# AMERICAN TRANSMISSION SYSTEMS, INCORPORATED A FIRSTENERGY COMPANY

## LETTER OF NOTIFICATION

## NSG GLASS NORTH AMERICA TAP PROJECT

## **OPSB CASE NO.: 20-0013-EL-BLN**

January 22, 2020

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

### LETTER OF NOTIFICATION NSG GLASS NORTH AMERICA TAP PROJECT

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

#### 4906-6-05: ACCELERATED APPLICATION REQUIREMENTS

#### 4906-6-05: Name and Reference Number

Name of Project: NSG Glass North America Tap Project ("Project")

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

American Transmission Systems, Incorporated ("ATSI"), a FirstEnergy company, proposes a new customer connection from the Fostoria West End (AEP)-Lemoyne-West Fremont 138kV transmission line to the proposed customer-owned NSG Garling Substation to provide power to NSG Glass North America Inc ("NSG").

A single circuit 138 kV transmission line tap is proposed to be constructed from the Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line between existing Structures #5 and #6. The transmission line tap will trend west from the existing transmission line approximately 2,470 feet to a point west of Pemberville Road. From here, the transmission line tap will trend south approximately 1,000 feet then trend west approximately 900 feet into the proposed NSG Garling Substation. The new transmission line segment is 4,370 feet (0.83 miles long) and will require fifteen (15) new wood structures and one (1) new steel structure.

The general location of the proposed Project is shown in Exhibit 1 and Exhibit 2. Exhibit 1 is a partial copy of a USGS Topographic Map. Exhibit 2 provides a partial copy of ESRI

aerial imagery. The proposed Project is located near Pemberville in Troy Township, Wood County, Ohio. The general layout is shown in Exhibit 3.

#### 4906-6-05 (B)(1): Letter of Notification Requirements

The Project meets the requirements for a Letter of Notification because the Project fits within the definition of Item (1)(b) of the Application Requirement Matrix for Electric Power Transmission Lines, in Appendix A of OAC Rule 4906-1-01 which state:

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

This Project meets requirement (1)(b) because the proposed transmission line tap from the existing Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line to the proposed customer NSG Garling Substation is approximately 0.83 miles in length.

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

The Project is needed to connect and serve a new customer on the ATSI Transmission system. The customer, NSG Glass North America, Inc requested service from FirstEnergy and has signed a Contracting Service Agreement, dated May 30, 2019. In order to fulfill the request for service, ATSI has proposed this Project which provide service to the new facility by connecting the existing Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line to NSG's new Garling 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 2019 Long-Term Forecast Report ("LTFR"). This map was submitted to the PUCO

in Case No. 19-0806-EL-FOR under Rule 4901:5-5:04 (C)(2)(b) of the Ohio Administrative Code. The map is incorporated by reference only. This map shows ATSI's 345 kV and 138 kV transmission lines and transmission substations including the Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line. The Project area is located approximately 5.2 inches (11" x 17" printed version) from the left edge of the map and 2.2 inches (11" x 17" printed version) from the top of the map. The general location of the Project area is shown in Exhibits 1 and 2. The Project layout is shown in Exhibit 3. The Project is not included in ATSI's LTFR filed in 2019.

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

Alternative Routes from the existing transmission line to the NSG substation were considered, but after discussion with a landowner who owns 55% of the route, only one option was considered viable. Alternative routes would cause greater impacts to the agricultural property and limit the available tillable acreage. Alternative placement outside of this agricultural property would also cause greater environmental impacts, principally due to adjacent wetlands and streams.

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

ATSI will issue a public notice in a newspaper of general circulation in the Project area within 7 days of filing this Letter of Notification application. The notice will comply with OAC Rules 4906-6-08(A) (1) through (6). In addition to the public notice, ATSI will mail letters to affected landowners and tenants within and contiguous to the Project Area. ATSI has also established a project website:

https://www.firstenergycorp.com/about/transmission\_projects/ohio.html .

Finally, during all phases of this Project, ATSI will maintain the transmission projects hotline at 1-800-589-2873 or via email at: <u>transmissionprojects@firstenergycorp.com</u> where the public may ask questions or leave comments on the Project for ATSI.

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

Construction for the Project is anticipated to begin on March 2, 2020. The proposed inservice date for the Project is June 1, 2020.

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

Exhibits 1 and 2 depict the general location of the Project. Exhibit 1 provides a partial copy of the United States Geologic Survey, Wood County, Ohio Quad Map. Exhibit 2 provides a partial copy of ESRI aerial imagery.

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

The NSG Glass North America Tap Project will require new right-of-way. Priority tree rights will also be required. Table 1 contains a list of property owners affected by the project. NSG Glass North America Inc. owns the land surrounding the Garling Substation and approximately 35% of the proposed route.

Parcel Number	Property Owner	Address	Easement Status
U69-612- 220000003501	NSG GLASS NORTH AMERICA INC.	21705 Pemberville Rd Luckey, OH 43443	Obtained
U69-612- 230000004002	AUSTIN SEIFERT	5142 Devils Hole Rd Pemberville, OH 43450	Pending
U69-612- 230000005000	GARGAC BRIAN M & CASEY V	21920 Pemberville Rd Luckey, OH 43443	OPTION SIGNED
U69-612- 22000001000; U69-612- 22000003500; U69-612- 150000022000	EAST OHIO GAS COMPANY DBA DOMINION ENERGY OHIO	P.O. BOX 27026 Richmond, VA 23261	Pending
U69-612- 220000002000	BRINKER CARLTON R & SUSAN K	22051 Pemberville Rd Luckey, OH 43433	OPTION SIGNED
U69-612- 140000011000; U69-612- 140000010001	WHITLEY R. REYNOLDS	22014 Pemberville Rd Luckey, OH 45443	OPTION SIGNED

## **Table 1: Property Owner List**

4

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

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

The equipment and facilities described below are associated with the NSG Glass North America Tap Project.

Voltage:	138 kV
Conductors:	336.4 kcmil 26/7 ACSR
Static Wire:	7#8 Alumoweld
Insulators:	Deadend (Porcelain); Tangent (Polymer)
ROW Width:	60 feet
Land Requirements:	New ROW required
Structure Types:	Sixteen (16) new structures will be installed with the Project:
	Exhibit 4 - One (1) Wood Pole 3-Way Tap
	Exhibit 5 – One (1) Wood Pole Corner Dead-End
	Exhibit 6 – Three (3) Wood Pole Switch
	Exhibit 7 – One (1) Wood Pole Tangent
	Exhibit 8 – Nine (9) Wood Pole Tangent Dead-End
	Exhibit 9 – One (1) Custom Steel Pole Corner Dead-End

#### 4906-6-05 (B)(9)(b): Calculated Electric and Magnetic Field

The closest occupied residence or institution is approximately 88.5 feet from the proposed transmission line centerline; therefore, Electric and Magnetic Field ("EMF") calculations are required by this code provision.

#### 4906-6-05 (B)(9)(b)(i): Calculated Electric and Magnetic Fields Strength Levels

Table 2 itemizes the line loading of NSG Glass North America Tap to Garling Substation. The normal line loading represents FirstEnergy's peak system load for the transmission line. The emergency line loading represents the maximum line loading under contingency operation. The winter rating is based on the continuous maximum conductor rating ("MCR") of the circuits for the single conductors per phase and an ambient temperature of zero degrees centigrade (32 °F), wind speed of 1.3 miles per hour, and a circuit design operating temperature of 100 °C (212 °F).

Line Name	Normal	Emergency	Winter Rating
	Loading Amps	Loading Amps	Amps
NSG Glass North America Tap to Garling Substation	42	42	758

**Table 2: Transmission Line Loading** 

Table 3 provides an approximation of the magnetic and electric fields strengths of the NSG Glass North America Tap 138kV Transmission Line calculated in a 60-foot rightof-way. The calculations provide an approximation of the electric and magnetic field levels based on specific assumptions utilizing the EPRI EMF Workstation 2009 program software. This program software assumes the input transmission line configuration is located on flat terrain. Also, a balanced, three-phase circuit loading is assumed for the transmission circuit. The model utilizes the normal, emergency, and winter rating of the transmission line.

NSG Glass North America Tap 138kV Transmission Line– 60ft ROW		Magnetic Field mG	
Under Lowest Conductors	0.818	3.39	
At Right-of-Way Edges	0.465 / 0.422	2.03 / 1.86	
Under Lowest Conductors	0.818	3.39	
At Right-of-Way Edges	0.465 / 0.422	2.03 / 1.86	
Under Lowest Conductors	0.818	61.09	
	North America Tap 138kV Line– 60ft ROW Under Lowest Conductors At Right-of-Way Edges Under Lowest Conductors At Right-of-Way Edges Under Lowest Conductors	North America Tap 138kV Line- 60ft ROWElectric Field kV/mUnder Lowest Conductors0.818At Right-of-Way Edges0.465 / 0.422Under Lowest Conductors0.818At Right-of-Way Edges0.465 / 0.422Under Lowest Conductors0.818At Right-of-Way Edges0.465 / 0.422Under Lowest Conductors0.818	

0.465 / 0.422

36.75 / 33.54

Table 3: EMF Calculations for NSG Glass North America Tap 138kV TransmissionLine

Rating

At Right-of-Way Edges

## <u>4906-6-05 (B)(9)(b)(ii): Alternative Design Consideration for Electric and Magnetic</u> <u>Fields</u>

The strength of EMFs can potentially be reduced by installing the transmission line conductors in a compact configuration and by selecting conductor phasing that reduces the field strengths. ATSI designs its facilities according to the requirements of the NESC. The pole heights and configuration were chosen based on NESC specifications, engineering parameters, and cost. ATSI's typical practice, as proposed in this Project, is to install 138 kV transmission lines primarily on wood tangent structures supported on horizontal post insulators, as this is a compact design that reduces EMF field strengths in comparison to other installations.

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

The estimated capital cost for Project is approximately \$2,021,000.

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

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

The Project is located within Troy Township in Wood County, Ohio. Based on the US Bureau of Census estimates, the 2010 population of Troy Township was 3,870. The 2010 population estimate of Wood County was 125,488. The Project area is in agricultural/residential zoned land. No significant changes or impacts to the current land use are anticipated.

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

One agricultural land exists within the Project's disturbance area and is shown in Table 4. The Project route was chosen along the north edge of the property by the owners request and to minimize impacts to this agricultural land.

Parcel Number	Property Owner	Acreage	Agricultural District	Agricultural District Expiration
U69-612- 230000004002	AUSTIN SEIFERT	64.61	Y	2023

Table 4: Agricultural Lands within the Project's Disturbance Area

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

A search of Ohio Historic Preservation Office's ("OHPO") National Register of Historic Places ("NRHP") online database was conducted to identify the existence of any significant archaeological or cultural resource sites within 0.5 miles of the Project area. A map of the results of the search is shown in Exhibit 10. The specific locations of any archeological resources identified are excluded from the map as their locations are considered proprietary. The OHPO database includes all Ohio listings on the NRHP, including districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The results of the search indicate that there are no Listed NRHP properties and no OHPO eligible properties identified within 0.5 miles of the Project's potential disturbance area.

The OHPO database also includes listing of the Ohio Archaeological Inventory ("OAI"), the Ohio Historic Inventory ("OHI"), previous cultural resource surveys, and the Ohio Genealogical Society ("OGS") cemetery inventory. Two (2) OHI historic structures have been previously inventoried within 0.5 miles of the Project area and are shown in Table 5. Twenty (20) OAI archeological resources (each within its own respective site) have been previously inventoried within 0.5 miles of the Project area. These resources are shown in Table 6.

Table 5. List of OHI Listed Str	ructural Resources
---------------------------------	--------------------

OHI Number	Present Name	Historic Use	County	Municipality
WOO0070910	East Ohio Gas Property	Single Dwelling	Wood	Troy Township

WOO0071010	East Ohio Gas Property	Single Dwelling	Wood	Troy Township
------------	---------------------------	-----------------	------	---------------

## Table 6. List of OAI Listed Archeological Resources and Sites

OAI Number	Affiliation	Description	County	Quad Name
WO0207	Prehistoric	Unknown	Wood	Pemberville
WO0208	Prehistoric	Unknown	Wood	Pemberville
WO0209	Prehistoric	Unknown	Wood	Pemberville
WO0210	Prehistoric	Unknown	Wood	Pemberville
WO0212	Prehistoric	Unknown	Wood	Pemberville
WO0213	Prehistoric	Unknown	Wood	Pemberville
WO0232	Prehistoric	Unknown	Wood	Pemberville
WO0233	Prehistoric	Unknown	Wood	Pemberville
WO0234	Prehistoric	Unknown	Wood	Pemberville
WO0235	Prehistoric	Unknown	Wood	Pemberville
WO0236	Prehistoric	Unknown	Wood	Pemberville
WO0363	Prehistoric	Paleolithic, Early Archaic, Late Archaic	Wood	Pemberville
WO0364	Prehistoric	Unknown	Wood	Pemberville
WO0365	Prehistoric	Unknown	Wood	Pemberville
WO0368	Prehistoric	Early Archaic	Wood	Pemberville
WO0127	Prehistoric	Unknown	Wood	Pemberville
WO0475	Prehistoric	Unknown	Wood	Pemberville
WO0476	Prehistoric	Unknown	Wood	Pemberville
WO0477	Prehistoric	Unknown	Wood	Pemberville
WO0478	Prehistoric	Unknown	Wood	Pemberville

Based upon the results of the OHPO online database there are no cultural resources within the Project's 60 foot wide right-of-way; therefore, no impacts to historical or cultural resources are anticipated.

#### 4906-6-05 (B)(10)(d): Local, State and Federal Government Requirements

Table 7 shows the list of government agency requirements and the application status at the time of filing.

Agency	Permit Requirement	Status
Ohio Environmental Protection Agency (OEPA)	General NPDES Construction Storm Water Permit	Will Be Filed
Wood County, Ohio, Soil and Water Conservation District	Storm Water Pollution Prevention Plan (SWP3) – Review Application	Will Be Filed
Wood County	Floodplain Development Review	Will Be Filed

Table 7. List of Government Agency Requirements to be Secured Prior to Construction

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

TRC, on behalf of ATSI, submitted a request to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review of the Project area on December 16, 2019. 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 January 16, 2020 indicated that the Project area is within range of one (1) state and federally threatened species, four (4) state endangered species, and two (2) state threatened species. These species are listed in Table 8. A copy of ODNR's Office of Real Estate's response is included as Exhibit 11.

TRC, on behalf of ATSI, also submitted a request to the US Fish and Wildlife Service ("USFWS") for an Ecological Review on December 16, 2019, to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project area. The USFWS's response was received on January 2, 2020. A copy of USFWS's Ecological

Review response is included as Exhibit 12. The response from USFWS indicated the Project is within the range of the federal and state endangered Indiana bat (*Myotis sodalis*) and the federal and state threatened northern long-eared bat (*Myotis septentrionalis*).

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Indiana bat	Myotis sodalis	Endangered	Endangered	Trees & Forest
Northern long-eared bat	Myotis septentrionalis	Threatened	Threatened	Trees & Forest
Northern Harrier	Circus cyaneus	NA	Endangered	Grasslands
Upland Sandpiper	Bartamia longicauda	NA	Endangered	Grasslands
Lark Sparrow	Chondestes grammacus	NA	Endangered	Grasslands
Western Banded Killfish	Fundulus diaphanous menona	NA	Endangered	Portage River
Pondhorn	Uniomerus tetralasmus	NA	Threatened	Rivers
Spotted Turtle	Clemmys guttata	NA	Threatened	Marshes & Bogs

Table 8. List of Endangered, Threatened, and Rare Species

The information as provided in the responses from ODNR and USFWS indicates the Project is within range of the federal and state endangered Indiana bat (*Myotis sodalis*) and the federal and state threatened Northern long-eared bat (*Myotis septentrionalis*). Within the Project disturbance area, tree clearing will be conducted before March 31 to avoid impacts to these species. Furthermore, there are no caves or mine openings within the Project area and, therefore, no adverse effects to these species is anticipated.

The response from ODNR indicated the Project is within the range of the pondhorn (Uniomerus tetralasmus), a state threatened mussel. As is indicated in the ODNR

response, no impacts are expected due to the Project's location and because no in-stream work is proposed.

The response from ODNR indicated that the Project is within the range of the western banded killifish (*Fundulus diaphanous menona*) a state endangered fish. As is indicated in the ODNR response, no impacts are expected due to the Project's location and because no in-stream work is proposed.

The response from ODNR indicated that the Project is within range of the spotted turtle (*Clemmys guttata*), a state threatened turtle. As is indicated in the ODNR response, no impact to this species is expected due to the Project's location, the type of habitat within and surrounding the Project location, and the type of work that is proposed.

The response from ODNR indicated that the Project area is within the range of the upland sandpiper (*Bartramia longicauda*) and the lark sparrow (*Chondestes grammacus*), both state endangered birds . Although these species utilize grasslands, the Project is located along existing paths frequently travelled by agriculture machinery, along existing road rights-of-way, or within areas that are actively cut and maintained. Therefore, no impact to these species is expected due to the type of habitat within and surrounding the Project location.

The response from ODNR indicated that the Project is within range of the northern harrier (*Circus cyaneus*), a state endangered bird. Impacts to large grasslands and marshes should be avoided during the nesting period of May 15 to August 1. Although this species utilizes grasslands, the Project is located along existing paths frequently travelled by agriculture machinery, along existing road rights-of-way, or within areas that are actively cut and maintained. Therefore, no impact to this species is expected due to the type of habitat within and surrounding the Project location.

Adverse impacts to state listed wildlife and plant species are not anticipated to result from the Project based on the current land use (e.g., actively farmed and/or maintained road right-of-way), surrounding setting, and absence of potential habitat for these species within the construction footprint of the Project.

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

TRC, on behalf of ATSI, submitted a request to the Ohio Department of Natural Resources ("ODNR") Office of Real Estate to conduct an Environmental Review on December 16, 2019. The ODNR Office of Real Estate will research the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife areas, nature preserves, parks or forest, national wildlife refuges, or other protected natural areas within one (1) mile of the project area. The ODNR's Office of Real Estate's response on January 16, 2019 indicated that there are no records at or within a one-mile radius of the Project.

ATSI contracted TRC to conduct a wetland and stream delineation of the Project area. TRC's assessment focused on 0.83 miles by 60 feet wide along the transmission ROW. A copy of the wetland delineation report is included as Exhibit 13.

TRC conducted an environmental survey of the NSG Glass North America Tap Project area on April 3, 2017 and December 19, 2019. Portions of the Project area for this Project extend into the project area of a prior project, the Lemoyne Substation Project. That study was completed in April 2017 and any applicable information from that study was incorporated into TRC's current report.

Two streams, totaling 377 linear feet within the Project Area, were identified within the Environmental Survey Corridor (ESC) as shown in Figures 3A-3F of Exhibit 13. Of the two streams, one stream was identified as an intermittent stream (designated as stream S-MRR-1) and one was identified as a perennial stream (designated as stream S-MM-1, Toussaint Creek). Both streams are in a watershed eligible for the Nationwide Permit program.

Two wetlands, totaling 0.61-acre were delineated within the ESC. One wetland was identified as a Palustrine Forested/Palustrine Emergent wetland complex (designated as wetland W-06) and one wetland was identified as a Palustrine Emergent wetland (designated as wetland W-MRR-1). Wetland W-06 was determined to be a Category 2 wetland using the Ohio Rapid Assessment for Wetlands (version 5.0) (ORAM) with a score of 53. Wetland W-MRR-1 was determined to be a Category 1 wetland with an ORAM score of 26. Category 2 wetlands are indicative of moderate quality wetlands and Category 1 wetlands are indicative of low-quality wetlands. Wetland W-MRR-1 is associated with the floodplain of stream S-MRR-1.

The two streams depicted on Figure 5 of Exhibit 13 will not be crossed with construction vehicles. Therefore, no impacts to either stream will occur below Ordinary High Water Mark as a result of the Project. The two delineated wetlands depicted on Figure 5 of Exhibit 13 will not be crossed with construction traffic and [no] temporary or permanent fill will be placed in either wetland as a result of the Project. The results of the environmental resource survey described in this report conducted by TRC are limited to what was identified within the ESC and depicted in Figure 5 of Exhibit 13.

Additionally, a review of the online FEMA Flood Insurance Rate Mapping was performed. The Project work limits within the vicinity of the crossing of Pemberville Road are within a regulated floodplain and is included in Exhibit 13. Although the Project will not result in a change in flood storage capacity, consultation with Wood County is required for a floodplain development review.

#### 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 version 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.

## <u>4906-6-07: Documentation of Letter of Notification Application Transmittal and</u> Availability for Public Review

This Letter of Notification application is being provided concurrently to the following Troy Township, Wood County, Ohio.

#### Wood County

Dr. Theodore Bowlus Board of County Commissioners One Courthouse Square, 5th Floor Bowling Green, OH 43402

Ms. Doris Herringshaw Board of County Commissioners One Courthouse Square, 5th Floor Bowling Green, OH 43402

Mr. Craig LaHote Board of County Commissioners One Courthouse Square, 5th Floor Bowling Green, OH 43402 Mr. John Musteric Wood County Engineer's Office One Courthouse Square, 5th Floor Bowling Green, OH 43402

Mr. Dave Steiner, Director Wood County Planning Commission One Courthouse Square, 5th Floor Bowling Green, OH 43402

Mr. Jim Carter, District Admin. Wood County Soil & Water District 1616 E. Wooster Street, Suite 32 Bowling Green, OH 43402

#### <u>Troy Township</u>

Mr. Matthew Brinker, Trustee Troy Township 4707 Dowling Road Perrysburg, OH 43551

Mr. Skip Recker, Chairman Troy Township 1651 Ottawa Road Genoa, OH 43430 Mr. Richard Greulich Jr., Trustee Troy Township 23445 Stony Ridge Road Perrysburg, OH 43551

Ms. Linda Biniker, Fiscal Officer Troy Township 5929 Fremont Pike P.O. Box 205 Stony Ridge, OH 43463

### <u>Libraries</u>

Luckey Branch Library Ms. Susan Titkemeier, Director 228 Main Street Luckey, OH 43443

Copies of the transmittal letters to these officials have been included with the package submitting this Letter of Notification application to the Ohio Power Siting Board and are being provided to meet the requirement of OAC Rule 4906-6-07 (B) to submit proof of compliance with the notice requirement to local officials found in OAC Rule 4906-6-07 (A)(1).

Information concerning this Letter of Notification application is also posted at the link below and how to request an electronic or paper copy of the application. The link to the website is being provided to meet the requirement of OAC 4906-6-07 Rule (B) and to provide the OPSB with proof of compliance with the notice requirements in OAC 4906-6-Rule 07 (A)(3): <a href="https://www.firstenergycorp.com/about/transmission">https://www.firstenergycorp.com/about/transmission</a> projects/ohio.html




















Ohio Department of Natural Resources



MIKE DEWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Exhibit 11

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

January 16, 2020

Matthew Ray TRC 1382 West 9<sup>th</sup> Street, Suite 400 Cleveland, Ohio 44113

**Re:** 19-1051; Lemoyne - Woodville #2 Line Tap to NSG Glass North America Project, No. 286577.0029

**Project:** The proposed project invovles construction of a transmission tap line from the substation associated with NSG Glass North America to the existing Lemoyne - Woodville #2 138 kilovolt (kV) transmission line along approximately 0.75 miles.

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

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

**Natural Heritage Database:** The Natural Heritage Database has no records at or within a onemile radius of the project area.

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

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

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

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

The project is within the range of the Indiana bat (Myotis sodalis), a state endangered and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (Carya ovata), shellbark hickory (Carya laciniosa), bitternut hickory (Carya cordiformis), black ash (Fraxinus nigra), green ash (Fraxinus pennsylvanica), white ash (Fraxinus americana), shingle oak (Quercus imbricaria), northern red oak (Ouercus rubra), slippery elm (Ulmus rubra), American elm (Ulmus americana), eastern cottonwood (Populus deltoides), silver maple (Acer saccharinum), sassafras (Sassafras albidum), post oak (Quercus stellata), and white oak (Quercus alba). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, this project is not likely to impact this 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, this project is not likely to impact this species.

The project is within the range of the western banded killifish (*Fundulus diaphananus menona*), a state endangered fish. 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 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. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after

their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community %20Contact%20List\_8\_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or <u>Sarah.Tebbe@dnr.state.oh.us</u> if you have questions about these comments or need additional information.

Mike Pettegrew Environmental Services Administrator (Acting)

From:	susan zimmermann@fws.gov on behalf of Ohio, FW3
To:	Ray, Matthew; Molnar, Maggie; nathan.reardon@dnr.state.oh.us; kate.parsons@dnr.state.oh.us
Subject:	[EXTERNAL] TRC No. 286577.0029 Lemoyne - Woodville #2 Line Tap to NSG Glass, Wood Co.
Date:	Thursday, January 2, 2020 11:30:04 AM

# This is an **EXTERNAL** email. Do not click links or open attachments unless you validate the sender and know the content is safe.



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



TAILS# 03E15000-2020-TA-0497

Dear Mr. Ray,

Exhibit 12

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened northern long-eared bat (Myotis septentrionalis). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags =3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern longeared bats have also been observed roosting in human-made structures, such as buildings,

barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

Should the proposed site contain trees =3 inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees =3 inches dbh cannot be avoided, we recommend that removal of any trees =3 inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule

(see <u>http://www.fws.gov/midwest/endangered/mammals/nleb/index.html</u>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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

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 ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

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

Sincerely,

a

Patrice M. Ashfield Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW Kate Parsons, ODNR-DOW

# WETLAND AND WATERBODY REPORT

# Fostoria West End (AEP) – Lemoyne – West Fremont 138kV Transmission Line Project Wood County, Ohio

Exhibit 13

Prepared for:



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

Prepared by:



**TRC Companies, Inc.** 1382 West Ninth Street, Suite 400 Cleveland, Ohio 44113

# January 17, 2020

TRC Project Number 374241.0000

# TABLE OF CONTENTS

# Contents

ACRO	NYM LIST	ii
1.0		1
2.0	PROJECT LOCATION	1
3.0	SITE DESCRIPTION	1
<b>4.0</b> 4.1 4.2 4.3 4.4 4.5	METHODOLOGY	<b>2</b> 2 3 3 3 3 4 5 5
<b>5.0</b> 5.1 5.2 5.3 5.4	RESULTS	<b>5</b> 67799
6.0	LIMITATIONS	9
7.0	References10	D

# APPENDICES

Appendix A: Figures

- Appendix B: Wetland Determination Data Forms & ORAM Data Forms
- Appendix C: Stream Evaluation Forms: QHEI & HHEI Forms
- Appendix D: Waterbody Resource Photographic Log



# **ACRONYM LIST**

FAC	Facultative
FACU	Facultative upland
FACW	Facultative wetland
FEMA	Federal Emergency Management Agency
FirstEnergy	FirstEnergy Corporation
GIS	Geographic Information Systems
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
OBL	Obligate Wetland
Ohio EPA	Ohio Environmental Protection Agency
ОН	Ohio
OHWM	Ordinary High Water Mark
ORAM	Ohio Rapid Assessment Method
PEM	Palustrine Emergent
PFO	Palustrine Forested
Project	Fostoria West End (AEP) – Lemoyne – West Fremont 138kV Transmission Line Project
QHEI	Qualitative Habitat Evaluation Index
Redox	Redoximorphic
Report	Wetland and Waterbody Report



ROW	Right-of-Way
TRC	TRC Companies, Inc.
UPL	Upland
U.S.	United States
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
WQC	Water Quality Certification

# 1.0 INTRODUCTION

FirstEnergy Corporation (FirstEnergy) is evaluating a proposed Fostoria West End (AEP) – Lemoyne – West Fremont 138kV Transmission Line Project (Project) located in Troy Township, Wood County, Ohio (OH). The Project consists of the construction of a transmission tap line from the existing Fostoria West End (AEP) – Lemoyne – West Fremont 138kV transmission line to the proposed customer-owned NSG Garling Substation to provide power to NSG Glass North America Inc. (NSG). The proposed project is approximately 0.83 mile of new right-of-way (ROW). On behalf of FirstEnergy, TRC Companies, Inc. (TRC) has prepared this Wetland and Waterbody Report (Report) for the Project. The Project Study Area can be found on **Appendix A, Figure 1**.

On December 6<sup>th</sup> and December 19<sup>th</sup>, 2019, TRC performed field investigations to identify and delineate wetlands and waterbodies located within the Project Study Area. The delineations were conducted in accordance with the United States Army Corps of Engineers (USACE) parameters. The primary objective was to identify the location of potential wetlands and waterbodies such that the resources could be avoided or considered in the permitting phase of the proposed Project. This Report describes the wetland and waterbody delineation methodology implemented and the existing wetland and waterbody resources that were identified within the Project Study Area during field surveys.

### 2.0 PROJECT LOCATION

The Project Study Area is 8.36 acres and is located within Troy Township, Wood County Ohio at the approximate coordinates: 41.471874, -83.452847. The Project Study Area consists of a 60-foot wide corridor within the proposed ROW for approximately 0.83 mile from an existing transmission line ROW southeast of the Lemoyne Substation to Pemberville Road (approximately 4,343 feet), south on the west side of Pemberville Road (approximately 1,054 feet), and approximately 885 feet west of Pemberville Road into an agricultural field. The proposed ROW crosses Garling Road at the intersection of Garling Road and Pemberville Road. The Project Study Area contains a forested area and developed open space consisting of maintained grassland and agricultural fields (row crop).

# 3.0 SITE DESCRIPTION

The Project Study Area is located within the Upper Toussaint Creek watershed (12-Digit Hydrologic Unit Code [HUC]: 041000100601), which is a part of the Cedar-Portage watershed (8-Digit HUC: 04100010) (USGS, 2019).

The United States Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS) Web Soil Survey was used to identify the soil types contained within the Project Study Area (USDA-NRCS, 2019) (**Appendix A, Figure 2**). The Project Study Area is dominated by

hydric and non-hydric soils with hydric inclusions. **Table 1** provides a description of the soils identified within proposed Project Study Area.

Map Unit Symbol	Map Unit Name	Map Unit Name Hydric Status	
HcA	Hoytville silty clay loam, 0 to 1%	Hydric	0.06
HoA	Hoytville clay loam, 0 to 1%	Hydric	2.76
NnA	Nappanee loam, 0 to 2%	Non-Hydric w/Hydric Inclusion	3.15
SpA	Sloan silty clay loam	Hydric	2.27
SuB2	St. Clair silty clay loam, 2 to 6%	Non-Hydric	0.12

Table 1. Soil Types within the Project Study Area

Notes:

Accessed online December 2019 at: http://websoilsurvey.sc.egov.usda.gov.

There are three (3) National Wetlands Inventory (NWI) features within the Project Study Area (USFWS, 2016) (**Appendix A, Figure 3**). Two (2) of these NWI features are identified as riverine features and correspond with the National Hydrography Dataset (NHD) and United States (U.S.) Geological Survey (USGS) mapping, which identifies Toussaint Creek, a perennial waterway, and an intermittent unnamed tributary to Toussaint Creek as occurring within the Project Study Area (USGS, 2019) (Esri, n.d.). The additional NWI is identified as a freshwater forested/shrub wetland.

A portion of the Project Study Area is mapped within a Federal Emergency Management Agency's (FEMA) Regulatory Floodway (FEMA, 2019)(**Appendix A, Figure 3**).

# 4.0 METHODOLOGY

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

# 4.1 WETLAND PARAMETERS

The United States Army Corps of Engineers Wetland Delineation Manual (1987 Manual (Environmental Laboratory, USACE, 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0) (Regional Supplement) (USACE, 2011), and guidance memorandums emphasize a three (3) parameter approach to wetland boundary determination in the field. This approach involves the following:

- (i) evidence of wetland hydrology;
- (ii) presence of hydric soils; and,
- (iii) predominance of hydrophytic vegetation as defined by *The National Wetland Plant List: 2016 wetland ratings* (Lichvar, 2016).



Positive indicators of all three (3) parameters are normally present in wetlands and serve to distinguish between both dry land and transitional plant communities.

# 4.1.1 Hydrology

The *1987 Manual* and *Regional Supplement* provide guidelines for determining the presence of wetland hydrology (Environmental Laboratory, USACE, 1987) (USACE, 2011). 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.

# 4.1.2 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 7.0* (USDA-NRCS, 2010) were used to identify and document hydric soils per the *Regional Supplement* (USACE, 2011).

# 4.1.3 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. Each plant was then assigned a wetland indicator status (i.e., obligate wetland, facultative wetland, facultative, facultative upland, or upland) in accordance with the USACE's *The National Wetland Plant List: 2016 wetland ratings* (Lichvar, 2016). A prevalence of dominant species that are FAC, FACW, and/or OBL indicates the presence of hydrophytic vegetation.

# 4.2 USACE Wetland Delineation

Qualified wetland scientists from TRC conducted a wetland delineation and waterbody survey on December 6<sup>th</sup> and 19<sup>th</sup>, 2019. The wetland and waterbodies investigation was conducted within the predetermined Project Study Area (**Appendix A, Figure 1**), which was developed in accordance with Project location information as provided by FirstEnergy. Wetland delineations were conducted using the Federal Routine Determination Method presented in the *1987 Manual* (Environmental Laboratory, USACE, 1987) and *Regional Supplement* (USACE, 2011) including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams, 1992), and the USACE and Environmental Protection Agency guidance on jurisdictional forms (USEPA, 2008) (USACE, 2008). A portion of the current Project Study Area extends into the previously delineated Lemoyne Substation Project. The wetland delineation and waterbody survey was completed on April 3<sup>rd</sup> and 10<sup>th</sup>, 2017 as part of the Lemoyne Substation Project (TRC, 2017). Applicable information from the *Wetlands and Other Waters of the U.S. Delineation* 



*Report, Lemoyne Substation Project Site* (TRC) has been incorporated into this current Report for the Project.

Hydrology was determined based on a number of indicators that are divided into two categories, primary and secondary. The USACE manual defines hydrology as present when at least one primary indicator or two secondary indicators are identified. One primary indicator is sufficient to determine if hydrology is present; however, if these are absent then two or more of the secondary indicators are required to determine hydrology. If other probable hydrology 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 22 inches below the soil surface or until refusal, 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. Hydric characteristics such as organic soil layers, depleted matrixes, gleying, and hydrogen sulfide odor, were noted when observed. Soils at both wetland (if present) and dry land data plot locations were characterized.

The presence of hydrophytic vegetation was determined using the procedures described in the *Regional Supplement* (USACE, 2011). Vegetation in both dry land and wetland communities was characterized using areal dominance method, with a radius of 30 feet around the soil sample location for trees, a 15-foot radius for saplings and shrubs, and a five-foot radius for herbaceous plants. Plant communities meeting the "50/20" Rule or meeting one of the other Indicators set forth in the *1987 Manual* (Environmental Laboratory, USACE, 1987) and *Regional Supplement* (USACE, 2011), 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 Trimble R1 Receiver. Data from the global positioning system (GPS) survey was downloaded and integrated into a Geographic Information Systems (GIS) database for the proposed work areas and used to make the accompanying figures. Photographs were taken at each wetland and stream, and at other points of interest within the Project Study Area if present. Identified wetlands were classified according to Cowardin et al. (Cowardin, 1979).

# 4.3 OEPA 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 "low quality" while Category 3 resources are considered "high quality."

The Ohio EPA 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. TRC completed ORAM (Version 5.0) Quantitative Rating forms for all of the wetland resources identified within the Project Study Area. Each wetland resource received a preliminary category designation based on the results of the ORAM Narrative and Quantitative ratings and review of narrative criteria in OAC 3745-1-54(C) (Mack, 2000).

### 4.4 USACE Waterbody Identification

Waterbodies within the Project Study Area were identified by the presence of an ordinary high water mark (OHWM) and scoured channel or defined bed and banks. All rivers and streams identified in the Project Study Area that were wider than five feet were demarcated via GPS along each top-of-bank. Narrower streams identified were demarcated via GPS along the centerline of the stream channel.

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

Detailed physical information for any identified stream resource is recorded onto either an Ohio EPA Qualitative Habitat Evaluation Index (QHEI) form or an Ohio EPA Headwater Habitat Evaluation Index (HHEI) form. Streams with pool depths greater than 40 cm or with drainage areas greater than 1 square mile are evaluated using the QHEI. All other streams are evaluated using the HHEI.

#### 4.5 Ohio EPA Water Quality Certification Compliance for Stream Eligibility

The Ohio EPA, as part of Ohio's 401 Water Quality Certification (WQC) process, has determined which HUC12 watersheds within the state have streams eligible for coverage under Nationwide Permits. There are three (3) categories identified within Ohio: eligible, ineligible, and possibly eligible, with additional field screening required **Appendix A**, **Figure 4**.

#### 5.0 RESULTS

TRC performed wetland and watercourse identification and delineation on December 6<sup>th</sup> and 19<sup>th</sup>, 2019. Survey conditions were adequate at the time of the field investigations. One (1) palustrine emergent (PEM)/forested (PFO) wetland complex and one (1) PEM wetland were identified within

the Project Study Area. Additionally, one (1) perennial waterway and one (1) intermittent waterway were identified within the Project Study Area as summarized within Tables 2 and 3 and Appendix A, Figure 5. An offsite wetland located northwest of the Garling Road and Pemberville Road intersection and adjacent to the Project Study Area was identified and mapped (Appendix A, Figure 5).

#### 5.1 Wetlands

#### Wetland W-06

Wetland W-06 is an extensive PEM/PFO wetland complex with good habitat development that extends offsite. This wetland exhibits a very sinuous boundary offsite, with small changes in elevation seeming to determine wetland boundaries. It demonstrates downstream hydrologic connection to a perennial waterway identified as an unnamed tributary to Toussaint Creek. The tree stratum within this wetland was dominated by green ash (Fraxinus pennsylvanica), American elm (Ulmus americana) and the herbaceous stratum was dominated by hop sedge (Carex lupulina). This wetland was preliminarily assigned an ORAM score of 53, corresponding to a Category 2 wetland (moderate quality) (Table 2) (Appendix A, Figures 1 and 5) (Appendix B, Wetland Data Forms) (Appendix C, Stream Evaluation Forms). The portion of Wetland W-06 within the Project Study Area is forested and is 0.31 acre in size. Representative photographs for the above described wetland feature identified within the Project Study Area can be found Appendix D.

#### Wetland W-MRR-1

Wetland W-MRR-1 is a PEM wetland with poor to fair habitat development that extends offsite. The wetland abuts Stream S-MRR-1 and therefore demonstrates downstream hydrologic connection to a perennial waterway. The wetland was dominated by narrow-leaf cattail (Typha angustifolia), an invasive vegetative species. This wetland was preliminarily assigned an ORAM score of 26, corresponding to a Category 1 wetland (poor quality) (Table 2) (Appendix A, Figures 1 and 5) (Appendix B, Wetland Data Forms). The portion of Wetland W-MRR-1 within the Project Study Area is 0.30 acre in size. Representative photographs for the above described wetland feature identified within the Project Study Area can be found Appendix D.

Wetland ID	Vegetation Class <sup>1</sup>	Extends Offsite?	Acres <sup>2</sup>	ORAM Score <sup>3</sup>	ORAM Category <sup>3</sup>	Jurisdictional Status⁴
W-06	PEM/PFO	Yes	0.31	53	2	Jurisdictional
W-MRR-1	PEM	Yes	0.30	26	1	Jurisdictional
		Total	0.61			

#### Table 2. Wetlands Delineated within the Project Study Area

PEM = palustrine emergent; PFO = palustrine forested 1

2 Represents delineated acreage within Project Study Area

Preliminarily assigned. Not considered final until verified by Ohio EPA
Preliminarily assigned. Not considered final until verified by the USACE



#### 5.2 Waterbodies

#### 5.2.1 Streams

During the investigation, one (1) perennial stream (S-MM-1, Toussaint Creek) and one (1) intermittent stream (S-MRR-1) were identified within the Project Study Area, as summarized within **Table 3 and Appendix A, Figure 4.** 

#### Stream S-MM-1

Stream S-MM-1 is a perennial stream, identified as Toussaint Creek. The stream flows from west to east for approximately 55 feet (0.05 ac) within the Project Study Area and has an approximate drainage area of 39.5 square miles upstream of the Project Area. Toussaint Creek continues offsite to the Toussaint River which is a direct tributary to Lake Erie. This stream has been preliminarily assigned a QHEI score of 72 (Table 3) (Appendix A, Figures 1 and 5) (Appendix C, Stream Data Forms). Representative photographs for the above described waterbody feature identified within the Project Study Area can be found in Appendix D.

#### Stream S-MRR-1

Stream S-MRR-1 is an intermittent stream, identified as an unnamed tributary to Toussaint Creek. The stream flows from west to east for approximately 322 feet within the Project Study Area and has an approximate drainage area of 0.06 square mile upstream of the Project Area. The stream continues offsite to Toussaint Creek which is a tributary to the Toussaint River. This stream has been preliminarily assigned a HHEI score of 35 (Table 3) (Appendix A, Figure 5) (Appendix C, Stream Data Forms). Representative photographs for the above described waterbody feature identified within the Project Study Area can be found in Appendix D.

Report

Stream ID <sup>1</sup>	Stream Name	Flow Regime <sup>2</sup>	OEPA Stream Eligibility for the NWP Program <sup>3</sup>	OEPA Aquatic Life Use Designation <sup>4</sup>	Existing Use Designation <sup>5</sup>	Jurisdictional <sup>6</sup>	QHEI Score <sup>7</sup>	HHEI Score <sup>7</sup>	Approximate Open Channel Stream Length within Project Study Area (Feet) <sup>8</sup>
S-MM-1	Toussaint Creek	Perennial	Eligible	WWH	NA	Jurisdictional	72	NA	55
S-MRR-1	Unnamed Tributary to Toussaint Creek	Intermittent	Eligible	NA	Modified Small Drainage Warmwater Stream	Jurisdictional	NA	35	322
								TOTAL	377

#### Table 3. Waterbody Resources within the Project Study Area

#### Notes:

- <sup>1.</sup> TRC resource identification.
- <sup>2.</sup> Perennial, Intermittent, or Ephemeral based upon USACE and OEPA criteria.
- <sup>3.</sup> Watershed eligibility determined by the 401 Water Quality Certification for the Nationwide Permits Stream Eligibility Web Map (2017 Reissuance).
- <sup>4.</sup> Aquatic Life Use designations as determined by the OEPA and from the OAC Chapter 3745-1 Water Quality Standards.
- 5. Existing Use designations determined by TRC using Figure 18 of the Field Evaluation Manual for Ohio's Primary Headwater Streams based on field score.
- 6. Jurisdictional status is based upon field observations and mapping review of apparent connectivity or adjacency to Waters of the U.S. or adjacency of the resource to Waters of the U.S and the assumption that a preliminary jurisdictional determination process will be utilized for the project.
- 7. Stream Eligibility:
  - QHEI and HHEI assessments are not required for streams in ineligible areas; any impacts to these streams must automatically be submitted for a Director's Authorization.
  - QHEI and HHEI assessments are required for streams in possibly eligible areas; NWP eligibility is determined using the flow charts provided in Appendix C of the 2017 Nationwide Permits for Ohio.
  - QHEI and HHEI assessments are not required for streams in eligible areas; any impacts to these streams are automatically NWP eligible.
- 8. Length of stream resource within the Project Study Area is measured to the nearest foot, based upon GPS data.

# 5.3 Regulatory Permitting

As currently designed, jurisdictional wetlands may be impacted by the proposed Project activities; therefore, Section 404 and Section 401 permitting may be required. The Project is located within an "Eligible" area according to Ohio EPA's Stream Eligibility for Nationwide Permit Program (Ohio EPA, 2017) and is therefore eligible for coverage under the 401 WQC for Nationwide Permits (Appendix A, Figure 4).

# 5.4 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 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 401 Water Quality Certification, Section 404 Clean Water Act, and/or isolated wetland permitting process through Ohio EPA. 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.

# 6.0 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 site conditions within the Project Study Area identified herein, as of the inspection date.

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 wetland and waterbody resources identified within this Report.

### 7.0 REFERENCES

- Cowardin, L. V. (1979). *CLassification of Wetlands and Deepwater Habitats of the United States.* USFWS.
- Environmental Laboratory, USACE. (1987). *Corps of Engineers Wetlands Delineation Manual.* Vicksburg: USACE Waterways Experiment Station.
- Esri, D. G. (n.d.). *World Imagery*. Retrieved 06 06, 2017, from https://services.arcgisonline.com/ArcGIS/services
- Executive Order 12898. (1994, February 11). *Federal Register Vol. 59, No. 32*. Retrieved from https://www.archives.gov/files/federal-register/executive-orders/pdf/12898.pdf

Federal Register. (1994). 94-16835. Changes in hydric soils of the United States.

FEMA. (2019, December 10). *GIS Web Services for the FEMA NAtional Flood Hazard Layer* (*NFHL*). Retrieved from Mapping Information Platform: https://hazards.fema.gov/gis/nfhl/rest/services/public/NFHLWMS/MapServer/WMSServe r

Lichvar, R. D. (2016). The National Wetland Plant List: 2016 wetland ratings.

Mack, J. (2000). ORAM v. 5.0 Quantative Score Calibration. . Columbus: Ohio EPA, Division of Surface Water.

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

- TRC. (2017). Wetlands and Other Waters of the U.S. Delineation Report. Cleveland: TRC.
- USACE. (2008). Regulatory Guidance Letter. Subject: Jurisdictional Determinations.
- USACE. (2011). Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (version 2.0). Vicksburg: US Army Engineer Research nd Development Center.

USDA-NRCS. (2010). Field Indicators of Hyrdic Soils in the United States, Version 7.0. USDA-NRCS. (2019, 04 09). Web Soil Survey. Retrieved from https://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

- USEPA. (2008). *Rapanos v. United States & Carabell v. United States*. Retrieved from Waters of the United States (WOTUS) Rulemaking: https://www.epa.gov/wotus-rule/rapanos-v-united-states-carabell-v-united-states
- USFWS. (2016). *National Wetlands Inventory Online Mapper v 2.0*. Retrieved 06 06, 2017, from WWW.fws.gov/wetlands/data/mapper.HTML

- USGS. (2019, December 10). *National Hyrdrography Dataset*. Retrieved from National Hyrdrography: https://www.usgs.gov/core-science-systems/ngp/national-hydrography/access-national-hydrography-products
- USGS. (2019, December 10). *Watershed Boundary Dataset*. Retrieved from National Hydrography: https://www.usgs.gov/core-science-systems/ngp/nationalhydrography/watershed-boundary-dataset?qt-science\_support\_page\_related\_con=4#qtscience\_support\_page\_related\_con

Williams, A. (1992). Memorandum: Clarification and Interpretation of the 1987 Manual.

# APPENDICES

# APPENDIX A

FIGURES



Plot Date: 1/20/2020, 08:29:35 dM by MOPEL -- LAYOUT: ANSI B(11x"17") Path: 2/17-0920, 08:29:20, 08:29:20, 08:29:20, 08:2

SID - DUL










# **APPENDIX B**

# WETLAND DETERMINATION DATA FORMS

# ORAM DATA FORMS

Project/Site: Lemoyne Substation	City/County: Lemoyne / Wo	od	Sampling Date: 4/3/2017
Applicant/Owner: FirstEnergy	, , _	State: OH	Sampling Point: W-06
Investigator(s); J. Whittle / C. DeVono	Section, Township, Range:		
Landform (hillslope, terrace, etc.): floodplain, terrace	Local relief (conca)	ve. convex. none):	multiple
Slope (%): Lat. 41.473064	long: -83.447632	-,,	Datum. NAD 83
Soil Man   Init Name:		NWI classific	ation: PFO
Are elimetia / hudrologia conditions on the site turical for this time of u			
Are Vicestation			
Are vegetation, Soil, or Hydrology significantly	/ disturbed? Are "Normal	Circumstances" p	
Are Vegetation, Soil, or Hydrology naturally pr	oblematic? (If needed, e	explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing	g sampling point locatio	ons, transects	, important features, etc.
Hydrophytic Vegetation Present?       Yes ✓       No         Hydric Soil Present?       Yes ✓       No         Wetland Hydrology Present?       Yes ✓       No         Remarks:       (Explain alternative procedures here or in a separate reported and adjacent to atroom S       01	Is the Sampled Area within a Wetland? If yes, optional Wetlanc ort.)	Yes <u>V</u> Site ID: <u>W-06</u>	_ No
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)		<ul> <li>✓ Surface Soil</li> </ul>	Cracks (B6)
✓ Surface Water (A1) ✓ Water-Stained	Leaves (B9)	Drainage Pat	tterns (B10)
High Water Table (A2) Aquatic Fauna	a (B13)	Moss Trim Li	nes (B16)
Saturation (A3) Marl Deposits	(B15)	Dry-Season	Water Table (C2)
Water Marks (B1) Hydrogen Sulf	ide Odor (C1)	✓ Crayfish Burr	rows (C8)
Sediment Deposits (B2) Oxidized Rhize	ospheres on Living Roots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3)     Presence or Recent Iron P	educed Iron (U4)	Stunted or Si	ressed Plants (D1)
Iron Deposits (B5)	rface (C7)	Shallow Aqui	tard (D3)
Inundation Visible on Aerial Imagery (B7) Other (Explain	in Remarks)	Microtopogra	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	,	FAC-Neutral	Test (D5)
Field Observations:			
Surface Water Present? Yes <u>✓</u> No Depth (inches	s): <u>1</u>		
Water Table Present? Yes No Depth (inches	3):		/
Saturation Present? Yes No Depth (inches	s): Wetland H	lydrology Presen	t? Yes _ ✔ _ No
(includes capillary fringe) Describe Recorded Data (stream gauge, monitoring well, aerial phot	tos. previous inspections), if ava	ilable:	
	, , , , , , , , , , , , , , , , , , ,		
Remarks:			

The Oracles (Distains 10 m	Absolute	Dominant	Indicator	Dominance Test worksheet:
Ulmus americana	<u>% Cover</u> 20	<u>Species</u> ?	FACW	Number of Dominant Species
Fravinus pennsylvanica	20	<u> </u>	FACW	That Are OBL, FACW, or FAC: _4 (A)
2. Fraxinus permisyivanica	<u></u>			Total Number of Dominant
3. Fagus grandiiolia	5	ř	FACU	Species Across All Strata: <u>5</u> (B)
4				Percent of Dominant Species
5				That Are OBL, FACW, or FAC: (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	45	= Total Cov	/er	OBL species x 1 =
Sapling/Shrub Stratum (Plot size: 10 '				FACW species x 2 =
1				FAC species x 3 =
·				FACU species x 4 =
2				UPL species x 5 =
3				Column Totals: 0 (A) 0 (B)
4		·		Provolonce Index. – P/A –
5		<u> </u>		
6				Hydrophytic Vegetation Indicators:
7				✓ Rapid Test for Hydrophytic Vegetation
	0	= Total Cov	/er	✓ Dominance Test is >50%
Herb Stratum (Plot size: 10'				Prevalence Index is $\leq 3.0^{\circ}$
1. Carex lupulina	45	Y	OBL	Morphological Adaptations' (Provide supporting data in Remarks or on a separate sheet)
2 Cardamine douglassii	5	Y	FACW	Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
2				
3				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4				be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6		<u> </u>		<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter
7		<u> </u>		at breast height (DBH), regardless of height.
8				Sapling/shrub – Woody plants less than 3 in, DBH
9				and greater than 3.28 ft (1 m) tall.
10				Herb – All herbaceous (non-woody) plants, regardless
11.				of size, and woody plants less than 3.28 ft tall.
12				Woody vines – All woody vines greater than 3.28 ft in
12.	50	Tatal Car		height.
			/er	
Woody Vine Stratum (Plot size:)				
1				
2		. <u> </u>		
3		<u> </u>		Hydrophytic
4				Vegetation Present? Ves No
	0	= Total Cov	/er	
Remarks: (Include photo numbers here or on a separate s	sheet.)			

### SOIL

Profile Desc	cription: (Describe	to the de	oth needed to docu	ment the	indicator	or confirm	n the absence of inc	dicators.)
Depth	Matrix	0/	Rede	ox Feature	es Turr - <sup>1</sup>	1002	Touturo	Domorius
(incnes)	10 VR 3/1	<u>%</u> 85	5 VR 1/6	<u>%</u>				Kemarks
0-12	10 11 3/1	00	5 11( 4/0	15	0	IVI	104111	
							·	
						<u> </u>	<u> </u>	
					<u>    .                                </u>			
	. <u> </u>		. <u> </u>					
						<u> </u>	<u> </u>	
<sup>1</sup> Type: C=C	oncentration, D=Der	pletion, RM	=Reduced Matrix, C	S=Covere	d or Coate	ed Sand G	rains. <sup>2</sup> Location	PI =Pore Lining, M=Matrix,
Hydric Soil	Indicators:			0-001010	<u>a er eca</u>		Indicators for P	roblematic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belo	w Surface	e (S8) ( <b>LR</b> I	R R,	2 cm Muck (	A10) ( <b>LRR K, L, MLRA 149B</b> )
Histic El	pipedon (A2)		MLRA 149E	5)			Coast Prairie	e Redox (A16) ( <b>LRR K, L, R</b> )
Black Hi	istic (A3)		Thin Dark Surf	ace (S9) ( Mineral (F		LRA 149B	<li>5 cm Mucky Dort Surface</li>	Peat or Peat (S3) (LRR K, L, R)
Hydroge Stratifie	d Lavers (A5)		Loamy Gleved	Matrix (F	2) ( <b>LKK N</b>	., <b>∟</b> )	Polyvalue B	e (S7) (LRR R, L) elow Surface (S8) (LRR K, L)
✓ Deplete	d Below Dark Surfac	ce (A11)	Depleted Matri	x (F3)	_)		Thin Dark S	urface (S9) ( <b>LRR K, L</b> )
Thick Da	ark Surface (A12)		✓ Redox Dark Su	urface (F6	)		Iron-Mangar	nese Masses (F12) (LRR K, L, R)
Sandy N	Aucky Mineral (S1)		Depleted Dark	Surface (	F7)		Piedmont FI	oodplain Soils (F19) ( <b>MLRA 149B</b> )
Sandy G	Pleyed Matrix (54)		Redox Depres	sions (F8)			Mesic Spodi	C (TA6) ( <b>MLRA 144A, 145, 149B</b> ) Material (TE2)
Stripped	Matrix (S6)						Very Shallov	v Dark Surface (TF12)
Dark Su	rface (S7) (LRR R, I	MLRA 149	<b>B</b> )				Other (Expla	in in Remarks)
31	Charles the Constants	C	- the state of the			- d'atanta -	l en markle er e Ce	
Restrictive	f nydropnytic vegeta	tion and w	etiand hydrology mu	st be pres	ent, unies	s disturbed	or problematic.	
Type:		-						1
Depth (in	ches):						Hydric Soil Pres	ent? Yes 🖌 No
Remarks:	,							

Project/Site: Lemoyne Substation	City/Co	unty: Luckey / Wood		Sampling Date: 4/3/2017
Applicant/Owner: FirstEnergy			State: OH	Sampling Point: U-06, 09
Investigator(s): J. Whittle / C. DeVono	Section	, Township, Range:		
Landform (hillslope terrace etc.):		Local relief (concav	e convex none).	none
Slope (%):	Long	-83.447437		Datum: NAD 83
	Long		NNA/1 - 1	N/A
Are climatic / hydrologic conditions on the site typical for the	his time of year? Ye	s No	If no, explain in R	emarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbe	ed? Are "Normal	Circumstances" p	oresent? Yes <u>V</u> No
Are Vegetation, Soil, or Hydrology	naturally problemat	ic? (If needed, e	explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS – Attach site map	o showing sam	oling point locatio	ons, transects	, important features, etc.
Hydrophytic Vegetation Present? Yes	No ✓	Is the Sampled Area		/
Hydric Soil Present? Yes	No ✓	within a Wetland?	Yes	No
Wetland Hydrology Present? Yes	No 🖌	If yes, optional Wetland	Site ID:	
Remarks: (Explain alternative procedures here or in a se	eparate report.)			
Upland mesophytic forest				
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indica	tors (minimum of two required)
Primary Indicators (minimum of one is required; check al	ll that apply)		Surface Soil	Cracks (B6)
Surface Water (A1) Wa	ater-Stained Leaves	(B9)	Drainage Pat	tterns (B10)
High Water Table (A2) Ag	uatic Fauna (B13)	(	Moss Trim Li	nes (B16)
Saturation (A3) Ma	arl Deposits (B15)		Dry-Season	Water Table (C2)
Water Marks (B1) Hy	drogen Sulfide Odor	r (C1)	Crayfish Burr	rows (C8)
Sediment Deposits (B2) Ox	kidized Rhizospheres	s on Living Roots (C3)	Saturation Vi	sible on Aerial Imagery (C9)
Drift Deposits (B3) Pro	esence of Reduced	Iron (C4)	✓ Stunted or St	ressed Plants (D1)
Algal Mat or Crust (B4) Re	ecent Iron Reduction	in Tilled Soils (C6)	Geomorphic	Position (D2)
Iron Deposits (B5) Th	in Muck Surface (C7	7)	Shallow Aqui	tard (D3)
Inundation Visible on Aerial Imagery (B7) Ot	her (Explain in Rema	arks)	Microtopogra	phic Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral	Test (D5)
Field Observations:				
Surface Water Present? Yes No D	epth (inches):			
Water Table Present? Yes No ✓ D	epth (inches):			/
Saturation Present? Yes No ✓ D	epth (inches):	Wetland H	lydrology Presen	t? Yes No∕
Describe Recorded Data (stream gauge, monitoring well	, aerial photos, previ	ious inspections), if ava	ilable:	
		. ,		
Remarks:				

Tree Streture (Plot size: 10 m	Absolute	Dominant	Indicator	Dominance Test worksheet:
<u>Ouercus alba</u>	<u>% Cover</u>	<u>Species</u> ?	FACII	Number of Dominant Species
	20	<u> </u>	FACU	That Are OBL, FACW, or FAC: $0$ (A)
2. Carya ovata	20		FACU	Total Number of Dominant
3. Fagus granditolia	15	<u>IN</u>	FACU	Species Across All Strata: <u>5</u> (B)
4. Acer rubrum	10	N	FAC	Percent of Dominant Species
5				That Are OBL, FACW, or FAC: 0 (A/B)
6				Prevalence Index worksheet:
7				Total % Cover of: Multiply by:
	75	= Total Cov	er	$\frac{1}{OBL \text{ species}} \qquad x 1 =$
Sapling/Shrub Stratum (Plot size)				FACW species x 2 =
Zanthoxylum americanum	10	Y	FACU	FAC species x 3 =
o Rosa multiflora	10	Y	FACU	FACU species <u>125</u> x 4 = <u>500</u>
2		<u> </u>	17.00	UPL species x 5 =
3	·			Column Totals: <u>125</u> (A) <u>500</u> (B)
4				
5				Prevalence Index = B/A =
6				Hydrophytic Vegetation Indicators:
7				Rapid Test for Hydrophytic Vegetation
	20	= Total Cov	er	Dominance Test is >50%
Herb Stratum (Plot size: 10'				Prevalence Index is ≤3.0 <sup>1</sup>
Clavtonia virginica	40	Y	FACU	Morphological Adaptations <sup>1</sup> (Provide supporting
Trillium sessile	15	N	FACU	Problematic Hydrophytic Vegetation <sup>1</sup> (Evplain)
	5	N	FACU	
3. Anemorie quinqueiona			FACU	<sup>1</sup> Indicators of hydric soil and wetland hydrology must
4. Erythronium aibidum	1		FACU	be present, unless disturbed or problematic.
5				Definitions of Vegetation Strata:
6				<b>Tree</b> Woody plants 2 in (7.6 cm) or more in diameter
7				at breast height (DBH), regardless of height.
8.				Serling/shruh Weady plants loss than 2 in DDU
9.				and greater than 3.28 ft (1 m) tall.
10				Herb All borbassous (non woody) planta regardless
				of size, and woody plants less than 3.28 ft tall.
				We during All wood wines greater than 2.20 ft in
12	61			height.
	01	= Total Cov	er	
Woody Vine Stratum (Plot size:)				
1				
2				
3				Hydrophytic
4.				Vegetation
	0	– Total Cov	or	Present? Yes No V
Remarks: (Include photo numbers here or on a separate s	heet )	- 10101 001	CI	
	,1001.)			

Profile Desc	ription: (Describe	to the dep	th needed to docur	nent the indica	or or confirm	m the absence of	indicators.)	
Depth	Matrix	0/	Redo	x Features	1 . 2	Tester	- · ·	-
(inches)		<u>%</u>	Color (moist)	% Тур	e Loc		Remark	<u>S</u>
0-2	10 YR 3/2	100		. <u> </u>		loam		
2-16	10 YR 4/4	100						
				·		·		
<u> </u>				·		·		
						·		
						·		
				. <u> </u>		·		
	proprietion D-Dor		-Reduced Matrix CS	S-Covered or Co	ated Sand C	rains <sup>2</sup> Locat	ion: PI -Pore Lining	M-Matrix
Hydric Soil	Indicators:				aleu Saliu G	Indicators fo	r Problematic Hvdr	ic Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Relov	w Surface (S8) (		2 cm Mu	ck (A10) (I RR K I	MLRA 149R)
Histic Er	pipedon (A2)		MLRA 149B			Coast Pr	airie Redox (A16) (L	RR K. L. R)
Black Hi	stic (A3)		Thin Dark Surfa	ace (S9) (LRR R	, MLRA 149E	3) 5 cm Mu	cky Peat or Peat (S3	) (LRR K, L, R)
Hydroge	en Sulfide (A4)		Loamy Mucky N	/lineral (F1) (LR	, R K, L)	Dark Sur	face (S7) (LRR K, L)	
Stratified	d Layers (A5)		Loamy Gleyed	Matrix (F2)		Polyvalue	e Below Surface (S8)	) (LRR K, L)
Depleted	d Below Dark Surfac	e (A11)	Depleted Matrix	(F3)		Thin Darl	k Surface (S9) (LRR	K, L)
Thick Da	ark Surface (A12)		Redox Dark Su	rface (F6)		Iron-Man	ganese Masses (F12	2) ( <b>LRR K, L, R</b> )
Sandy M	lucky Mineral (S1)		Depleted Dark	Surface (F7)		Piedmon	t Floodplain Soils (F1	19) ( <b>MLRA 149B</b> )
Sandy G	Bleyed Matrix (S4)		Redox Depress	ions (F8)		Mesic Sp	odic (TA6) (MLRA 1	44A, 145, 149B)
Sandy R	(edox (S5)					Red Pare	ent Material (TF2)	<b>E</b> (0)
Stripped	Matrix (S6)		2)			Very Sna	allow Dark Surface (I	F12)
Dark Su	nace (57) ( <b>LKK K, I</b>	VILKA 1490	<b>)</b>				xplain in Remarks)	
<sup>3</sup> Indicators of	f hydrophytic vegeta	ition and we	etland hydrology mus	t be present un	less disturber	d or problematic		
Restrictive I	Laver (if observed)	:	and hydrology mae					
Type:		-						
Denth (in	-h).					Hydric Soil P	resent? Ves	
Depth (inc	ches):					Hyune Son Fi		
Remarks:								

Project/Site: Fostoria West End (AEP)-Lemo	oyne-West Fremont 138kV C	ity/County: Wood County	Sampling Date: 12/19/2019
Applicant/Owner: First Energy		State: OH	Sampling Point: W-MRR-1
Investigator(s): Matthew Ray, Thomas Radfo	rd	Section, Township, Range: 22, T 6 N	N, R 12 E
Landform (hillside, terrace, etc.): Depressio	n Local reli	ief (concave, convex, none): Concave	Slope %: 1.0
Subregion (LRR or MLRA): LRR L, MLRA 99	9 Lat: 41.46709	Long: -83.45559	Datum: WGS1984
Soil Map Unit Name: Sloan silty clay loam 0-	1% slopes (SpA)	NWI classification:	N/A
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X No (If no, e	explain in Remarks.)
Are Vegetation No , Soil No , or Hydro	loav No significantly disturbed	d? Are "Normal Circumstances" pres	ent? Yes X No
Are Vegetation No . Soil No . or Hydro	logy No naturally problematic	? (If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS - Attach	site man showing sampl	ing point locations transacts im	nortant features atc
SUMMART OF FINDINGS - Allach			portant leatures, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area	
Hydric Soil Present?	Yes X No	within a Wetland? Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID:	
Remarks: (Explain alternative procedures he	re or in a separate report.)		
3 OF 3 CHIENA Have been met. Area is a wella	na.		
l			
L			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (r	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)	Surface Soil Cracks	s (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	) Drainage Patterns	(B10)
High Water Table (A2)	Aquatic Fauna (B13)		516)
X Saturation (A3)	Marl Deposits (B15)	Dry-Season water	Table (C2)
Water Marks (B1)	Hydrogen Sulfiae Odor (Ci	) Crayiisn Burrows (C2) Seturation Visible (	J8)
Drift Deposits (B3)			n Aeriai imagery (Us) d Plante (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Ti	illed Soils (C6) X Geomorphic Positio	רוט) ארן (ח2)
Iron Denosits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (	ארן ( <i>1</i> 22) ארן ארן ארן ארן ארן ארן ארן ארן ארן ארן
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic R	Relief (D4)
Sparsely Vegetated Concave Surface (B	8)	X FAC-Neutral Test (	D5)
Field Observations:	<u>,</u>		,
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes	No X Depth (inches):		
Saturation Present? Yes X	No Depth (inches):	0 Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previo	ous inspections), if available:	
N/A			
Remarks:			
Tydiology chienon has been met.			

Sampling Point: W-MRR-1

Tree Stratum (Plot size: <u>30ft-radius</u> )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.       2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3				Total Number of Dominant Species Across All Strata: 1 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100.0%</u> (A/B)
7				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft-radius )				OBL species 100 x 1 = 100
1				FACW species 0 x 2 = 0
2.				FAC species 0 x 3 = 0
3.				FACU species 0 x 4 = 0
4.				UPL species 0 x 5 = 0
5.				Column Totals: 100 (A) 100 (B)
6.				Prevalence Index = $B/A = 1.00$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft-radius )				X 2 - Dominance Test is >50%
1 Typha angustifolia	100	Ves	OBI	$X_{3}$ = Prevalence Index is <3.0 <sup>1</sup>
2	100	103		4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2				data in Remarks or on a separate sheet)
S				
4				
5				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8				<b>Tree</b> – Woody plants 3 in. (7.6 cm) or more in diameter at breast beight (DBH), regardless of beight
3 10				
11				<b>Sapling/shrub</b> – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12				<b>Herb</b> – All herbaceous (non-woody) plants, regardless
	100	= Total Cover		of size, and woody plants less than 3.26 it tall.
1				<b>Woody vines</b> – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic Vegetation
4.				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a sepa Vegetation criteria has been met.	rate sheet.)			

### SOIL

Profile Desc	cription: (Describe	to the de	pth needed to docu	ument t	he indica	ator or co	onfirm the absence of	indicators.)
Depth	Matrix		Redox	x Featur	res			
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-14	10YR 3/1	95	10YR 3/4	5	С	М	Loamy/Clayey	Distinct redox concentrations
14-22	10YR 4/1	90	10YR 4/4	10	<u> </u>	M	Loamy/Clayey	Distinct redox concentrations
					_	_		
							·	
<sup>1</sup> Type: C=C Hydric Soil	oncentration, D=Dep	letion, RN	I=Reduced Matrix, M	IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: P Indicators fo	L=Pore Lining, M=Matrix. or Problematic Hydric Soils <sup>3</sup> :
Histosol Histic E Black Hi Hydroge	(A1) pipedon (A2) istic (A3) en Sulfide (A4) d Layers (A5)		Polyvalue Belo MLRA 149B Thin Dark Surfa High Chroma S Loamy Mucky I	w Surfa ) ace (S9 Sands (S Mineral	ce (S8) ( ) ( <b>LRR R</b> 511) ( <b>LRI</b> (F1) ( <b>LR</b> I	LRR R, , MLRA 1 R K, L) R K, L)	2 cm Mu Coast Pr 149B) 5 cm Mu Polyvalu Thin Dar	ck (A10) (LRR K, L, MLRA 149B) airie Redox (A16) (LRR K, L, R) cky Peat or Peat (S3) (LRR K, L, e Below Surface (S8) (LRR K, L) k Surface (S9) (LRR K, L)
Depleted Thick Da Sandy M	d Below Dark Surface ark Surface (A12) Mucky Mineral (S1) Sleved Matrix (S4)	e (A11)	Loamy Gleyed X Depleted Matrix Redox Dark Su	Matrix ( x (F3) urface (F	(F2) F6)		X Iron-Mar Piedmor Mesic Sp Red Par	ganese Masses (F12) ( <b>LRR K, L,</b> it Floodplain Soils (F19) ( <b>MLRA 1</b> 4 podic (TA6) ( <b>MLRA 144A, 145, 14</b> ent Material (F21)
Sandy R	Redox (S5) I Matrix (S6)		Redox Depress Marl (F10) (LR	sions (F R K, L)	8)		Very Sha	allow Dark Surface (F22) xplain in Remarks)
<sup>3</sup> Indicators o	f hydrophytic vegetal	tion and w	/etland hydrology mu	ust be p	resent, u	nless dist	urbed or problematic.	
Restrictive	Layer (if observed):							
Type:	N//	4						
Depth (in	nches):						Hydric Soil Preser	nt? Yes <u>X</u> No
Remarks: Soil criterion	has been met.							

Project/Site: Fostoria West End	1 (AEP)-Lemoyne-West	: Fremont 138kV	City/County: Wood County	Sampling Date: <u>12/19/2019</u>
Applicant/Owner: First Ener	gy		State: O	H Sampling Point: UPL-MRR-1
Investigator(s): Matthew Ray, T	homas Radford		Section, Township, Range: 22,	Γ 6 N, R 12 E
Landform (hillside, terrace, etc.):	Hillslope	Local	relief (concave, convex, none): <u>Convex</u>	Slope %: 1.5
Subregion (LRR or MLRA): LR	R L, MLRA 99 Lat:	41.46887	Long: -83.45546	Datum: WGS1984
Soil Map Unit Name: Hoytville of	lay loam, 0-1% slopes	(HoA)	NWI classificat	ion: N/A
Are climatic / hydrologic condition	ns on the site typical for	r this time of year?	Yes X No (If	no, explain in Remarks.)
Are Vegetation <u>No</u> , Soil <u>N</u>	o_, or Hydrology <u>No</u>	significantly distur	bed? Are "Normal Circumstances" p	present? Yes X No
Are Vegetation <u>No</u> , Soil <u>N</u>	o_, or Hydrology <u>No</u>	naturally problema	atic? (If needed, explain any answe	rs in Remarks.)
SUMMARY OF FINDINGS	S – Attach site ma	p showing sam	pling point locations, transects,	, important features, etc.
Hydrophytic Vegetation Present	? Yes	No X	Is the Sampled Area	
Hydric Soil Present?	Yes	No X	within a Wetland? Yes	No X

 Wetland Hydrology Present?
 Yes
 No
 X
 If yes, optional Wetland Site ID:

 Remarks:
 (Explain alternative procedures here or in a separate report.)
 0 of 3 criteria have not been met. Area is not a wetland.
 If yes, optional Wetland Site ID:

#### HYDROLOGY

Wetland Hydrology Indicators:			Secondary Indicators (minimum of two required)
Primary Indicators (minimum of c	one is required; check all that	t apply)	Surface Soil Cracks (B6)
Surface Water (A1)	- Water-Stai	ined Leaves (B9)	- Drainage Patterns (B10)
- High Water Table (A2)	- Aquatic Fa	iuna (B13)	- Moss Trim Lines (B16)
- Saturation (A3)	- Marl Depos	sits (B15)	- Dry-Season Water Table (C2)
- Water Marks (B1)	- Hydrogen S	Sulfide Odor (C1)	- Crayfish Burrows (C8)
- Sediment Deposits (B2)	- Oxidized R	hizospheres on Living Roots (	C3) - Saturation Visible on Aerial Imagery (C9)
- Drift Deposits (B3)	- Presence of	of Reduced Iron (C4)	- Stunted or Stressed Plants (D1)
- Algal Mat or Crust (B4)	- Recent Iror	n Reduction in Tilled Soils (C6)	Geomorphic Position (D2)
- Iron Deposits (B5)	- Thin Muck	Surface (C7)	- Shallow Aquitard (D3)
- Inundation Visible on Aerial I	magery (B7) - Other (Exp	lain in Remarks)	- Microtopographic Relief (D4)
- Sparsely Vegetated Concave	e Surface (B8)		- FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present? Ye	s No X Do	epth (inches):	
Water Table Present? Ye	s No X De	epth (inches):	
Saturation Present? Ye	s NoXDo	epth (inches): W	etland Hydrology Present? Yes No X
Saturation Present? Ye (includes capillary fringe)	s No_XD	epth (inches): W	etland Hydrology Present? Yes No _X
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream	s <u>No X</u> Do	epth (inches): W	vetland Hydrology Present?     Yes No _X       s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A	s <u>No X</u> Do	ial photos, previous inspection	s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A	s <u>No X</u> Do	epth (inches): W	vetland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks:	s <u>No X</u> Do	epth (inches): W	vetland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s <u>No X</u> Do gauge, monitoring well, aeri met.	epth (inches): W	Yetland Hydrology Present? Yes <u>No X</u>
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s <u>No X</u> Do	epth (inches): W	etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s <u>No X</u> Do	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s No <u>X</u> Do gauge, monitoring well, aeri met.	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s No <u>X</u> Do gauge, monitoring well, aeri met.	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s No <u>X</u> Do gauge, monitoring well, aeri met.	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s No <u>X</u> Do	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:
Saturation Present? Ye (includes capillary fringe) Describe Recorded Data (stream N/A Remarks: Hydrology criterion has not been	s No <u>X</u> Di gauge, monitoring well, aeri met.	epth (inches): W	/etland Hydrology Present? Yes <u>No X</u> s), if available:

Sampling Point: UPL-MRR-1

<u>Tree Stratum</u> (Plot size: 30ft-radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC: 0 (A)
3 4				Total Number of Dominant Species Across All Strata: 1 (B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft-radius )				OBL species 0 x 1 = 0
1				FACW species 0 x 2 = 0
2				FAC species 0 x 3 = 0
3				FACU species 100 x 4 = 400
4				UPL species 0 x 5 = 0
5.				Column Totals: 100 (A) 400 (B)
6.				Prevalence Index = $B/A = 4.00$
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft-radius )				2 - Dominance Test is >50%
1 Lolium perenne	100	Yes	FACU	3 - Prevalence Index is <3.01
2	100	100	17,000	4 - Morphological Adaptations <sup>1</sup> (Provide supporting
2				data in Remarks or on a separate sheet)
· · · · · · · · · · · · · · · · · · ·				Decklose etis Underste die Mensterie al (Exploit)
4.				
5 6.				<sup>1</sup> Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				
9.				diameter at breast height (DBH), regardless of height.
10.				Sanling/shruh – Woody plants less than 3 in DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft-radius )				Woody vines – All woody vines greater than 3.28 ft in
1.				height.
2.				
3.				Hydrophytic Versteiler
4				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a sena	arate sheet )			
Vegetation criteria has not been met.				

Profile Desc	ription: (Describe	to the de	pth needed to doc	ument t	he indica	ator or co	onfirm the absence of indi	cators.)	
Depth	Matrix		Redo	x Featu	res				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Rema	arks
0-16	10YR 4/4	100					Loamy/Clayey		
16-22	10YR 5/2	100					Loamy/Clayey		
		·							
		·			·				
					. <u> </u>				
		·			· <u> </u>				
		·			·		·		
17				10 14-1			21	a Lista a M. M.	- 1-1
	ncentration, D=Dep	letion, RIV	I=Reduced Matrix, N	/IS=Mas	sked Sand	d Grains.	Location: PL=Poi	e Lining, M=M	atrix.
- Histosol	$(\Delta 1)$		- Polyvalue Belo	w Surfa	nce (S8) (		- 2 cm Muck (A		MI RA 149R)
- Histic En	vipedon (A2)		MLRA 149B		ice (00) (		- Coast Prairie I	Redox (A16) (L	RR K. L. R)
- Black His	stic (A3)		- Thin Dark Surf	) ace (S9	) (LRR R	. MLRA 1	149B) - 5 cm Mucky P	eat or Peat (S3	B) (LRR K. L. R)
- Hydroge	n Sulfide (A4)		- High Chroma S	Sands (S	, ( S11) ( <b>LR</b> I	, R K, L)	- Polyvalue Belo	w Surface (S8	) (LRR K, L)
- Stratified	Layers (A5)		- Loamy Mucky	Mineral	(F1) ( <b>LR</b>	R K, L)	- Thin Dark Sur	ace (S9) (LRR	<b>K</b> , L)
- Depleted	Below Dark Surface	e (A11)	- Loamy Gleyed	Matrix (	(F2)		- Iron-Manganes	se Masses (F1	2) (LRR K, L, R)
- Thick Da	rk Surface (A12)		- Depleted Matri	x (F3)			<ul> <li>Piedmont Floc</li> </ul>	dplain Soils (F	19) ( <b>MLRA 149B</b> )
Sandy M	ucky Mineral (S1)		- Redox Dark Su	urface (F	=6)		- Mesic Spodic	(TA6) ( <b>MLRA</b> 1	44A, 145, 149B)
Sandy G	leyed Matrix (S4)		- Depleted Dark	Surface	e (F7)		- Red Parent Ma	aterial (F21)	
Sandy R	edox (S5)		- Redox Depres	sions (F	8)		- Very Shallow I	Dark Surface (F	-22)
- Stripped	Matrix (S6)		Marl (F10) ( <b>LR</b>	R K, L)			- Other (Explain	in Remarks)	
Dark Sur	tace (S7)								
<sup>3</sup> Indicators of	hydrophytic vegetat	tion and w	etland hydrology mu	ust be n	resent u	nless dist	urbed or problematic		
Restrictive L	aver (if observed):		iction in yorology ma						
Type:	N//	Ą							
Depth (ir	iches).						Hydric Soil Present?	Yes	No X
Doput (il									
Soil criterion	has not been met.								



last revised 1 February 2001 jjm



End of Quantitative Rating. Complete Categorization Worksheets.

2

3

of marginal quality

and of highest quality

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

Present in moderate or greater amounts

53







### End of Quantitative Rating. Complete Categorization Worksheets.

3

quality or in small amounts of highest quality

Present in moderate or greater amounts

and of highest quality

26

Project/Site: <u>Transmission Line Project</u> City/County: <u>NOOL</u> Sampling Date: <u>12/6/19</u>	
Applicant/Owner: First Energy State: OH Sampling Point: UPL-DP-M	M,
Investigator(s): M. Molnar, PWS, J. Pitts Section, Township, Range: TGN, RIDE, S23	
Landform (hillslope, terrace, etc.):	
Subregion (LRR or MLRA): LRR L Lat: 41, 47187 Long: 33, 462, 85 Datum: WGS84	
Soil Map Unit Name: <u>Sloan sitty clay Loan, O-1% slopes freq. floo</u> ff Wi classification: <u>None</u>	
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? N Are "Normal Circumstances" present? Yes 🔀 No	
Are Vegetation, Soil, or Hydrology naturally problematic? N (If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach site map showing sampling point locations, transects, important features, etc.	
Hydrophytic Vegetation Present?       Yes       No       Is the Sampled Area within a Wetland?       Yes       No         Hydric Soil Present?       Yes       No       No       If yes, optional Wetland Site ID:       No       No         Wetland Hydrology Present?       Yes       No       If yes, optional Wetland Site ID:       No       No         Remarks:       (Explain alternative procedures here or in a separate report.)       Select from list       Select from list	
2 of 3 wetland criteria have been met. Area is not a wetland.	
, ,	
Wetland Hydrology Indicators: Secondary Indicators (minimum of two required)	
Primary Indicators (minimum of one is required: check all that apply)	
Surface Water (A1) Water-Stained Leaves (B9)	
High Water Table (A2) Aquatic Fauna (B13) Moss Trim Lines (B16)	
Saturation (A3)	
Water Marks (B1) Hvdrogen Sulfide Odor (C1) Cravfish Burrows (C8)	
Sediment Denosits (B2)	
Drift Deposits (B3)	
Algol Mat or Crust (B4)	
	<i>.</i> w
I From Deposits (B5) I Sinanow Advirate (D7)	
Preid Observations:	
Weter Table Present? Yes No Depth (inches): (3)	
Saturation Present? Yes No Depth (inches): 12 1 Wetland Hydrology Present? Yes No	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial prioros, previous inspections), if available.	
Wetland hydrology criterion has been met.	

Sampling Point:	UPL-DP-MM-1
-----------------	-------------

· · · · · · · · · · · · · · · · · · ·	Absolute	Dominant Indicator	Deminance Test workshoet:
Tree Stretum (Plot size: <u>30 feet</u> )	% Cover	Species? Status	Number of Dominant Species
1		<u></u>	-That Are-OBL, FACW, or FAC: (A)
2.			Total Number of Dominant
			Species Across All Strata: (B)
		(m	Percent of Dominant Species
			That Are OBL, FACW, or FAC:
°		······································	
6			Prevalence Index worksheet:
7		· ·	Total % Cover of:Multiply by:
		= Total Cover	
Sapling/Shrub Stratum (Plot size: 15 feet )	~ ~	1 -	FACW species $\underline{40}$ $\times 2 = \underline{80}$
1. Cornus ammomum	30_	V FACN	FACT species $40$ x 4 = $100$
2			
3			Column Totals: $140$ (A) $300$ (B)
4			
5			Prevalence Index = $B/A = 2$
6		······································	Hydrophytic Vegetation Indicators:
			Rapid Test for Hydrophytic Vegetation <b>N</b>
/·	20		Dominance Test is >50% N
5 foot		= Total Cover	Prevalence Index is ≤3.0 <sup>1</sup>
Herb Stratum (Plot size: 5 leet )		1 - 2 -	Morphological Adaptations <sup>1</sup> (Provide supporting
1. Carex lacustri's	- 60-	$-\underline{v}$ OBL	data in Remarks or on a separate sheet)
2. Symphotnichium pillosum	<u> 20</u>	FACL	
3. Lusimachia nummikaria	<u>   10    </u>	<u>Faci</u>	N Indicators of hydric soil and wetland hydrology must
4		<u> </u>	be present, unless disturbed or problematic.
5	_		Definitions of Vegetation Strata:
6.			
7			Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
°			
o	-		and greater than 3.28 ft (1 m) tall.
9			
10			of size, and woody plants less than 3.28 ft tall.
11			
12	<u> </u>		woody vines - All woody vines greater than 3.28 ft in   height.
	46	= Total Cover	· ·
Woody Vine Stratum (Plot size: 30 feet )		1	
1. Vitis aestvalis	20	FAC	
2.			
3.			Hydrophytic
4			Vegetation
	20	= Total Cover	Present? Yes No
Remarks: (Include photo numbers here or on a separate	sheef )		
Hydrophytic vegetation criterion	he	en met	
Tranophytic vegetation chienon 703	DE		
			·
			, ,

 $\sim 12.20$ 

SOIL	
------	--

Sampling Point:	UPL-DP-MM-1
-----------------	-------------

Profile Desc	ription: (Describe	to the dept	h needed to docum	nent the ir	ndicator	orconfirm	the absence	of indicato	rs.)
Depth _(inches)	Matrix Color (moist)	%	Color (moist)	<u>x Heatures</u>	Type <sup>1</sup>	_Loc <sup>2</sup>			Remarks
0-12"	10YR3/1	100	مىنىيەن بېرىغان بېرىنىغان ئالىرىيە مىنىغان يېرىنى				Loam		
12-18"	10484/1	95%	104R5/8	5%	<u> </u>	Μ	clay Loon	Satura	ation
						· <u>· · · ·</u>			······
					<u> </u>			·	
	<u></u>	<u> </u>				· <del>.</del>			
						· · · · · · · · · · · · · · · · · · ·			
	<u> </u>				_				
	۰			•					· · ·
			<u> </u>		_	· ·····			
							<u> </u>	- <u>-</u>	
<u> </u>							raine <sup>2</sup> l or		Pore Lining M≕Matriv
<sup>1</sup> Type: C=C Hydric Soil	oncentration, D=Dep Indicators:	oletion, RM=	Reduced Matrix, Ca	<u>S=Covered</u>	l or Coat	ed Sand G	Indicators	for Probler	natic Hydric Soils <sup>3</sup> :
Histosol	(A1)		Polyvalue Belov	w Surface	(S8) (LR	R R,	2 cm N	luck (A10) (	LRR K, L, MLRA 149B)
Histic E	pipedon (A2)		MLRA 149B	) 200 (SQ) /L		II RA 1498		Prairie Rede /ucky Peat (	ox (A16) (LRR K, L, R) or Peat (S3) (LRR K, L, R)
Hvdroge	istic (A3) en Sulfide (A4)		Loamy Mucky	Mineral (F1		(, L)	Dark S	Surface (S7)	(LRR K, L)
	d Layers (A5)		Loamy Gleyed	Matrix (F2	)		Polyva	lue Below S	Surface (S8) (LRR K, L)
Deplete	d Below Dark Surfac	ce (A11)	Depleted Matrix	k (F3) uface (E6)			Thin D	ark Surface anganese M	(S9) (LRR K, L) Masses (F12) (LRR K, L, R)
Sandy N	Aucky Mineral (S1)		Depleted Dark	Surface (F	7)		Piedm	ont Floodpla	ain Soils (F19) (MLRA 149B)
Sandy C	Gleyed Matrix (S4)		Redox Depress	sions (F8)			Mesic	Spodic (TA	5) (MLRA 144A, 145, 149B)
Sandy F	Redox (S5)							arent Materi ballow Dark	(F21) Surface (TF12)
Dark Su	Inface (S7) (LRR R,	MLRA 1498	3)				Other (	(Explain in F	Remarks)
<sup>3</sup> Indicators o	of hydrophytic vegeta	ation and we	atland hydrology mus	st be prese	ent, unles	s disturbed	d or problematic	). 	
Restrictive	Layer (if observed	):							
Depth (in	iches): N/A						Hydric Soil	Present?	Yes No X
Remarks:	lydric soil crite	erion	as n <del>at</del> bee	n met.					
1		4 K							

Project/Site: Fostoria West End (AEP)-Lemo	oyne-West Fremont 138kV	City/County: Wood County	y Sam	pling Date: 01/17/2020		
Applicant/Owner: First Energy			State: OH Sa	ampling Point: UPL-DP-MM-2		
Investigator(s): Maggie Molnar, PWS		Section, Townshi	p, Range: <u>22, T 6 N, R 1</u>	12 E		
Landform (hillside, terrace, etc.): Depression	on Local r	elief (concave, convex, nor	ne): Convex	Slope %: 1.5		
Subregion (LRR or MLRA): LRR L, MLRA 9	9 Lat: <u>41.471277</u>	Long: -83.4	454087	Datum: WGS1984		
Soil Map Unit Name: Sloan silty clay loam (S	 ЗрА)	1	NWI classification: N/A	·		
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X	No (If no, explai	in in Remarks.)		
Are Vegetation No , Soil No , or Hydro	logy No significantly disturb	bed? Are "Normal Cir	rcumstances" present?	Yes X No		
Are Vegetation No , Soil No , or Hydro	logy No naturally problemat	tic? (If needed, expl	lain any answers in Rem	narks.)		
SUMMARY OF FINDINGS – Attach	site map showing samp	pling point locations	, transects, impor	tant features, etc.		
Hydrophytic Vegetation Present? Hydric Soil Present? Wetland Hydrology Present?	Yes         X         No           Yes         No         X           Yes         X         No	Is the Sampled Area within a Wetland? If yes, optional Wetland	Yes No Site ID:			
3 of 3 criteria have not been met. Area is not	a wetland.					
HYDROLOGY						
Wetland Hydrology Indicators: Primary Indicators (minimum of one is requir	ed: check all that apply)	<u>Secc</u>	ondary Indicators (minim Surface Soil Cracks (B6	num of two required)		
- Surface Water (A1)	<ul> <li>Water-Stained Leaves (B</li> </ul>	 39) - [	Drainage Patterns (B10)	)		
- High Water Table (A2)	- Aquatic Fauna (B13)	- Moss Trim Lines (B16)				
X Saturation (A3)	- Marl Deposits (B15)	- Dry-Season Water Table (C2)				
- Water Marks (B1)	- Hydrogen Sulfide Odor (C	C1) <u>- (</u>	Crayfish Burrows (C8)			
- Sediment Deposits (B2)	- Oxidized Rhizospheres or	n Living Roots (C3) - S	Saturation Visible on Ae	rial Imagery (C9)		
- Drift Deposits (B3)	- Presence of Reduced Iron	n (C4) - S	Stunted or Stressed Plan	nts (D1)		
- Algal Mat or Crust (B4)	- Recent Iron Reduction in	Tilled Soils (C6) - (	Geomorphic Position (D	2)		
- Iron Deposits (B5)	- Thin Muck Surface (C7)	<u> </u>	Shallow Aquitard (D3)			
- Inundation Visible on Aerial Imagery (B7	) - Other (Explain in Remark	(s) <u>-</u> [	Microtopographic Relief	(D4)		
- Sparsely Vegetated Concave Surface (B	8)	<u> </u>	FAC-Neutral Test (D5)			
Field Observations:						
Surface Water Present? Yes	No X Depth (inches):					
Water Table Present? Yes	No X Depth (inches):	<u> </u>				
Saturation Present? Yes X	No Depth (inches):	10 Wetland Hyd	Irology Present?	Yes X No		
(Includes capillary fringe)	-terior well, carial photos, prov		Ll			
N/A	nitoring well, aeriai priolos, prev	/IOUS INSPECTIONS), II availai	DIE:			
Remarks:						
Hydrology criterion has been met.						

Sampling Point: UPL-DP-MM-2

Tree Stratum (Plot size: 30ft-radius )	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.       2.				Number of Dominant Species That Are OBL, FACW, or FAC:2 (A)
3				Total Number of Dominant Species Across All Strata: <u>3</u> (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)
7.				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15ft-radius )				OBL species 90 $x 1 = 90$
1. Cornus racemosa	70	Yes	FAC	FACW species 10 $x 2 = 20$
2. Crataegus mollis	10	No	FAC	FAC species 80 x 3 = 240
3. Fraxinus pennsylvanica	10	No	FACW	FACU species 30 x 4 = 120
4.				UPL species $0 \times 5 = 0$
5.				Column Totals: 210 (A) 470 (B)
6				$\frac{1}{2} = \frac{1}{2} = \frac{1}$
7.				Hydrophytic Vegetation Indicators:
	90	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5ft-radius )				X 2 - Dominance Test is >50%
1 Carex lacuetris	90	Ves	OBI	X = 2 Dominance reactor 2007
2 Allium schoononrasum	10	No		$\frac{1}{1}$ - Morphological Adaptations <sup>1</sup> (Provide supporting
	10	INU	FACU	data in Remarks or on a separate sheet)
3				Decklose die Understeide Versteide 1 (Europeie)
4		·		Problematic Hydrophytic Vegetation (Explain)
5				<sup>1</sup> Indicators of hydric soil and wetland hydrology must
6				be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8		·		Tree – Woody plants 3 in. (7.6 cm) or more in
9				diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30ft-radius )				Woody vines – All woody vines greater than 3.28 ft in
1. Vitis aestivalis	20	Yes	FACU	height.
2				
3				Hydrophytic Vegetation
4				Present? Yes X No
	20	=Total Cover		
Remarks: (Include photo numbers here or on a separ	rate sheet.)			
Vegetation criteria has been met.	,			

L

Depth	Matrix		Redo	x Featur	es				
(inches)	Color (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remai	rks
0-4	10YR 2/2	100					Loamy/Clayey		
4-10.5	10YR 3/2	100					Loamy/Clayey		
10.5-22	2.5Y 4/1	90	10YR 5/8	8	С	Μ	Loamy/Clayey	Faint Redox cor	ncentrations
		. <u> </u>	,						
<sup>1</sup> Type: C=Co	oncentration, D=Dep	letion, RM	I=Reduced Matrix, N	/IS=Mas	ked Sand	d Grains.	<sup>2</sup> Location: PL=F	Pore Lining, M=Ma	atrix.
Hydric Soil I	Indicators:	·					Indicators for F	vroblematic Hydri	ic Soils <sup>3</sup> :
- Histosol	(A1)		- Polyvalue Belo	w Surfa	ce (S8) (	LRR R,	2 cm Muck	(A10) ( <b>LRR K, L, !</b>	MLRA 149B)
- Histic Ep	pipedon (A2)		MLRA 1498	)			- Coast Prairi	e Redox (A16) (LF	RR K, L, R)
- Black His	stic (A3)		- Thin Dark Surfa	ace (S9)	) (LRR R	, MLRA ′	149B) <u>-</u> 5 cm Mucky	Peat or Peat (S3)	) (LRR K, L, R)
- Hydroge Stratifion	n Sulfide (A4)		- High Chroma S	Sands (S Minoral	511) (LRI (E1) (LRI	КК, L) РКІ)	- Polyvalue B	elow Surface (S8)	
- Stratined	l Below Dark Surface	<u>∍</u> (A11)	- Loamy Gleved	Matrix (	(F1) ( <b>LR</b> ) F2)	κ <b>κ</b> , <b>ι</b> )	- Iron-Manga	nese Masses (F12	<b>κ, μ</b> ) 2) (I RR Κ. Ι. R)
- Thick Da	ark Surface (A12)	5 (711)	- Depleted Matrix	x (F3)	/		- Piedmont F	loodplain Soils (F1	19) ( <b>MLRA 149B</b>
- Sandy M	lucky Mineral (S1)		- Redox Dark Su	urface (F	6)		- Mesic Spod	ic (TA6) ( <b>MLRA 1</b> 4	44A, 145, 149B)
- Sandy G	leyed Matrix (S4)		- Depleted Dark	Surface	(F7)		- Red Parent	Material (F21)	
- Sandy R	edox (S5)		- Redox Depress	sions (Fa	B)		- Very Shallo	w Dark Surface (F	22)
- Stripped	Matrix (S6)		- Marl (F10) (LR	R K, L)			- Other (Expl	ain in Remarks)	
- Dark Sur	face (S7)								
<sup>3</sup> Indicators of	f hydrophytic vegetat	tion and w	etland hydrology mu	ist be pr	esent. u	nless dist	urbed or problematic.		
Restrictive L	_ayer (if observed):								
Type:	N/#	4							
Depth (ir	nches):						Hydric Soil Present?	Yes	No X
Remarks:									
Soil criterion	has not been met.								
Soil Pit $2 = 0$	-22 inches, 10 Y/R 3	/2, No Re	dox Features, Loam	y/Claye	y. Soil Pi	it 3 = 0 - 1	10.5 inches, 10 Y/R 3/2, N	lo Redox Features	; 10.5 - 22 inche
10 Y/R 3/2, F	Redox Features = 10	Y/R 5/8 5	%, Concentration, N	Matrix, F	aint				

# APPENDIX C

# **STREAM EVALUATION FORMS: QHEI & HHEI FORMS**

<u>OhioEPA</u>	Qualitative Habitat Evaluation Index and Use Assessment Field Sheet	GHEI Score: (フム)
Stream & Location: <u>S-</u> MM-	-1; Toussiant Cree.K	RM:
River Code:	STORET #: Lat./ Long.: 4] . 47	7/83.4539 Office verified
1] SUBSTRATE Check ONLY Two	substrate TYPE BOXES;	$\sum (Or 2 f avom go)$
BEST TYPES POOL RIFF BLDR /SLABS [10] BOULDER [9] GRAVEL [7] BEDROCK [5] NUMBER OF BEST TYPES:	Correnatural substrates; ignore [2] sudge from point-sources) [3] Correnature [4] Correnature	QUALITY HEAVY [-2] SILT MODERATE [-1] Substrate NORMAL [0] FREE [1] MODERATE [-1] MODERATE [-1] MAXIMUM NORMAL [0] NORMAL [0]
248+6+1+1-1	COAL FINES [-2]	
2] INSTREAM COVER Indicate p quality; 3-Highest quality in moderate diameter log that is stable, well develo UNDERCUT BANKS [1] OVERHANGING VEGETATION SHALLOWS (IN SLOW WATER ROOTMATS [1] Comments	Presence 0 to 3: 0-Absent; 1-Very small amounts or if more common -Moderate amounts, but not of highest quality or in small amounts or greater amounts (e.g., very large boulders in deep or fast water, oped rootwad in deep / fast water, or deep, well-defined, functional POOLS > 70cm [2] OXBOWS, BACKWATE [1] OROOTWADS [1] AQUATIC MACROPHY1 [1] BOULDERS [1] OCS OR WOODY DEE	n of marginal AMOUNT of highest large Check ONE (Or 2 & average) pools. EXTENSIVE >75% [11] RS [1] MODERATE 25-75% [7] rES [1] SPARSE 5-<25% [3] BRIS [1] NEARLY ABSENT <5% [1] Cover Maximum
1+(+1+2+1+1+7	=14	<sup>20</sup> 🛄 30
3] CHANNEL MORPHOLOGY SINUOSITY DEVELOPME □ HIGH [4] □ EXCELLENT □ MODERATE [3] □ GOOD [5] ■ LOW [2] ■ FAIR [3] □ NONE [1] □ POOR [1] Comments ⊇ + 3 + 3 + 2	Check ONE in each category (Or 2 & average) ENT CHANNELIZATION STABILITY [7] ONONE [6] HIGH [3] CRECOVERED [4] MODERATE [2] CRECENT OR NO RECOVERY [1]	Channel Maximum 20 40
4] BANK EROSION AND RIPA	RIAN ZONE Check ONE in each category for EACH BANK (Or	- 2 per bank & average)
River right looking downstream RI REROSION B Will NONE / LITTLE [3] B MO MODERATE [2] B NA HEAVY / SEVERE [1] C VE Comments 3 + 2 + 2	PARIAN WIDTH       R       FLOOD PLAIN QUALIT         DE > 50m [4]       Image: Forest, swamp [3]         DDERATE 10-50m [3]       Image: Shrubbox or Old Field [2]         RROW 5-10m [2]       Image: Shrubbox or Old Field [2]         RY NARROW < 5m [1]	TY B CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] [1] MINING / CONSTRUCTION [0] Indicate predominant land use(s) past 100m riparian. Maximum 10 Maximum 10 H7-
5] POOL / GLIDE AND RIFFLE MAXIMUM DEPTH C Check ONE (ONLY!) Chece	F / RUN QUALITY         HANNEL WIDTH         K ONE (Or 2 & average)         WIDTH > RIFFLE WIDTH [2]         I TORRENTIAL [-1]         WIDTH = RIFFLE WIDTH [1]         WIDTH < RIFFLE WIDTH [1]	Recreation Potential           Primary Contact           Secondary Contact           [circle one and comment on back]
□ 0.2~<0.4m [1] □ < 0.2m [0]	☐ MODERATE [1] ☐ EDDIES [1] Indicate for reach - pools and riff	Pool / Pos. Current
$\Box < 0.2m [0]$ $Comments \qquad \bigcirc + \bigcirc + \bigcirc + \land$	Indicate for reach - pools and riff	Pool / Current Maximum 12
□ 0.2-<0.4m[1] □ < 0.2m [0] Comments G + Q-+ Indicate for functional riff of riffle-obligate species: RIFFLE DEPTH RU ■ BEST AREAS > 10cm [2] □ MAXI □ BEST AREAS > 5-10cm [1] ■ MAXI □ BEST AREAS < 5cm [metric=0] Comments Q + 1+	□ MODERATE [1]       □ EDDIES [1]         Indicate for reach - pools and riff         Ies; Best areas must be large enough to support a         Check ONE (Or 2 & average).         IN DEPTH       RIFFLE / RUN SUBSTRATE         MUM > 50cm [2]       □ STABLE (e.g., Cobble, Boulder) [2]         MUM < 50cm [1]	Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current 12 Pool / Current 12 Current 12 Current 12 Current 12 Current 12 Current 12 Moderate [0] Maximum 8 8 7 Pool / Current 12 Maximum 8 7 Pool / Current 12 Pool / Pool / Current 12 Pool / Pool /
☐ 0.2-<0.4m [1] ☐ < 0.2m [0] Comments	□ MODERATE [1]       □ EDDIES [1]         Indicate for reach - pools and riff         Ies; Best areas must be large enough to support a Check ONE (Or 2 & average).         IN DEPTH       RIFFLE / RUN SUBSTRATE         NUM > 50cm [2]       □ STABLE (e.g., Cobble, Boulder) [2]         MUM < 50cm [1]	Pool / Current Maximum 12 Pool / Current Maximum 12 Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current Maximum 12 Pool / Current 12 Pool / Current Pool / Pool / Pool / Current Pool / Pool / Pool / Pool
□ 0.2       0.2         □ < 0.2	□ MODERATE [1]       □ EDDIES [1]         Indicate for reach - pools and riff         Ies; Best areas must be large enough to support a Check ONE (Or 2 & average).         IN DEPTH       RIFFLE / RUN SUBSTRATE         MUM > 50cm [2]       □ STABLE (e.g., Cobble, Boulder) [2]         MUM < 50cm [1]	Pool / Current Maximum 12         Mes.         A population         Imaximum 12         Imaximum 10         Imaximum 10         Imaximum 10         Imaximum 10



-1 Version 4.0 October 2018

STE NAMELOCATION <i>Destination for the set of the set of</i>	5	r Habitat Field Evaluation Form HHEI Score (sum of metrics 1+2+3) 35	hio to Environmental station Agency
1.       SUBSTRATE (Estimate percent of every type present). Check ONL Yiwo predominant substrate TYPE boxes. (Max of 32). Additatia number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B PERCENT TYPE BLR SLABS (16 pts) BLR SLABS (16 pts) COBBLE (65-256 mm) [2 pts] COBBLE (65-256 mm) [2 pts] COMBLE (254 mm) [8 pts] Tatial of Percentages of BLR SLABS, Boulder, Coble, Bedrock SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: SCORE 00F TWO MOST PREDOMINATE SUBSTRATE TYPES: SCORE 00F TWO MOST PREDOMINATE SUBSTRATE TYPES: SCORE 00F WOMOST PREDOMINATE SUBSTRATE TYPES: SCORE 00F WOMOST PREDOMINATE SUBSTRATE TYPES: SCORE 00F WOMST CHANNEL [0 pts] SCORE 00F WOMST CHANNEL [0 pts] SCORE 00F WOMST CHANNEL [0 pts] SCORE 015 CHANNEL [0 pts] SC	11255 [Joh L. 26 1 <u>A</u> uctions	P)-Lemonne-West Fremont 138KV Transmis         CreekIver code         CreekIver code         DRAINAGE AREA (min)         0.00         16.907         LONG         -83.45559         RIVER MILE         NTS         DId Evaluation Manual for Ohio's PHWH Streams" for Instruct         MAL CHANNEL Recovered	NAME/LOCATION <u>Fo</u> NUMBER GTH OF STREAM REAC TE <u>[2 / 19/19</u> SCO Complete All Items CAM CHANNEL MOD
SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:       >       TOTAL NUMBER OF SUBSTRATE TYPES:       >         2.       Maximum Pool Depth (Measure the maximum pool depth within the 61 meter (200 feet) evaluation reach at the time of evaluation reach at the time of evaluation. Avoid plunge pools from road culverts or storm water pipes) (Check ONLY one box):       >         3.       30 centimeters [20 pts]       >       5 cm -10 cm [15 pts]       >         > 22.5 - 30 cm [30 pts]        \$ cm -10 cm [15 pts]       >       %         3.       BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):       >       %       %         3.       BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):       >       %       %         > 3.0 m = 4.0 m (> 97 7 - 13) [25 pts]       >       >       >       1.0 m -1.5 m (> 3' 3' -4' 3') [15 pts]       %         > 3.0 m -4.0 m (> 9' 7 - 13) [25 pts]        >       1.0 m (< 3' 3') [5 pts]       %       %          S cm [16 pts]       <       1.0 m (< 3' 3') [5 pts]       %       %       %         COMMENTS	HHEI Aetric Joints ubstrate Aax = 40 5 A + B	emt). Check ONLY two predominant substrate TYPE boxes.         ypes found (Max of 8). Final metric score is sum of boxes A & B         YPE       PERCENT         X       SILT [3 pt]         LEAF PACK/WOODY DEBRIS [3 pts]         FINE DETRITUS [3 pts]         X       CLAY or HARDPAN [0 pt]         MUCK [0 pts]         ARTIFICIAL [3 pts]	SUBSTRATE (Estin (Max of 32). Add tota PE BLDR SLABS [14 BOULDER (>256 BEDROCK [16 p COBBLE (65-254 GRAVEL (2-64 m SAND (<2 mm) [ Total of Percenta Bkdr Slabs, Boulder, Ci
3.       BANK FULL WIDTH (Measuredas the average of 3 - 4 measurements) (Check ONLY one box):       Image: Second	ool Depth Aax = 30	: Depthwithin the 61 meter (200 feet) evaluation reach at the rts or storm water pipes) (Check ONL Yone box):       Pool Max         : S cm - 10 cm [15 pts]       < S cm [5pts]	RE OF TWO MOST PREI Maximum Pool Dep time of evaluation. A > 30 centimeters [20] > 22.5 - 30 cm [30 pt > 10 - 22.5 cm [25 pt COMMENTS $f_{\gamma}$
AVERAGE BANKFULL WIDTH (meters)         This information mustalso be completed         RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*         RIPARIAN WIDTH       FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*         RIPARIAN WIDTH       FLOODPLAIN QUALITY (Most Predominant per Bank)         L       R       (Per Bank)       L         Mature Forest, Wetland       Conservation Tillage       Urban or Industrial         Moderate 5-10m       Immature Forest, Shrub or Old Field       Urban or Industrial         Mature Forest, Wetland       Conservation Tillage       Urban or Industrial         Moderate 5-10m       Immature Forest, New Field       Open Pasture, Row Crop         None       Fenced Pasture       Mature, Row Crop         None       Conserve transform of Evaluation)       (Check ONLY one box):         Stream Flowing       Moist Channel, isolated pools, no flow (intermittent)         Subsurface flow with isolated pools (interstitial)       Dry channel, no water (ephemeral)         COMMENTS       1.0       2.0       3.0         SINUO SITY (Number of bends per 61 m (200 ft) of channel)       Check ONLY one box):       3.0         None       1.0       2.0       3.0         0.5	Bankfull Width Max=30	-4 measurements) (Check ONLY one box): X > 1.0 m - 1.5 m (> 3' 3* - 4' 8*)[15 pts] ≤ 1.0 m (< 3' 3*)[5 pts] C = 1.0 m (≤ 3' 3*)[5 pts]	BANK FULL WIDTH > 4.0 meters (> 13') [3 > 3.0 m - 4.0 m (> 9' 7 > 1.5 m - 3.0 m (> 4' 8
This information must also be completed         RIPARIAN ZONE AND FLOODPLAIN QUALITY * NOTE: River Left (L) and Right (R) as looking downstream*         RIPARIAN WIDTH       FLOODPLAIN QUALITY       (Most Predominant per Bank)         L R       R       L R       L R         Wide >10m       Mature Forest, Wetland       Conservation Tillage         Urban or Industrial       Moderate 5-10m       Immature Forest, Shrub or Old Field       Urban or Industrial         Narrow <5m		AVERAGE BANKFULL WIDTH (meters)	COMMENTS
RIPARIAN WIDTH       FLOODPLAIN QUALITY       (Most Predominant per Bank)         L R       Per Bank)       L R       L R         Wide >10m       Mature Forest, Wetland       Conservation Tillage         Moderate 5-10m       Immature Forest, Shrub or Old Field       Urban or Industrial         Narrow <5m		mation <u>must</u> also be completed	DIDADIAN 7
COMMENTS       Current       Construction       Abutting       Stroam         FLOW REGIME (At Time of Evaluation)       (Check ONLY one box):       Moist Channel, isolated pools, no flow (intermittent)         Subsurface flow with isolated pools (interstitial)       Dry channel, no water (ephemeral)         COMMENTS		<u>DDPLAIN_QUALITY</u> (Most Predominant per Bank)         L         R         ure Forest, Wetland         Image         ature Forest, Shrub or Old Field         Urban or Industrial         idential, Park, New Field         Image         Viring or Coonstruction	RIPARIAN 1 L R (Per Ban Wide >10r Moderate 5 X X Narrow <5
SINUCSITY (Number of bends per 61 m (200 ft) of channel) (Check ONLY one box):         None       1.0       2.0       3.0         0.5       1.5       2.5       >3		$\frac{Strvctlan}{Moist Channel, isolated pools, no flow (intermittent)}{Dry channel, no water (ephemeral)}$	COMMENTS FLOW REGIM Stream Flowin Subsurface flo COMMENTS
STREAM GRADIENT ESTIMATE		) of channel) (Check ONLY one box): 2.0 3.0 2.5 >3	SINUOSITY ( None SIREAM GRADIENT
Flat (05 \$100 \$) Flat to Moderate (2 \$100 \$) Moderate to Severe Severe Severe (10 \$100 \$)	}	(2 %100 %) Moderate to Severe Severe (10 %100 %)	Flat (0.5 %100 %)

QHEI PERFORMED?       [Yes (2) No QHEI Score
DOWNSTREAM DESIGNATED USE(5)         SWWH Name:
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
Livin Name:
Leven Name:
MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION.         JSGS Quadrangle Name: <u>Permberry 11.2</u> NRCS Soil Map Page: NRCS Soil Map Stream Order:
JSGS Quadrangle Name: <u>Pemberv</u> , <u>II</u> NRCS Soil Map Page:
County: $Wadd$ Township/City: $TVay$ MISCELLANEOUS         Dase Flow Conditions? (Y/N):       Y       Date of last precipitation: $12/18/19$ Quantity: $0.10$ $iig$ whoto-documentation Notes:       See $swet$ $1audd$ $sdelimention$ $veport$ levated Turbidity?(Y/N):       N       Canopy (% open): $40$
$\begin{array}{c c c c c c c c c c c c c c c c c c c $
Base Flow Conditions? (Y/N): Y Date of last precipitation: $\frac{12}{18}$ Quantity: $\frac{0.10}{19}$ Photo-documentation Notes: See and $\frac{124}{184}$ and $\frac{124}{18}$ Quantity: $\frac{0.10}{19}$ Photo-documentation Notes: See and $\frac{124}{184}$ and $\frac{124}{18}$ Quantity: $\frac{0.10}{19}$ Photo-documentation Notes: See and $\frac{124}{184}$ and $\frac{124}{18}$ Quantity: $\frac{0.10}{19}$ Photo-documentation Notes: Canopy (% open): $\frac{40}{19}$ Vere samples collected for water chemistry? (Y/N): $\frac{N}{18}$ Lab Sample # or 10 (attach results): The samples collected for water chemistry? (Y/N): $\frac{N}{18}$ Lab Sample # or 10 (attach results): The sampling reach representative of the stream (Y/N) $\frac{Y}{18}$ If not, explain: additional comments/description of pollution impacts: $\frac{A}{232}$ and $\frac{126}{18}$ $\frac{126}{18$
Photo-documentation Notes: See wet land delineed from veport   See wet land delineed from the new from veport See and the presentation of poly (% open): Yore samples collected for water chemistry? (Y/N): N Lab Sample # or ID (attach results): Test and the sampling reach representative of the stream (Y/N) Y If not, explain: Additional comments/description of pollution impacts: Additional comments/description of pollution impacts: Additional comments/description of pollution impacts: BIOL OGICAL OBSERVATIONS (Record all observations below) ish Observed? (Y/N) M Species observed (if known): Test and Today to Observe difference in the second difference in the
$\frac{\forall 0}{\forall cre samples collected for water chemistry? (\forall N): N = Lab Sample # or ID (attach results): ield Measures:Temp (*C) Dissolved Oxygen (mg/l) pH (S.U.) G. & 3 Conductivity (umhos/cm) is the sampling reach representative of the stream (Y/N) Y If not, explain: additional comments/description of pollution impacts: Ad.) acent Can Structran activities pressent BIOLOGICAL OBSERVATIONS (Record all observations below) ish Observed? (Y/N) M Species observed (if known):$
Vere samples collected for water chemistry? (Y/N): N   Lab Sample # or ID (attach results):   Tended Measures: Temp (*C) So Dissolved Oxygen (mg/l) PH (S.U.) G. & 3 Conductivity (umhos/cm) Tended measures: Temp (*C) So Dissolved Oxygen (mg/l) PH (S.U.) G. & 3 Conductivity (umhos/cm) Tended measures: Temp (*C) So Dissolved Oxygen (mg/l) PH (S.U.) G. & 3 Conductivity (umhos/cm) Tended measures: Temp (*C) So Dissolved Oxygen (mg/l) Tended measures: Temp (*C) Tended measures: Temp (*C) Temp (*C) Temp (*C) So Dissolved Oxygen (mg/l) Temp (*C) </td
ield Measures:Temp (*C)   bible sampling reach representative of the stream (Y/N) If not, explain:   Adjacent Can Stream active transformed in the stream of
$\frac{Y}{N} = \frac{Y}{N} = \frac{Y}$
Additional comments/description of pollution impacts: <u>Adjacent Canstructury activitues</u> <u>present</u> <u>BIOLOGICAL OBSERVATIONS</u> (Record all observations below) ish Observed? (Y/N) <u>N</u> Species observed (if known): Technical Observed (if known):
Additional comments/description of pollution impacts: <u>Adjacent Canstructury activitues</u> <u>present</u> <u>BIOLOGICAL OBSERVATIONS</u> (Record all observations below) ish Observed? (Y/N) <u>N</u> Species observed (if known): Tenents Tedeples Observed 20(10) <u>A(</u> Service share a difference)
BIOLOGICAL OBSERVATIONS (Record all observations below) ish Observed? (Y/N) <u>N</u> Species observed (if known):
BIOLOGICAL OBSERVATIONS (Record all observations below) ish Observed? (Y/N) <u>N</u> Species observed (if known):
ish Observed? (Y/N) // Species observed (if known):
roga or radpoles observed? (Y/N) // Species observed (it known):
alamanders Observed? (Y/N) Species observed (if known):
.quatic Macroinvertebrates Observed? (Y/N) Species observed (if known);
omments Regarding Biology:
DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This must be completed)
Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
-2 (3) in $(3)$
Trees Inter
NILLAGOR ( N
AN AN CONTRACTOR
THAT MENTING TOOL
1 1 1 watter 1 watter 1
Welliand fille
Fringe Max Pool Dooth (8.4.1)
(w-mnn-1) [3
TTI ba
Active Construction []

# APPENDIX D

## WATERBODY RESOURCE PHOTOGRAPHIC LOG



## PHOTOGRAPHIC RECORD

Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

### **Client Name:**

FirstEnergy Corporation

## Site Location:

Troy Township, Wood County, Ohio

374241.0000

## Photo No. 1.

Date: 04/03/2017

### Description:

Photo of wetland W-06, facing east.







## PHOTOGRAPHIC RECORD

Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation

### **Client Name:**

FirstEnergy Corporation

## Site Location:

Troy Township, Wood County, Ohio

**Project No.** 374241.0000

### Photo No. 3.

Date: 04/03/2017

### **Description:**

Photo of wetland W-06, facing south.



#### Photo No. 4.

Date: 12/19/2019

#### **Description:**

Photo of Wetland W-MMR-1 from the western end of study area, facing east.




Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

### Client Name:

FirstEnergy Corporation

# Site Location:

Troy Township, Wood County, Ohio

374241.0000

### Photo No. 5.

Date: 12/19/2019

#### **Description:**

Photo of Wetland W-MRR-1 from the western end of study area, facing south.



### Photo No. 6.

Date: 12/19/2019

#### **Description:**

Photo of Wetland W-MRR-1 from the western end of study area, facing southwest.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

Client Name:

Site Location:

FirstEnergy Corporation

Troy Township, Wood County, Ohio

374241.0000

# Photo No. 7.

Date: 12/19/2019

#### **Description:**

Photo of Wetland W-MRR-1 from the western end of study area, facing west.





Date: 12/06/2019

### **Description:**

Photo of S-MM-1 looking downstream, facing east.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation

### **Client Name:**

FirstEnergy Corporation

Site Location:

Troy Township, Wood County, Ohio

**Project No.** 374241.0000

## Photo No. 9.

Date: 12/06/2019

#### **Description:**

Photo of S-MM-1 looking upstream, facing west.



### Photo No. 10.

Date: 12/06/2019

#### **Description:**

Photo of S-MM-1 substrate.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

**Client Name:** 

FirstEnergy Corporation

## Site Location:

Troy Township, Wood County, Ohio

374241.0000

## Photo No. 11.

Date: 12/19/2019

#### **Description:**

Photo of S-MRR-1 looking downstream at road crossing, facing east.







Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

Client Name:

FirstEnergy Corporation

Site Location:

Troy Township, Wood County, Ohio

374241.0000

# Photo No. 13.

Date: 12/19/2019

#### **Description:**

Photo of S-MRR-1 looking downstream, facing east.



### Photo No. 14.

Date: 12/19/2019

#### **Description:**

Photo of S-MRR-1 looking upstream, facing west.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation

### **Client Name:**

FirstEnergy Corporation

## Site Location:

Troy Township, Wood County, Ohio

**Project No.** 374241.0000

## Photo No. 15.

Date: 12/06/2019

#### **Description:**

Photo of Project Study Area at eastern terminus, facing west.



#### Photo No. 16.

Date:

12/06/2019

#### **Description:**

Photo of eastern portion of Project Study Area along tree line, facing east.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation

#### **Client Name:**

FirstEnergy Corporation

## Site Location:

Troy Township, Wood County, Ohio

**Project No.** 374241.0000

#### Photo No. 17.

Date: 12/05/2019

#### **Description:**

Photo of eastern portion of Project Study Area along farm access road, facing west.



### Photo No. 18.

Date: 12/06/2019

#### **Description:**

Photo of eastern portion of Project Study Area adjacent to driveway, facing west.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

### Client Name:

FirstEnergy Corporation

# Site Location:

Troy Township, Wood County, Ohio

374241.0000

### Photo No. 19.

Date: 12/06/2019

### **Description:**

Photo of central portion of Project Study Area west of Pemberville Road, facing south.



#### Photo No. 20.

Date: 12/06/2019

#### **Description:**

Photo of roadside ditch, west of Pemberville Road and north of Garland Road, facing south.





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

Client Name:

### Site Location:

FirstEnergy Corporation

Troy Township, Wood County, Ohio

374241.0000

### Photo No. 21.

Date: 12/06/2019

#### **Description:**

Photo of roadside ditch, west of Pemberville Road and south of Garland Road, facing north.



#### Photo No. 22.

Date: 12/06/2019

#### **Description:**

Photo of central portion of Project Study Area west of Pemberville Road, facing south





Fostoria West End (AEP)-Lemoyne-West Fremont 138kV Transmission Line Project

Wetland and Waterbody Delineation Project No.

### **Client Name:**

FirstEnergy Corporation

# Site Location:

Troy Township, Wood County, Ohio

374241.0000

## Photo No. 23.

Date: 12/06/2019

#### **Description:**

Photo of central portion of Project Study Area west of Pemberville Road, facing north



#### Photo No. 24.

Date: 12/06/2019

#### **Description:**

Photo of western portion of Project Study Area looking at S-MRR-1, facing south.

