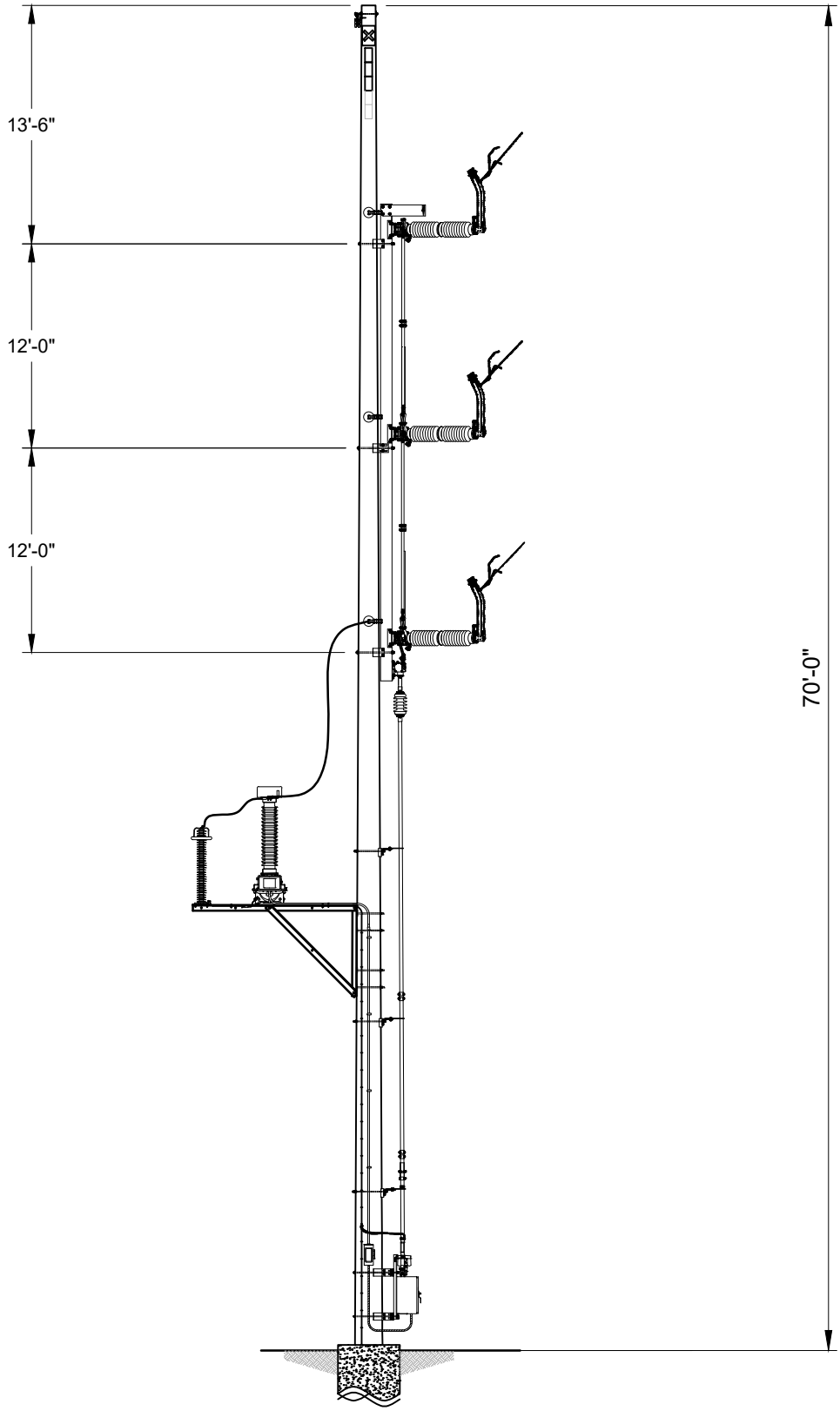
Carlisle-Lorain Q-24 138 kV
Transmission Line Switch Replacement
Project

SINGLE CIRCUIT TUBULAR STEEL
STRUCTURE 4166A WITH CONCRETE FOUNDATION

Exhibit 4



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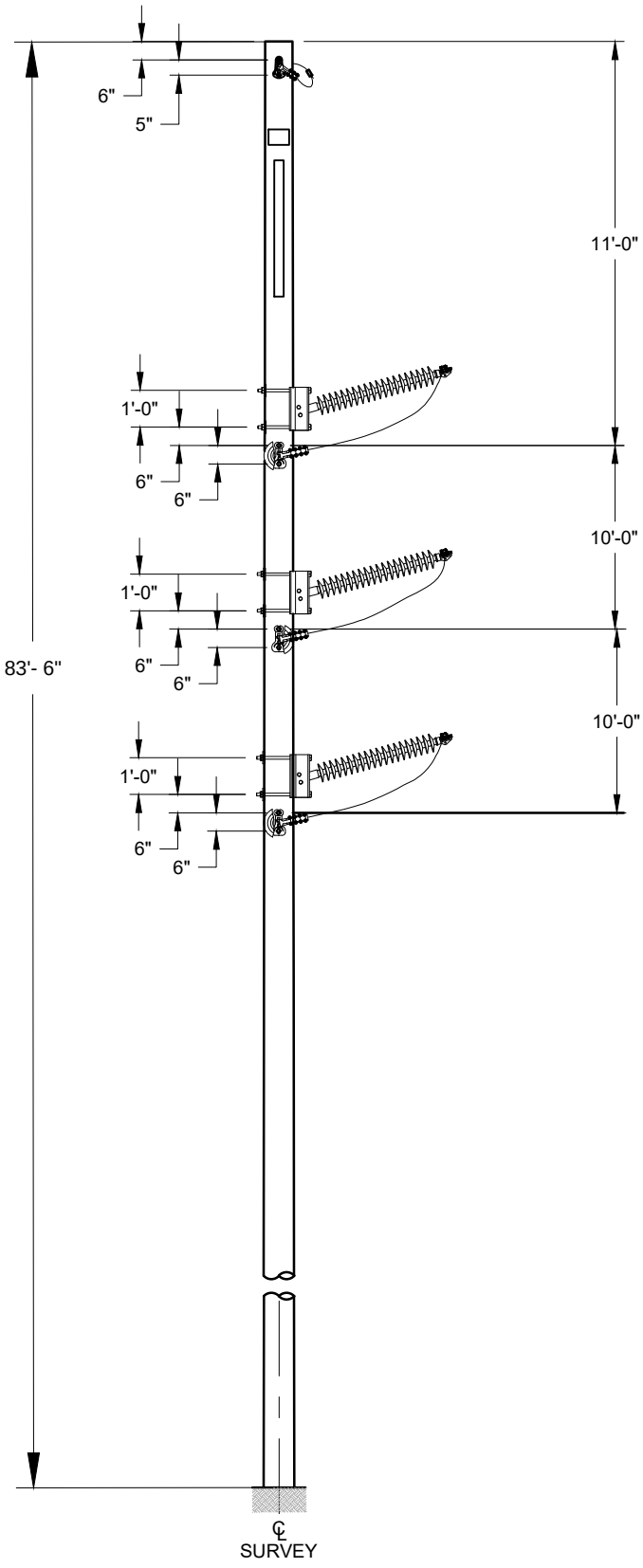
Carlisle-Lorain Q-24 138 kV
Transmission Line Switch Replacement
Project

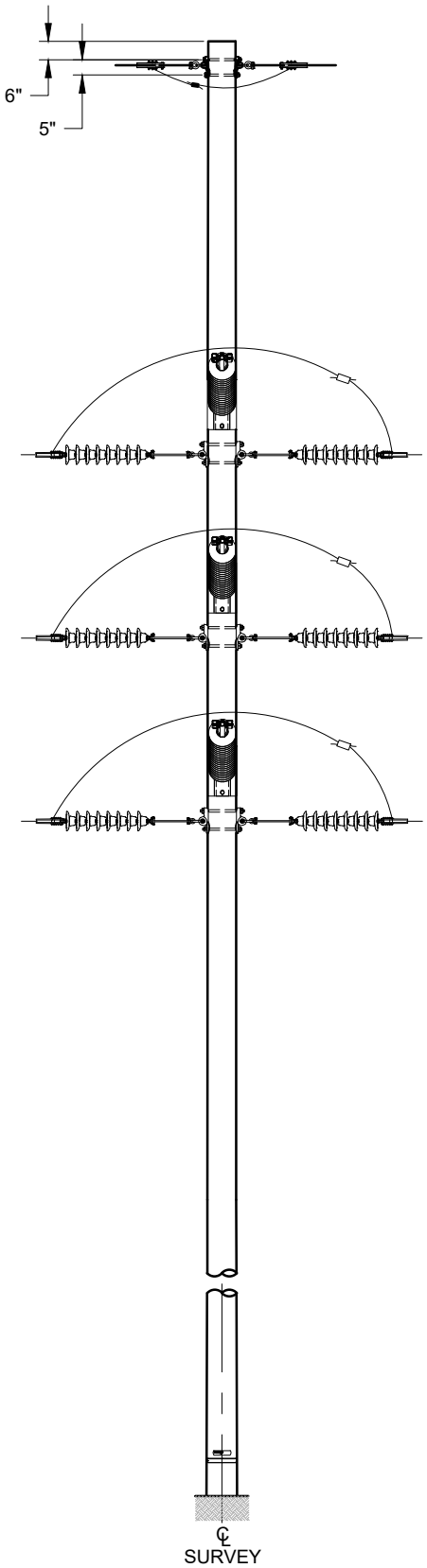
SINGLE CIRCUIT TUBULAR STEEL
SWITCH STRUCTURES #4167 & #12826 WITH CONCRETE FOUNDATION

Exhibit 5

PAPER SIZE: 8.5X11

SCALE: NTS





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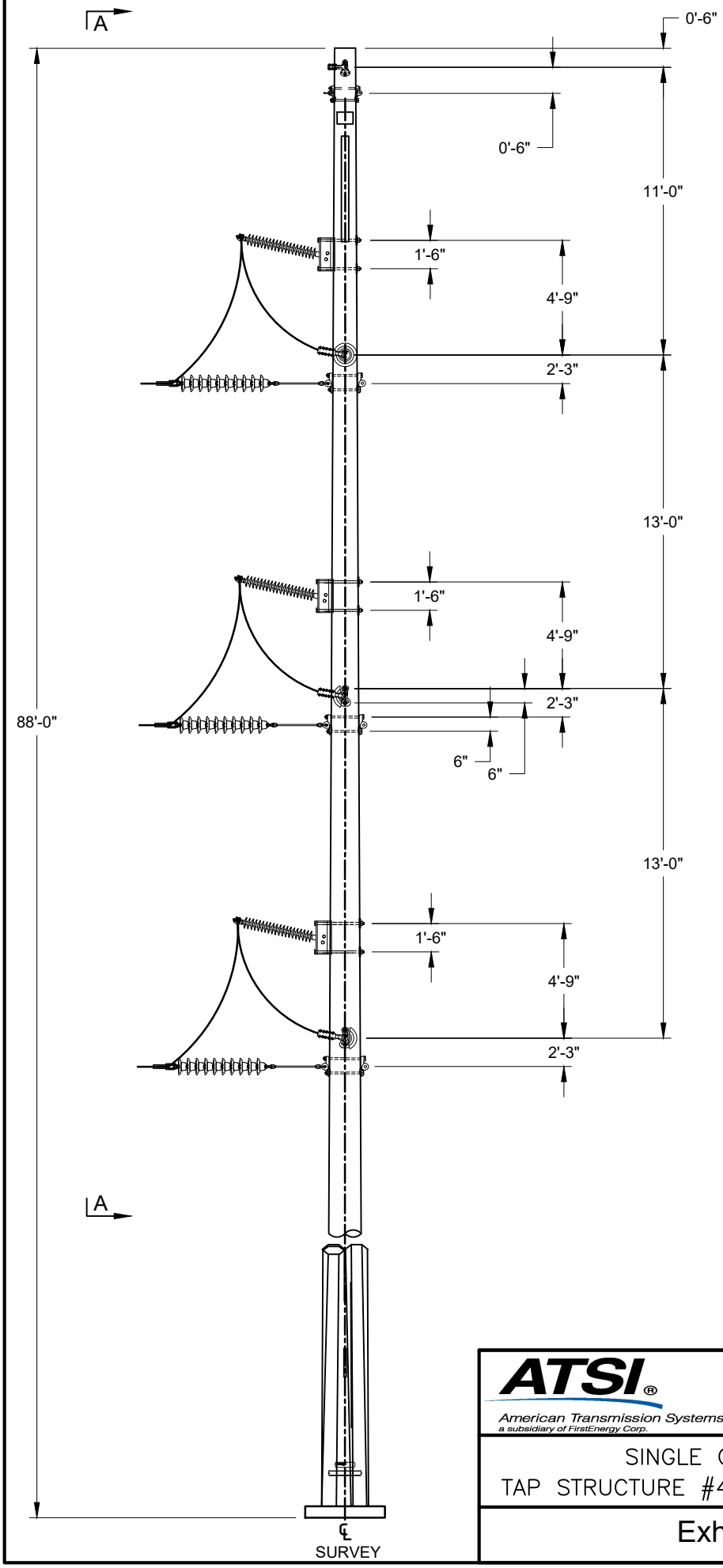
Carlisle-Lorain Q-24 138 kV
Transmission Line Switch
Replacemet Project

Single Circuit Wood Monopole Structure
Structures 4152 and 4170

Exhibit 6



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Carlisle-Lorain Q-24 138 kV
Transmission Line Switch
Replacement Project

SINGLE CIRCUIT TUBULAR STEEL
TAP STRUCTURE #4166 WITH CONCRETE FOUNDATION

Exhibit 7

Exhibit 8

In reply refer to:
2025-LOR-65072

June 9, 2025

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

RE: Section 106 Review: Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project, Sheffield, Lorain County, Ohio

Dear Mr. McKissick:

This letter is in response to the correspondence received on May 9, 2025, regarding the above-referenced project in Lorain 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 proposed project involves the replacement of existing switches along the Carlisle-Lorain 138kV transmission line. Based on information submitted by you, which included a Project Summary Form, no historic properties, districts, or archaeological sites are located within the direct Area of Potential Effect (APE), as defined by you. However, three (3) National Register of Historic Place-listed resources and six (6) previously unidentified historic resources are within one mile of the proposed project. While there are resources fifty years of age or older within the indirect APE, it is our understanding that replacement infrastructure will be of similar heights and will not create new visual impacts. Therefore, it is our opinion that there will be no effect on historic resources as a result of the project. No cultural resource studies are warranted for the project. No further coordination is required for this project unless the scope of work changes or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted. 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. 1108945

Exhibit 9

Department of Natural Resources
ohiodnr.gov

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

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

May 16, 2025

Jenna Slabe
TRC Companies, Inc.
1382 West 9th Street, Suite 400
Cleveland, Ohio 44113

Re: 25-0594 - Carlisle-Lorain 138kV Q-24 Switch Replacement

Project: The proposed project involves the replacement of existing switches on the Carlisle-Lorain Transmission Line.

Location: The proposed project is located in the Village of Sheffield, Lorain County, Ohio.

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

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

Round-leaved Dogwood (*Cornus rugosa*), P
Pumpkin Ash (*Fraxinus profunda*), P
Canada Buffalo-berry (*Shepherdia canadensis*), T
Tower Mustard (*Turritis glabra*), P

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

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

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

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

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

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

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

The project is within the range of the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size, this project is not likely to impact this species.

The project is within the range of the following listed fish species.
State Endangered
lake sturgeon (*Acipenser fulvescens*)
Ohio lamprey (*Ichthyomyzon bdellium)*
spotted gar (Lepisosteus oculatus)

State Threatened
bigmouth shiner (*Notropis dorsalis*)
American eel (*Anguilla rostrata*)
channel darter (*Percina copelandi*)

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 spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. If the wetland habitat cannot be avoided, the DOW recommends that an approved herpetologist conducts a habitat suitability survey to determine if suitable habitat is present within the project area. If suitable habitat is determined to be present; the DOW recommends that a presence/absence survey be conducted, or an avoidance/minimization plan be developed and implemented by the approved herpetologist. A list of approved herpetologists has been provided for your convenience.

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

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

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.

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.*

Stolarski, Adrianna

From: Eileen.Wyza@dnr.ohio.gov
Sent: Monday, June 2, 2025 2:30 PM
To: Slabe, Jenna
Cc: Falkinburg, Brad M (Ruszala, Amy M); Molnar, Maggie; Stolarski, Adrianna
Subject: [EXTERNAL] RE: Desktop Hibernacula Assessment: FirstEnergy's Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project

Hello Jenna,

Per review of the desktop survey provided for FirstEnergy's Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project, the Ohio Division of Wildlife concurs with your assessment that no caves, cliffs, or mine openings occur in the project area. Therefore, the project is not likely to impact hibernating bats.

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: Slabe, Jenna <JSlabe@trccompanies.com>
Sent: Tuesday, May 27, 2025 5:19 PM
To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>
Cc: Falkinburg, Brad <BFalkinburg@trccompanies.com>; Molnar, Maggie <MMolnar@trccompanies.com>; Stolarski,

Adrianna <astolarski@firstenergycorp.com>
Subject: Desktop Hibernacula Assessment: FirstEnergy's Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project

Eileen,

In response to ODNR's DOW recommendations (attached), TRC completed a desktop hibernacula assessment to determine if potential hibernaculum is present within FirstEnergy's proposed Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project located in the Village of Sheffield, Lorain County, Ohio. We have noted in the assessment that no subsurface disturbances to potential underground mines or any other bat hibernacula will occur due to the Project.

Please let us know if you have any questions on the provided desktop assessment or require any additional information, thank you!

Jenna Slabe
Ecologist

TRC
1382 W 9th St, Suite 400, Cleveland, OH 44113
C 330.998.0481 | JSlabe@trccompanies.com
TRCcompanies.com

Exhibit 11

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

April 29, 2025

Project Code: 2023-0038248

Dear Ms. Slabe:

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 adverse effects 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 12

Surface Water Delineation Report

Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project

May 2025

Village of Sheffield, Lorain 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: 429847.0022.0010

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TABLES

APPENDICES

ACRONYMS AND DEFINITIONS

1987 Manual	United States Army Corps of Engineers 1987 Wetland Delineation Manual
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FEMA	Federal Emergency Management Agency
FirstEnergy	FirstEnergy Corporation
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
OAC	Ohio Administrative Code
OBL	Obligate Wetland
OEPA	Ohio Environmental Protection Agency
ORAM	Ohio Rapid Assessment Method
Project	Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project
Project Study Area	3.10 acres, located in the Village of Sheffield, Lorain 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
USGS	United States Geological Survey

1.0 Introduction

On behalf of FirstEnergy Corporation (FirstEnergy), TRC Environmental Corporation (TRC) performed a surface water delineation for the Carlisle-Lorain 138kV Q-24 Transmission Line Switch Replacement Project (Project). The Project is 3.10 acres total in size, located in the Village of Sheffield, Lorain County, Ohio (Project Study Area). The proposed Project involves the replacement of existing switches on the Carlisle-Lorain Transmission Line. TRC conducted the required field investigations and prepared this Surface Water Delineation Report (Report) for the Project. A site location map of the proposed Project Study Area can be found in **Appendix A, Figure 1.**

On February 10, 2023, and April 3, 2025, TRC personnel performed field investigations to evaluate and delineate surface water resources (i.e., wetlands and streams) located within the Project Study Area. 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 in the Village of Sheffield, Lorain County, Ohio between the following approximate coordinates: 41.42466, -82.09688 (western terminus), 41.42674, -82.09105 (northern terminus) and 41.42223, -82.09111 (southern terminus). The Project Study Area occurs within an existing utility right-of-way within developed commercial and agricultural land use. **Appendix A, Figure 1** and **Figure 2,** provide further information on the location of the proposed Project Study Area.

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

The *USACE 1987 Wetland Delineation Manual* (*1987 Manual*) (USACE, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)* (*Regional Supplement)* (USACE, 2012), and the March 6, 1992 guidance memorandum (Williams, 1992) emphasize a three parameter approach to wetland boundary determination in the field. This approach involves the following:

- Evidence of wetland hydrology;
- Presence of hydric soils; and

- Predominance of hydrophytic vegetation as defined by *The National Wetland Plant List: 2022 Wetland Ratings* (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* provides 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 *Field Indicators of Hydric Soils in the United States: A Guide for Identifying and Delineating Hydric Soils Version 9.0* (USDA, NRCS, 2024) were used to identify and document hydric soils as described in 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 (5) 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 February 10, 2023, and April 3, 2025. The surface water field investigations were conducted within the predetermined Project Study Area that was developed in accordance with the Project location information provided by FirstEnergy (**Appendix A, Figure 2**). Surface water delineations were conducted using the Federal Routine Determination Method presented in the *1987 Manual* and *Regional Supplement*, including clarifications and interpretations provided in the March 6, 1992, guidance memorandum, and the USACE and Environmental Protection Agency (EPA) guidance on jurisdictional forms (EPA and USACE, 2007 and USACE, 2008).

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 (1) primary indicator (i.e., surface water, saturation, etc.) or two (2) secondary indicators (i.e., geomorphic position, stunted or stressed plants, etc.) are identified. One (1) primary indicator is sufficient to determine if hydrology is present; however, if these are absent then two (2) 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 below 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 (1) 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 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 Systems 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 B**.

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 (2) primary components of the ORAM are the Narrative Rating and the Quantitative Rating. 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).

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 and scoured channel or defined bed and banks. 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.

Identified streams were evaluated utilizing OEPA approved methods for stream habitat assessment which include the Qualitative Habitat Evaluation Index (QHEI) (OEPA, 2006) 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 U.S. (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 v4.28.1: Ohio (USGS, 2022).

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 (6) 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 on stream size; for smaller streams (≤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.

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

Streams identified during the course of the investigation were classified as perennial, intermittent, or ephemeral waterways in accordance with the rationale defined by the USACE.

The Project Study Area was also investigated for areas that were considered “open water” by the USACE. According to the USACE an open water is any area that in a year with normal patterns of precipitation has water flowing or standing above ground to the extent that an ordinary high-water mark 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.

3.0 Results

3.1 Site Description

The Project Study Area is 3.10 acres total in size, located in the Village of Sheffield, Lorain County, Ohio and is within the Black River watershed (12-Digit Hydrologic Unit Code [HUC]: 041100010602).

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

The United States Department of Agriculture – Natural Resources Conservation Service (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 the proposed Project Study Area.

Table 1. Soils Type Summary

Map Unit Symbol	Map Unit Name	Hydric Status	Acres Within Study Area	Percent Cover in Study Area
HsA	Haskins loam, 0 to 2 percent slopes	Non-Hydric	0.22	7.2%
Mo	Mermill loam	Hydric	2.55	82.4%
Om	Olmsted fine sandy loam	Hydric	0.07	2.2%
OtB	Oshtemo sandy loam, 2 to 6 percent slopes	Non-Hydric	0.17	5.4%
OtC	Oshtemo sandy loam, 6 to 12 percent slopes	Non-Hydric	0.09	2.8%
		TOTAL	**3.1**	**100.0%**
Note: Accessed online May 2025 at: http://websoilsurvey.sc.egov.usda.gov.				

There is one (1) Riverine United States Fish and Wildlife Service (USFWS) National Wetlands Inventory feature within the Project Study Area (**Appendix A, Figure 4**) (USFWS, 2022).

The USGS National Hydrography Dataset (NHD) (USGS, 2018) Downloadable Data Collection from The National Map (USGS, 2022) 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 stream mapped within the Project Study Area (**Appendix A, Figure 4**).

According to Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map panels, 39093C0136D (eff. 8/19/2008) and 39093C0137D (eff. 8/19/2008), the proposed Project is not located within a regulated 100-year floodplain (**Appendix A, Figure 4**) (FEMA, 2024).

3.2 Surface Water Resource Field Delineations

TRC performed field investigations on February 10, 2023, and April 3, 2025. Weather conditions were typical for the season in 2023 and warmer than usual for the season in 2025. Both 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 investigation, one (1) wetland, W-EVN-1, was identified and delineated within the Project Study Area. The delineated wetland boundaries 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 B**. Data was collected and recorded on the USACE Wetland Determination Data Forms – Northcentral and Northeast Region and a wetland functional assessment was completed for the delineated wetland using the ORAM (**Appendix C**). The delineated wetland within the Project Study Area is summarized in **Table 2.**

Table 2. Delineated Wetland Feature Summary Table

Resource ID[1]	Cowardin Classification[2]	Connection[3]	Provisional Jurisdictional Status[4]	ORAM Score	ORAM Category[5]	Approximate Delineated Area within Project Study Area[6] (acres)
W-EVN-1	PEM	Adjacent	USACE Jurisdictional, Wetland	32.5	Cat. 2	0.833
					TOTAL	**0.833**

[1]TRC resource identification.
[2]Cowardin Wetland Classification (approximation based upon field identification and delineation) (Cowardin, Carter, Golet, & LaRoe, 1979): PEM – Palustrine Emergent
[3]Connection to a jurisdictional waterway: Adjacent as determined by TRC; subject to USACE verification. Wetland connection is pending an update from OEPA and USACE based on the Sackett vs. EPA case.
[4]Jurisdiction status is based upon field observations and mapping review of apparent connectivity or adjacency of the resource to Waters of the United States or Waters of the State and the assumption that a preliminary jurisdictional determination process will be utilized for the Project.
[5]ORAM Category based on scoring breakpoints from Table 2 of the ORAM v. 5.0 Quantitative Score Calibration; scores falling within a "gray zone" or "modified" category were rounded up.
[6]Area is rounded to nearest 0.001-acre, based upon GPS data.

3.2.2 *Waterbodies*

During the field investigation, no streams or waterbodies were delineated within the Project Study Area.

4.0 Permitting Considerations

It is anticipated that due to the nature of the Project, jurisdictional resources may be temporarily impacted by the proposed Project activities. As currently proposed, it is TRC's understanding that this Project would fall under Nationwide Permit 57 - Electric Utility Line and Telecommunications Activities (USACE, 2022). This Project is located in the Village of Sheffield, Lorain County, Ohio, which is within the USACE Buffalo Regulatory District. The Project location (Lorain County) is not

listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species), which would trigger the need for a Section 404 Pre-Construction Notification.

Additionally, the Project is located within both “Ineligible” and “Possibly Eligible” areas according to OEPA’s Stream Eligibility for Nationwide Permit Program (OEPA, 2017) (**Appendix A, Figure 6**); however, OEPA’s 401 Water Quality Certification for NWP 57 is currently waived. No additional screening procedures are required for the Project regarding compliance with OEPA’s 401 Water Quality Certification.

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 this investigation and may result in changes to the presence, extent, and classification of the surface water resources identified within this Report.

6.0 References

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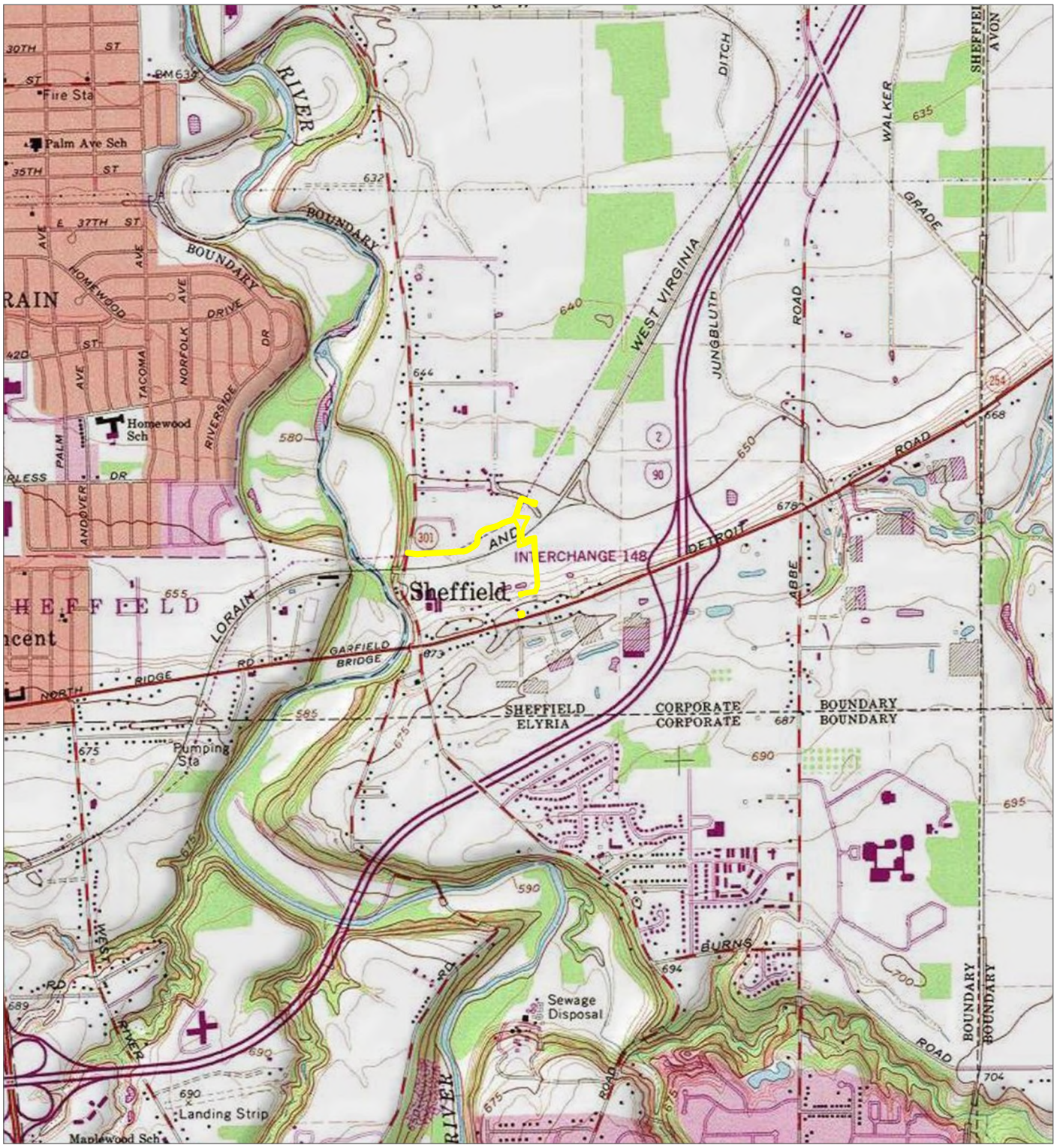
Appendix A

Figures



PROJECT STUDY AREA

BASE MAP: USA TOPO MAPS MAP SERVICE, AVON QUAD

0 1,000 2,000
FEET
1:24,000 1" = 2,000'

PROJECT:
FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT LORAIN COUNTY, OH

TITLE:
SITE LOCATION MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 1**
DATE:	MAY 2025		

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

FILE: WDR_SWITCHREPLACEMENT

PROJECT STUDY AREA

EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.

1:2,400

1" = 200'

0 150 300 FEET

PROJECT:
FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT LORAIN COUNTY, OH

TITLE:
AERIAL MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 2**
DATE:	MAY 2025		

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

FILE: WDR_SwitchReplacement.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.

1:2,400
1" = 200'
0 200 400 FEET

PROJECT:
FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT
LORAIN COUNTY, OH

TITLE:
SOILS MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR		
APPROVED BY:	B. FALKINBURG		**FIGURE 3**
DATE:	MAY 2025		

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

FILE: WDR_SwitchReplacement.aprx

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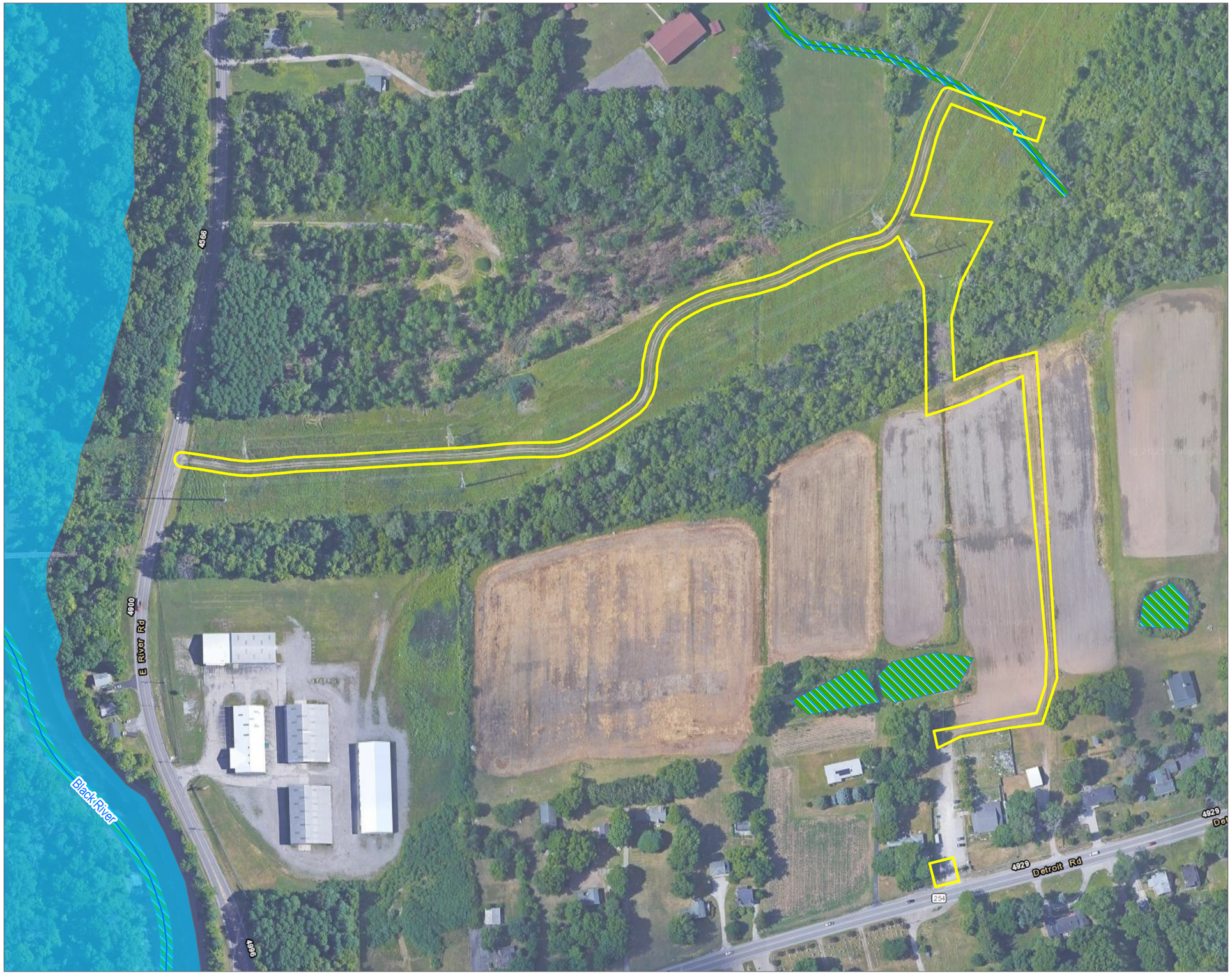
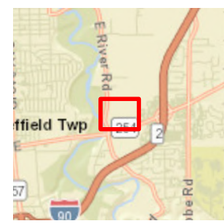


PROJECT STUDY AREA
NATIONAL HYDROGRAPHY DATASET (NHD) STREAM
NATIONAL WETLANDS INVENTORY (NWI) FEATURE
100-YEAR FLOOD ZONE

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).



1:2,400
1" = 200'

0 200 400 FEET

PROJECT:
FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT LORAIN COUNTY, OH

TITLE:
NHD, NWI AND FEMA FLOODPLAIN MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR		**FIGURE 4**
APPROVED BY:	B. FALKINBURG		
DATE:	MAY 2025		

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

FILE: WDR_SwitchReplacement.aprx

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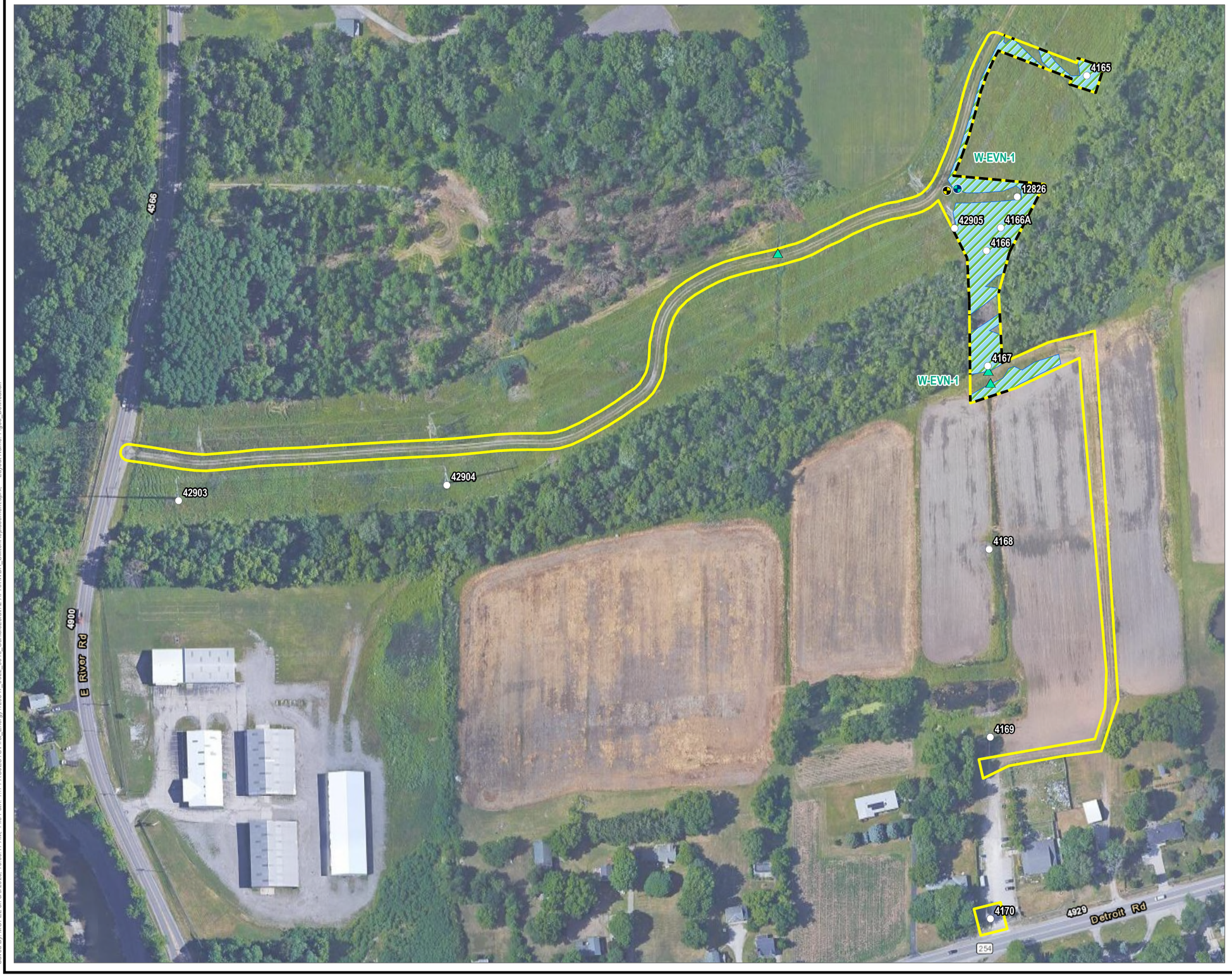

PROJECT STUDY AREA
EXISTING STRUCTURE
CULVERT
PEM WETLAND
WETLAND CONTINUES
WETLAND DATA POINT
UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
DATA SOURCES: TRC WETLAND DELINEATION COMPLETED FEBRUARY 10, 2022 & APRIL 3, 2025.

1:2,100
1" = 175'

0 175 350 FEET

PROJECT:
FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT LORAIN COUNTY, OH

TITLE:
DELINEATED RESOURCES MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR		**FIGURE 5**
APPROVED BY:	B. FALKINBURG		
DATE:	MAY 2025		

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

FILE: WDR_SwitchReplacement.aprx

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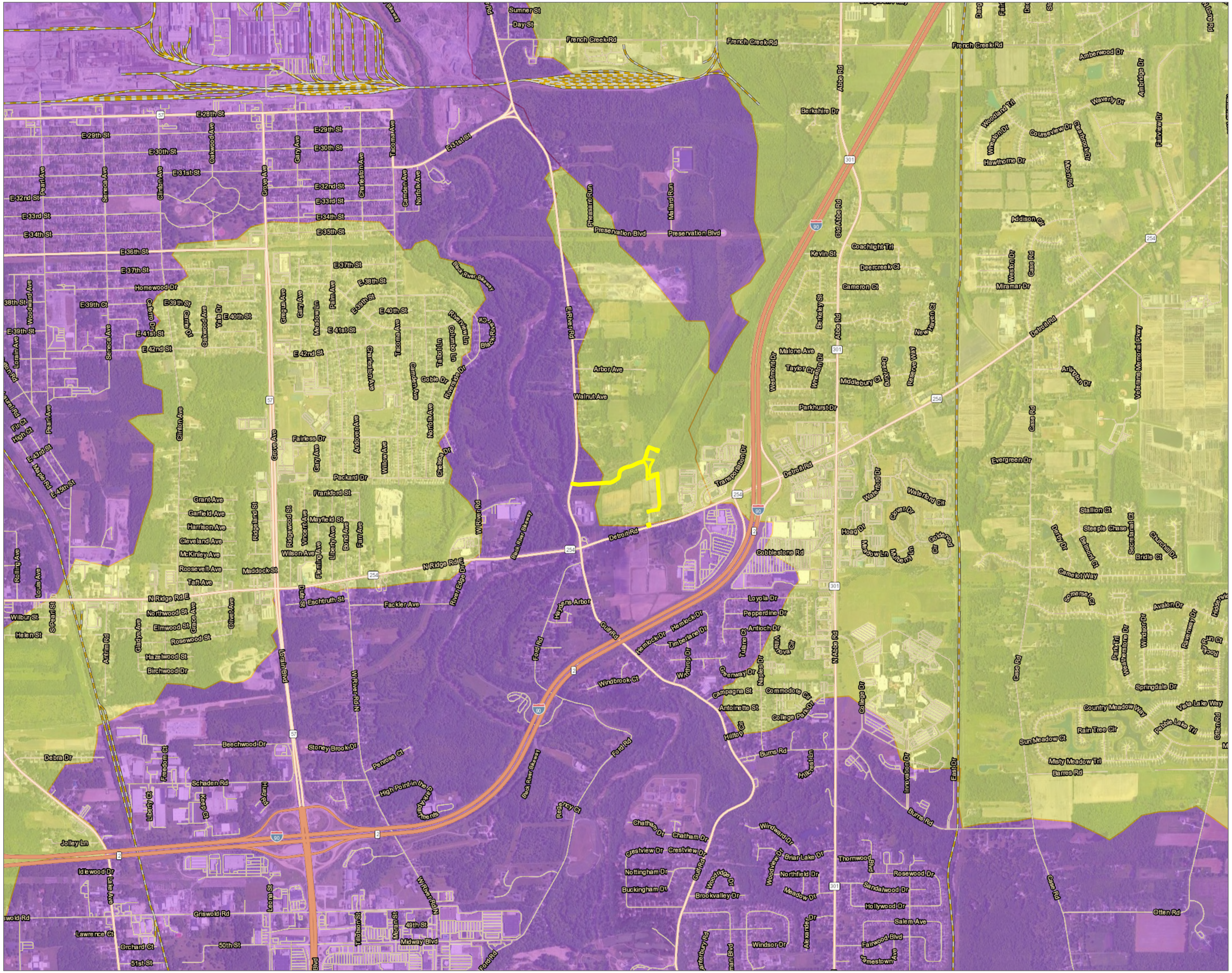


PROJECT STUDY AREA

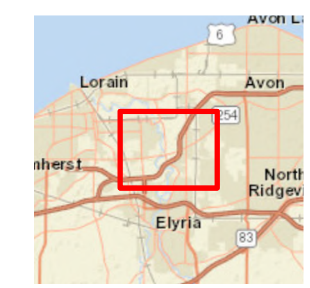
OHIO EPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

INELIGIBLE

POSSIBLY ELIGIBLE

ELIGIBLE

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



1:24,000
1" = 2,000'
0 2,000 4,000 FEET

PROJECT: FIRSTENERGY - CARLISLE-LORAIN 138KV Q-24 TRANSMISSION LINE SWITCH REPLACEMENT PROJECT
LORAIN COUNTY, OH

TITLE: NATIONWIDE PERMITS STREAM ELIGIBILITY MAP

DRAWN BY:	M. OPEL	PROJ. NO.:	429847.0022.0010
CHECKED BY:	M. MOLNAR	FIGURE 6	
APPROVED BY:	B. FALKINBURG		
DATE:	MAY 2025		

TRC

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

FILE: WDR_SwitchReplacement.aprx

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

Photographic Record

PHOTOGRAPHIC RECORD

Carlisle-Lorain 138 kV Q-24 Transmission Switch Replacement Project

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 1. **Photo Date:** 4/03/2025 **Description:** Wetland W-EVN-1, facing north.	

Photo No. 2. **Photo Date:** 4/03/2025 **Description:** Wetland W-EVN-1, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 3. **Photo Date:** 4/03/2025 **Description:** Wetland W-EVN-1, facing south.	

Photo No. 4. **Photo Date:** 4/03/2025 **Description:** Wetland W-EVN-1, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 5. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing north.	

Photo No. 6. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 7. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing south.	

Photo No. 8. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing west.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 9. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing north.	

Photo No. 10. **Photo Date:** 4/03/2025 **Description:** Representative photo of the Project Study Area, facing south.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 11.	
Photo Date: 4/03/2025	
Description: Representative photo of the Project Study Area, facing west.	

Photo No. 12.	
Photo Date: 2/10/2023	
Description: Representative photo of the Project Study Area, facing northeast.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 13. **Photo Date:** 2/10/2023 **Description:** Representative photo of the Project Study Area, facing southwest.	

Photo No. 14. **Photo Date:** 2/10/2023 **Description:** Representative photo from the west side of the Project Study Area, facing east.	

Client Name:	Site Location:	Project No.
FirstEnergy Corporation	Village of Sheffield, Lorain County, Ohio	429847.0022.0010

Photo No. 15. **Photo Date:** 2/10/2023 **Description:** Representative photo from the east side of the Project Study Area, facing northwest.	

Photo No. 16. **Photo Date:** 2/10/2023 **Description:** Representative photo of the Project Study Area, facing south.	

Appendix C

Data Forms

USACE Wetland Determination Data Forms – Northcentral and Northeast Region

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Carlisle-Lorain Switch Replacement **City/County:** Sheffield, Lorain County **Sampling Date:** 2023-Feb-10
Applicant/Owner: FirstEnergy **State:** OH **Sampling Point:** W-EVN-01_PEM-1
Investigator(s): Jenna Slabe , Erin Van Nort **Section, Township, Range:** T7N R17W
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
Subregion (LRR or MLRA): LRR R **Lat:** 41.425981 **Long:** -82.091322 **Datum:** WGS84
Soil Map Unit Name: Mermill loam (Mo) **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 ____	**Is the Sampled Area within a Wetland?**	**Yes _✓_ No ____**
Wetland Hydrology Present?	Yes _✓_ No ____	**If yes, optional Wetland Site ID:**	W-EVN-01

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is PEM. Area is wetland, all three wetland parameters are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ 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):	2
Water Table Present?	Yes ____ No _✓_	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes _✓_ No ____	Depth (inches):	0

Wetland Hydrology Present? Yes _✓_ No ____

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

Remarks:
A positive indication of wetland hydrology was observed (at least one primary indicator).

VEGETATION -- Use scientific names of plants.

Sampling Point: W-EVN-01_PEM-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Carex vulpinoidea*	60	Yes	OBL
2. *Scirpus cyperinus*	20	Yes	OBL
3. *Solidago gigantea*	15	No	FACW
4. *Verbena hastata*	5	No	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	2	(A)
Total Number of Dominant Species Across All Strata:	2	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	100	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	80	x 1 =	80
FACW species	20	x 2 =	40
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals	100	(A)	120 (B)
Prevalence Index = B/A =	1.2		

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.)

A positive indication of hydrophytic vegetation was observed (>50% of dominant species indexed as OBL, FACW, or FAC).

SOIL

Sampling Point: W-EVN-01_PEM-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 6	10YR 3/1	100					Clay Loam	
6 - 16	10YR 3/1	85	10YR 6/8	15	C	M	Clay Loam	

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ 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 Mucky 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 observed):

Type: None
Depth (inches):

Hydric Soil Present? Yes ✓ No ____

Remarks:

A positive indication of hydric soil was observed.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Carlisle-Lorain Switch Replacement **City/County:** Sheffield, Lorain County **Sampling Date:** 2023-Feb-10
Applicant/Owner: FirstEnergy **State:** OH **Sampling Point:** W-EVN-01_UPL-1
Investigator(s): Jenna Slabe , Erin Van Nort **Section, Township, Range:** T7N R17W
Landform (hillslope, terrace, etc.): Flat **Local relief (concave, convex, none):** None **Slope (%):** 0 to 1
Subregion (LRR or MLRA): LRR R **Lat:** 41.4260018757 **Long:** -82.0914896206 **Datum:** WGS84
Soil Map Unit Name: Mermill loam (Mo) **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 _✓_	**Is the Sampled Area within a Wetland?**	**Yes ____ No _✓_**
Wetland Hydrology Present?	Yes ____ No _✓_	**If yes, optional Wetland Site ID:**	

Remarks: (Explain alternative procedures here or in a separate report)
Covertype is UPL. Area is upland, not all three wetland parameters are present.

HYDROLOGY

Wetland Hydrology Indicators:

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

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

Secondary Indicators (minimum of two required)

___ Surface Soil Cracks (B6)
___ 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):	**Wetland Hydrology Present?** Yes ____ No _✓_
Saturation Present? (includes capillary fringe)	Yes ____ No _✓_	Depth (inches):	

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-EVN-01_UPL-1

Tree Stratum (Plot size: 30 ft)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 ft)			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	0	= Total Cover	
Herb Stratum (Plot size: 5 ft)			
1. *Daucus carota*	30	Yes	UPL
2. *Symphyotrichum ericoides*	25	Yes	FACU
3. *Festuca rubra*	20	Yes	FACU
4. *Dipsacus fullonum*	15	No	FACU
5. *Trifolium pratense*	10	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: 30 ft)			
1.			
2.			
3.			
4.			
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across All Strata:	3	(B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	0	(A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply By:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	30	x 5 =	150
Column Totals	100	(A)	430 (B)
Prevalence Index = B/A =	4.3		

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.)

SOIL

Sampling Point: W-EVN-01_UPL-1

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

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

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

Hydric Soil Indicators:

___ Histosol (A1)
___ Histic Epipedon (A2)
___ Black Histic (A3)
___ Hydrogen Sulfide (A4)
___ Stratified Layers (A5)
___ Depleted Below Dark Surface (A11)
___ Thick Dark Surface (A12)
___ 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 Mucky 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 observed):

Type: Gravel
Depth (inches): 2

Hydric Soil Present? Yes ____ No ✓

Remarks:

Area is road with gravel and fill .

OEPA ORAM Data Form

Background Information

Name: Erin Van Nort, Jenna Slabe
Date: 04/03/2025
Affiliation: TRC Companies, Inc.
Address: 1382 West Ninth Street, Suite 400
Phone Number: 216-347-3342
e-mail address: evannort@TRCcompanies.com
Name of Wetland: W-EVN-1
Vegetation Communit(ies): PEM
HGM Class(es): Depression
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EVN-1 is located north of Detroit Rd and east of E River Rd within the existing utlity right-of-way, in the village of Sheffield, Lorain County Ohio.

Lat/Long or UTM Coordinate	41.425776 -82.091093
USGS Quad Name	Avon
County	Lorain
Township	7N R17W
Section and Subsection	N/A
Hydrologic Unit Code	041100010602
Site Visit	04/03/2025
National Wetland Inventory Map	See Report
Ohio Wetland Inventory Map	See Report
Soil Survey	See Report
Delineation report/map	See Report

Name of Wetland: W-EVN-1		
Wetland Size (acres, hectares):	Acreage on-site (estimated acreage including off-site)	0.833 ac (~1.5 ac)

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

See Surface Water Delineation Report, Appendix A, Figure 5.

Comments, Narrative Discussion, Justification of Category Changes:

The quantitative score for Wetland W-EVN-1 falls within the Category 1 or 2 gray zone. Per the Ohio Environmental Protection Agency's Ohio Rapid Assessment Method for Wetlands Manual v. 5.0, wetlands that fall within the break points between categories should be assigned to the higher of the two categories. As such, Wetland W-EVN-1 is a Category 2.

Final score : 32.5	**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:	Rater(s):	Date:
FirstEnergy, Carlisle-Lorain 138kV Switch Replacement Proje	Erin Van Nort, Jenna Slabe	2025-04-03

Metric 1. Wetland Area (size).

2 (max 6 pts.) | 2 (subtotal)

Select one size class and assign score.

- [ ] >50 acres (>20.2ha) (6 pts)
- [ ] 25 to <50 acres (10.1 to <20.2ha) (5 pts)
- [ ] 10 to <25 acres (4 to <10.1ha) (4 pts)
- [ ] 3 to <10 acres (1.2 to <4ha) (3 pts)
- [x] 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.

5 (max 14 pts.) | 7 (subtotal)

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

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

13 (max 30 pts.) | 20 (subtotal)

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1)
- [x] Part of wetland/upland (e.g. forest), complex (1)
- [ ] 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)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

10.5 (max 20 pts.) | 30.5 (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)
- [ ] Moderately good (4)
- [x] 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	[x] shrub/sapling removal
[ ] grazing	[ ] herbaceous/aquatic bed removal
[ ] clearcutting	[ ] sedimentation
[ ] selective cutting	[ ] dredging
[ ] woody debris removal	[x] farming
[ ] toxic pollutants	[ ] nutrient enrichment

30.5 subtotal this page

TRC Environmental Corp.
1200 WALL ST W
LYNDHURST, NJ 07071-3614

Site:	Rater(s):	Date:
FirstEnergy, Carlisle-Lorain 138kV Switch Replacement Proje	Erin Van Nort, Jenna Slabe	2025-04-03

30.5
subtotal first page

0 | 30.5
max 10 pts. | subtotal

Metric 5. Special Wetlands.

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)

2 | 32.5
max 20 pts. | subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

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

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

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

Invasive Species Present:
phragmites
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.

- [1] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [0] 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

32.5

CATEGORY 2

End of Quantitative Rating. Complete Categorization Worksheets.

TRC Environmental Corp.
1200 WALL ST W
LYNDHURST, NJ 07071-3614

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	2	
	Metric 2. Buffers and surrounding land use	5	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	10.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	32.5	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.