

**AMERICAN TRANSMISSION SYSTEMS, INCORPORATED
A FIRSTENERGY COMPANY**

CONSTRUCTION NOTICE

**FOWLES-PLEASANT VALLEY 138 kV LINE-
TOWER NO. 2047 REPLACEMENT PROJECT**

OPSB Case No. : 26-0078-EL-BNR

June 2, 2026

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

**CONSTRUCTION NOTICE
FOWLES-PLEASANT VALLEY 138 kV LINE-
TOWER NO. 2047 REPLACEMENT PROJECT**

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

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

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

Name of Project: Fowles-Pleasant Valley 138 kV Line - Tower No. 2047 Replacement Project (“Project”)

Reference Number: 4055

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

In this Project, American Transmission Systems, Incorporated (“ATSI”), a FirstEnergy company, proposes to relocate and replace Structure No. 2047 that supports both the Fowles-Pleasant Valley 138 kV Q1 and Q2 transmission lines. The existing steel lattice tower has sustained extensive stream related ground erosion around two of the four legs with one leg fully exposed and the second leg in jeopardy of similar ground erosion. The existing tower will be removed and replaced with a new double-circuit steel single pole suspension structure and will be installed approximately 25 feet west along the existing centerline of the current tower location.

The project is located in the city of Parma, Cuyahoga County, Ohio. The general location of the Project is shown in **Exhibit 1**, a partial copy of the United States Geologic Survey (“USGS”) Topographic Map, Cuyahoga County, OH, Quad Map.

Exhibit 2 is a partial copy of ESRI aerial imagery. The general layout of the Project is shown in **Exhibit 3**.

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

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

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

(a) Two miles or less.

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

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

The proposed Project is needed to replace an existing steel lattice structure, No. 2047, due to extensive erosion on two of the four tower legs on the northern side of the structure. One tower leg is fully exposed, and a second leg is at risk of becoming exposed as this stream continues to erode the existing stream bank; see **Exhibit A**. As compared to the existing steel lattice structure, which was installed in 1938, the proposed monopole meets the statutory definition of “advanced transmission technology” because it is “hardware technologies that increase the *** reliability or safety of an existing *** transmission system.” R.C. 4906.01(M) (as amended by House Bill 15).

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

The location of the Project relative to existing or proposed transmission lines is shown in the ATSI Transmission Network Map, included as part of the confidential portion of

the FirstEnergy Corp. 2025 Long-Term Forecast Report (“LTFR”). This map was submitted to the Public Utilities Commission of Ohio (“PUCO”) in Case No. 25-0504-EL-FOR under Adm.Code 4901:5-5:04 (C)(2)(b). The map is incorporated by reference only. This Project is not included in the 2025 LTFR because the Project does not entail any topology or rating change.

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

The only alternative evaluated was repairing the streambank near the tower. This option would have involved realignment of the stream farther away and rebuilding the streambank using large protective rocks. However, this approach was not feasible from an environmental standpoint because the amount of floodwater in this area is too great to design a long-term solution. During major storms, floodwaters would likely overtop the rebuilt bank, causing erosion to occur again. Instead, the proposed solution is to replace the tower with a single steel double circuit suspension pole that has a higher exposed above ground foundation and is installed deeper than usual into the ground. This design will better withstand future flooding and prevent stability issues even if soil is washed away around the foundation.

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

ATSI’s manager of External Affairs will advise local officials of the features and the status of the proposed Project as necessary. ATSI will maintain a copy of this Construction Notice, along with other Project information, on FirstEnergy’s website:

https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

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

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

Construction on the Project is expected to begin as early as September 7, 2026, and be completed and placed in-service by October 10, 2026.

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

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

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

The Project will be located on existing Cleveland Electric Illuminating Company (“CEI”) fee owned property on parcel 457-27-0001. No new easements will be required.

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

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

The transmission line construction will have the following characteristics:

- Voltage: 138 kV
- Conductors: Existing 138 kV– (3) 795 kcmil 36/1 ACSR
Existing 138 kV– (3) 4/0 AWG 7 Strand Copper
- Shield Wire: Existing – 7#6 Copperweld Shield Wire
- Insulators: Glass
- ROW Width: 150 feet
- Land Requirements: Existing
- Structure Types: **Exhibit 4:** 138 kV Double Circuit Single Tapered Steel Tube Suspension Structure on a Drilled Pier Concrete Foundation (Qty. 1)

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

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

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

The estimated cost for the proposed Project is \$824,000. Although not statutorily required for approval, at the request of OPSB Staff, ATSI confirms that the estimate is a Class 4 estimate and that ATSI’s costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

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

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

The Project is located in the city of Parma, Cuyahoga County, Ohio. The land use in the Project area is an existing maintained utility right-of-way (ROW) and residential properties. No significant changes or impacts to the current or future land use are anticipated.

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

Agricultural land does not exist within the Project’s Area of Potential Effect (“APE”).

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

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

The SHPO database also includes listings on the Ohio Historic Inventory (OHI), the Ohio Archaeological Inventory (OAI), previous cultural resource surveys, and the Ohio Genealogical Society (OGS) cemetery inventory. There are five (5) above-ground

historic resources mapped within one (1) mi, the nearest of which is located 0.5 mi north-northeast of the eastern extent of the proposed Project. There are two (2) Ohio Genealogical Society (OGS) cemeteries mapped within one (1) mi of the Study Area, 0.83 and 0.84 mi north-northeast of the eastern extent of the Study Area.

The SHPO database includes a catalog of all historic properties listed in or eligible for listing in the National Register of Historic Places (NRHP), including districts, sites, building, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture. The results of the search identified that there are no historic properties within the Project Study Area or within one (1)-mi of the Project Study Area.

In addition, there has been one (1) archaeological survey and one (1) cultural resources survey (both above-ground and archaeological resources) completed within one (1) mi of the Study Area. Two (2) archaeological sites have been recorded 0.98 mi southwest and 0.79 mi southeast of the Study Area. Both sites are precontact open sites of unknown cultural affiliation. In accordance with 16 U.S.C. § 470hh, archaeological site locations are not public information and cannot be illustrated on mapping that may be viewed by the general public.

The Project Study Area consists of an existing maintained substation, access roads, and overhead utility corridors with manicured lawns to the west and south of the substation. The proposed Project is not expected to have any adverse effects on known historic properties and no cultural resource studies are warranted. To date, TRC has not conducted any on-site cultural resources surveys.

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

Coordination with the City of Parma has been completed for the proposed project, and the required right-of-way permits to access the project area have been obtained. The Project's Limit of Disturbance (LOD) is 0.387 acres. For projects proposing more than

one (1) acre of earth disturbance, submittal of a Notice of Intent (NOI) application to the Ohio EPA is required to obtain coverage under the General Construction Stormwater Permit (OHC000006), along with submission of a Storm Water Pollution Prevention Plan (SWPPP) to the City of Parma Engineer. As the LOD is less than one (1) acre, no NOI application will be required. The Project scope is not proposed within a 100-year FEMA floodplain and therefore will not require a Floodplain Hazard Development Permit. All permitting and/or coordination necessary to comply with local, state, and federal agencies with jurisdiction regarding this Project will be completed prior to the commencement of construction. A list of potential government agency requirements is provided in **Table 1** below.

Table 1. List of Government Agency Requirements

Agency	Requirement
Ohio EPA	General NPDES Construction Storm Water Permit OHC000006
City of Parma Engineer	SWPPP Review Right of Way Permit
Cuyahoga County Engineer	Right of Way Permit

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

TRC submitted a request to the Ohio Department of Natural Resources (“ODNR”) Office of Real Estate to conduct an Environmental Review. As part of the Environmental Review, the ODNR Office of Real Estate searches the ODNR Division of Wildlife (DOW) Natural Heritage Database in order to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project Study Area. The ODNR’s Office of Real Estate’s response dated November 7, 2025, indicated that there is record of the northern clearwater crayfish (*Faxonius propinquus*), a state species of concern, located within a one-mile radius of the Project Study Area. However, the response noted that this species is not recorded within the boundaries of the Project Study Area. Additionally, the Project is within the range of 10 state and/or federally listed animal species. A copy of ODNR’s Office of Real Estate’s response is included

as **Exhibit 6**. A list of all endangered, threatened, and rare species, as identified by ODNR, within the range of the Project is provided in **Table 2**.

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

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Fish				
Lake sturgeon	<i>Acipenser fulvescens</i>	Species of Concern	Endangered	Perennial streams.
Channel darter	<i>Percina copelandi</i>	N/A	Threatened	Perennial streams.
Bigmouth shiner	<i>Notropis dorsalis</i>	N/A	Threatened	Perennial streams.
Mammals				
Indiana bat	<i>Myotis sodalis</i>	Endangered	Endangered	Trees, forests, caves, and caverns.
Little brown bat	<i>Myotis lucifugus</i>	N/A	Endangered	Trees, forests, caves, and caverns.
Northern long-eared bat	<i>Myotis septentrionalis</i>	Endangered	Endangered	Trees, forests, caves, and caverns.
Tricolored bat	<i>Perimyotis subflavus</i>	Proposed Endangered	Endangered	Trees, forests, caves, and caverns.
Reptiles				
Smooth greensnake	<i>Opheodrys vernalis</i>	N/A	Endangered	Prairies, marshy meadows, and roadside ditches.
Spotted turtle	<i>Clemmys guttata</i>	N/A	Threatened	Fens, bogs and marshes, wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches.
Blanding's turtle	<i>Emydoidea blandingii</i>	N/A	Threatened	Marshes, ponds, lakes, streams, wet meadows, and swampy forests.

Based on the information received from correspondence with ODNR, the Project is within the ranges of the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species, the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, the little brown bat (*Myotis lucifugus*), a

state endangered species, and the tricolored bat, (*Perimyotis subflavus*), a state endangered species. These bat species predominantly roost in trees behind loose, exfoliating bark, in crevices, and cavities, or in the leaves. These species are dependent on the forest structure surrounding the roost trees. The DOW recommended a desktop bat hibernaculum assessment be completed for the Project, which TRC completed for FirstEnergy and submitted to ODNR for concurrence on November 24, 2025. ODNR responded on December 1, 2025, **Exhibit 7**, concurring that no caves, cliffs, or mine openings occur in the Project Study Area; therefore, the Project is not likely to impact hibernating bats. In assessing compliance with NWP General Condition 18, TRC determined that tree clearing is not anticipated within the Project Study Area. If minor tree clearing is needed as a result of this Project, it will take place within the US Fish and Wildlife Service (USFWS) recommended tree clearing dates (October 1 – March 31); therefore, no impacts to bat species are anticipated as a result of the construction of this Project.

The Project is within the range of the lake sturgeon (*Acipenser fulvescens*), a state endangered fish and a federal species of concern, the channel darter (*Percina copelandi*), a state threatened fish, and the bigmouth shiner (*Notropis dorsalis*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. Since no in-water work is proposed in a perennial stream, this Project will not impact these or other aquatic species.

The Project is within the range of the smooth greensnake (*Opheodrys vernalis*), a state endangered species. This species is primarily a prairie inhabitant but can also be found in marshy meadows and roadside ditches. Due to the location, the type of habitat within the Project Study Area, and the type of work proposed, this Project is not likely to impact this species.

The Project is within 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 within the Project Study Area, and the type of work proposed, this Project is not likely to impact this species.

The Project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the Project Study Area, and the type of work proposed, this Project is not likely to impact this species.

In addition, TRC submitted a Technical Assistance request to the USFWS on October 8, 2025, to research the presence of any endangered, threatened, rare, or designated species within the Project Study Area. A copy of the USFWS' response, dated November 17, 2025, is included as **Exhibit 8**. Due to the Project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the Indiana bat, northern long-eared bat, and tricolored bat, USFWS does not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.

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

TRC performed field investigations to identify and delineate wetlands and waterbodies for the Project, as shown in **Exhibit 9**. Three (3) palustrine emergent wetlands, one (1) palustrine forested wetland, and one (1) perennial stream were identified and delineated within the Project Study Area.

The Project Study Area is 6.33 acres and comprised of an existing, maintained utility and roadway ROW within residential and recreational land use. TRC did not observe the presence of any of the state or federally listed species during the field investigations due

to the highly maintained nature of the utility ROW. Therefore, no impacts are anticipated to any of the listed species detailed in the ODNR or USFWS correspondence.

The Limits of Disturbance (LOD) will be entirely within the Project Study Area and will primarily use access through the existing, maintained utility right-of-way (ROW). Nationwide Permit (NWP) 57, effective March 15, 2026 and valid through March 15, 2031, authorizes the construction of access roads for the construction and maintenance of electric utility and telecommunication lines, including overhead lines and substations, in non-tidal waters of the United States, provided the activity does not result in the loss of more than 0.5 acre of waters of the United States.

The Nationwide Permit (NWP) Regional General Conditions were reviewed for this Project. The Project is located in the City of Parma, Cuyahoga County, Ohio, within the U.S. Army Corps of Engineers (USACE) Buffalo Regulatory District. The Project location is not identified in Appendix 1 to Regional General Condition 5(a), which addresses endangered and threatened species. As a result, Regional General Condition 5(a) does not require a Section 404 Pre-Construction Notification (PCN). Provided that all other NWP 57 thresholds are met and not exceeded (USACE, 2021), a PCN may not be required. The current NWP program is scheduled to expire on March 15, 2031, at which time NWP 57 will again be subject to the Ohio Environmental Protection Agency's (OEPA) General Limitations and Conditions for Section 401 Water Quality Certification.

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

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

Construction and operation of the proposed Project will be in accordance with the requirements specified in the latest revision of the National Electrical Safety Code

(“NESC”) as adopted by the PUCO and will meet all applicable safety standards established by the Occupational Safety and Health Administration.

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

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

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

Cuyahoga County

Mr. Chris Ronayne
Cuyahoga County Executive
2079 East Ninth Street
Cleveland, Ohio 44115
email: executive@cuyahogacounty.gov

Mr. Mark Casselberry
Cuyahoga County Council District 4
2079 East Ninth Street – 8th Floor
Cleveland, Ohio 44115
email:
mcasselberry@cuyahogacounty.gov

Mr. Christopher Alvarado, Chair
Cuyahoga County Planning
Commission
2079 East 9th Street
Cleveland, Ohio 44115
email: calvarado@cuyahogacounty.gov

Mr. David Ray, P.E., P.S.
Cuyahoga County Engineer
2079 East Ninth Street
Cleveland, Ohio 44115
email: publicworks@cuyahogacounty.gov

City of Parma

Mr. Timothy DeGeeter
Mayor
6611 Ridge Road
Parma, OH 44129
email:mayorsoffice@cityofparma-oh.gov

Mr. Rich Summers
Chief of Staff
6611 Ridge Road
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email:rsummers@cityofparma-oh.gov

Mr. Vito Dipierro
City Council - President
6611 Ridge Road
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email: vdipierro@cityofparma-oh.gov

Ms. Kammy Coyle Shuman
City Council–Ward 7
6611 Ridge Road
Parma, OH 44129
email: kshuman@cityofparma-oh.gov

Ms. Kristin Saban
Clerk of Council
6611 Ridge Road
Parma, OH 44129
email: ksaban@cityofparma-oh.gov

Mr. Hasmukh Patel
Engineering Director
6611 Ridge Road
Parma, OH 44129
email: engineering@cityofparma-oh.gov

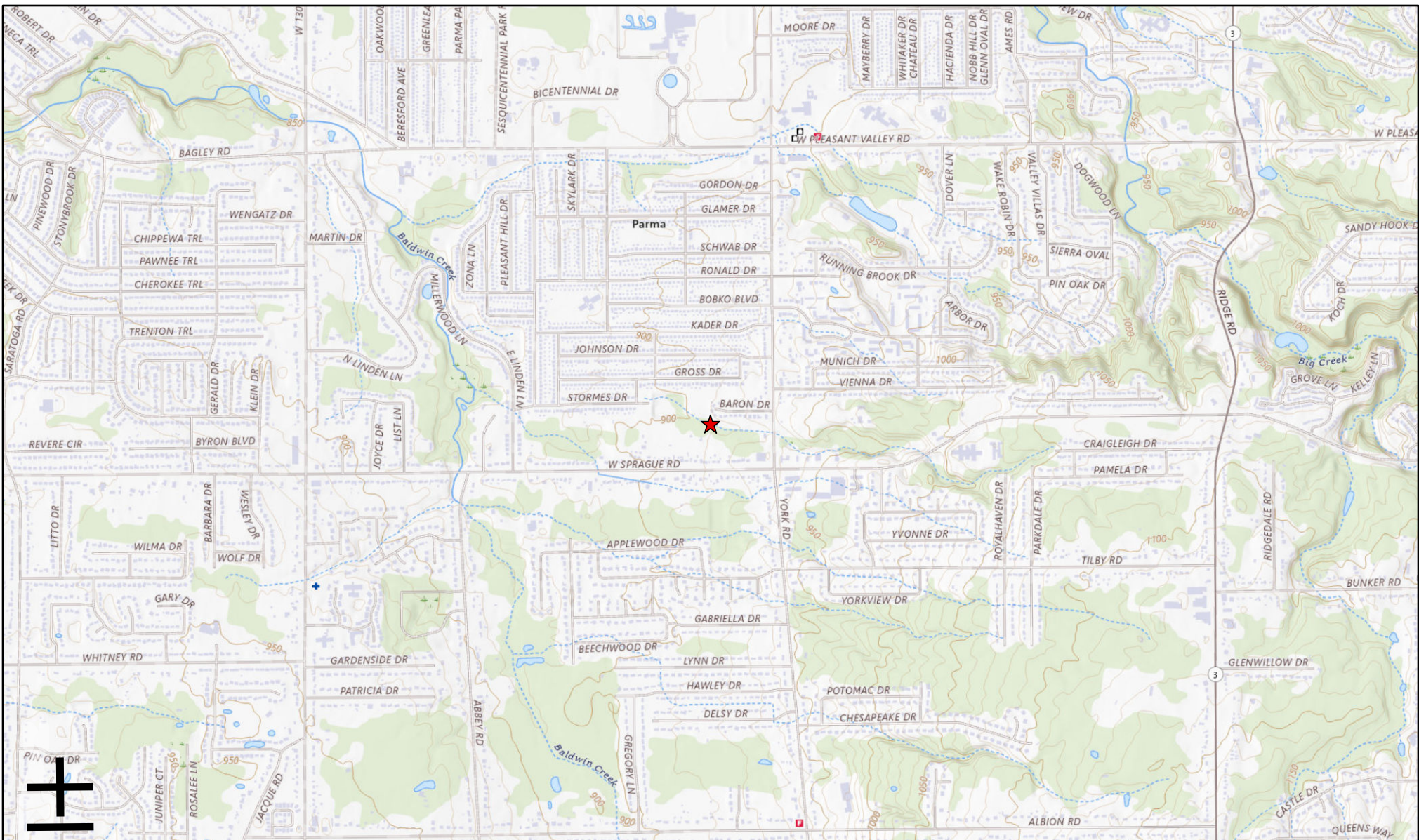
Library

Ms. Jessica Breslin
Branch Manager
Cuyahoga County Public Library - Parma-Powers Branch
6996 Powers Boulevard
Parma, OH 44129
email: pwrmgr@cuyahogalibrary.org

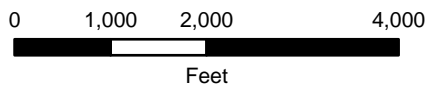
Copies of the transmittal letters to these officials have been included with this application as proof of compliance under Adm.Code 4906-6-07(B) to provide the Board with proof of notice to local officials as required by Adm.Code 4906-6-07(A)(1) and to libraries per Adm.Code 4906-6-07(A)(2).

Information is posted at:

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



Legend
 ★ Project Location



Reference Scale: 1:24,000

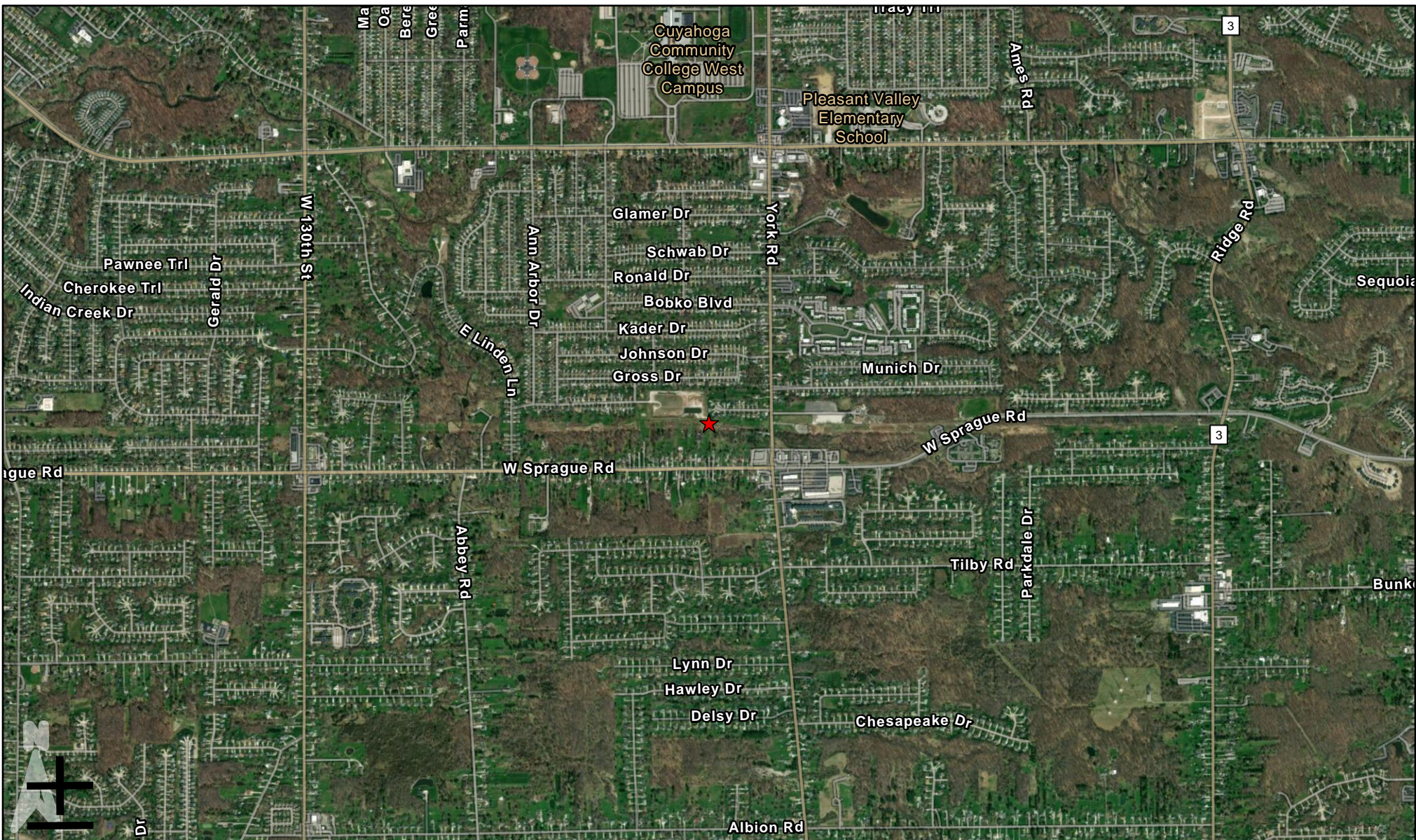
References:
 ESRI Aerial Imagery, USGS National Map, ODOT

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

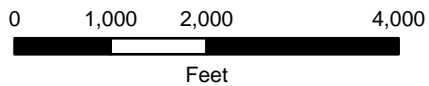
ATSI[®]
 American Transmission Systems, Inc.
 a subsidiary of FirstEnergy Corp.

**FOWLES - PLEASANT VALLEY
 138 kV LINE -TOWER NO. 2047
 REPLACEMENT PROJECT**

EXHIBIT 1



Legend
 ★ Project Location



Reference Scale: 1:24,000

References:
 ESRI Aerial Imagery, USGS National Map, ODOT

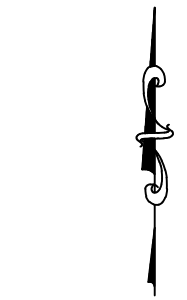
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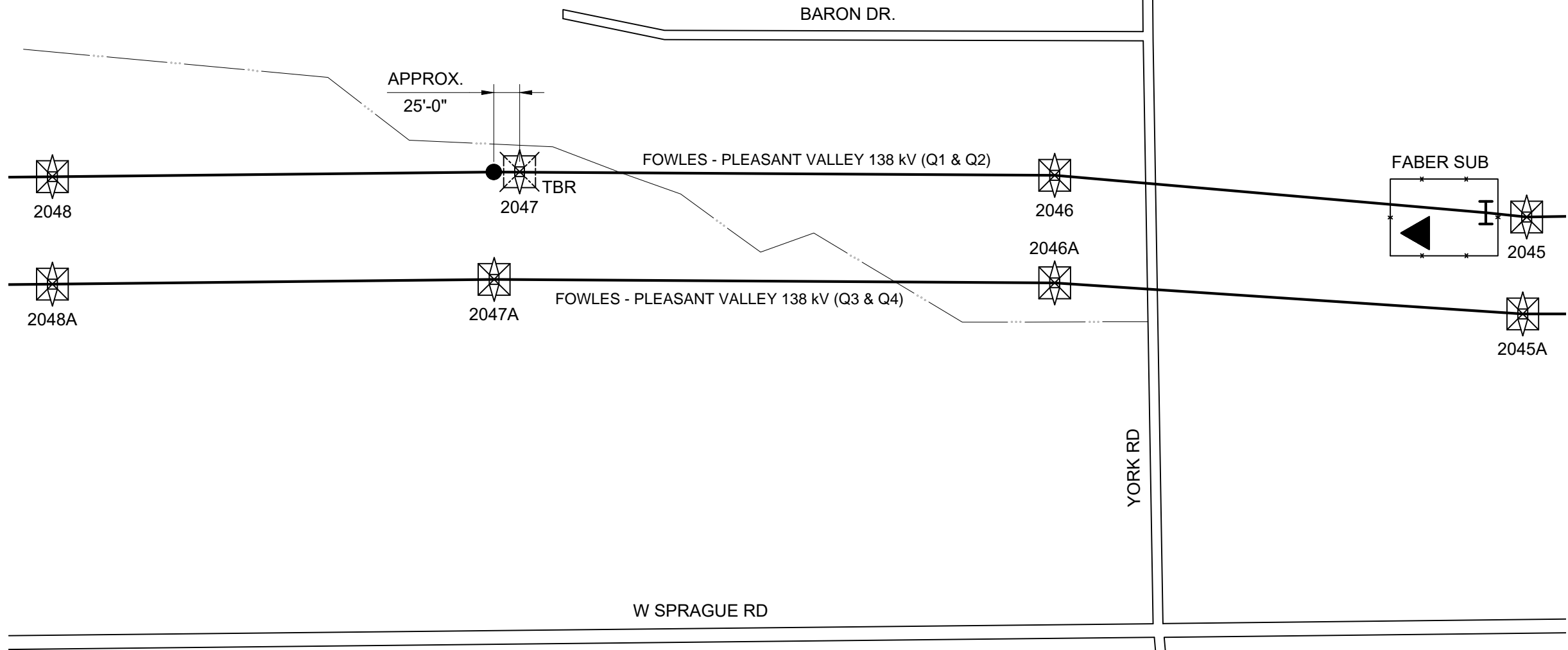
American Transmission Systems, Inc.
 a subsidiary of FirstEnergy Corp.

**FOWLES - PLEASANT VALLEY
 138 kV LINE - TOWER NO. 2047
 REPLACEMENT PROJECT**








EXHIBIT 2



CUYAHOGA COUNTY,
STATE OF OHIO



LEGEND

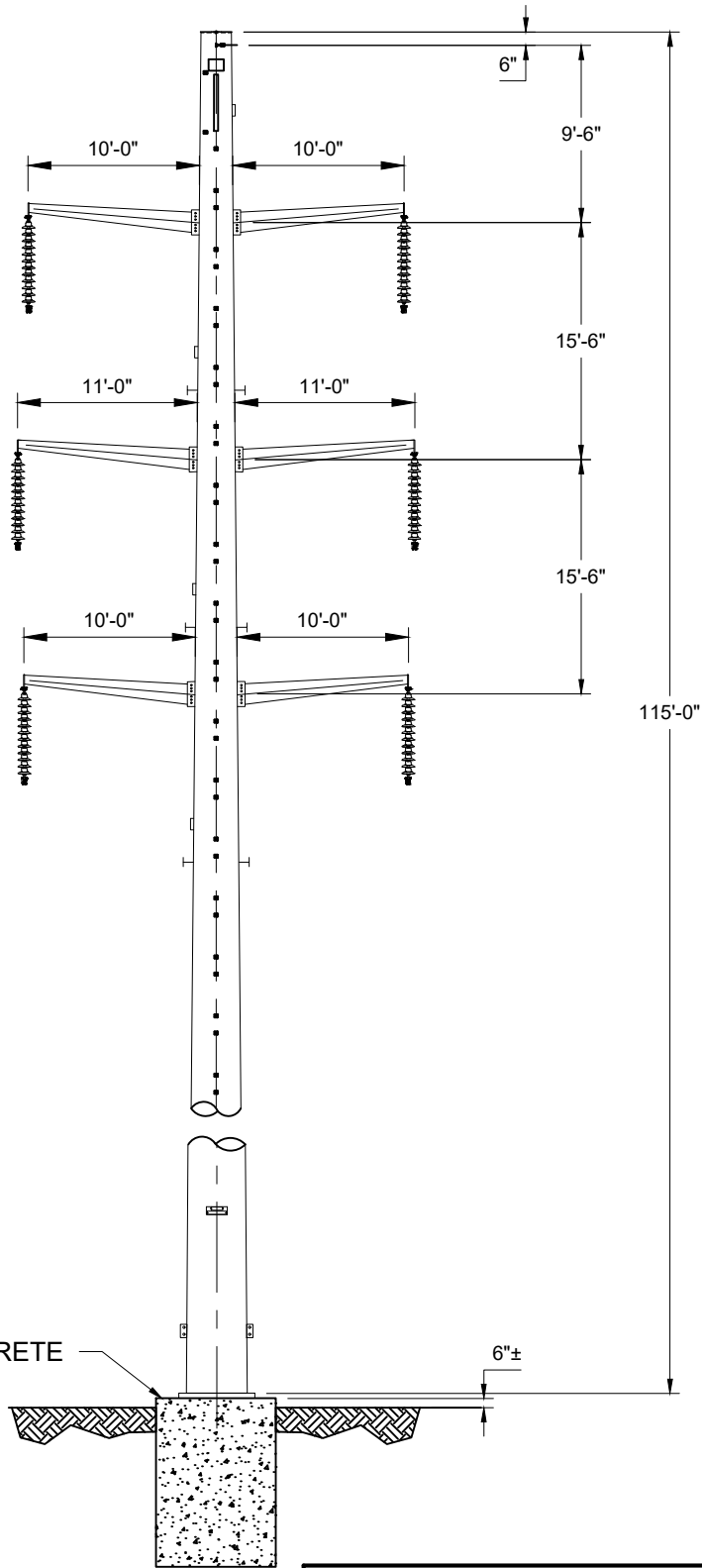
-  - NEW OR REPLACED STRUCTURE
-  - EXISTING LATTICE TOWER
- TBR  - EXISTING LATTICE TOWER TO BE REMOVED
-  - SUBSTATION
- I** - FRAME
-  - EXISTING CONDUCTOR
-  - RIVER, STREAM, CREEK
-  - FENCE

FirstEnergy
Transmission Design

FOWLES-PLEASANT VALLEY 138KV LINE
TOWER NO. 2047 REPLACEMENT PROJECT

GENERAL LAYOUT

EXHIBIT 3



TOP OF CONCRETE

FirstEnergy
Transmission Design

FOWLES - PLEASANT VALLEY 138 kV LINE-TOWER NO. 2047 REPLACEMENT PROJECT

138KV DOUBLE CIRCUIT TUBULAR STEEL
SINGLE POLE SUSPENSION STRUCTURE
STRUCTURE 2047

EXHIBIT 4

PAPER SIZE: 8.5X11

SCALE: NTS



In reply refer to:
2025-CUY-67229

April 1, 2026

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

RE: Section 106 Review: Fowles-Pleasant Valley Structure 2047 Relocation Project, Parma,
Cuyahoga County, Ohio

Dear Mr. McKissick:

This letter is in response to the correspondence received on March 3, 2026, regarding the above-referenced project in Cuyahoga County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code (O.R.C.) and the Ohio Power Siting Board rules for siting this project. The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]). The project will require a Nationwide Permit No. 57 which is issued by the U.S. Army Corps of Engineers, Buffalo District (Corps). The Corps is the lead federal agency for the undertaking.

The SHPO originally reviewed and commented on this project on January 15, 2026. However, since that time the scope of the project has changed to include an expansion of the Area of Potential Effect (APE) to accommodate laydown and access to the project. The APE has expanded along the western extent from 4.98-acres to 6.33-acres. Based on the information submitted by you and a check of our records, no historic properties, districts, or archaeological sites are located within the APE. Therefore, it is the SHPO's opinion that no cultural resource studies are warranted for this portion of the project. Furthermore, as proposed, the project will have no effect on historic properties. No further coordination is required for this project unless the scope of work changes again or archaeological remains are discovered during the course of the project. In such a situation, this office should be contacted as required by 36 CFR § 800.13. If you have any questions concerning this review, please contact me via email at sbiehl@ohiohistory.org. Thank you for your cooperation.

Sincerely,

A handwritten signature in blue ink that reads "Stephen M. Biehl".

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

RPR Serial No. 1113080



**Department of
Natural Resources**
ohiodnr.gov

EXHIBIT 6

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

Office of Real Estate & Land Management

Tara Paciorek - Chief
2045 Morse Road – E-2
Columbus, Ohio 43229-6693

November 7, 2025

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

Re: 25-1516_Fowles-Pleasant Valley Structure 2047 Replacement

Project: The proposed project involves the relocation of Structure 2047, due to severe erosion undermining the structural integrity of Structure 2047 in its current location.

Location: The proposed project is located in Parma, Cuyahoga County, Ohio.

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

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

Northern Clearwater Crayfish (*Faxonius propinquus*), SC

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

The species listed above is not recorded within the boundaries of the specified project area. However, please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for an area is not a statement that rare species or unique features are absent from that area.

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

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

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

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

The project is within the range of the lake sturgeon (*Acipenser fulvescens*), a state endangered fish and a federal species of concern, the channel darter (*Percina copelandi*), a state threatened fish, and the bigmouth shiner (*Notropis dorsalis*), a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the smooth greensnake (*Opheodrys vernalis*), a state endangered species. This species is primarily a prairie inhabitant but can also be found in marshy meadows and roadside ditches. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the 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 within the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Blanding's turtle (*Emydoidea blandingii*), a state threatened species. This species inhabits marshes, ponds, lakes, streams, wet meadows, and swampy forests. Although essentially aquatic, the Blanding's turtle will travel over land as it moves from one wetland to the next. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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

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

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

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

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

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

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

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

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

From: Eileen.Wyza@dnr.ohio.gov
To: [Slabe, Jenna](#)
Cc: [Falkinburg, Brad](#); [Molnar, Maggie](#)
Subject: [EXTERNAL] RE: Desktop Hibernacula Assessment: FirstEnergy's Fowles-Pleasant Valley Structure 2047 Replacement Project
Date: Monday, December 1, 2025 2:22:05 PM
Attachments: [image002.png](#)
[image004.png](#)
[image005.png](#)
[image006.png](#)
[image007.png](#)
[image008.png](#)
[image001.png](#)

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ALWAYS hover over the link to preview the actual URL/site and confirm its legitimacy.

Hello Jenna,

Per review of the desktop survey provided for FirstEnergy's Fowles-Pleasant Valley Structure 2047 Replacement Project, the Ohio Division of Wildlife concurs with your assessment that no caves, cliffs, or mine openings occur in the project area. Therefore, the project is not likely to impact hibernating bats.

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

Thank you,

Eileen Wyza, Ph.D.

(she/her/hers)

Wildlife Biologist

Ohio Division of Wildlife

Phone: 614-265-6764

Email: Eileen.Wyza@dnr.ohio.gov

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Please consider the environment before printing this email.

From: Slabe, Jenna <JSlabe@trccompanies.com>
Sent: Monday, November 24, 2025 3:19 PM
To: Wyza, Eileen <Eileen.Wyza@dnr.ohio.gov>
Cc: Falkinburg, Brad <BFalkinburg@trccompanies.com>; Molnar, Maggie <MMolnar@trccompanies.com>
Subject: Desktop Hibernacula Assessment: FirstEnergy's Fowles-Pleasant Valley Structure 2047 Replacement Project

Eileen,

In response to ODNR's DOW recommendations (25-1516; Attached), TRC completed a desktop hibernacula assessment to determine if potential hibernaculum is present within FirstEnergy's proposed Fowles-Pleasant Valley Structure 2047 Replacement Project located in the city of Parma, Cuyahoga County, Ohio.

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

you!

Jenna Slabe, PWS
Ecologist



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

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United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



November 17, 2025

Project Code: 2025-0155165

Re: Fowles-Pleasant Valley Structure 2047 Replacement Project

Dear Ms. Slabe:

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

Federally Threatened and Endangered Species: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥ 3 inches diameter at breast height between October 1 and March 31) to avoid impacts to the endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*), and the proposed endangered tricolored bat (*Perimyotis subflavus*) we do not anticipate adverse effects to any other federally endangered, threatened, or proposed species, or proposed or designated critical habitat. Should the project design change, or additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, coordination with the Service should be initiated to assess any potential impacts.

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

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

especially on slopes. Disturbed areas should be mulched and revegetated with native plant species. In addition, prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

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

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

Sincerely,



Erin Knoll
Field Office Supervisor

Surface Water Delineation Report

**Fowles-Pleasant Valley 2047 Bank
Stabilization Project**

**City of Parma, Cuyahoga County,
Ohio**

February 2026

Prepared For:



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

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

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

TRC Project Number: 664675 Phase 3



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ACRONYMS AND DEFINITIONS

1987 Manual	USACE 1987 Wetland Delineation Manual
APT	Antecedent Precipitation Tool
CFR	Code of Federal Regulations
EPA	Environmental Protection Agency
FAC	Facultative
FACU	Facultative Upland
FACW	Facultative Wetland
FEMA	Federal Emergency Management Agency
FirstEnergy	FirstEnergy Corporation
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NWI	National Wetlands Inventory
NWP	Nationwide Permit
OAC	Ohio Administrative Code
OBL	Obligate Wetland
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary High-Water Mark
ORAM	Ohio Rapid Assessment Method
PCN	Pre-Construction Notification
PEM	Palustrine Emergent
PFO	Palustrine Forested
PHW	Primary Headwater
Project	Fowles-Pleasant Valley 2047 Bank Stabilization Project
Project Study Area	6.33 acres, located in the city of Parma, Cuyahoga County, Ohio
PWS	Professional Wetland Scientist
QHEI	Qualitative Habitat Evaluation Index
Redox	Redoximorphic
Regional Supplement	Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (Version 2.0)
Report	Surface Water Delineation Report
TNW	Traditional Navigable Waterway
TRC	TRC Environmental Corporation
UPL	Obligate Upland
USACE	United States Army Corps of Engineers
USDA-NRCS	United States Department of Agriculture – Natural Resources Conservation Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WQC	Water Quality Certification

1.0 Introduction

On behalf of FirstEnergy Corporation (FirstEnergy), TRC Environmental Corporation (TRC) performed a surface water delineation for the Fowles-Pleasant Vally 2047 Bank Stabilization Project (Project). The proposed Project Study Area is 6.33 acres and is located in the city of Parma, in Cuyahoga County, Ohio. The proposed Project involves the stabilization of severe erosion along the left descending bank of Stream S-EKG-1, an unnamed tributary to Baldwin Creek. This stream bank erosion has the potential to undermine the integrity of Structure Number 2047 on the Fowles-Pleasant Valley Line. On behalf of FirstEnergy, TRC has prepared this Surface Water Delineation Report (Report) for the Project. A site location map of the Project Study Area can be found in **Appendix A, Figure 1**.

TRC personnel performed field investigations to evaluate and delineate surface water resources (i.e., wetlands and streams) located within the Project Study Area on November 9, 2023, May 23, 2024, June 5, 2024, and February 18, 2026. The delineations were conducted by qualified wetland scientists in accordance with the United States Army Corps of Engineers (USACE) parameters. The objective was to evaluate and delineate potential surface water resources within the Project Study Area, such that the resources could be considered during each phase of the Project. This Report describes the surface water delineation methodology implemented and the existing surface water resources identified within the Project Study Area during field investigations.

The Project Study Area is located between the approximate coordinates: 41.353450°, -81.766834° (northern terminus) and 41.350783°, -81.762477° (southern terminus); in the city of Parma, Cuyahoga County, Ohio.

The Project Study Area is comprised of an existing, maintained utility and roadway right-of-way within residential and recreational land use. Based upon review of available historic aerial imagery (1985-2015), land use surrounding the Project Study Area in years prior to the field investigation was dominated by residential land use. The existing, maintained utility ROW is observed in 1994 historical aerial mapping. The Project Study Area is accessed along the roadway right-of-way (W Sprague Rd) and through approved public property access via Stormes Drive and Bonny Banks Park. **Appendix A, Figure 1** and **Figure 2**, provide further information on the location of the proposed Project Study Area.

1.1 Statement of Qualifications

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

Emma Given, Ph.D., PWS is an Ecologist with over 10 years of experience in natural resources. Dr. Given was a lead delineator for this Project. She holds her Professional Wetland Scientist credential and has authored numerous surface water delineation reports, threatened and endangered pre- and post- construction monitoring reports, habitat conservation plans, and noise studies. She is experienced in aquatic resources delineation, threatened and endangered species quantitative modeling, including bird and bat mortality estimates, Eagle Risk Assessment, and Evidence of Absence study design. She has served as a lead delineator for numerous transmission line, transportation, and commercial development projects. Her research background is in stream and wetland ecosystem function and disturbance dynamics.

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

Erin Van Nort, PWS is a Senior Wetland Scientist with over 20 years of experience working in natural resources and was a part of the team during the field investigations and assisted with reporting related to this Project. Her credentials include Professional Wetland Scientist (3406) and Pre-Qualified Consultant with the Ohio Department of Transportation for Waterway Permitting and Ecological Services. She is adept at determining wetland and stream quality using the Ohio Environmental Protection Agency (OEPA) methodologies and has negotiated hundreds of permit approvals for Federal §404 Individual, Nationwide Permits, and Ohio §401 permits. She has served as a lead wetland delineator and biologist on a broad array of projects, including solar, gas, transmission line, transportation, and commercial and residential developments, and has authored numerous wetland reports, watershed plans, and grant applications.

2.0 Methodology

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

2.1 Wetland Parameters

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

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

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

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

2.1.1 Hydrology

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

2.1.2 Hydric Soils

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

2.1.3 Hydrophytic Vegetation

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

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

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

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

2.2 USACE Wetland Delineation

Qualified wetland scientists from TRC conducted surface water field investigations on November 9, 2023, May 23, 2024, June 5, 2024, and February 18, 2026. Delineations were conducted during multiple years due to changes in the original study area and limited access route opportunities to get to the structure needing replaced. The surface water field investigations were conducted within the predetermined Project Study Area (**Appendix A, Figure 1**) that was developed in accordance with the Project location information provided by FirstEnergy. Surface water delineations were conducted using the Level 2 Federal Routine Determination Method presented in the *1987 Manual* and *Regional Supplements*, including clarifications and interpretations provided in the March 6, 1992 guidance memorandum (Williams, 1992), and the USACE and Environmental Protection Agency (EPA) guidance on jurisdictional forms (USACE, 2008). USACE Wetland Determination Data Forms – Northcentral and Northeast Region are provided within **Appendix D**.

Hydrology was determined based on a number of indicators that are divided into two (2) categories, primary and secondary. The *1987 Manual* defines hydrology as present when at least one primary indicator or two secondary indicators are identified. One (1) primary indicator is sufficient to determine if hydrology is present; however, if these are absent then two (2) or more of the secondary indicators are required to determine hydrology. If other probable hydrologic evidence was found, then this was subsequently documented on the data form.

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

gleying, and hydrogen sulfide odor, were noted when observed. Soils at both wetland (if present) and dry land data plot locations were characterized and recorded on the data form.

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

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

2.3 Ohio Environmental Protection Agency’s Ohio Rapid Assessment Method

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

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

2.4 USACE Waterbody Identification

During field investigations, other waterbody features including streams, ponds, lakes, etc. were investigated. Streams within the Project Study Area were identified by the presence of an ordinary high-water mark (OHWM) and scoured channel or defined bed and banks. The OHWM was delineated based on the OHWM as defined in 33 CFR Part 328.3 and 33 CFR 329.4 (as applicable), in accordance with the Regulatory Guidance Letter No. 05-05 and the *National Ordinary High Water Mark Field Delineation Manual for Rivers and Streams* (USACE, 2005; USACE and EPA, 2025). All streams identified in the Project Study Area that were wider than five feet were demarcated via GPS from bank-to-bank. Streams that were less than five feet wide had the centerline demarcated. Streams identified during the course of the investigation were classified as perennial, intermittent, or ephemeral waterways in accordance with the rationale defined by the USACE Buffalo District.

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

2.5 OEPA Waterbody Quality Quantification

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

Use of the QHEI or HHEI assessment method is determined based on the size of the stream’s drainage area and/or the stream’s pool depths. Where coverage was available, the drainage area was calculated using automated basin characteristics from StreamStats v 4.31.0 (USGS, 2025).

2.5.1 Qualitative Habitat Evaluation Index

Following OEPA guidance, streams with a drainage area of greater than 1.0 square mile (2.6 square kilometers) or which have pools with maximum depths over 15.8 inches (40.0 centimeters), as determined by measuring pool depth within the stream, were evaluated using the QHEI. Data on these streams were collected on the QHEI form provided by the OEPA. The QHEI is composed of six principal metrics: substrate, instream cover, channel morphology, riparian zone and bank erosion, pool/glide and riffle-run quality, and map gradient. Each metric is

scored separately and summed to obtain the total QHEI score. Using the scoring methods associated with these forms, the stream is placed into the following general narrative ranges, dependent upon stream size; for smaller streams (≤ 20 sq. mi): Excellent >70 , Good 55-69, Fair 43-54, Poor 30-42, and Very Poor <30 ; for larger streams (>20 sq. mi): Excellent >75 , Good 60-74, Fair 45-59, Poor 30-44, and Very Poor <30 .

2.5.2 Headwater Habitat Evaluation Index

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

3.0 Results

3.1 Site Description

The Project Study Area is 6.33 acres located in the city of Parma, in Cuyahoga County, Ohio. The Project Study Area is located within the Baldwin Creek - East Branch Rocky River watershed (12-Digit Hydrologic Unit Code [HUC]: 04110001 0202) (USGS, 2022).

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

There is one (1) United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) feature mapped within the Project Study Area. The NWI feature is described as riverine (**Appendix A, Figure 4**) (USFWS, 2023).

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

According to Federal Emergency Management Agency Flood Insurance Rate Map Panel 39035C0282E (eff. 12/3/2010) the proposed Project is not located within a mapped 100-year floodplain (**Appendix A, Figure 4**) (FEMA, 2024).

The USACE Antecedent Precipitation Tool (APT) Version 3.0 (USACE, 2025) was used to collect 90-day antecedent precipitation data. The Cleveland (~6.5 miles) weather station was used for collecting APT data for the field investigations. Compared to historical data, antecedent hydrologic conditions in November 2023 were considered to be normal. Typical conditions for the time of year (wet season) were observed. The drought index reported a mild drought (USACE, 2025).

Compared to historical data, antecedent hydrologic conditions in May 2024 were considered to be normal. Typical conditions for the time of year (wet season) were observed. The drought index data reported an incipient drought (USACE, 2025). Compared to historical data, antecedent hydrologic conditions in June 2024 were considered to be normal. Typical conditions for the time of year (dry season) were observed, and the drought index data reported a mild drought (USACE, 2025). Compared to historical data, antecedent hydrologic conditions in February 2026 were considered to be drier than normal. Typical conditions for the time of year (wet season) were observed. The drought index reported a mild drought (USACE, 2025). APT results are provided within **Appendix B**.

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

Table 1. Soils Type Summary

Map Unit Symbol	Map Unit Name	Hydric Status	Acres Within Project Study Area	Percent Cover in Project Study Area
MmB	Mahoning-Urban land complex, 2 to 6 percent slopes	Non-Hydric with Hydric Inclusions	0.03	0.4%
MgA	Mahoning silt loam, 0 to 2 percent slopes	Non-Hydric with Hydric Inclusions	1.61	25.5%
MgB	Mahoning silt loam, 2 to 6 percent slopes	Non-Hydric with Hydric Inclusions	2.16	34.2%
Ua	Udorthents, loamy	Non-Hydric	2.53	40.0%
Total			6.33	100.00%
Notes:				
Accessed online February 2026 at: http://websoilsurvey.sc.egov.usda.gov .				

3.2 Surface Water Resource Field Delineations

TRC performed field investigations on November 9, 2023, May 23, 2024, June 5, 2024, and February 18, 2026. November 2023 was overall drier than normal and marginally cooler than normal. The average temperature reported was 43.4 degrees Fahrenheit. During the 72 hours prior to the 2024 field investigation, the surrounding area did not receive any rainfall, and the average temperature was 69 degrees Fahrenheit (May 2024) and 78 degrees Fahrenheit (June 2024). During the 72 hours prior to the February 18, 2026 field investigation, the surrounding area did not receive any rainfall, and the average temperature was 54 degrees Fahrenheit. Prior to the February 2026 field investigation, Northeast Ohio, including the Project Study Area had 31 consecutive days with measurable snow on the ground, with a snowpack in the city of Parma ranging from 10-12 inches in depth. Native and non-native herbaceous vegetation was observed within the Project Study Area. During the field investigation, overall on-site observations of hydrology revealed normal conditions. The results of the APT are discussed in Section 3.1 and can be found in **Appendix B**. Native and non-native herbaceous vegetation was observed within the Project Study Area. The USACE maintains the final authority that determines jurisdiction;

therefore, statements about jurisdiction within this Report are preliminary and subject to final determination by the USACE and EPA.

3.2.1 Wetlands

During the field investigation, four (4) wetlands were identified and delineated within the Project Study Area. The delineated wetland boundaries and sample points are shown on **Figure 5** in **Appendix A**. Representative photographs of sample points and other areas of interest are provided in **Appendix C**. Data were collected and recorded on the USACE Wetland Determination Data Forms – Northcentral and Northeast Region (**Appendix D**) and wetland functional assessments were completed for each delineated wetland using the ORAM (**Appendix D**). Delineated wetlands within the Project Study Area are summarized in **Table 2**.

Table 2. Delineated Wetland Features Summary

Wetland ID ¹	Latitude, Longitude	Delineation Date	Extends Outside Project Study Area (Y/N)?	Cowardin Classification within Study Area ²	Water Regime Modifier ³	Connection ⁴	Apparent Downstream Connectivity ⁵	Provisional Jurisdictional Status ⁶	ORAM Score	ORAM Category ⁷	Approximate Delineated Area within Project Study Area ⁸ (acres)
W-EKG-1	41.352663, -81.766739	11/9/2023; 6/5/2024; 2/18/2026	Y	PEM	Seasonally Flooded	Abutting	W-EKG-1→ UNT to Baldwin Creek→ Baldwin Creek→ Rocky River (TNW)	USACE Jurisdictional Wetland	22.5	Cat. 1	0.520
W-EKG-2	41.352573, -81.765274	11/9/2023; 6/5/2024	Y	PEM	Seasonally Flooded	Abutting	W-EKG-2 → W-EKG-3 → S-EKG-1 → Baldwin Creek→ Rocky River (TNW)	USACE Jurisdictional Wetland	27.5	Cat. 1	0.523
W-EKG-3	41.352637, -81.763504	11/9/2023; 5/23/2024; 6/5/2024	Y	PEM	Seasonally Flooded	Abutting	W-EKG-3→ S-EKG-1→ Baldwin Creek→ Rocky River (TNW)	USACE Jurisdictional Wetland	27	Cat. 1	0.913
W-EKG-4	41.352097, -81.762387	5/23/2024	Y	PFO	Seasonally Flooded	Abutting	W-EKG-4→ W-EKG-3→ S-EKG-1→ Baldwin Creek→ Rocky River (TNW)	USACE Jurisdictional Wetland	22	Cat. 1	0.016
Total:											1.972

Wetland ID ¹	Latitude, Longitude	Delineation Date	Extends Outside Project Study Area (Y/N)?	Cowardin Classification within Study Area ²	Water Regime Modifier ³	Connection ⁴	Apparent Downstream Connectivity ⁵	Provisional Jurisdictional Status ⁶	ORAM Score	ORAM Category ⁷	Approximate Delineated Area within Project Study Area ⁸ (acres)
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NOTES:

¹TRC resource identification.

²Cowardin Wetland Classification within Project Study Area (approximation based upon field identification and delineation) (Cowardin, Carter, Golet, & LaRoe, 1979): PEM – Palustrine Emergent, PFO – Palustrine Forested

³National Wetland Inventory Wetlands and Deepwater Map Code Diagram – Modifiers for non-tidal waters (USFWS, 2019)

⁴Connection to a jurisdictional waterway: Isolated or Abutting as determined by TRC; subject to USACE verification. Wetland connection is pending an update from EPA and USACE based on the EPA vs. Sackett case.

⁵UNT=Unnamed Tributary; TNW=Traditional Navigable Waterway

⁶Jurisdiction status is based upon field observations and mapping review of apparent connectivity or adjacency of the resource to Waters of the United States and the assumption that a preliminary jurisdictional determination process will be utilized for the project.

⁶ORAM Category assigned based on scoring breakpoints from Table 2 of the ORAM v. 5.0 Quantitative Score Calibration

⁷Area is rounded to nearest 0.001-acre, based upon GPS data.

3.2.2 Streams and Waterbodies

During the field investigations, one (1) stream, S-EKG-1, was delineated within the Project Study Area. A detailed summary of the stream and/or waterbody resources identified is provided in **Table 3** and **Appendix A, Figure 5**. Data was recorded to provide a characterization of the delineated stream located within the Project Study Area, which was recorded on the OEPA HHEI form. This HHEI form can be found within **Appendix D**. Representative photographs of the described stream identified within the Project Study Area can be found in **Appendix C**.

Table 3. Delineated Stream and Waterbody Features Summary

Stream ID ¹ /Resource Name	Latitude, Longitude	Delineation Date	Resource / Downstream Flow Path ²	Flow Regime ³	OEPA Use Designation ⁴	Existing Use Designation ⁵	HHEI Score ⁶	QHEI Score ⁷	Approximate Delineated Length within Project Study Area ⁸ (linear feet/acre)
S-EKG-1	41.352579, -81.762906	11/9/2023; 5/23/2024	S-EKG-1→ Baldwin Creek→ Rocky River (TNW)	Perennial	N/A	Modified Class II PHW	68	-	335 feet (0.047 acre)
TOTAL									335 feet (0.047 acre)
<p>Notes:</p> <p>¹TRC resource identification.</p> <p>²TNW=Traditional Navigable Waterway</p> <p>³Based on the Ohio Revised Code 6111.01(H) (Ohio Legislative Service Commission, 2022) and the <i>Updated Definition of Waters of the United States</i> requiring a “continuous surface connection,” ephemeral streams are not currently regulated under the Clean Water Act (40 CFR Part 120)</p> <p>⁴Determined by OEPA and listed in OAC §3745-1-20 Rocky River drainage basin (Ohio Administrative Code Rule 3745-1-20).</p> <p>⁵Determined by TRC, subject to verification by OEPA. PHW = Primary Headwater</p> <p>⁶HHEI, for streams with drainage areas of less than 1.0 square mile and a maximum pool depth of less than 40 centimeters.</p> <p>⁷QHEI, for streams with drainage areas of greater than 1.0 square mile and a maximum pool depth greater than 40 centimeters.</p> <p>⁸Length is rounded to nearest foot, based upon GPS data. Area is rounded to nearest 0.001-acre, based upon GPS data. Resources comprising <0.001-acre are tabulated within the total as 0.001-acre.</p>									

4.0 Permitting Considerations

It is anticipated that due to the nature of the Project, jurisdictional resources may be impacted by the proposed Project activities. It is TRC's understanding that this Project would fall under NWP 57 - Electric Utility Line and Telecommunications Activities (USACE, 2021). This Project is in the city of Parma, in Cuyahoga County, Ohio, within the USACE Buffalo Regulatory Districts. The Project location is not listed in Appendix 1 to Regional General Condition 5(a) (Endangered Species and Threatened Species); therefore, Regional General Condition 5(a) does not trigger the need for Section 404 Pre-Construction Notification (PCN). Assuming all other NWP 57 thresholds are met and not exceeded (USACE, 2021), a PCN might not be required. The current NWP program is set to expire on March 14, 2026. At which time NWP 57 will once again be subject OEPA's General Limitations and Conditions for 401 Water Quality Certification. When a PCN is not required by the USACE, notification to OEPA is required for impacts to category 3 wetlands and/or impacts to ≥ 0.10 -acre of wetland. TRC has scored the on-site wetlands as category 1.

4.1 USACE Verification

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

5.0 Limitations

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

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

6.0 References

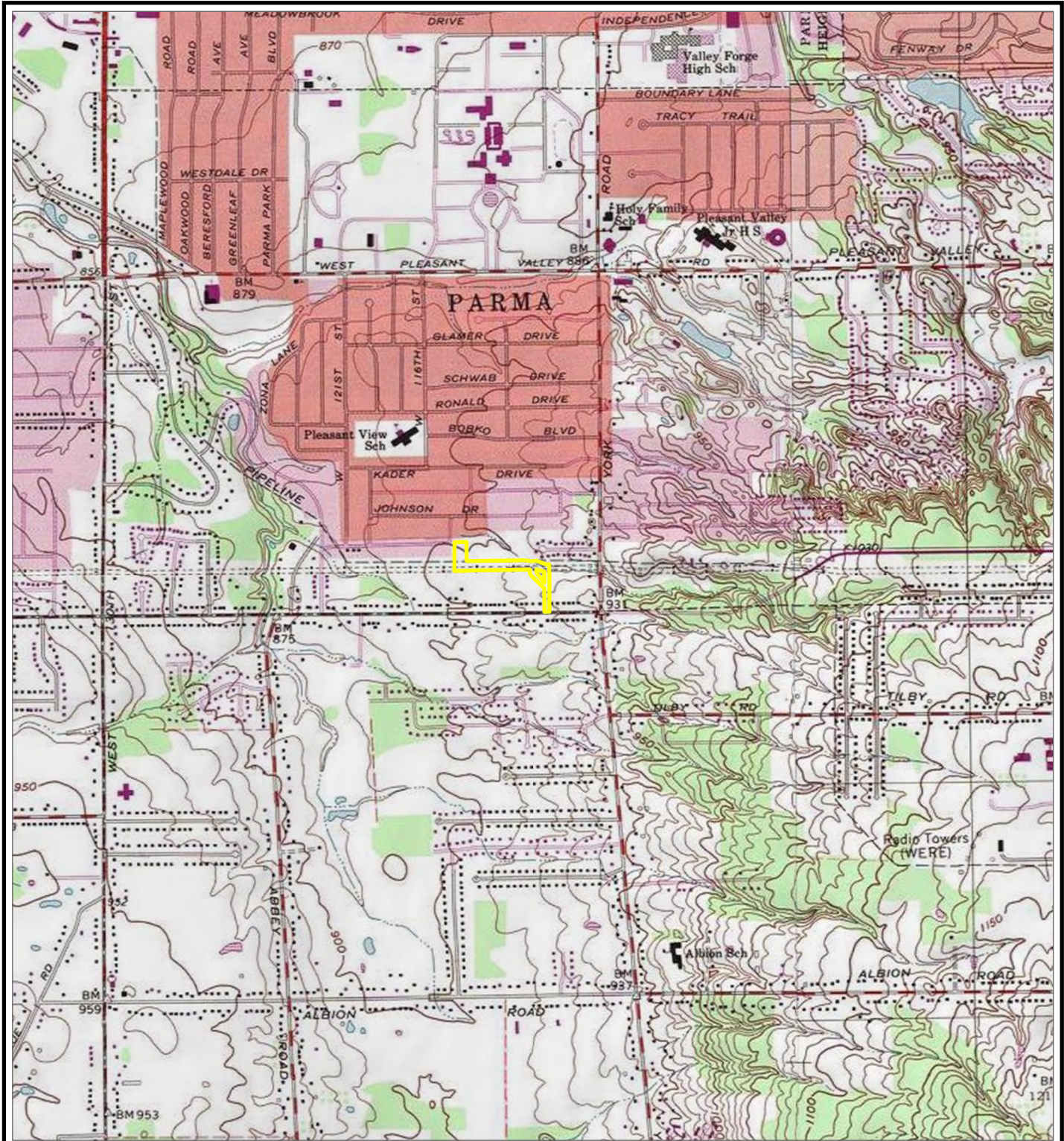
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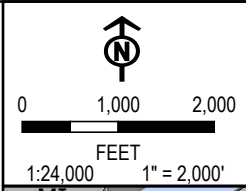
Appendix A

Figures

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 PROJECT STUDY AREA



BASE MAP: USA TOPO MAPS MAP SERVICE. BEREA QUAD

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 STRUCTURE 2047 REPLACEMENT PROJECT
 CUYAHOGA COUNTY, OH**

TITLE: **SITE LOCATION MAP**

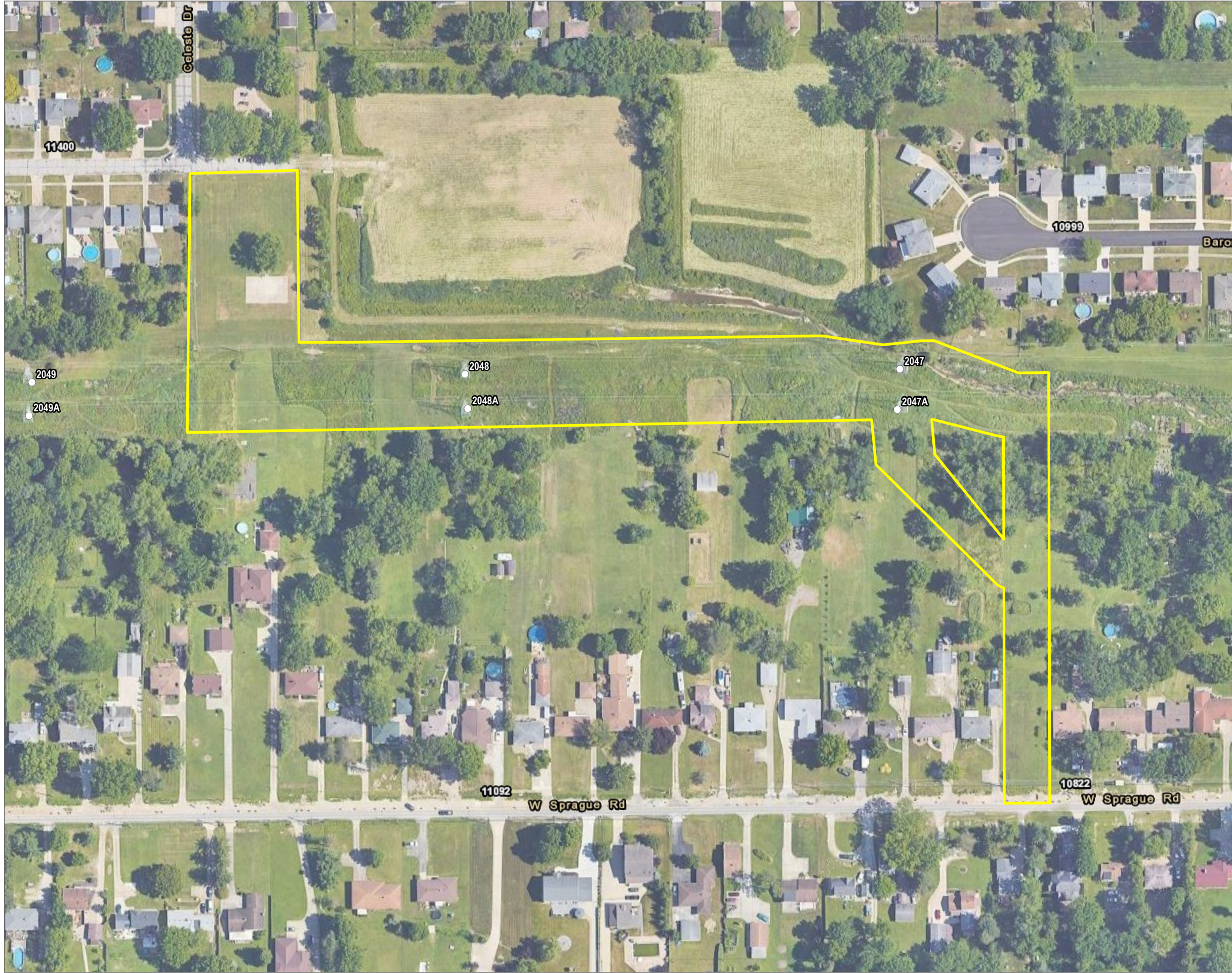
DRAWN BY: M. OPEL	PROJ. NO.: 664675 P3
CHECKED BY: M. MOLNAR	FIGURE 1
APPROVED BY: B. FALKINBURG	
DATE: FEBRUARY 2026	



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

FILE: WDRV3

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- PROJECT STUDY AREA
- EXISTING STRUCTURE

BASE MAP: GOOGLE MAPS.

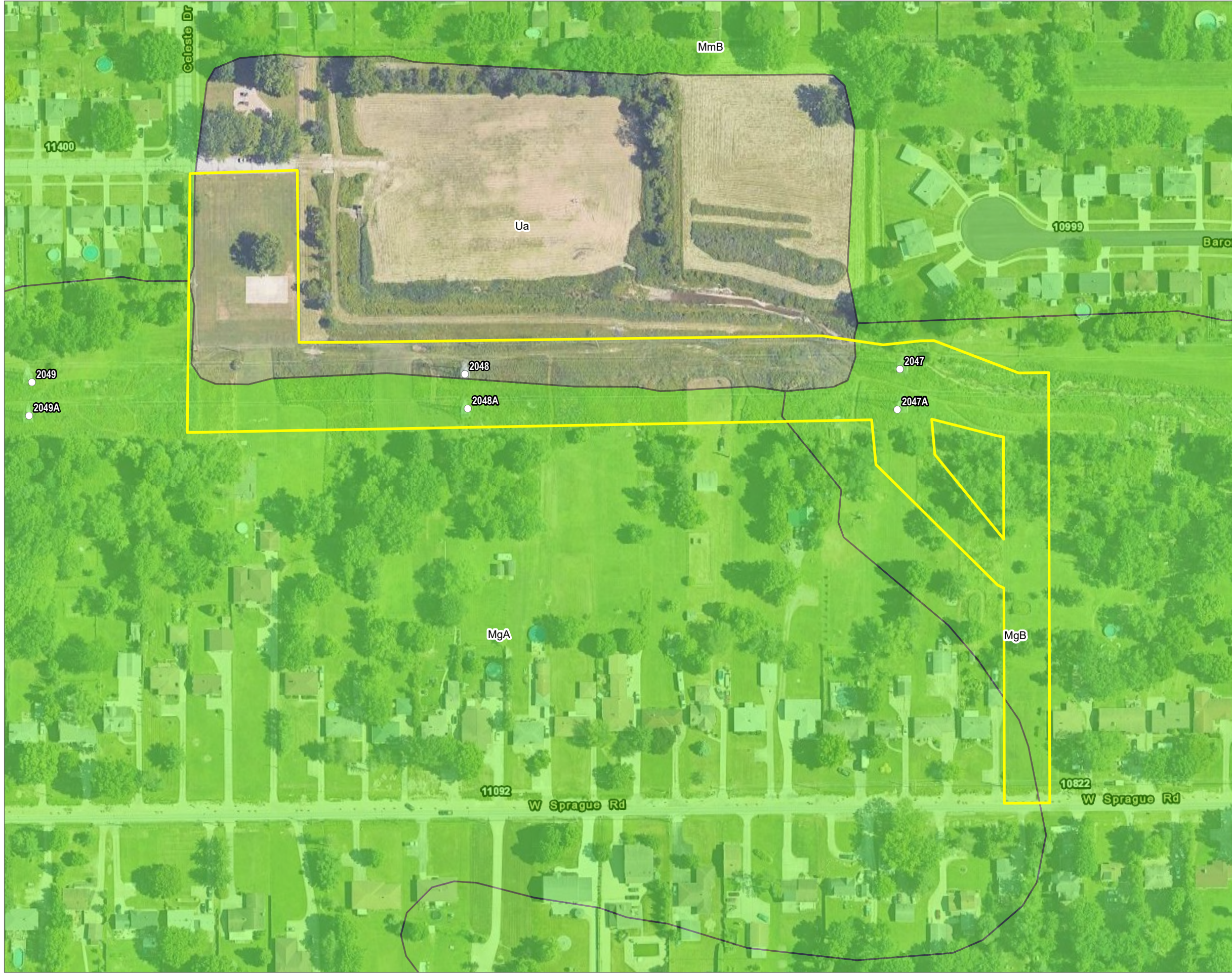


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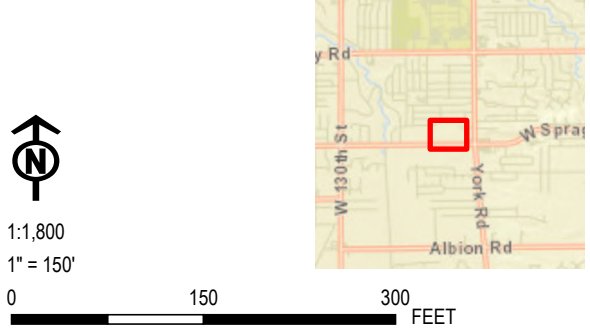
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TITLE: AERIAL MAP	
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CHECKED BY: M. MOLNAR	FIGURE 2
APPROVED BY: B. FALKINBURG	
DATE: FEBRUARY 2026	
	1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072
FILE:	WDRv3.aprx

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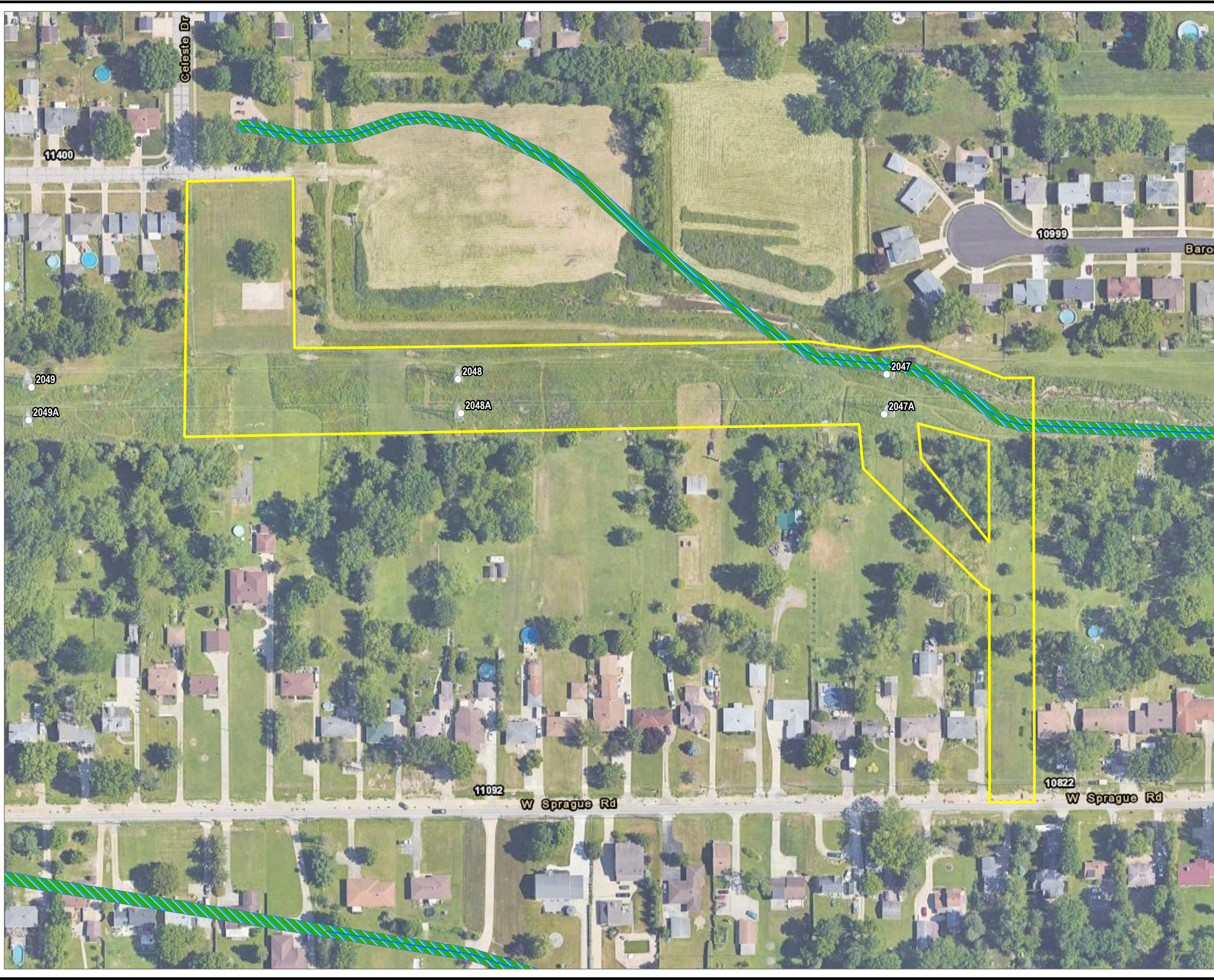
- PROJECT STUDY AREA
- EXISTING STRUCTURE
- HYDRIC SOIL
- NON-HYDRIC W/ HYDRIC INCLUSIONS SOIL
- NON-HYDRIC SOIL






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



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TITLE: SOILS MAP	
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CHECKED BY: M. MOLNAR	FIGURE 3
APPROVED BY: B. FALKINBURG	
DATE: FEBRUARY 2026	
1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	WDRv3.aprx

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

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

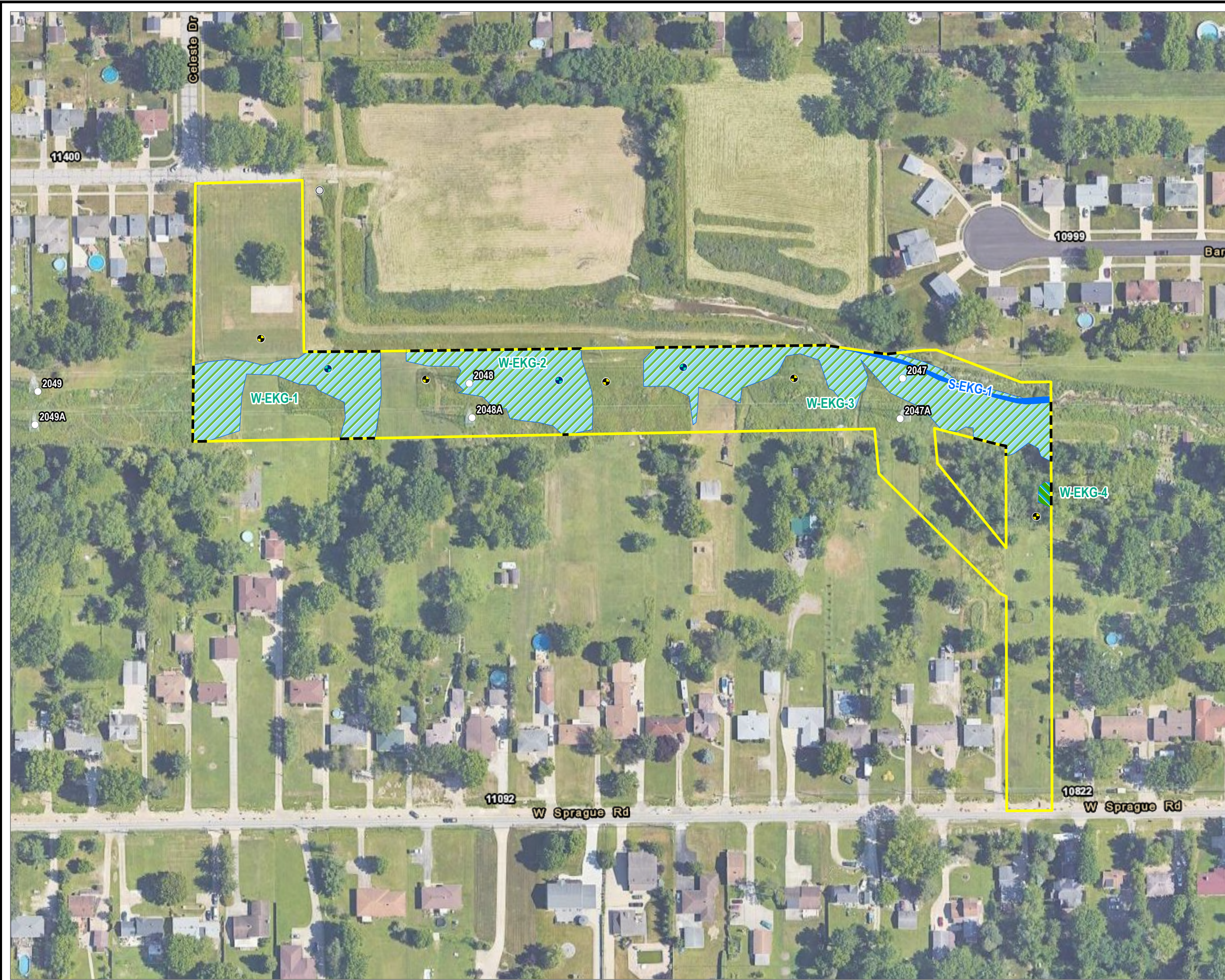


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 1" = 150'



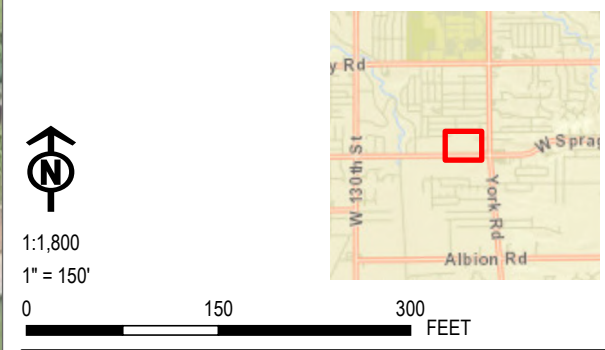
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TITLE: NHD, NWI AND FEMA FLOODPLAIN MAP	
DRAWN BY: M. OPEL	PROJ. NO.: 664675 P3
CHECKED BY: M. MOLNAR	FIGURE 4
APPROVED BY: B. FALKINBURG	
DATE: FEBRUARY 2026	
	
1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
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- PROJECT STUDY AREA
- EXISTING STRUCTURE
- CULVERT
- PERENNIAL STREAM
- PEM WETLAND
- PFO WETLAND
- WETLAND CONTINUES
- WETLAND DATA POINT
- UPLAND DATA POINT

BASE MAP: GOOGLE MAPS.
 DATA SOURCES: TRC WETLAND DELINEATION COMPLETED NOVEMBER 9, 2023 AND MAY 23 & JUNE 5, 2024 AND FEBRUARY 18, 2026.

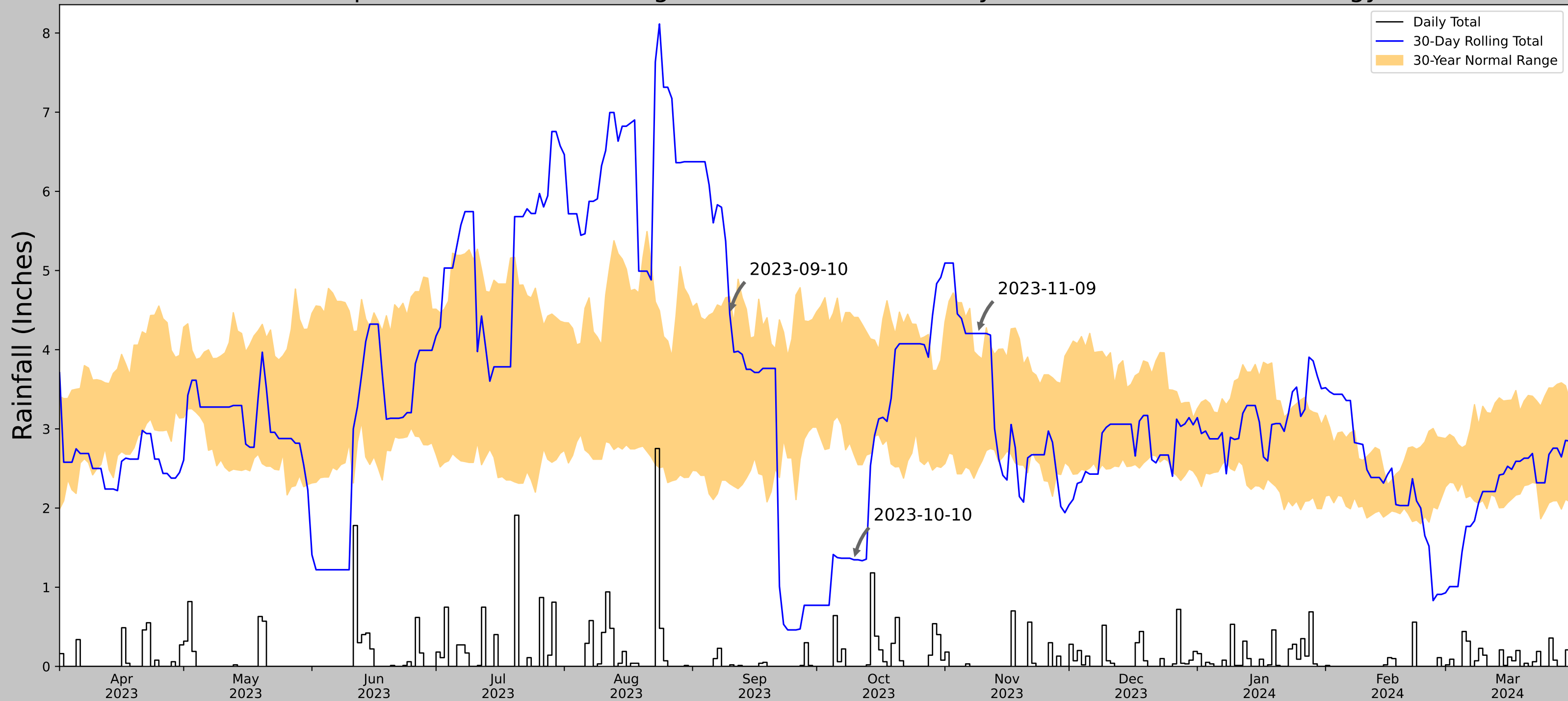


PROJECT: FIRSTENERGY - FOWLES-PLEASANT VALLEY STRUCTURE 2047 REPLACEMENT PROJECT CUYAHOGA COUNTY, OH	
TITLE: DELINEATED RESOURCES MAP	
DRAWN BY: M. OPEL	PROJ. NO.: 664675 P3
CHECKED BY: M. MOLNAR	FIGURE 5
APPROVED BY: B. FALKINBURG	
DATE: FEBRUARY 2026	
1382 WEST NINTH STREET SUITE 400 CLEVELAND, OH 44113 PHONE: 216-344-3072	
FILE:	WDRv3.aprx

Appendix B

Antecedent Precipitation Tables

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



Coordinates	41.35264, -81.7635
Observation Date	2023-11-09
Elevation (ft)	905.185
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2023-11-09	2.497638	3.923228	4.204725	Wet	3	3	9
2023-10-10	2.680709	4.407874	1.346457	Dry	1	2	2
2023-09-10	2.308268	4.668898	4.448819	Normal	2	1	2
Result							Normal Conditions - 13

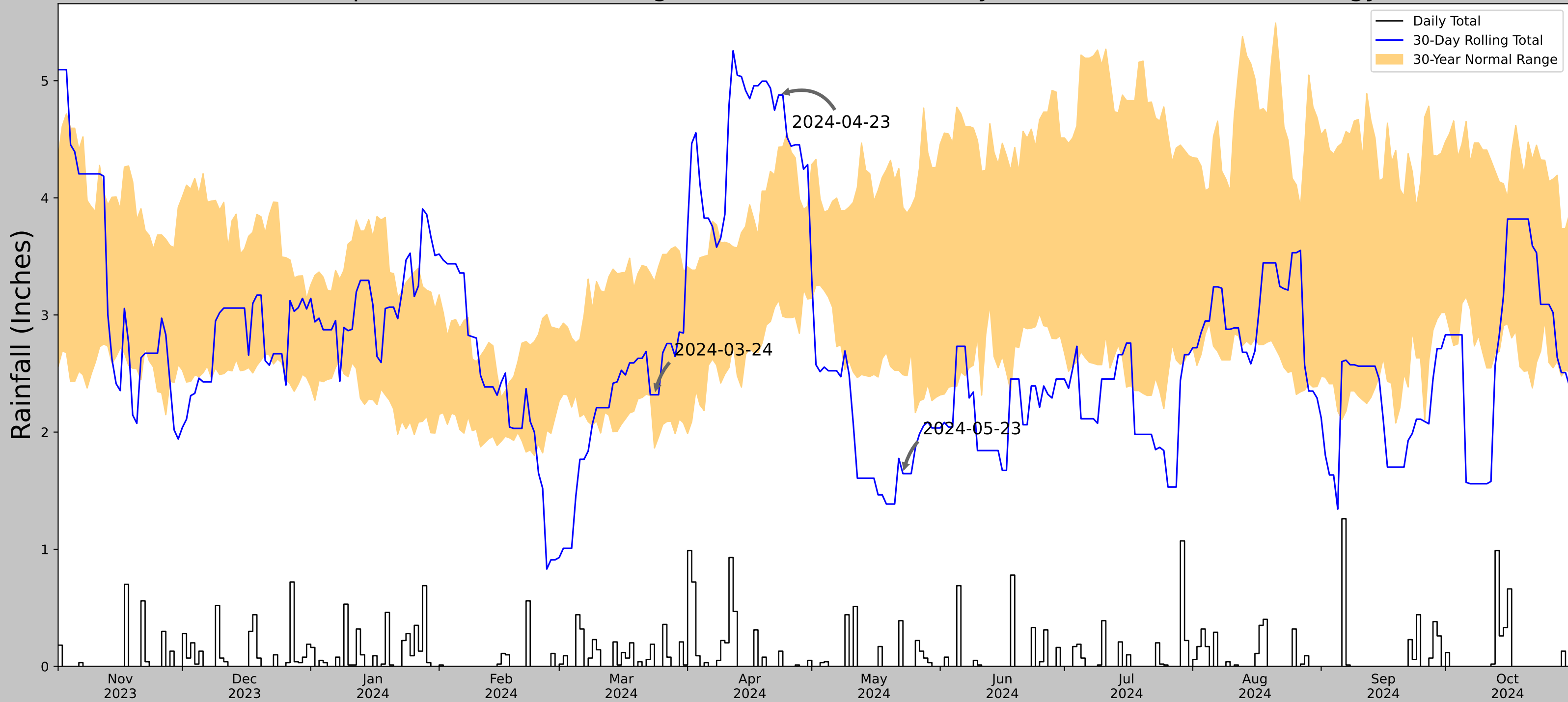
Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0



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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CLEVELAND	41.4133, -81.86	859.908	6.526	45.277	3.232	11352	90

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



Coordinates	41.35264, -81.7635
Observation Date	2024-05-23
Elevation (ft)	905.185
Drought Index (PDSI)	Incipient drought
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-05-23	2.489764	3.917323	1.645669	Dry	1	3	3
2024-04-23	3.124803	4.432284	4.877953	Wet	3	2	6
2024-03-24	1.864567	3.286614	2.318898	Normal	2	1	2
Result							Normal Conditions - 11

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0



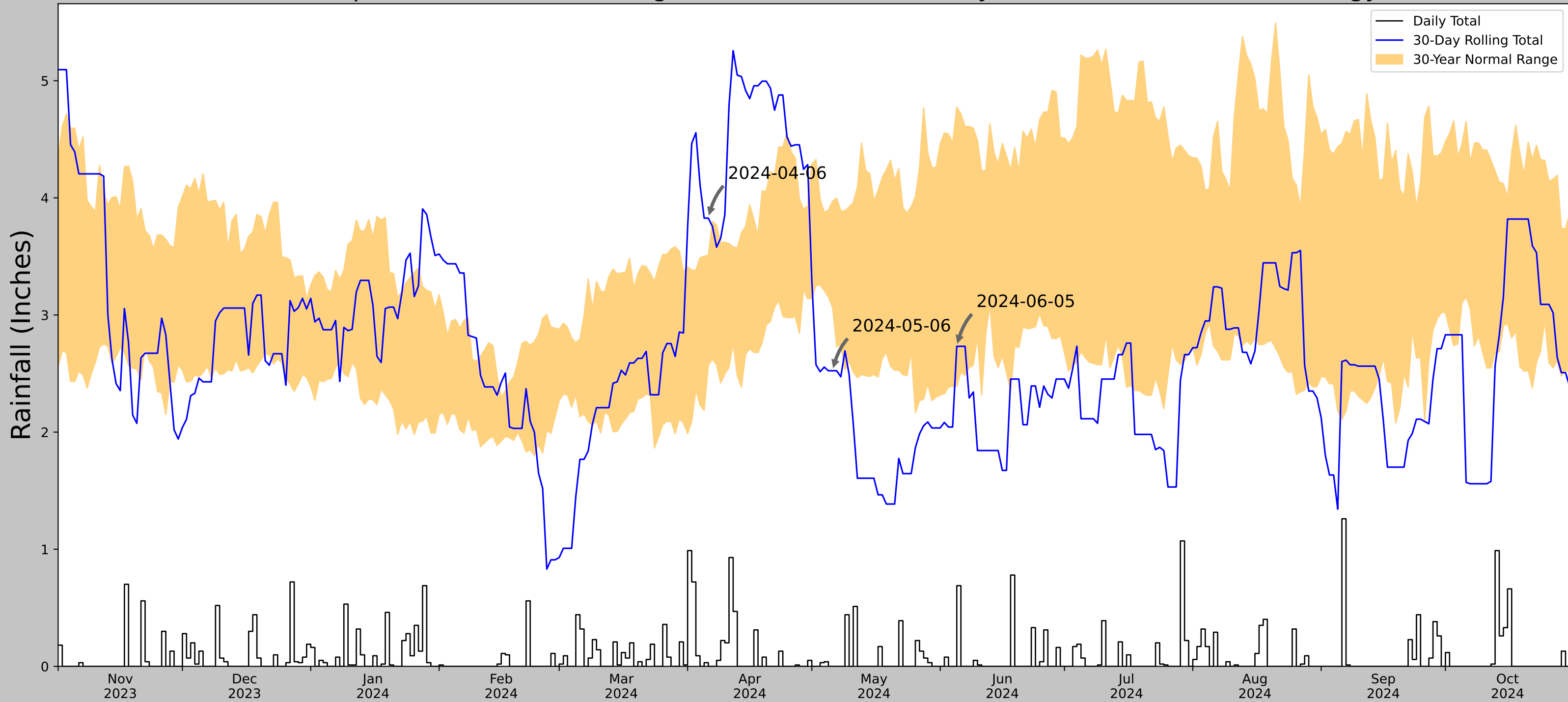
US Army Corps
of Engineers



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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CLEVELAND	41.4133, -81.86	859.908	6.526	45.277	3.232	11352	90

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



Coordinates	41.35264, -81.7635
Observation Date	2024-06-05
Elevation (ft)	905.185
Drought Index (PDSI)	Mild drought
WebWIMP H ₂ O Balance	Dry Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2024-06-05	2.391732	4.773622	2.732284	Normal	2	3	6
2024-05-06	3.066142	3.970473	2.523622	Dry	1	2	2
2024-04-06	2.570079	3.509843	3.826772	Wet	3	1	3
Result							Normal Conditions - 11

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0



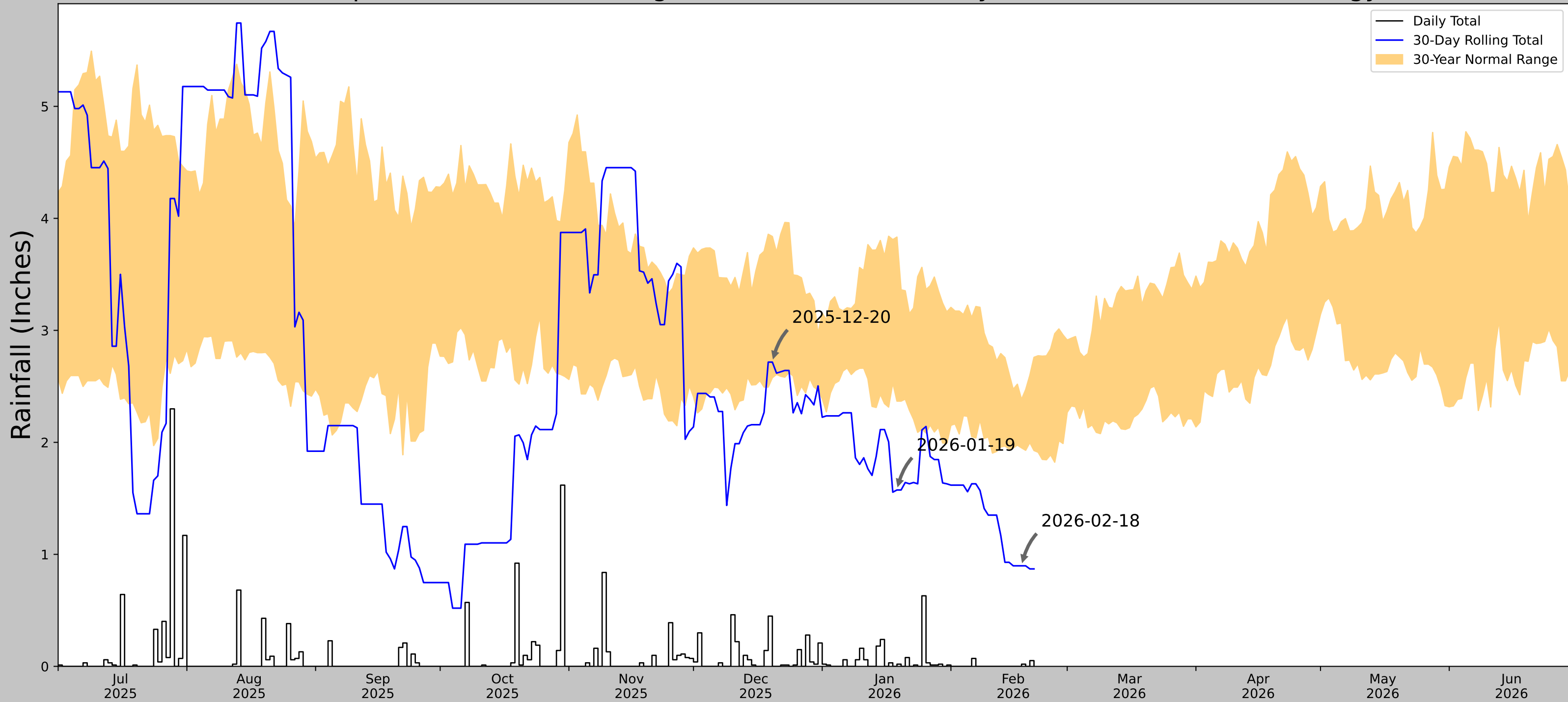
US Army Corps
of Engineers



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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CLEVELAND	41.4133, -81.86	859.908	6.526	45.277	3.232	11352	90

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



Coordinates	41.35264, -81.7635
Observation Date	2026-02-18
Elevation (ft)	905.185
Drought Index (PDSI)	Mild drought (2026-01)
WebWIMP H ₂ O Balance	Wet Season

30 Days Ending	30 th %ile (in)	70 th %ile (in)	Observed (in)	Wetness Condition	Condition Value	Month Weight	Product
2026-02-18	1.951181	2.383071	0.897638	Dry	1	3	3
2026-01-19	2.36811	3.833071	1.574803	Dry	1	2	2
2025-12-20	2.577165	3.838189	2.716536	Normal	2	1	2
Result							Drier than Normal - 7

Figures and tables made by the
Antecedent Precipitation Tool
Version 3.0



US Army Corps
of Engineers



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

Weather Station Name	Coordinates	Elevation (ft)	Distance (mi)	Elevation Δ	Weighted Δ	Days Normal	Days Antecedent
CLEVELAND	41.4133, -81.86	859.908	6.526	45.277	3.232	11353	90

Appendix C

Photographic Record

Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 1.

Photo Date:
11/09/2023

Description:

Representative photo from the west extent of the Project Study Area, facing northeast into fenced area.



Photo No. 2.

Photo Date:
11/09/2023

Description:

Photo of wetland W-EKG-1 in the southwest corner of the Project Study Area, facing north.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 3.

Photo Date:
11/09/2023

Description:

 Photo of wetland W-EKG-1 in the southwest corner of the Project Study Area, facing east.



Photo No. 4.

Photo Date:
11/9/2023

Description:

 Photo of Wetland W-EKG-1 from the southwest extent of the Project Study Area, facing south.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 5.

Photo Date:
11/09/2023

Description:

Photo of Wetland W-EKG-1 from the southwest extent of the Project Study Area, facing west.



Photo No. 6.

Photo Date:
11/09/2023

Description:

Photo of Wetland W-EKG-2 facing north.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 7.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-2 facing east.



Photo No. 8.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-2 facing south.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 9.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-2 facing west.



Photo No. 10.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-3, facing north.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 11.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-3, facing east.



Photo No. 12.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-3, facing south.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 13.

Photo Date:
11/09/2023

Description:
Photo of Wetland W-EKG-3, facing west.



Photo No. 14.

Photo Date:
5/23/2024

Description:
Photo of Wetland W-EKG-4, facing north.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 15.
Photo Date:
5/23/2024
Description:
Photo of Wetland W-EKG-4, facing east.



Photo No. 16.
Photo Date:
5/23/2024
Description:
Photo of Wetland W-EKG-4, facing west.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 17.

Photo Date:
5/23/2024

Description:
Photo of Wetland W-EKG-4, facing south.



Photo No. 18.

Photo Date:
11/09/2023

Description:
Photo of Stream S-EKG-1 (perennial), facing upstream.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 19.

Photo Date:
11/09/2023

Description:

Photo of Stream S-EKG-1 (perennial), facing downstream.



Photo No. 20.

Photo Date:
11/09/2023

Description:

Photo of Stream S-EKG-1 observed substrate within the Project Study Area.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 21.

Photo Date:
11/09/2023

Description:

Representative photo of the eastern extent of the Project Study Area, facing west.



Photo No. 22.

Photo Date:
11/09/2023

Description:

Photo of the northwest corner of Structure 2047, facing west.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 23.

Photo Date:
11/09/2023

Description:

Photo of the northeast corner of Structure 2047, facing east.



Photo No. 24.

Photo Date:
11/09/2023

Description:

Representative photo of the center of the Project Study Area, facing east.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 25.

Photo Date:
11/09/2023

Description:

Representative photo of the center of the Project Study Area, facing west.



Photo No. 26.

Photo Date:
11/09/2023

Description:

Representative photo of the Project Study Area, from the southwest extent, facing east into fenced area.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 27.

Photo Date:
11/09/2023

Description:

Photo of the exposed north corners of Structure 2047 along stream S-EKG-1, facing west.



Photo No. 28.

Photo Date:
11/09/2023

Description:

Photo of Structure 2047 and the bank erosion along stream S-EKG-1, facing southeast.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 29.

Photo Date:
6/05/2024

Description:

 Representative photo of the Project Study Area, facing south toward West Sprague Road.



Photo No. 30.

Photo Date:
6/05/2024

Description:

 Representative photo from the southern portion of the Project Study Area, facing northwest.



Client Name: FirstEnergy	Site Location: City of Parma, Cuyahoga County, Ohio	Project No.: 664675 P3
------------------------------------	---	----------------------------------

Photo No. 31.

Photo Date:
2/18/2026

Description:
Representative photo from the northern portion of the Project Study Area (Stormes Dr), facing south.



Photo No. 32.

Photo Date:
2/18/2026

Description:
Representative photo from the southern portion of the Project Study Area, facing north.



Appendix D

Data Forms



**USACE Wetland Determination Data Forms – Northcentral and
Northeast Region**

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-01_PEM-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.35265 Long: -81.766529 Datum: WGS84
 Soil Map Unit Name: Udorthents, loamy NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-01</u>
Remarks: (Explain alternative procedures here or in a separate report.) Covertypes is PEM. Based on the presence of all three parameters, this area is a wetland.	

HYDROLOGY

<p>Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (minimum of two required)</p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)																															
<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)																															
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input checked="" type="checkbox"/> FAC-Neutral Test (D5)																																
<p>Field Observations:</p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-01_PEM-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1.	90	Yes	FACW	
2.	5	No	FACW	
3.	5	No	FACU	
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	100	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
	0	= Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>95</u>	x 2 = <u>190</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>5</u>	x 4 = <u>20</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>210</u> (B)

Prevalence Index = B/A = 2.1

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

SOIL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 5	10YR 5/2	90	7.5YR 5/8	10	C	PL	Clay Loam	
5 to 20	10YR 5/1	60	7.5R 5/8	40	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Iron Monosulfide (A18)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Not present
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-01_UPL-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): Convex Slope (%): 1 to 3
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.352495 Long: -81.765922 Datum: WGS84
 Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-01</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of two of three parameters, this area is an upland.	

HYDROLOGY

<p>Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (minimum of two required)</p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-01_UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>100</u>	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
	<u>0</u>	= Total Cover		

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC:	<u>0</u> (A)
Total Number of Dominant Species Across All Strata:	<u>1</u> (B)
Percent of Dominant Species That Are OBL, FACW, or FAC:	<u>0%</u> (A/B)
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>10</u>	x 2 = <u>20</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>90</u>	x 4 = <u>360</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>380</u> (B)
Prevalence Index = B/A = <u>3.8</u>	
Hydrophytic Vegetation Indicators:	
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u> </u> 2 - Dominance Test is >50%	
<u> </u> 3 - Prevalence Index is ≤3.0 ¹	
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Vegetation Strata:	
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present? Yes <u> </u> No <u> X </u>	

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 5	10YR 4/3	100					Clay Loam	
5 to 20	10YR 6/1	65	7.5YR 6/8	35	C	M	Clay	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Iron Monosulfide (A18)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Not present
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-02_PEM-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.352548 Long: -81.765491 Datum: WGS84
 Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-02</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is PEM. Based on the presence of all three parameters, this area is a wetland. ATV/ORV impacts observed.	

HYDROLOGY

<p>Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (minimum of two required)</p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-02_PEM-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	85	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
	0	= Total Cover		

	<p>Dominance Test worksheet:</p> <p>Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A)</p> <p>Total Number of Dominant Species Across All Strata: <u>2</u> (B)</p> <p>Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100%</u> (A/B)</p>																												
	<p>Prevalence Index worksheet:</p> <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:20%; text-align:center;">Total % Cover of:</th> <th style="width:20%;"></th> <th style="width:20%; text-align:center;">Multiply by:</th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align:center;"><u>25</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>25</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>10</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>20</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>35</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>105</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>15</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>60</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>85</u> (A)</td> <td></td> <td style="text-align:center;"><u>210</u> (B)</td> </tr> </tbody> </table> <p style="text-align:center;">Prevalence Index = B/A = <u>2.5</u></p>		Total % Cover of:		Multiply by:	OBL species	<u>25</u>	x 1 =	<u>25</u>	FACW species	<u>10</u>	x 2 =	<u>20</u>	FAC species	<u>35</u>	x 3 =	<u>105</u>	FACU species	<u>15</u>	x 4 =	<u>60</u>	UPL species	<u>0</u>	x 5 =	<u>0</u>	Column Totals:	<u>85</u> (A)		<u>210</u> (B)
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UPL species	<u>0</u>	x 5 =	<u>0</u>																										
Column Totals:	<u>85</u> (A)		<u>210</u> (B)																										
	<p>Hydrophytic Vegetation Indicators:</p> <p><u> </u> 1 - Rapid Test for Hydrophytic Vegetation</p> <p><input checked="" type="checkbox"/> 2 - Dominance Test is >50%</p> <p><input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0¹</p> <p><u> </u> 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)</p> <p><u> </u> Problematic Hydrophytic Vegetation¹ (Explain)</p> <p>¹Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.</p>																												
	<p>Definitions of Vegetation Strata:</p> <p>Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.</p> <p>Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines – All woody vines greater than 3.28 ft in height.</p>																												
	<p>Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/></p>																												

Remarks: (Include photo numbers here or on a separate sheet.)
The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 4/2	95	10YR 5/6	5	C	PL	Clay Loam	
4 to 20	10YR 6/1	70	7.5YR 5/8	30	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Iron Monosulfide (A18)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Not present
 Depth (inches): _____

Hydric Soil Present? Yes No _____

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-02_UPL-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.352595 Long: -81.764878 Datum: WGS84
 Soil Map Unit Name: Udorthents, loamy NWI Classification: None

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-02</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland. ATV/ORV impacts observed.	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)																															
<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)																															
<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)																																
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<input type="checkbox"/> FAC-Neutral Test (D5)																																
<p>Field Observations:</p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-02_UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
	0	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1. <i>Poa annua</i>	80	Yes	FACU	
2. <i>Taraxacum officinale</i>	10	No	FACU	
3. <i>Allium vineale</i>	5	No	FACU	
4. <i>Plantago lanceolata</i>	5	No	FACU	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
	100	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1. _____				
2. _____				
3. _____				
4. _____				
	0	= Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
 Total Number of Dominant Species Across All Strata: 1 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>0</u>	x 1 = <u>0</u>
FACW species	<u>0</u>	x 2 = <u>0</u>
FAC species	<u>0</u>	x 3 = <u>0</u>
FACU species	<u>100</u>	x 4 = <u>400</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>100</u> (A)	<u>400</u> (B)

Prevalence Index = B/A = 4

Hydrophytic Vegetation Indicators:

 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 8	10YR 4/3	100					Silty Clay Loam	
8 to 18	10YR 6/4	90	10YR 6/8	10	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Iron Monosulfide (A18)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
- Loamy Mucky Mineral (F1) **(LRR K, L)**
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Gravel
 Depth (inches): 18

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

Remarks:

The criterion for hydric soil is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-03_PEM-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): None Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.3527596 Long: -81.7644597 Datum: WGS84
 Soil Map Unit Name: Udorthents, loamy NWI Classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>W-EKG-03</u>
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Remarks: (Explain alternative procedures here or in a separate report.)
 Coverture is PEM. Based on the presence of all three parameters, this area is a wetland.

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) _____ <input type="checkbox"/> High Water Table (A2) _____ <input type="checkbox"/> Saturation (A3) _____ <input type="checkbox"/> Water Marks (B1) _____ <input type="checkbox"/> Sediment Deposits (B2) _____ <input type="checkbox"/> Drift Deposits (B3) _____ <input type="checkbox"/> Algal Mat or Crust (B4) _____ <input type="checkbox"/> Iron Deposits (B5) _____ <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) _____ <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8) _____ <input type="checkbox"/> Water-Stained Leaves (B9) _____ <input type="checkbox"/> Aquatic Fauna (B13) _____ <input type="checkbox"/> Marl Deposits (B15) _____ <input type="checkbox"/> Hydrogen Sulfide Odor (C1) _____ <input checked="" type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3) _____ <input type="checkbox"/> Presence of Reduced Iron (C4) _____ <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) _____ <input type="checkbox"/> Thin Muck Surface (C7) _____ <input type="checkbox"/> Other (Explain in Remarks) _____	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) _____ <input type="checkbox"/> Drainage Patterns (B10) _____ <input type="checkbox"/> Moss Trim Lines (B16) _____ <input type="checkbox"/> Dry-Season Water Table (C2) _____ <input type="checkbox"/> Crayfish Burrows (C8) _____ <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) _____ <input type="checkbox"/> Stunted or Stressed Plants (D1) _____ <input type="checkbox"/> Geomorphic Position (D2) _____ <input type="checkbox"/> Shallow Aquitard (D3) _____ <input type="checkbox"/> Microtopographic Relief (D4) _____ <input checked="" type="checkbox"/> FAC-Neutral Test (D5) _____
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Field Observations: Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>2</u> Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 No hydrology comments.

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-03_PEM-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	0	= Total Cover		
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	89	= Total Cover		
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
	0	= Total Cover		

Dominance Test worksheet:
 Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)
 Total Number of Dominant Species Across All Strata: 3 (B)
 Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

	Total % Cover of:	Multiply by:
OBL species	<u>34</u>	x 1 = <u>34</u>
FACW species	<u>35</u>	x 2 = <u>70</u>
FAC species	<u>20</u>	x 3 = <u>60</u>
FACU species	<u>0</u>	x 4 = <u>0</u>
UPL species	<u>0</u>	x 5 = <u>0</u>
Column Totals:	<u>89</u> (A)	<u>164</u> (B)

Prevalence Index = B/A = 1.8

Hydrophytic Vegetation Indicators:
 1 - Rapid Test for Hydrophytic Vegetation
 2 - Dominance Test is >50%
 3 - Prevalence Index is ≤3.0¹
 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)
 Problematic Hydrophytic Vegetation¹ (Explain)

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

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

Hydrophytic Vegetation Present? Yes No

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 to 4	10YR 4/2	100					Clay Loam	
4 to 20	10YR 7/1	70	7.5YR 6/8	30	C	M	Clay Loam	

¹Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. ²Location: PL=Pore Lining, M=Matrix.

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- Histic Epipedon (A2)
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- Iron Monosulfide (A18)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) **(LRR R, MLRA 149B)**

- Polyvalue Below Surface (S8) **(LRR R, MLRA 149B)**
- Thin Dark Surface (S9) **(LRR R, MLRA 149B)**
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- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if present):

Type: Not present
 Depth (inches): _____

Hydric Soil Present? Yes No

Remarks:

The criterion for hydric soil is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2023-11-9
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-03_UPL-1
 Investigator(s): Emma Given, Michael Whitacre Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Hilltop Local relief (concave, convex, none): Convex Slope (%): 1 to 3
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.352586 Long: -81.763787 Datum: WGS84
 Soil Map Unit Name: Mahoning silt loam, 0 to 2 percent slopes NWI Classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-03</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland.	

HYDROLOGY

<p>Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (minimum of two required)</p> <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p>Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-03_UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>			= Total Cover
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
	<u>0</u>			= Total Cover
Herb Stratum (Plot size: <u>5 ft radius</u>)				
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				
11.				
12.				
	<u>100</u>			= Total Cover
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)				
1.				
2.				
3.				
4.				
	<u>0</u>			= Total Cover

Dominance Test worksheet:	
Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A)	
Total Number of Dominant Species Across All Strata: <u>3</u> (B)	
Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0%</u> (A/B)	
Prevalence Index worksheet:	
Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>5</u>	x 2 = <u>10</u>
FAC species <u>0</u>	x 3 = <u>0</u>
FACU species <u>80</u>	x 4 = <u>320</u>
UPL species <u>15</u>	x 5 = <u>75</u>
Column Totals: <u>100</u> (A)	<u>405</u> (B)
Prevalence Index = B/A = <u>4.1</u>	
Hydrophytic Vegetation Indicators:	
<u> </u> 1 - Rapid Test for Hydrophytic Vegetation	
<u> </u> 2 - Dominance Test is >50%	
<u> </u> 3 - Prevalence Index is ≤3.0 ¹	
<u> </u> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic Hydrophytic Vegetation ¹ (Explain)	
¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.	
Definitions of Vegetation Strata:	
Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.	
Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines – All woody vines greater than 3.28 ft in height.	
Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u>	

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles-Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2024-5-23
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-04_PFO-1
 Investigator(s): Emma Given, Jenna Slabe Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Depression Local relief (concave, convex, none): Concave Slope (%): 1 to 3
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.3520948697 Long: -81.7623254724 Datum: WGS84
 Soil Map Unit Name: Mahoning-Urban land complex, 2 to 6 percent slopes NWI Classification: _____
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No _____ (If no, explain in Remarks.)
 Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes No _____
 Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>W-EKG-04</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is PFO. Based on the presence of all three parameters, this area is a wetland.	

HYDROLOGY

<p>Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply)</p> <table style="width:100%; border: none;"> <tr> <td><input checked="" type="checkbox"/> Surface Water (A1)</td> <td><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td><input checked="" type="checkbox"/> High Water Table (A2)</td> <td><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td><input checked="" type="checkbox"/> Saturation (A3)</td> <td><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td><input type="checkbox"/> Water Marks (B1)</td> <td><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td><input type="checkbox"/> Sediment Deposits (B2)</td> <td><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td><input type="checkbox"/> Drift Deposits (B3)</td> <td><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td><input type="checkbox"/> Iron Deposits (B5)</td> <td><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input checked="" type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input checked="" type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input checked="" type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p>Secondary Indicators (minimum of two required)</p> <table style="width:100%; border: none;"> <tr><td><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td><input checked="" type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td><input checked="" type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input checked="" type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input checked="" type="checkbox"/> FAC-Neutral Test (D5)
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<p>Field Observations:</p> Surface Water Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>3</u> Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>5</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>14</u> (includes capillary fringe)	<p>Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____</p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-04_PFO-1

	Absolute % Cover	Dominant Species?	Indicator Status																																				
Tree Stratum (Plot size: 30 ft radius)																																							
1. <i>Acer saccharinum</i>	25	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60%</u> (A/B)																																			
2. <i>Fraxinus pennsylvanica</i>	5	No	FACW																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	30	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:40%;"></th> <th style="width:10%;">Total % Cover of:</th> <th style="width:10%;"></th> <th style="width:10%;">Multiply by:</th> <th style="width:10%;"></th> </tr> </thead> <tbody> <tr> <td>OBL species</td> <td style="text-align: center;">5</td> <td>x 1 =</td> <td style="text-align: center;">5</td> <td></td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">60</td> <td>x 2 =</td> <td style="text-align: center;">120</td> <td></td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">15</td> <td>x 4 =</td> <td style="text-align: center;">60</td> <td></td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> <td></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">80</td> <td>(A)</td> <td style="text-align: center;">185</td> <td>(B)</td> </tr> </tbody> </table> Prevalence Index = B/A = <u>2.3</u>		Total % Cover of:		Multiply by:		OBL species	5	x 1 =	5		FACW species	60	x 2 =	120		FAC species	0	x 3 =	0		FACU species	15	x 4 =	60		UPL species	0	x 5 =	0		Column Totals:	80	(A)	185	(B)
	Total % Cover of:		Multiply by:																																				
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FACU species	15	x 4 =	60																																				
UPL species	0	x 5 =	0																																				
Column Totals:	80	(A)	185	(B)																																			
Sapling/Shrub Stratum (Plot size: 15 ft radius)																																							
1. _____	_____	_____	_____																																				
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
	0	= Total Cover																																					
Herb Stratum (Plot size: 5 ft radius)																																							
1. <i>Phalaris arundinacea</i>	20	Yes	FACW	Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																																			
2. <i>Ligustrum sinense</i>	10	Yes	FACU																																				
3. <i>Lysimachia nummularia</i>	10	Yes	FACW																																				
4. <i>Juncus effusus</i>	5	No	OBL																																				
5. _____	_____	_____	_____																																				
6. _____	_____	_____	_____																																				
7. _____	_____	_____	_____																																				
8. _____	_____	_____	_____																																				
9. _____	_____	_____	_____																																				
10. _____	_____	_____	_____																																				
11. _____	_____	_____	_____																																				
12. _____	_____	_____	_____																																				
	45	= Total Cover																																					
Woody Vine Stratum (Plot size: 30 ft radius)																																							
1. <i>Parthenocissus quinquefolia</i>	5	Yes	FACU	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.																																			
2. _____	_____	_____	_____																																				
3. _____	_____	_____	_____																																				
4. _____	_____	_____	_____																																				
	5	= Total Cover		Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____																																			

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is met.

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Fowles-Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2024-5-23
 Applicant/Owner: FirstEnergy State: OH Sampling Point: W-EKG-04 UPL-1
 Investigator(s): Emma Given, Jenna Slabe Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.3520836058 Long: -81.7623965233 Datum: WGS84
 Soil Map Unit Name: Mahoning-Urban land complex, 2 to 6 percent slopes NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: <u>W-EKG-04</u>
Remarks: (Explain alternative procedures here or in a separate report.) Coverture is UPL. Based on the absence of all three parameters, this area is an upland.	

HYDROLOGY

<p>Wetland Hydrology Indicators:</p> <p><u>Primary Indicators (minimum of one is required; check all that apply)</u></p> <table style="width:100%; border: none;"> <tr> <td style="width:50%; border: none;"><input type="checkbox"/> Surface Water (A1)</td> <td style="width:50%; border: none;"><input type="checkbox"/> Water-Stained Leaves (B9)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> High Water Table (A2)</td> <td style="border: none;"><input type="checkbox"/> Aquatic Fauna (B13)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Saturation (A3)</td> <td style="border: none;"><input type="checkbox"/> Marl Deposits (B15)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Water Marks (B1)</td> <td style="border: none;"><input type="checkbox"/> Hydrogen Sulfide Odor (C1)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sediment Deposits (B2)</td> <td style="border: none;"><input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Drift Deposits (B3)</td> <td style="border: none;"><input type="checkbox"/> Presence of Reduced Iron (C4)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Algal Mat or Crust (B4)</td> <td style="border: none;"><input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Iron Deposits (B5)</td> <td style="border: none;"><input type="checkbox"/> Thin Muck Surface (C7)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)</td> <td style="border: none;"><input type="checkbox"/> Other (Explain in Remarks)</td> </tr> <tr> <td style="border: none;"><input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)</td> <td></td> </tr> </table>	<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)	<input type="checkbox"/> High Water Table (A2)	<input type="checkbox"/> Aquatic Fauna (B13)	<input type="checkbox"/> Saturation (A3)	<input type="checkbox"/> Marl Deposits (B15)	<input type="checkbox"/> Water Marks (B1)	<input type="checkbox"/> Hydrogen Sulfide Odor (C1)	<input type="checkbox"/> Sediment Deposits (B2)	<input type="checkbox"/> Oxidized Rhizospheres along Living Roots (C3)	<input type="checkbox"/> Drift Deposits (B3)	<input type="checkbox"/> Presence of Reduced Iron (C4)	<input type="checkbox"/> Algal Mat or Crust (B4)	<input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6)	<input type="checkbox"/> Iron Deposits (B5)	<input type="checkbox"/> Thin Muck Surface (C7)	<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)	<input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)		<p><u>Secondary Indicators (minimum of two required)</u></p> <table style="width:100%; border: none;"> <tr><td style="border: none;"><input type="checkbox"/> Surface Soil Cracks (B6)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Drainage Patterns (B10)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Moss Trim Lines (B16)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Dry-Season Water Table (C2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Crayfish Burrows (C8)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Stunted or Stressed Plants (D1)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Geomorphic Position (D2)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Shallow Aquitard (D3)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> Microtopographic Relief (D4)</td></tr> <tr><td style="border: none;"><input type="checkbox"/> FAC-Neutral Test (D5)</td></tr> </table>	<input type="checkbox"/> Surface Soil Cracks (B6)	<input type="checkbox"/> Drainage Patterns (B10)	<input type="checkbox"/> Moss Trim Lines (B16)	<input type="checkbox"/> Dry-Season Water Table (C2)	<input type="checkbox"/> Crayfish Burrows (C8)	<input type="checkbox"/> Saturation Visible on Aerial Imagery (C9)	<input type="checkbox"/> Stunted or Stressed Plants (D1)	<input type="checkbox"/> Geomorphic Position (D2)	<input type="checkbox"/> Shallow Aquitard (D3)	<input type="checkbox"/> Microtopographic Relief (D4)	<input type="checkbox"/> FAC-Neutral Test (D5)
<input type="checkbox"/> Surface Water (A1)	<input type="checkbox"/> Water-Stained Leaves (B9)																															
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<input type="checkbox"/> Inundation Visible on Aerial Imagery (B7)	<input type="checkbox"/> Other (Explain in Remarks)																															
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<input type="checkbox"/> Microtopographic Relief (D4)																																
<input type="checkbox"/> FAC-Neutral Test (D5)																																
<p>Field Observations:</p> Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	<p>Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/></p>																															
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:																																
Remarks: The criterion for wetland hydrology is not met.																																

VEGETATION – Use scientific names of plants.

Sampling Point: W-EKG-04_UPL-1

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft radius</u>)																		
1. <i>Acer saccharinum</i>	20	Yes	FACW	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>3</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3%</u> (A/B)														
2. <i>Prunus serotina</i>	10	Yes	FACU															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>30</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="text-align:right">Total % Cover of:</td> <td style="text-align:center">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>20</u></td> <td>x 2 = <u>40</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>77</u></td> <td>x 4 = <u>308</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>97</u> (A)</td> <td><u>348</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.6</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>20</u>	x 2 = <u>40</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>77</u>	x 4 = <u>308</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>97</u> (A)	<u>348</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>20</u>	x 2 = <u>40</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>77</u>	x 4 = <u>308</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>97</u> (A)	<u>348</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft radius</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>0</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft radius</u>)																		
1. <i>Poa pratensis</i>	40	Yes	FACU	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. <i>Hypochaeris radicata</i>	10	No	FACU															
3. <i>Glechoma hederacea</i>	5	No	FACU															
4. <i>Trifolium repens</i>	5	No	FACU															
5. <i>Cerastium fontanum</i>	5	No	FACU															
6. <i>Oxalis stricta</i>	2	No	FACU															
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>67</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft radius</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
	<u>0</u>	= Total Cover		Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region
 See ERDC/EL TR-12-1; the proponent agency is CECW-COR

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

Project/Site: Fowles-Pleasant Valley Bank Stabilization City/County: Parma, Cuyahoga County Sampling Date: 2026-2-18
 Applicant/Owner: FirstEnergy State: OH Sampling Point: U-EVN-01
 Investigator(s): Erin Van Nort, Jenna Slabe Section, Township, Range: NA
 Landform (hillslope, terrace, etc): Flat Local relief (concave, convex, none): None Slope (%): 0 to 1
 Subregion (LRR or MLRA): MLRA 139 of LRR R Lat: 41.352849587 Long: -81.7668685387 Datum: WGS84
 Soil Map Unit Name: Mahoning-Urban land complex, 2 to 6 percent slopes NWI Classification: None
 Are climatic / hydrologic conditions on the site typical for this time of year? Yes No (If no, explain in Remarks.)
 Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes No
 Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
---	---

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

HYDROLOGY

Wetland Hydrology Indicators: Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
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Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ (includes capillary fringe)	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
 The criterion for wetland hydrology is not met.

VEGETATION – Use scientific names of plants.

Sampling Point: U-EVN-01

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: 30 ft radius)				Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A) Total Number of Dominant Species Across All Strata: 2 (B) Percent of Dominant Species That Are OBL, FACW, or FAC: 0% (A/B)																												
1.																																
2.																																
3.																																
4.																																
5.																																
6.																																
7.																																
0 = Total Cover																																
Sapling/Shrub Stratum (Plot size: 15 ft radius)					Prevalence Index worksheet: <table style="width:100%; border-collapse: collapse;"> <tr> <td style="width:50%;"></td> <td style="text-align: center;">Total % Cover of:</td> <td style="width:50%;"></td> <td style="text-align: center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align: center;">0</td> <td>x 1 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACW species</td> <td style="text-align: center;">0</td> <td>x 2 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FAC species</td> <td style="text-align: center;">0</td> <td>x 3 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>FACU species</td> <td style="text-align: center;">100</td> <td>x 4 =</td> <td style="text-align: center;">400</td> </tr> <tr> <td>UPL species</td> <td style="text-align: center;">0</td> <td>x 5 =</td> <td style="text-align: center;">0</td> </tr> <tr> <td>Column Totals:</td> <td style="text-align: center;">100 (A)</td> <td></td> <td style="text-align: center;">400 (B)</td> </tr> </table> Prevalence Index = B/A = 4		Total % Cover of:		Multiply by:	OBL species	0	x 1 =	0	FACW species	0	x 2 =	0	FAC species	0	x 3 =	0	FACU species	100	x 4 =	400	UPL species	0	x 5 =	0	Column Totals:	100 (A)	
	Total % Cover of:		Multiply by:																													
OBL species	0	x 1 =	0																													
FACW species	0	x 2 =	0																													
FAC species	0	x 3 =	0																													
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Column Totals:	100 (A)		400 (B)																													
1.																																
2.																																
3.																																
4.																																
5.																																
6.																																
7.																																
0 = Total Cover																																
Herb Stratum (Plot size: 5 ft radius)																																
1.	<i>Poa pratensis</i>	55	Yes	FACU																												
2.	<i>Trifolium repens</i>	20	Yes	FACU																												
3.	<i>Plantago lanceolata</i>	15	No	FACU																												
4.	<i>Digitaria sanguinalis</i>	10	No	FACU																												
5.																																
6.																																
7.																																
8.																																
9.																																
10.																																
11.																																
12.																																
100 = Total Cover																																
Woody Vine Stratum (Plot size: 30 ft radius)				Hydrophytic Vegetation Indicators: ___ 1 - Rapid Test for Hydrophytic Vegetation ___ 2 - Dominance Test is >50% ___ 3 - Prevalence Index is ≤3.0 ¹ ___ 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) ___ Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.																												
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Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																																

Remarks: (Include photo numbers here or on a separate sheet.)
 The criterion for hydrophytic vegetation is not met.

OEPA ORAM Forms

Background Information

Name: Emma Given; Erin Van Nort	
Date: 02/18/2026	
Affiliation: TRC Environmental Corporation	
Address: 1382 West Ninth Street, Suite 400, Cleveland, OH 44113	
Phone Number: 330-446-0265	
e-mail address: egiven@TRCcompanies.com	
Name of Wetland: W-EKG-1	
Vegetation Communit(ies): PEM, PSS	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EKG-1 is located south of Stormes Dr and north of W Sprague Rd in the city of Parma, Cuyahoga County, OH.	
Lat/Long or UTM Coordinate	41.352658, -81.766442
USGS Quad Name	Berea
County	Cuyahoga
Township	Urban
Section and Subsection	T6N R13W
Hydrologic Unit Code	04110001 0202
Site Visit	11/09/23; 2/18/26
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ua; MgA
Delineation report/map	See Report

Name of Wetland: W-EKG-1	
Wetland Size (acres, hectares):	0.520 ac (on-site)
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Please see the Surface Water Delineation Report, Appendix A, Figure 5 Delineated Resources for further details.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 22.5	Category: 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: FirstEnergy, Fowles-Pleasant Valley 2047 **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-11-09

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

- Select one size class and assign score.
- >50 acres (>20.2ha) (6 pts)
 - 25 to <50 acres (10.1 to <20.2ha) (5 pts)
 - 10 to <25 acres (4 to <10.1ha) (4 pts)
 - 3 to <10 acres (1.2 to <4ha) (3 pts)
 - 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
 - 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
 - <0.1 acres (0.04ha) (0 pts)

3 **5**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

- 2a. Calculate average buffer width. Select only one and assign score. Do not double check.
- WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
 - MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
 - NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
 - VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)
- 2b. Intensity of surrounding land use. Select one or double check and average.
- VERY LOW. 2nd growth or older forest, prairie, savannah, wildlife area, etc. (7)
 - LOW. Old field (>10 years), shrub land, young second growth forest. (5)
 - MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
 - HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

11 **16**
max 30 pts. subtotal

Metric 3. Hydrology.

- 3a. Sources of Water. Score all that apply.
- High pH groundwater (5)
 - Other groundwater (3)
 - Precipitation (1)
 - Seasonal/Intermittent surface water (3)
 - Perennial surface water (lake or stream) (5)
- 3b. Connectivity. Score all that apply.
- 100 year floodplain (1)
 - Between stream/lake and other human use (1)
 - Part of wetland/upland (e.g. forest), complex (1)
 - Part of riparian or upland corridor (1)
- 3c. Maximum water depth. Select only one and assign score.
- >0.7 m (>27.6 in) (3)
 - 0.4 to 0.7 m (15.7 to 27.6 in) (2)
 - <0.4 m (<15.7 in) (1)
- 3d. Duration inundation/saturation. Score one or dbl check.
- Semi- to permanently inundated/saturated (4)
 - Regularly inundated/saturated (3)
 - Seasonally inundated (2)
 - Seasonally saturated in upper 30cm (12in) (1)
- 3e. Modifications to natural hydrologic regime. Score one or double check and average.
- None or none apparent (12)
 - Recovered (7)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed

<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

8.5 **24.5**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)

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

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

Check all disturbances observed

<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

24.5
subtotal this page

Site: FirstEnergy, Fowles-Pleasant Valley 2047 **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-11-09

24.5
subtotal first page

0 24.5
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2 22.5
max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Invasive Species Present:
European buckthorn
reed canary grass

22.5

CATEGORY 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	22.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Emma Given	
Date: 11/09/2023	
Affiliation: TRC Environmental Corporation	
Address: 1382 West Ninth Street, Suite 400 Cleveland, OH 44113	
Phone Number: 330-446-0265	
e-mail address: egiven@TRCcompanies.com	
Name of Wetland: W-EKG-2	
Vegetation Communit(ies): PEM	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EKG-2 is located south of Stormes Dr and north of W Sprague Rd in the city of Parma, Cuyahoga County, OH.	
Lat/Long or UTM Coordinate	41.352569, -81.764871
USGS Quad Name	Berea
County	Cuyahoga
Township	Urban
Section and Subsection	T6N R13W
Hydrologic Unit Code	04110001 0202
Site Visit	11/09/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ua; MgA
Delineation report/map	See Report

Name of Wetland: W-EKG-2	
Wetland Size (acres, hectares):	0.523 ac (on-site)
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Please see the Surface Water Delineation Report, Appendix A, Figure 5 Delineated Resources for further details.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 27.5	Category: 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: FirstEnergy, Fowles-Pleasant Valley 2047 **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-11-09

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

4 **6**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

11 **17**
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

9.5 **26.5**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

26.5
subtotal this page

Site: FirstEnergy, Fowles-Pleasant Valley 2047	Rater(s): Emma Given, Michael Whitacre	Date: 2023-11-09
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26.5

subtotal first page

0	26.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

1	27.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- Aquatic Bed
- Emergent
- Shrub
- Forest
- Mudflats
- Open water
- Other _____

6b. horizontal (plan view) Interspersion.

Select only one.

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

Invasive Species Present:

reed canary grass

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

27.5

CATEGORY 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	11	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	TOTAL SCORE	27.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Emma Given	
Date: 11/09/2023	
Affiliation: TRC Environmental Corporation	
Address: 1382 West Ninth Street, Suite 400 Cleveland, OH 44113	
Phone Number: 330-446-0265	
e-mail address: egiven@TRCcompanies.com	
Name of Wetland: W-EKG-3	
Vegetation Communit(ies): PEM	
HGM Class(es): Riparian Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EKG-3 is located south of Baron Dr, west of York Rd, and north of W Sprague Rd in the city of Parma, Cuyahoga County, OH.	
Lat/Long or UTM Coordinate	41.352620, -81.763286
USGS Quad Name	Berea
County	Cuyahoga
Township	Urban
Section and Subsection	T6N R13W
Hydrologic Unit Code	04110001 0202
Site Visit	11/09/2023
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	Ua; MgA; MgB
Delineation report/map	See Report

Name of Wetland: W-EKG-3	
Wetland Size (acres, hectares):	0.913 ac (on-site)
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Please see the Surface Water Delineation Report, Appendix A, Figure 5 Delineated Resources for further details.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 27	Category: 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: FirstEnergy, Fowles-Pleasant Valley 2047 **Rater(s):** Emma Given, Michael Whitacre **Date:** 2023-11-09

2 **2**
max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

4 **6**
max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12 **18**
max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch	<input type="checkbox"/> point source (nonstormwater)
<input type="checkbox"/> tile	<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> dike	<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> weir	<input type="checkbox"/> dredging
<input type="checkbox"/> stormwater input	<input type="checkbox"/> other

11 **29**
max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing	<input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

29
subtotal this page

Site: FirstEnergy, Fowles-Pleasant Valley 2047	Rater(s): Emma Given, Michael Whitacre	Date: 2023-11-09
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29

subtotal first page

0	29
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2	27
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Invasive Species Present:
 reed canary grass

27

CATEGORY 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	2	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	12	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	27	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: Emma Given, Jenna Slabe	
Date: 5/23/2024	
Affiliation: TRC Environmental Corporation	
Address: 1382 West Ninth Street, Suite 400 Cleveland, OH 44113	
Phone Number: 330-446-0265	
e-mail address: egiven@TRCcompanies.com	
Name of Wetland: W-EKG-4	
Vegetation Communit(ies): PFO	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Wetland W-EKG-4 is located north of W Sprague Rd and west of York Rd in the city of Parma, Cuyahoga County, Ohio.	
Lat/Long or UTM Coordinate	41.352097, -81.762387
USGS Quad Name	Berea
County	Cuyahoga
Township	Urban
Section and Subsection	T6N R13W
Hydrologic Unit Code	04110001 0202
Site Visit	5/23/2024
National Wetland Inventory Map	None
Ohio Wetland Inventory Map	N/A
Soil Survey	MgB
Delineation report/map	See Report

Name of Wetland: W-EKG-4	
Wetland Size (acres, hectares):	0.016 ac (on-site)
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. Please see the Surface Water Delineation Report, Appendix A, Figure 5 Delineated Resources for further details.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 22	Category: 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: FirstEnergy, Fowles Pleasant Valley 2047 Rater(s): Jenna Slabe, Emma Given Date: 2024-05-23

0 0 max 6 pts. subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

4 4 max 14 pts. subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

6 10 max 30 pts. subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed
[X] ditch [] point source (nonstormwater)
[] tile [X] filling/grading
[] dike [] road bed/RR track
[] weir [] dredging
[] stormwater input [] other

9 19 max 20 pts. subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed
[] mowing [X] shrub/sapling removal
[] grazing [] herbaceous/aquatic bed removal
[] clearcutting [] sedimentation
[X] selective cutting [] dredging
[] woody debris removal [] farming
[] toxic pollutants [] nutrient enrichment

19 subtotal this page

Site: FirstEnergy, Fowles Pleasant Valley 2047	Rater(s): Jenna Slabe, Emma Given	Date: 2024-05-23
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19

subtotal first page

0	19
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	22
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Invasive Species Present:

reed canary grass

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

22

CATEGORY 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	4	
	Metric 3. Hydrology	6	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	22	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

OEPA HHEI Form

SITE NAME/LOCATION S-EKG-01. FirstEnergy - Fowles-Pleasant Valley

SITE NUMBER 1 RIVER CODE RIVER BASIN Rocky River DRAINAGE AREA (mi²) 0.4

LENGTH OF STREAM REACH (ft) 335 LAT. 41.35272 LONG. -81.763439 RIVER MILE

DATE 2023-11-09 SCORER EKG COMMENTS

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pts]	<u>5</u>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<u>10</u>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<u>5</u>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pts]	<u>0</u>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<u> </u>
<input checked="" type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<u>30</u>	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pts]	<u>19</u>
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<u>21</u>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<u> </u>
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<u> </u>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<u>10</u>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 40 (A)

(B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: 21

TOTAL NUMBER OF SUBSTRATE TYPES: 7

HHEI Metric Points

Substrate Max = 40

28

A + B

Pool Depth Max = 30

25

Bankfull Width Max=30

15

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

<input type="checkbox"/> > 30 centimeters [20 pts]	<input type="checkbox"/> > 5 cm - 10 cm [15 pts]
<input type="checkbox"/> > 22.5 - 30 cm [30 pts]	<input type="checkbox"/> < 5 cm [5 pts]
<input checked="" type="checkbox"/> > 10 - 22.5 cm [25 pts]	<input type="checkbox"/> NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS

MAXIMUM POOL DEPTH (centimeters): 18

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

<input type="checkbox"/> > 4.0 meters (> 13') [30 pts]	<input checked="" type="checkbox"/> > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
<input type="checkbox"/> > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]	<input type="checkbox"/> ≤ 1.0 m (≤3' 3") [5 pts]
<input type="checkbox"/> > 1.5 m - 3.0 m (> 9' 7" - 4' 8") [20 pts]	

COMMENTS

AVERAGE BANKFULL WIDTH (meters): 1.5

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

L R (Per Bank)

L R (Most Predominant per Bank)

L R

Wide >10m

Mature Forest, Wetland

Conservation Tillage

Moderate 5-10m

Immature Forest, Shrub or Old Field

Urban or Industrial

Narrow <5m

Residential, Park, New Field

Open Pasture, Row Crop

None

Fenced Pasture

Mining or Construction

COMMENTS

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

Stream Flowing

Moist Channel, isolated pools, no flow (Intermittent)

Subsurface flow with isolated pools (Interstitial)

Dry channel, no water (Ephemeral)

COMMENTS

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

None

1.0

2.0

3.0

0.5

1.5

2.5

>3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft)

Flat to Moderate

Moderate (2 ft/100 ft)

Moderate to Severe

Severe (10 ft/100 ft)

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

QHEI PERFORMED? Yes No QHEI Score ____ (If Yes, Attach Completed QHEI Form)

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Baldwin Creek

Distance from Evaluated Stream 0.88 kilometers

CWH Name: ____

Distance from Evaluated Stream ____

EWH Name: ____

Distance from Evaluated Stream ____

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

USGS Quadrangle Name: Berea

NRCS Soil Map Page: N/A

NRCS Soil Map Stream Order N/A

County: Cuyahoga

Township / City: Parma

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 2023-11-07 Quantity: 0.03

Photo-documentation Notes: ____

Elevated Turbidity? (Y/N): N Canopy (% open): 85

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

Field Measures: Temp (°C) 12.1 Dissolved Oxygen (mg/l) pH (S.U.) 8.47 Conductivity (µmhos/cm)

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

Additional comments/description of pollution impacts:

Litter and dumping

BIOLOGICAL OBSERVATIONS

(Record all observations below)

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

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

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

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

Comments Regarding Biology:

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

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

FLOW →

SEE PAGE 3

SKETCH OF STREAM REACH: S-EKG-01

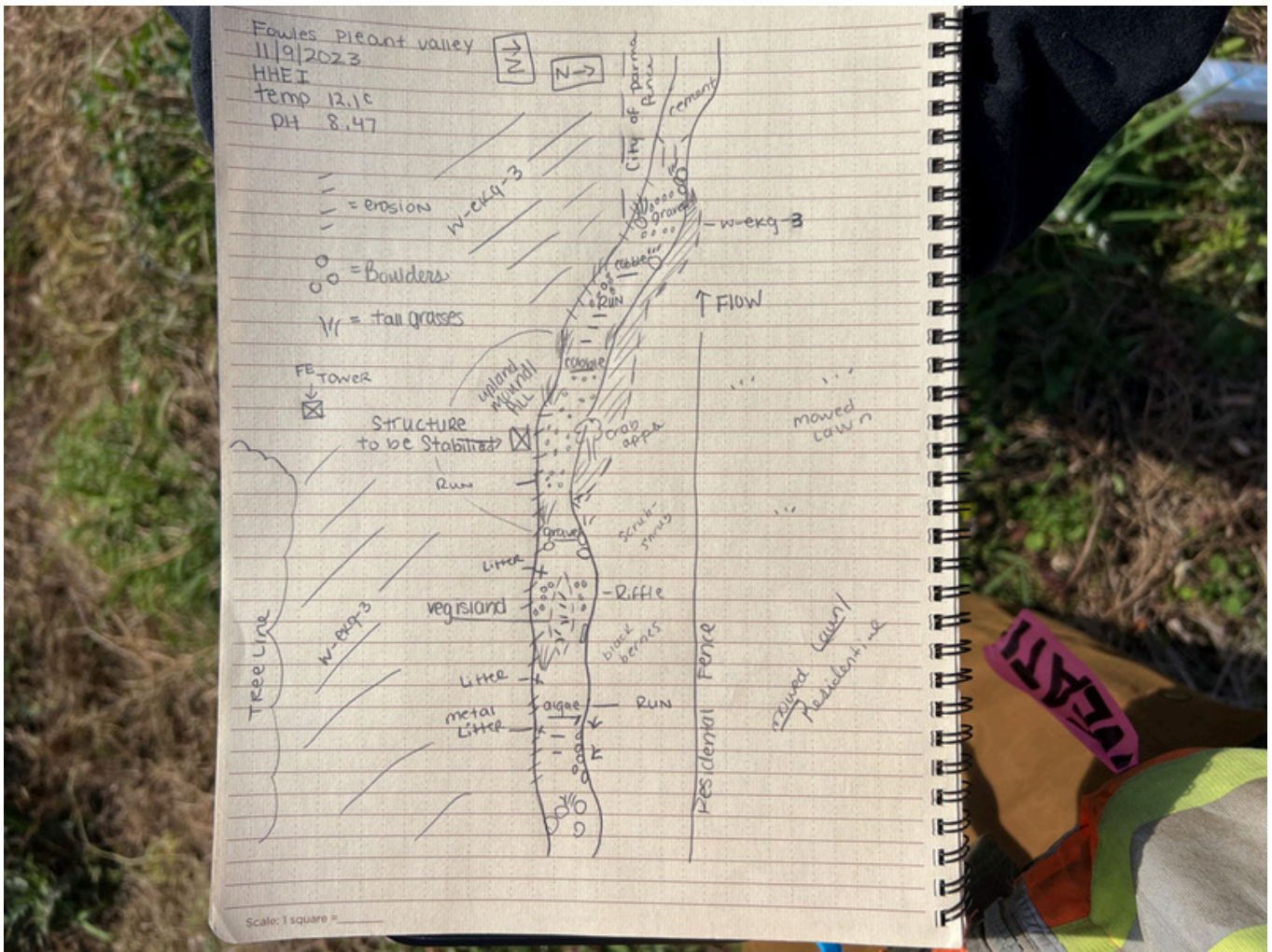




Photo 1. Tower 2047 and adjacent creek. The exposed tower leg is circled in red.



Photo 2. Erosion near two tower legs.



Photo 3. Exposed tower leg foundation.