AMERICAN TRANSMISSION SYSTEMS, INCORPORATED A FIRSTENERGY COMPANY

LETTER OF NOTIFICATION

AVERY-HAYES 138 kV TRANSMISSION LINE REBUILD PROJECT

OPSB Case No.: 25-1038-EL-BLN

December 15, 2025

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

LETTER OF NOTIFICATION
AVERY-HAYES 138 KV TRANSMISSION LINE
REBUILD PROJECT

OHIO POWER SITING BOARD CASE NO. 25-1038-EL-BLN

The following information is being provided in accordance with the procedures in the Ohio

Administrative Code ("Adm.Code") Chapter 4906-6 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 Letter of Notification application.

4906-6-05(B): LETTER OF NOTIFICATION REQUIREMENTS

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

Name of Project: Avery-Hayes 138 kV Transmission Line Rebuild Project

("Project")

Reference Number: 3051-2

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

In this Project, American Transmission Systems, Incorporated ("ATSI"), a

FirstEnergy company, proposes to rebuild the existing approximately 6.5 miles long

single circuit Avery-Hayes 138 kV Transmission Line. The Project will consist of

the following:

• Replace 47 existing wood structures along the existing centerline with 46 new

steel H-frame and steel monopole structures on concrete foundations and

direct embedded along the existing centerline.

• Replace the existing 605 KCMIL 24/7 "Peacock" aluminum conductor steel

reinforced ("ACSR") conductors with 795 KCMIL 26/7 "Drake" aluminum

conductor steel supported ("ACSS") conductors.

• Replace the two (2) existing 3#6 Alumoweld shield wires with (1) 7#8

Alumoweld shield wire and (1) fiber OPGW.

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Avery-Hayes 138kV Transmission Line Rebuild Project

American Transmission Systems, Incorporated A FirstEnergy Company

The Project is located in Perkins, Oxford, and Milan Townships, Erie 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, Erie 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): Letter of Notification Requirement

The Project meets the requirements for a Letter of Notification application because the Project is within the types of projects defined by Item (2)(b) of the Application Requirement Matrix for Electric Power Transmission Lines. Appendix A of OAC Rule 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:

(b) More than two miles.

The proposed Project is within the requirements of Item (2)(b) because it involves the replacement of structures and conductors for a distance greater than 2 miles.

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

The Project is needed to address the identified risk of thermal overload violations on this transmission line that result from loss of the Beaver – Davis Besse 345 kV Transmission Line & Beaver – Hayes 345 kV Transmission Line for a common structure contingency event. Specifically, the Project mitigates a thermal violation identified under NERC Standard TPL-001-5.1 for a P7-1 planning event. A P7-1 planning event is the loss of two adjacent circuits on a common structure.

The proposed Project will address the thermal overload violation identified in the 2024 RTEP model for Summer 2029, identified in the PJM Generator Deliverability analysis. The analysis indicated a planning criteria violation, i.e., a thermal overload violation, on the Avery – Hayes 138 kV Transmission Line upon loss of the Beaver – Davis Besse 345 kV Transmission Line and the Beaver – Hayes 345 kV Transmission Line for a common structure contingency event. Upon the loss of the Beaver – Davis Besse 345 kV Transmission Line and the Beaver – Hayes 345 kV Transmission Line, the Avery – Hayes 138 kV Transmission Line overloads to 138.8% of the existing summer emergency rating of 282 MVA.

The Project will rebuild the entire 6.5 miles of the Avery–Hayes 138 kV Transmission Line, whereby the Project will replace the existing 605 kcmil ACSR conductor with 795 aluminum conductor steel supported ("ACSS") conductor. The Project will also replace limiting line terminal equipment at the Avery Substation and the Hayes Substation. Upon completion of the Project, the anticipated ratings of the Avery – Hayes 138 kV Line will increase from a 233/282 megavolt-ampere ("MVA") (Summer Normal/Summer Emergency) rating to a 448/516 MVA (Summer Normal/Summer Emergency) rating.

PJM, in its capacity as the regional Transmission Planner, Planning Authority, Transmission Operator, Balancing Authority and Reliability Coordinator, identifies the need and timing for mandatory transmission system upgrades as part of the reliability planning, economic planning, and interconnection planning processes to preserve the reliability of the electric grid under its operational control as the Regional Transmission Organization ("RTO"). The PJM planning process is an 18-month cycle starting in September of every calendar year. The process ultimately produces a PJM Board approved Regional Transmission Expansion Plan ("RTEP") 18 months later (February). The RTEP consists of transmission system upgrades produced from one, or more, of four processes: reliability planning, economic planning, interconnection planning, and local planning.

Baseline upgrades are identified as part of the reliability planning and economic planning analysis. The analysis consists of a comprehensive series of detailed studies that are designed to satisfy not only PJM's reliability planning criteria, but also those of the applicable transmission owners, including FirstEnergy Corp.'s ("FirstEnergy") Transmission Planning Criteria, as well as the North American Electric Reliability Corporation ("NERC") and ReliabilityFirst Corporation ("RF") reliability standards. The transmission planning process and the baseline RTEP projects selected for construction under that process are required by the applicable reliability and planning criteria and once approved by PJM, become mandatory. Specifically, transmission owners are obligated to build these projects under Section 1.7 of Schedule 6 of the PJM Operating Agreement. These projects are identified with an upgrade identification number starting with the letter "b" followed by a four-digit number.

The proposed Project was presented on January 7, 2025, to the PJM Transmission Expansion Advisory Committee (TEAC) meeting, at which time a baseline upgrade identification number, b3925.3, was assigned to the Project with a projected inservice date of June 1, 2027. The PJM presentation slides are included as Exhibit 4.

The implementation of advanced technologies was considered as part of this Project. 795 KCMIL 26/7 "Drake" Aluminum Conductor Steel Supported ("ACSS") will be installed. OPGW will also be installed as one of the two shield wires. The OPGW installation will replace the existing shield wire to integrate optical fibers for telecommunication and serve as lightning protection.

ACSS provides higher operating temperature capabilities and lower sag characteristics. The higher temperature / lower sag ("HTLS") conductor allows for higher ampacity to be ran through the conductor and provides more flexibility in terms of alleviating overloading and premature degradation. Another benefit of an HTLS conductor's ability for higher ampacity could lead to the allowance for additional load to be added to the line. OPGW enables remote power system monitoring, relay protection, and network communications through high-speed data transmission. It

provides real-time data exchange for system protection schemes and SCADA, improving system reliability and operational flexibility. OPGW offers a reliable communication path with minimal maintenance. It enables critical power functions like remote monitoring, fault detection, and real-time data communication.

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 included on page 79 in the 2025 LTFR. The general location of the Project area is shown in Exhibits 1 and 2. The general layout is shown in Exhibit 3.

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

An alternative considered to the Project was to build approximately 88 miles of new 345 kV line from Lake Avenue Substation to Lemoyne Substation, creating a new 345 kV transmission line between the two stations. The new Lake Avenue – Lemoyne 345 kV Transmission Line would also alleviate the loading on the Avery – Hayes 138 kV Transmission Line upon a P7-1 loss of the Beaver– Davis Besse 345 kV Transmission Line and the Beaver–Hayes 345 kV Transmission Line for a common structure contingency event. This alternative was not selected by PJM due to risks in requiring some greenfield construction and the estimated cost was higher than the cost of the proposed Project.

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 Letter of Notification, along with other Project information, on FirstEnergy's website: https://www.firstenergycorp.com/about/transmission_projects/ohio.html.

ATSI will publish notice of the Project in the Sandusky Register within 7 days of filing

this Letter of Notification application. The notice will comply with OAC 4906-6-

08(A)(1)-(6).

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 January 5, 2026, and be

completed/in-service by December 31, 2026.

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

Exhibit 1 provides a partial copy of the USGS Topographic Map, Erie County OH,

Quad Map. Exhibit 2 is a copy of ESRI aerial imagery of the Project area. The general

layout of the Project is shown in Exhibit 3.

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

The Project is located on the same centerline within existing right-of-way. Exhibit 5

contains a list of properties affected by the Project.

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: Current – 605 KCMIL 24/7 "Peacock" ACSR

New- 795 kcmil 26/7 "Drake" ACSS

Static Wire: Current – 3#6 Alumoweld shield wires

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American Transmission Systems, Incorporated A FirstEnergy Company

Avery-Hayes 138kV Transmission Line Rebuild Project New – One (1) 7#8 Alumoweld shield wire and one (1) Optical

Ground Wire ("OPGW")

Insulators: Polymer, Glass

ROW Width: 225 feet Land Requirements: Existing

Structure Types: Exhibit 6A: 138kv Single Circuit Light Duty Steel Pole

Structure Horizontal Post Delta Single Pole Angles 0° To 2°

(1 Structure)

Exhibit 6B: 138kv Single Circuit Tubular Steel Structure

Deadend Single Pole Angles 60° To 120° (1 Structure)

Exhibit 6C: Sheets 1-2: 138kv Single Circuit Light Duty Steel Pole Structure Suspension Horizontal Two Pole H-Frame

Angles 0° To 5° (36 Structures)

Exhibit 6D: 138kv Single Circuit Tubular Steel Structure Deadend Horizontal Two Pole H-Frame Angles 5° To 45°

(3 Structures)

Exhibit 6E: 138kv Single Circuit Tubular Steel Pole Structure Deadend Vertical Two Pole Angles 60° To 120° (1 Structure) **Exhibit 6F:** 138kv Single Circuit Tubular Steel Structure Delta

Suspension Single Pole Angles 0° To 5° Degrees

(2 Structures)

Exhibit 6G: 138kv Single Circuit Tubular Steel Structure

Delta Deadend Single Pole Angles 60° To 120°

(2 Structures)

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

As there are no occupied residences or institutions within 100 feet from the existing transmission line centerline, Electric and Magnetic Field ("EMF") calculations are not required by this code provision.

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

The estimated cost for the proposed Project is \$19,780,000.

Although not statutorily required for approval, at the request of OPSB Staff, ATSI confirms that ATSI's costs will be captured and allocated via FERC formula rates for the ATSI Transmission Zone, Attachment H-21 in the PJM OATT.

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

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

The Project is located in Perkins, Oxford, and Milan Townships in Erie County, Ohio. There are various land uses along the route of the line, mainly agricultural with residential, commercial and industrial uses to a lesser extent. Because the proposed Project involves rebuilding the existing transmission line, no significant changes or impacts to the current land uses are anticipated.

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

A list of all agricultural land and acreage including agricultural district land is provided in Exhibit 5 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 Letter of Notification, Kleinfelder, Inc. ("Kleinfelder") requested database information from the Ohio Historic Preservation Office's ("SHPO") on June 6, 2025 for the Project Study Area (Area of Potential Effect or "APE") with a one (1)-mile search radius. This data documents the presence of previously recorded significant historic properties, including above-ground historic resources and/or archaeological sites within the Project Study Area or within one (1) mile of the Project Study Area. Coordination is still ongoing with the SHPO to ensure any subsurface cultural artifacts will be preserved.

The SHPO database includes a catalog 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 original provided data and the updated online mapping system review revealed no historic properties recorded within one (1)-mi of the Project Study Area.

The SHPO database also includes listings on the Ohio Historic Inventory (OHI), the Ohio Archaeological Inventory (OAI), previous cultural resource surveys, and the Ohio Genealogical Society (OGS) cemetery inventory. The initial provided data and updated online mapping system review indicates there are seventy (70) above-ground

historic resources, none of these are listed on the NRHP. Five (5) OGS cemeteries are recorded within one (1)-mi of the Project Study Area.

There have been twenty (20) official archaeological surveys conducted within one (1)-mi of the Project Study Area. From these surveys and the efforts of local informants, there are one hundred ninety-five (195) archaeological sites recorded within one (1)-mi of the Project Study Area. All but one of the sites are located outside of the areas proposed for ground disturbance.

After SHPO review of the Project and database information, and due to the proximity of identified sites near the Project, a Phase 1 Assessment is being conducted for the Project to inventory resources within the ROW. This Assessment will happen concurrently with the OPSB review of the filing. As soon as is available, a draft of the report will be provided to the OPSB as well as any following concurrence documentation.

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

Coordination with the Ohio Department of Transportation, and Perkins, Oxford, and Milan Townships to obtain necessary right-of-way permits for work within the right-of-way of the jurisdictions respective roads will be required, as shown in Table 3. Proposed earth disturbance is less than one acre, based on a review of the preliminary construction plans, which primarily utilize existing access roads and timber matting. A Notice of Intent (NOI) application will be submitted to the Ohio EPA. Additionally, a Storm Water Pollution Prevention Plan (SWPPP) will be provided to Erie County for coverage under the general construction stormwater permit (OHC000006). A review of the online FEMA Flood Insurance Rate Mapping was performed. A portion of the Project Study Area was found to be located within the FEMA 100-year floodplain associated with Pipe Creek. The Project limits of disturbance may include workspace associated with structure replacement within the FEMA 100-year floodplain. While the Project area crosses the 100-year floodplain, there are no access

points, turnarounds or temporary workspace proposed within the 100-year floodplain. Coordination with the local floodplain administrator in Erie County for work within the floodplain will occur if required. 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.

Table 3. List of Government Agency Requirements

<u> </u>	1
Ohio Environmental Protection Agency (OEPA)	General National Pollution Discharge Elimination System ("NPDES")
	Construction Storm Water Permit
	OHC000006
Ohio Department of Transportation, Perkins	Right of Way Permit
Township, Oxford Township, Milan	
Township, Erie County, Ohio.	

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

As part of the investigation, ATSI retained Kleinfelder to conduct necessary surveys. Kleinfelder 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 conducted a search of the ODNR Division of Wildlife's ("ODNR-DOW") Natural Heritage Database to research the presence of any endangered, threatened, or rare species within one (1) mile of the Project Study Area. The ODNR's Office of Real Estate's response on July 1, 2025, stated that there are 21 records of state or federally listed plants and animals within one mile of the specified Project area. A copy of ODNR's Office of Real Estate's response is included as Exhibit 7.

The response from ODNR-DOW indicated the Project is within the range of the federally and state endangered Indiana bat (Myotis sodalis), the federally endangered and state endangered northern long-eared bat (Myotis septentrionalis), the state endangered little brown bat (Myotis lucifugus), and the state endangered tricolored bat (Perimyotis subflavus). These bat species predominantly roost in trees behind loose, exfoliating bark, in crevices, and cavities, or in clusters of dead leaves. These species are dependent on the forest structure surrounding the roost trees. The ODNR-

DOW recommended a desktop/winter bat hibernaculum assessment be completed for

the Project, which Kleinfelder completed for FirstEnergy and submitted to ODNR-

DOW for concurrence on August 7, 2025, attached as Exhibit 7A. ODNR-DOW

responded on September 3, 2025 attached as Exhibit 7B, concurring that no caves,

cliffs, or mine openings occur in the Project Area. Therefore, the Project is not likely

to impact hibernating bats. No tree cutting or subsurface impacts to a hibernaculum

are proposed, therefore this Project is not likely to impact these species.

The response from ODNR-DOW indicated that the Project is within the range of the

following listed mussel species: the state endangered eastern pondmussel (Ligumia

nasuta). Since no in-water work is proposed in a perennial stream, this Project will

not impact these species.

The Project is within the range of the eastern massasauga. The eastern massasauga

(Sistrurus catenatus) uses a range of habitats including wet prairies, fens, and other

wetlands, as well as drier upland habitat. Due to the location, the type of habitat within

the project area, and the type of work proposed, this Project is not likely to impact

this species.

The Project is within the range of the 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 Kirtland's snake (Clonophis kirtlandii), a state

threatened species. This secretive species prefers wet fields and meadows. Due to the

location, the type of habitat within the project area, and the type of work proposed,

this Project is not likely to impact this species.

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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. 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 northern harrier (Circus hudsonius), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 15 through July 31. Because this habitat will not be impacted, this Project is not likely to impact this species.

The Project is within the range of the sandhill crane (Antigone canadensis), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. Because this habitat will not be impacted, this Project is not likely to have an impact on this species.

The Project is within the range of the upland sandpiper (Bartramia longicauda), a state endangered bird. Nesting upland sandpipers utilize dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands. Due to the location, the type of habitat within the Project area, and the type of work proposed, the Project is not likely to impact this species.

The response from ODNR-DOW indicated that the Project is within the range of seven (7) state-listed fish species. The listed fish species and their potential habitat are included in Table 4. Since no in-water work is proposed in a perennial stream, this Project will not impact these species.

As part of the investigation, Kleinfelder submitted a request to the US Fish and Wildlife Service ("USFWS") for an Ecological Review within one (1) mile of the Project Area. A copy of USFWS's Ecological Review response, dated June 11, 2025, is included as Exhibit 8. The response indicated that due to the project type, size, and location, the USFWS does not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat.

A list of all endangered, threatened, and rare species, as identified by ODNR, within the range of the Project is provided in Table 4.

Table 4. List of Endangered, Threatened, and Rare Species

Common Name	Scientific Name	Federal Listed Status	State Listed Status	Affected Habitat
Plants				
Prairie False	Baptisia lactea	N/A	Potentially	Fields, oak barren
Indigo	Βαρτιδία ιασίεα	IN/A	threatened	plant community
Broad-winged	Carex alata	N/A	Potentially	Fields, oak barren
Sedge	Carex aiaia	IN/A	threatened	plant community
Field Sedge	Field Sedge Carex conoidea N/A Threatened		Throatonod	Fields, oak barren
Tield Sedge			Tilleatelled	plant community
Green Spike-	Eleocharis flavescens	N/A	Threatened	Fields, oak barren
rush	Eleocharis flavescens	IN/A	Tilleatelled	plant community
Slender Spike-	Eleocharis tenuis	N/A	Threatened	Fields, oak barren
rush	Eleocharis lenuis	IN/A	Timeatened	plant community

Carolina Flat-				Fields, oak barren		
topped	Euthamia caroliniana	N/A	Threatened	plant community		
Goldenrod						
Least St. John's-	Hypericum	N/A	Endoncond	Fields, oak barren		
wort	gymnanthum	N/A	Endangered	plant community		
Greene's Rush	Lungus guagnai	N/A	Threatened	Fields, oak barren		
Greene's Rush	Juncus greenei	IN/A	Tilleatened	plant community		
Large Blazing-	Liatris scariosa	N/A	Potentially	Fields, oak barren		
star	Liuiris scariosa	11/74	threatened	plant community		
Dwarf Bulrush	Lipocarpha micrantha	N/A	Threatened	Fields, oak barren		
		1 1/11	Timeatenea	plant community		
American Water-	Myriophyllum	N/A	Endangered	Fields, oak barren		
milfoil	sibiricum	1 111	Ziramigerea	plant community		
Slender	Polygonum tenue	N/A	Under Review	Fields, oak barren		
Knotweed				plant community		
Virginia	Rhexia virginica	N/A	Potentially	Fields, oak barren		
Meadow-beauty	3		threatened	plant community		
Blue-leaved	Salix myricoides	N/A	Potentially	Fields, oak barren		
Willow	,		threatened	plant community		
Showy	Solidago speciosa	N/A	Threatened	Fields, oak barren		
Goldenrod				plant community		
Bushy Aster	Symphyotrichum	N/A	Threatened	Fields, oak barren		
-	dumosum		D 4 41 11	plant community		
Lance-leaved Violet	Viola lanceolata	N/A	Potentially threatened	Fields, oak barren		
Twisted Yellow-			threatened	plant community Fields, oak barren		
eyed-grass	Xyris torta	N/A	Endangered	plant community		
Upland				Fields, oak barren		
Sandpiper	Bartramia longicauda	N/A	Endangered	plant community		
Eastern			Species of	Fields, oak barren		
Foxsnake	Pantherophis vulpinus	N/A	concern	plant community		
Mammals				prame community		
			T	Trees, forests, caves,		
Indiana Bat	Myotis sodalis	Endangered	Endangered	and caverns.		
Little Brown Bat	Myotis lucifugus	N/A	Endangered	Trees, forests, caves,		
	Myous tucijugus	IN/A	Endangered	and caverns.		
Northern Long-	Myotis septentrionalis	Endangered	Endangered	Trees, forests, caves,		
eared Bat		_		and caverns. Trees, forests, caves,		
Tricolored Bat	Perimyotis subflavus	N/A	Endangered	and caverns.		
Mussels						
Eastern	Ligumia nasuta	N/A	Threatened	Perennial streams.		
Pondmussel	Ligumia nasuta	1N/A	Timeatened	i Cicilliai sticallis.		
Reptile						
 				Wet prairies, fens, and		
Eastern	Sistrurus catenatus	Threatened	Endangered	other wetlands, as		
massasauga				well as drier upland habitat.		
	1	1		monut.		

Smooth Greensnake	Opheodrys vernalis	N/A	Endangered	Marshy meadows and roadside ditches	
Kirtland's snake	Clonophis kirtlandii	N/A	Threatened	Wet fields and meadows	
Blanding's turtle	Emydoidea blandingii	N/A	Threatened	Marshes, ponds, lakes, streams, wet meadows, and swampy forests.	
Spotted turtle	Clemmys guttata	N/A	Threatened	Wet prairies, meadows, pond edges, wet woods, shallow water of small streams and ditches.	
Fish					
Brook Trout	Salvelinus fontinalis	N/A	N/A	Perennial streams	
Longnose Sucker	Catostomus catostomus	N/A	N/A	Perennial streams	
Lake Sturgeon	Acipenser fulvescens	N/A	N/A	Perennial streams	
Pugnose Minnow	Opsopoeodus emiliae	N/A	N/A	Perennial streams	
Western Banded Killifish	Fundulus diaphanus menona	N/A	N/A	Perennial streams	
Channel Darter	Percina copelandi	N/A	N/A	Perennial streams	
Bigeye Shiner	Notropis boops	N/A	N/A	Perennial streams	
Birds					
Northern Harrier	Circus hudsonius	N/A	Endangered	Marshes and grasslands.	
Sandhill Crane	Antigone canadensis	N/A	Threatened	Meadows, marshes, and bogs	
Upland Sandpiper	Bartramia longicauda	N/A	Endangered	Pastures, hayfields, grasslands	

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

Kleinfelder conducted a wetland and stream delineation for the Project as shown in Exhibit 9. The Project study area is approximately 193.3 acres in size, located in Milan, Oxford, and Perkins Township, Erie County, Ohio. A total of 6 wetlands, and 7 potentially jurisdictional streams were delineated within the Project Study Area. Of the 6 wetlands, all were classified as palustrine emergent (PEM) wetlands, assessed as Category 1. No Category 3 wetlands were identified within the Project Study Area. The 7 streams, totaling 1,358 linear feet within the Project Study Area, included three ephemeral streams, one intermittent stream, and three perennial streams.

One ephemeral stream will be crossed above the ordinary high-water mark to avoid impacts, and no in-stream work is proposed for the Project. Additionally, ATSI will utilize best management practices to avoid any indirect impact to streams and wetlands through its use of erosion and sediment controls. Streams will either be avoided or bridged (no work below the ordinary high-water mark), and wetlands will be traversed using low ground pressure equipment and/or matted through.

Due to the nature of the project, permanent wetland impacts will be less than 0.01 acres and limited to Wetland KLF 006, where Structure #8894 is located. This structure will be replaced with a single steel monopole on a concrete foundation. Although Structure #2472 is situated within KLF Wetland 003, this wetland will not be permanently impacted because the installation will be direct-embedded. Some unavoidable temporary impacts will occur in connection with work areas and access roads. To minimize these temporary impacts, ATSI avoided placing access roads and work pads within wetlands to the greatest practicable extent during the initial design phase. Approximately 0.472 acres of wetland will be temporarily disturbed during construction by the installation of timber matting for access road crossings and work pads (Table 5).

Table 5. Temporary wetland impacts.

Wedlerd ID	Location		Cowardin	Total Area	Temporary	
Wetland ID	Latitude	Longitude	Type	(ac)	Impact (ac)	
		-				
KLF_Wetland003	41.370573	82.728425	PEM	0.199	0.199	
		-				
KLF_Wetland006	41.335316	82.636129	PEM	0.328	0.264	

Additionally, a review of the online FEMA Flood Insurance Rate Mapping was performed. A portion of the Project Study Area was found to be located within the FEMA 100-year floodplain associated with Pipe Creek. The Project limits of disturbance may include workspace associated with structure replacement within the FEMA 100-year floodplain. Coordination with Erie County for work within the floodplain will occur if required.

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

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

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

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

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

This Letter of Notification (LON) application is being provided concurrently with its docketing with the Board to the following officials.

Erie County

Patrick J. Shenigo
Erie County Commissioner
2900 Columbus Ave.
Sandusky, OH 44870
PShenigo@eriecounty.oh.gov

Matthew R. Old Erie County Commissioner 2900 Columbus Ave. Sandusky, OH 44870 Old@eriecounty.oh.gov

Stephen L. Shoffner Erie County Commissioner 2900 Columbus Ave. Sandusky, OH 44870 shoffner@eriecounty.oh.gov Caleb Stidham
Erie County Treasurer
247 Columbus Ave., Suite 115
Sandusky, OH 44870
treasurer@eriecounty.oh.gov

John D. Farschman, P.E., P.S. Erie County Engineer 2700 Columbus Ave. Sandusky, OH 44870 ECEO@eriecounty.oh.gov

Bill Fleck Environmental Specialist 554 River Road Huron, OH 44839 BFleck@eriecounty.oh.gov Kurt Heyman Chairman - Erie Conservation Dist. Board 2900 Columbus Ave., Room 131 Sandusky, OH 44870 erieconserves@eriecounty.oh.gov

Perkins Township

Timothy Coleman Chairman 2610 Columbus Ave. Sandusky, OH 44870 tcoleman@perkinstownship.com

Jim Ommert Vice-Chairman 2610 Columbus Ave. Sandusky, OH 44870 jommert@perkinstownship.com

Oxford Township

Scott Leber Trustee 2512 Higbee Rd. Monroeville, OH 44847 scottrods62@aol.com

Brian A. Miller Trustee 11717 Livengood Rd. Monroeville, OH 44847 bamillerllc@gmail.com

Milan Township

Michael Shover Trustee Chairman 1518 State Rt. 113E Milan, OH 44846 admin@milantwp.org

Michael Kegarise Trustee 1518 State Rt. 113E Milan, OH 44846 admin@milantwp.org Jim Lang Trustee 2610 Columbus Ave. Sandusky, OH 44870 jlang@perkinstownship.com

Alexis Koch Fiscal Officer 2610 Columbus Ave. Sandusky, OH 44870 fiscalofficer@perkinstownship.com

Michael G. Parker Trustee 5617 Taylor Rd. Sandusky, OH 44870 mgparker@bex.net

Melissa Pelletier Fiscal Officer 1817 Mason Rd. W. Monroeville, OH 44847 erieoxfordfo@gmail.com

Greg Cumston Trustee 1518 State Rt. 113E Milan, OH 44846 admin@milantwp.org

Zachary Rospert Fiscal Officer 1518 State Rt. 113E Milan, OH 44846 admin@milantwp.org

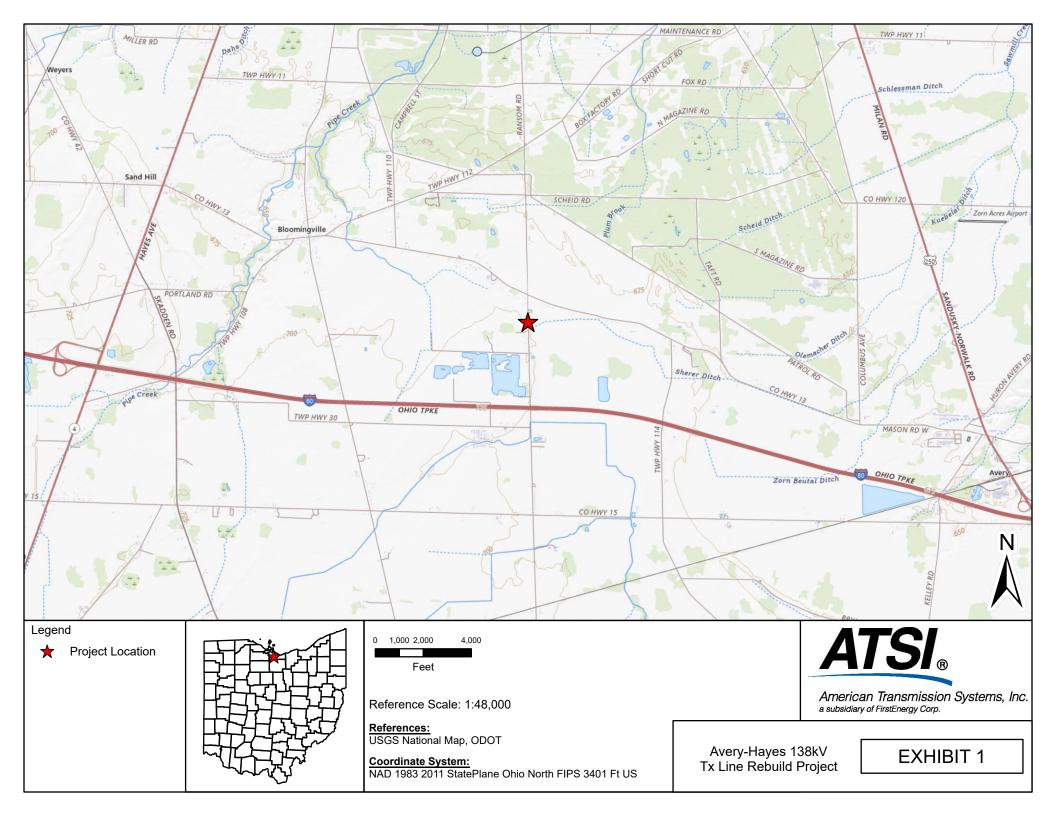
Libraries

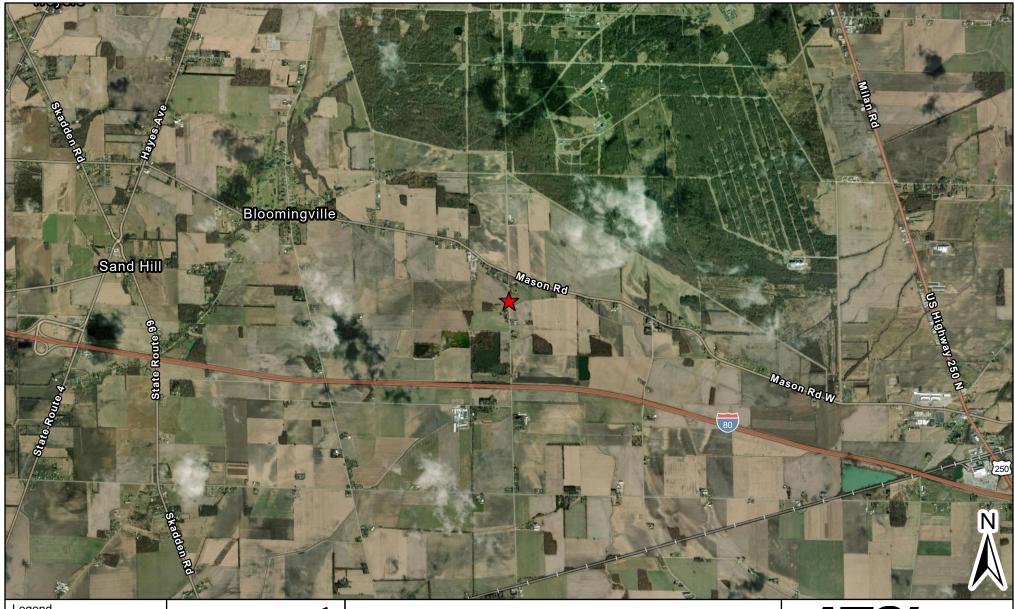
Molly Carver Executive Director Sandusky Public Library 114 West Adams Street Sandusky, OH 44870 mcarver@sanduskylib.org

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:

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





Legend

Project Location



0 1,000 2,000 4.000 Feet

Reference Scale: 1:48,000

References: ESRI Aerial Imagery, USGS National Map, ODOT

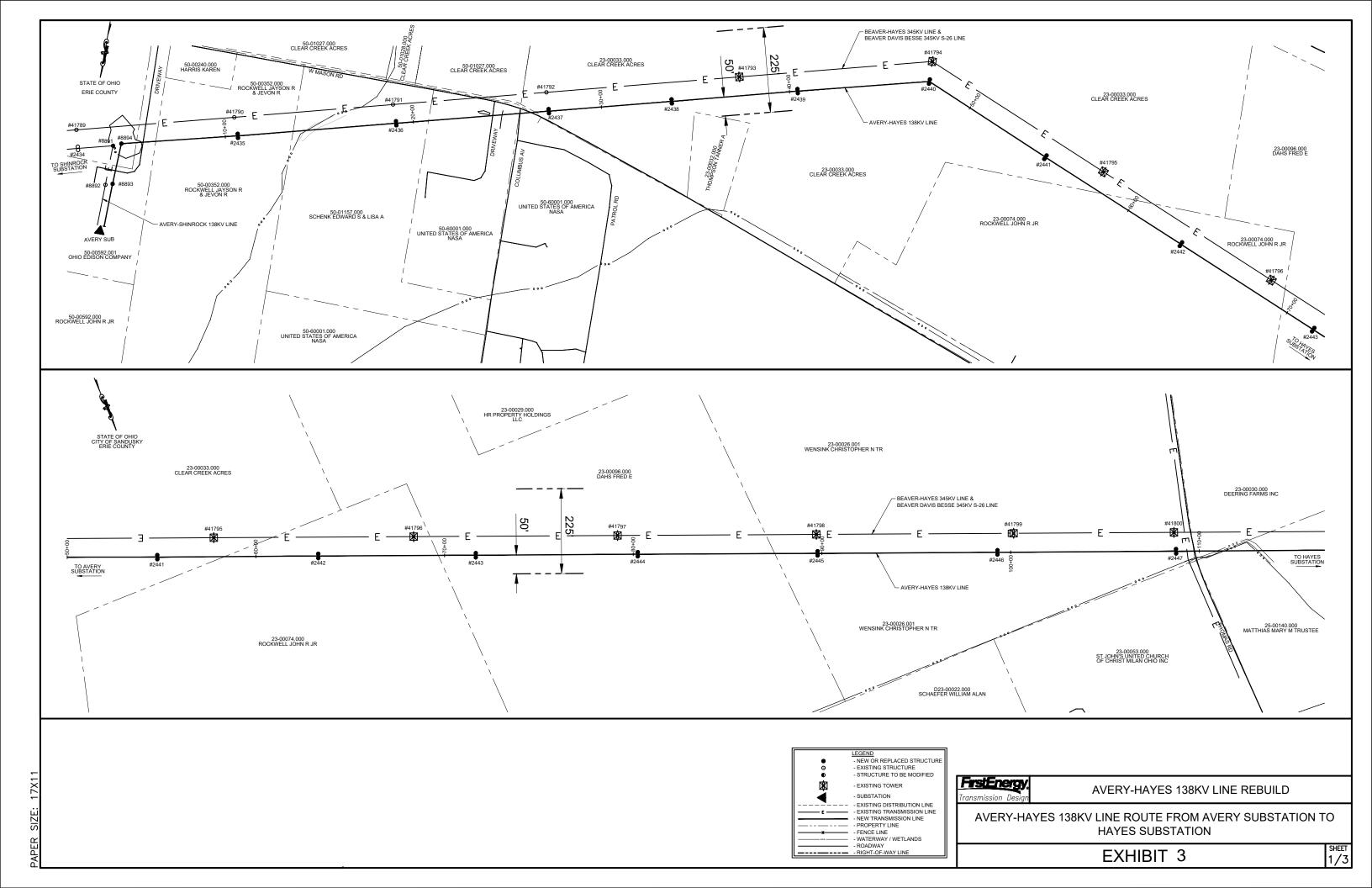
Coordinate System: NAD 1983 2011 StatePlane Ohio North FIPS 3401 Ft US

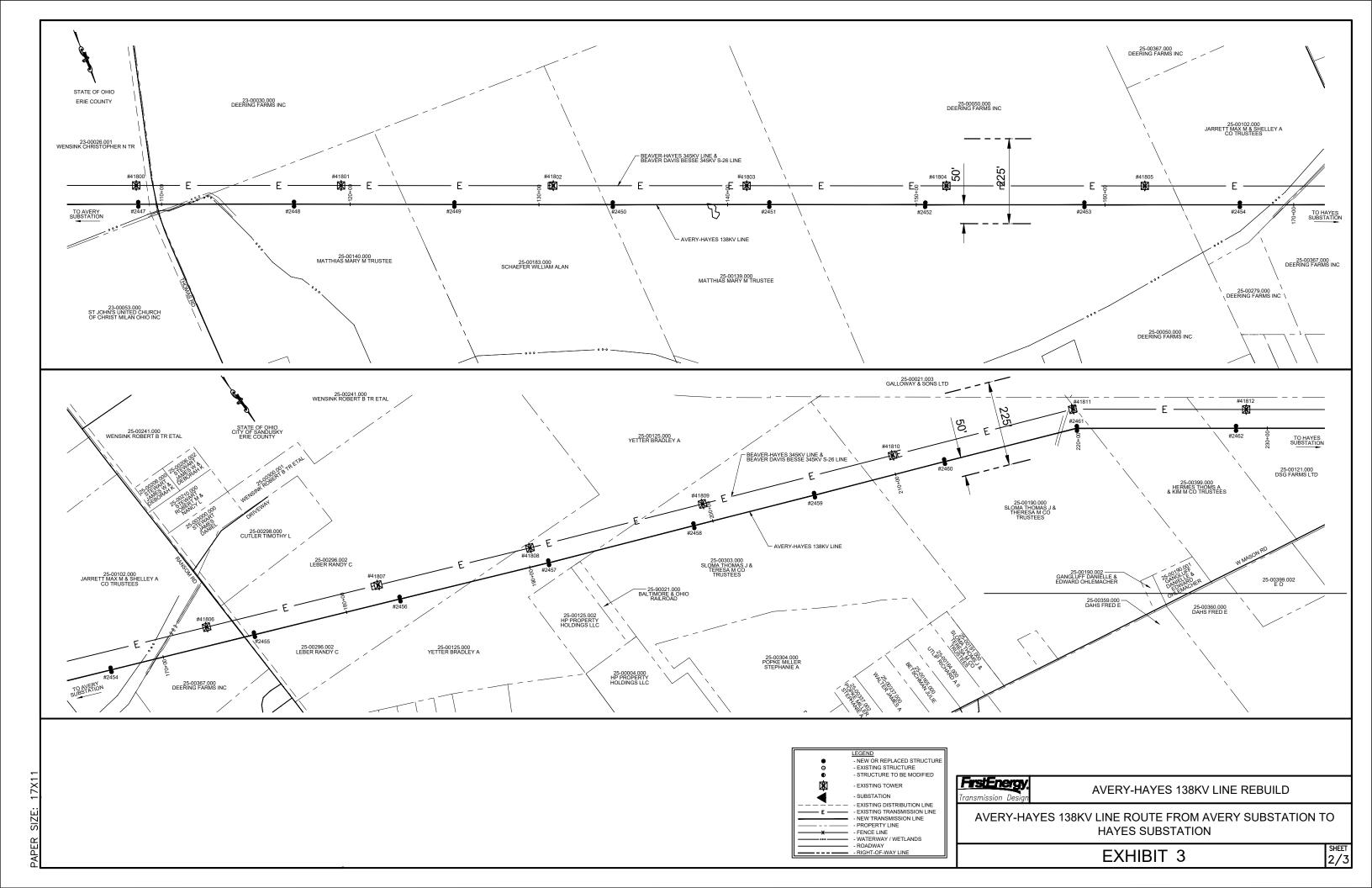


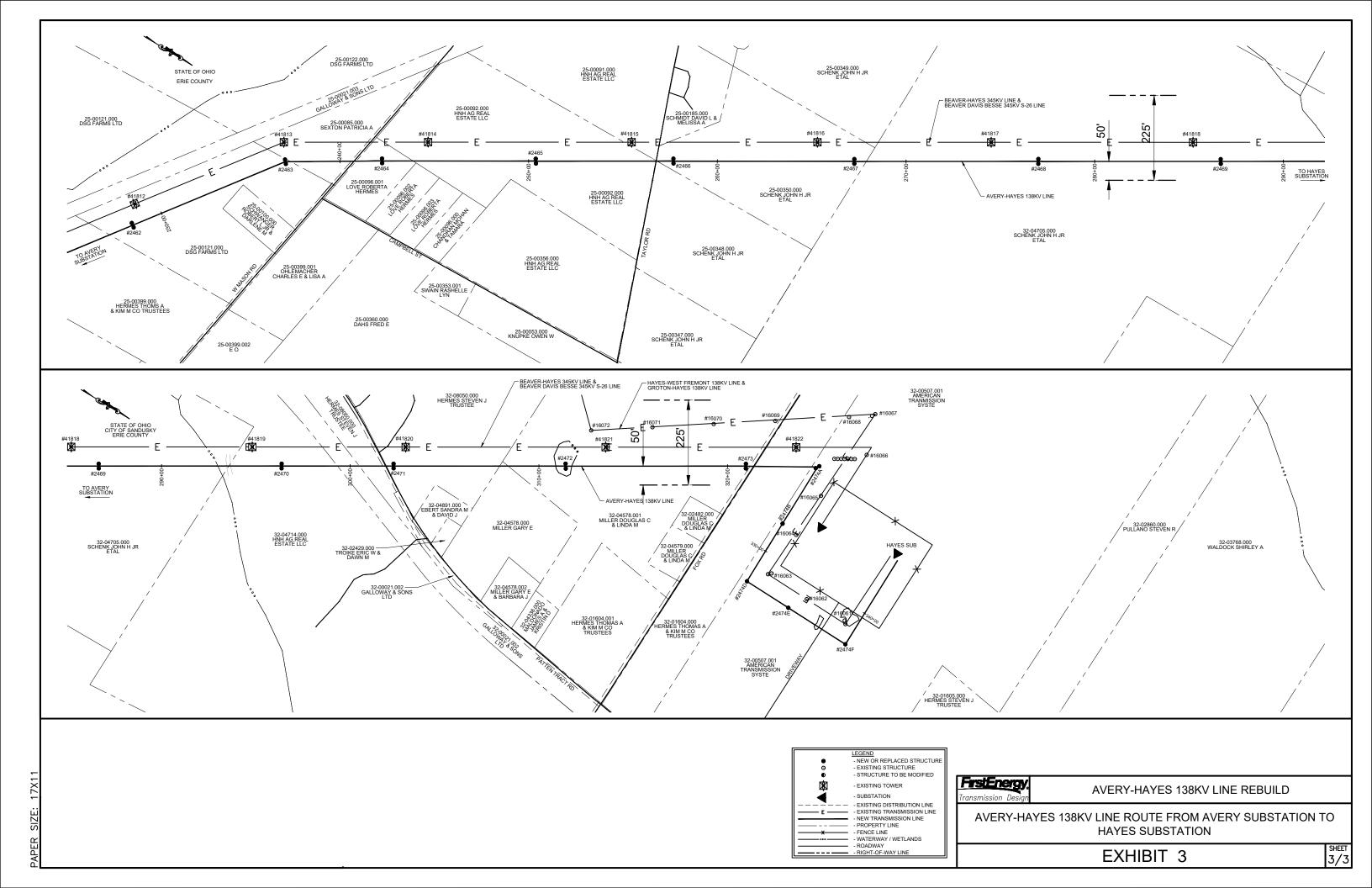
American Transmission Systems, Inc. a subsidiary of FirstEnergy Corp.

Avery-Hayes 138kV Tx Line Rebuild Project

EXHIBIT 2







Avery-Hayes 138kV TX Line Rebuild Project ATSI Transmission Zone: Baseline Cluster 2 (ATSI)



Process Stage: Second Read

Criteria: Summer & LL Gen Deliv and N-1

Assumption Reference: 2024 RTEP assumptions

Model Used for Analysis: 2029 RTEP Summer and Light load base case

Proposal Window Exclusion: None

Problem Statement:

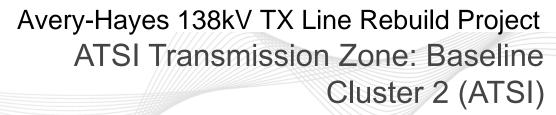
2024W1-GD-S865, 2024W1-GD-S866, 2024W1-GD-S885, 2024W1-GD-S353, 2024W1-GD-S855, 2024W1-GD-S858, 2024W1-GD-S864, 2024W1-GD-S864, 2024W1-GD-S868, 2024W1-GD-S868, 2024W1-GD-S872, 2024W1-GD-S850, 2024W1-GD-S853, 2024W1-GD-S856, 2024W1-GD-S851, 2024W1-GD-S85, 2024W1-GD-S897, 2024W1-GD-S400, 2024W1-N1-ST100, 2024W1-N1-ST101, 2024W1-N1-ST103, 2024W1-N1-ST104, 2024W1-N1-ST33, 2024W1-N1-ST34, 2024W1-N1-ST37, 2024W1-N1-ST38, 2024W1-N1-ST39, 2024W1-N1-ST48, 2024W1-N1-ST55, 2024W1-N1-ST56, 2024W1-N1-ST73, 2024W1-N1-ST76

In 2029 RTEP summer case, multiple 138 kV lines are overloaded for N-2 contingency pairs. In addition, two 345 kV lines are overloaded for N-2 contingency pairs.

2024W1-GD-LL93, 2024W1-GD-LL94, 2024W1-GD-LL96, 2024W1-GD-LL97, 2024W1-GD-LL98, 2024W1-GD-LL103, 2024W1-GD-LL104, 2024W1-GD-LL105, 2024W1-GD-LL106, 2024W1-GD-LL107, 2024W1-GD-LL108

In 2029 RTEP Light Load case, multiple 138 kV lines are overloaded for N-2 contingency pairs.







• As part of the 2024 RTEP Window 1, the projects listed in the table below were proposed to address Cluster 2 in ATSI zone

Proposal ID#	Project Type	Proposing Entity	Project Title	Project Description	kV Level	Submitted Estimated Cost (\$M)
605	UPGRADE	ATSI	Rebuild/Reconductor existing 138 kV lines/Terminal upgrades at 345 kV substations	Rebuild Beaver to Johnson, Greenfield to Lakeview, Avery to Shinkrock, Avery to Hayes and Greenfield to Beaver Corridor. Reconductor 1 span from Ottawa substation. Upgrade terminal equipment at Beaver, Davis Besse & Bayshore 345 kV substation. Swap 345 kV line terminals at Beaver 345 kV substation	138/345	265.1
843	GREENFIELD	ATSI	•	Build a new approximately 88 miles Lemoyne - Lake Avenue 345 kV line by leveraging existing 138 kV corridors. Associated yard work at Lemoyne and Lake Ave 345 kV substations	345	455.0
694	GREENFIELD	TRNSRC	between Fostoria Central and Lake	Build a new 79 mile 345kV double circuit line from Fostoria Central to Lake Avenue 345kV station Lake Ave 345kV station. Associated Substation work at Fostoria Central and Lake Ave 345 kV substations	345	328.3
533	GREENFIELD	NEXTERA	New 345 kV line between Lemoyne	Construct a single circuit 345kV line from ATSI's Lemoyne substation to ATSI's Lake Ave substation. Associated yard work at Lemoyne and Lake Ave 345 kV substations	345	202.0
294	GREENFIELD	NEXTERA		Install second circuit on open tower position along the existing Bayshore - Davis-Besse 345 kV line. Utilize spare tower position on the Davis-Besse to Lemoyne line to string a new 345kV circuit from Davis-Besse to Lake Ave. Associated yardwork at existing Bay Shore, Davis Besse and Lake Ave 345 kV substations	345	257.3
357	GREENFIELD	NEXTERA	New 345 kV line between Bayshore to Davis Besse to Lake Ave New 345 kV line between Lemoyne	Install second circuit on open tower position along the existing Bayshore - Davis-Besse line. Utilize spare tower position on the Davis-Besse to Lemoyne line to string a new 345kV circuit from Davis-Besse to Lake Ave. Install new circuit on empty tower position on portion of Lemoyne - Davis Besse corridor. Associated yardwork at existing Bay Shore, Davis Besse, Lemoyne and Lake Ave 345 kV substations	345	344.1

Avery-Hayes 138kV TX Line Rebuild Project ATSI Transmission Zone: Baseline Cluster 2 (ATSI)



Recommended Solution: Proposal #605 (Revised) Rebuild the 7.46 miles of Avery - Shinrock 138 kV Line with 795 kcmil 26/7 ACSS (7.46 miles) (\$15.2M) (b3925.1).

Rebuild the 13.45 miles of Greenfield - Lakeview 138 kV Line from 2 x 336.4 kcmil 26/7 ACSR to 1 x 795 kcmil 26/7 ACSS (\$59.68M) (b3925.2).

Rebuild the 6.5 miles of Avery-Hayes 138 kV Line with 795 kcmil 26/7 ACSS conductor (\$11.01M) (b3925.3).

Rebuild the Greenfield - Beaver 138 kV corridor (32 miles) with 795 kcmil 26/7 ACSS. This corridor encompasses multiple 138 kV lines that are constructed on common towers (\$131.43M) (b3925.4).

Total Estimated Cost: \$217.32M

Existing Facility Rating:

Branch	SN/SE/WN/WE (MVA)
Avery to Shinkrock 138 kV	233/282/263/333
Greenfield to Lakeview 138 kV	267/352/360/456
Hayes to Avery 138 kV	278/339/315/401
Greenfield to Beaver 138 kV Cooridor -Greenfield – New Departure -New Departure – BrightWell - Brightwell – Ford	200/242/226/286 189/230/226/249 189/230/219/278
- Greenfield – NASA - NASA – Beaver	160/192/180/228 160/192/180/228
- Oakpoint – Beaver - Oakpoint - Ford	278/314/315/343 278/339/226/286



Avery-Hayes 138kV TX Line Rebuild Project ATSI Transmission Zone: Baseline Cluster 2 (ATSI)



Recommended Solution (Cont): Proposal #605 (Revised)

Preliminary Facility Rating:

SN/SE/WN/WE (MVA)
448/516/448/543
448/516/448/543
448/516/448/543
448/516/448/543

Additional Benefits:

 Brownfield options provides sufficient headroom on overloaded facilities, regional solution further lowers loadings on existing HV and 138 kV facilities and upgrading lines that are build 70-100 years ago

Required In-service date: 6/1/2029 Projected in-service date: 6/1/2029



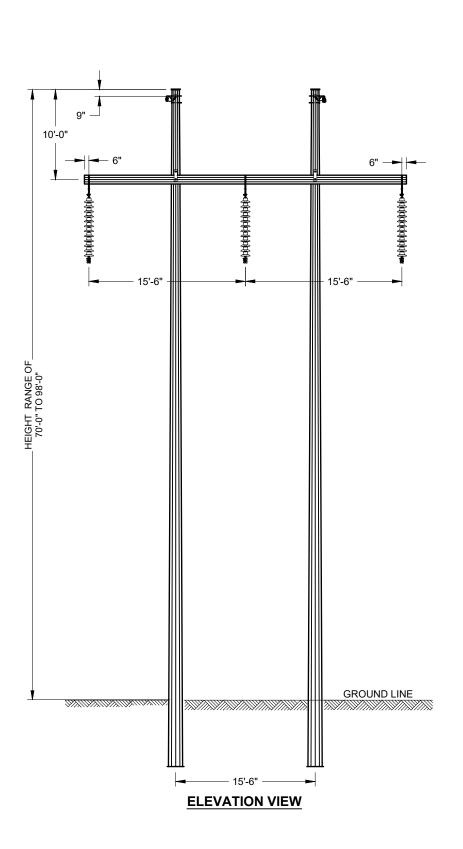
Property Owner List and Agricultural Land Avery-Hayes 138 kV Transmission Lines Rebuild Project

Case No: 25-1038-EL-BLN

APN	Acreage	Easement Status	Agricultural District (Yes/No)	Agricultural District Expiration Year
50-00524.001	15.4086	Existing	No	N/A
50-01027.000,	69.7	Existing	Yes	2029
23-00033.000	146.08	Existing	Yes	2029
23-00096.000	90.1	Existing	Yes	2029
23-00070.000	90.1	Existing	105	2029
23-00030.000,	110.7998	Existing	Yes	2028
25-00050.000, 25-00367.000	110.19 8.67	Existing Existing	Yes Yes	2028 2028
23-00307.000	0.07	Laisting	103	2020
25-00121.000	48.3917	Existing	Yes	2028
22 00021 002	12 4505	E- : 4:	NT	NT/A
32-00021.002	13.4595	Existing	No	N/A
25-00356.000,	11.75	Existing	No	N/A
25-00092.000, 25-00091.000,	17.00 10.95	Existing Existing	No No	N/A N/A
32-04714.000	10.74	Existing	No	N/A
22 04900 000	26.01	Existina	No	NI/A
32-04890.000	26.01	Existing	No	N/A
22 00050 000	4.00	E:-4:-	N.	NI/A
32-08050.000	4.00	Existing	No	N/A
25-00399.000,	22.029	Existing	No	N/A
32-01604.000	20.00	Existing	No	N/A
25-00102.000	19.94	Existing	No	N/A
		<u> </u>		
25 00206 002	20 0025	Eviatio ~	No	NI/A
25-00296.002	38.8835	Existing	No	N/A

25-00096.001,	2.38	Existing	No	N/A
25-00096.002,	1.38	Existing	No	N/A
25-00096.003	1.35	Existing	No	N/A
		3		
25-00140.000,	Unknown	Existing	No	N/A
25-00139.000	44.3	Existing	No	N/A
25 00153.000		Zinsung	110	1 11 1
				2029
32-04578.001	35.4080	Existing	Yes	202)
22 0 10 7 0 10 0 1	221.000	Zinsung	100	
				2029
32-04578.000	6.14	Existing	Yes	202)
32 01370.000	0.11	Existing	1 03	
50-00352.000	27.69	Existing	Yes	2028
30 00332.000	27.07	Laisting	103	2020
23-00074.000	54.2	Existing	Yes	2028
23-00074.000	34.2	Existing	168	2020
25 00102 000	40.6024	E-: 4:	37	2020
25-00183.000	49.6034	Existing	Yes	2029
50 01157 000	20.742		37	2020
50-01157.000	20.743	Existing	Yes	2029
25-00348.000,	10.00	Existing	Yes	2029
25-00349.000,	9.38	Existing	Yes	2028
25-00350.000,	12.00	Existing	Yes	2028
32-04705.000	141.4	Existing	Yes	2028
•••••				27/1
25-00100.000	Not Provided	Existing	No	N/A
25-00085.000	6.71	Existing	No	N/A
25-00303.000,	32.84	Existing	Yes	2029
25-00190.000	44.805	Existing	Yes	2029
23-00026.001	96.7637	Existing	Yes	2029
25-00125.000	30.9228	Existing	No	N/A

^{*}Note: This list of affected landowners is for "impacted" parcels only and the subject list is NOT for mailing purposes.



FrstEnergy.
Transmission Design

AVERY-HAYES 138KV LINE REBUILD

138KV SINGLE CIRCUIT LIGHT DUTY STEEL POLE STRUCTURE SUSPENSION HORIZONTAL TWO POLE H-FRAME ANGLES 0° TO 5°

EXHIBIT 6C

SHEET 1

0'-6"

EXHIBIT 7



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

July 1, 2025

Clayton Lilly Kleinfelder 180 White Oaks Boulevard, Suite 110 Bridgeport, West Virginia 26330

Re: 25-0867_Avery-Hayes 138kV Reconductor

Project: The proposed project involves the replacement of 138kV electric transmission structures between the Avery and Hayes substations.

Location: The proposed project is located in Oxford Township, Erie 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:

Prairie False Indigo (Baptisia lactea), P Broad-winged Sedge (Carex alata), P Field Sedge (Carex conoidea), T Green Spike-rush (Eleocharis flavescens), T Slender Spike-rush (Eleocharis tenuis), T Carolina Flat-topped Goldenrod (Euthamia caroliniana), T Least St. John's-wort (Hypericum gymnanthum), E Greene's Rush (Juncus greenei), T Large Blazing-star (Liatris scariosa), P Dwarf Bulrush (Lipocarpha micrantha), T American Water-milfoil (Myriophyllum sibiricum), E Slender Knotweed (Polygonum tenue), U Virginia Meadow-beauty (Rhexia virginica), P Blue-leaved Willow (Salix myricoides), P Showy Goldenrod (Solidago speciosa), T Bushy Aster (Symphyotrichum dumosum), T Lance-leaved Violet (Viola lanceolata), P

Twisted Yellow-eyed-grass (*Xyris torta*), E Upland Sandpiper (*Bartramia longicauda*), E Eastern Foxsnake (*Pantherophis vulpinus*), SC Oak barren plant community

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. Records for high quality plant communities indicate the presence of sites that are in our inventory of the best remaining examples of Ohio's pre-settlement ecosystems.

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally endangered species, and the little brown bat (*Myotis lucifugus*), a state endangered species. Because presence of state endangered bat species has been established in the area, summer tree cutting is not recommended, and additional summer surveys would not constitute presence/absence in the area. However, limited summer tree cutting inside this buffer may be acceptable after further consultation with DOW (contact Eileen Wyza at Eileen.Wyza@dnr.ohio.gov).

In addition, 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 bat species predominately roost in trees behind loose, exfoliating bark, in crevices and cavities, or in clusters of dead leaves. However, these species are also dependent on the forest structure surrounding roost trees. The DOW recommends tree cutting only occur from October 1 through March 31, conserving trees with loose, shaggy bark and/or crevices, holes, or cavities, as well as trees with DBH ≥ 20" if possible.

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 OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING. If a potential or known hibernaculum is found, the DOW recommends a 0.25-mile tree cutting buffer around the hibernaculum entrance. Limited summer or winter tree cutting 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 cutting or subsurface impacts to a hibernaculum are proposed, this project is not likely to impact these species.

The project is within the range of the eastern pondmussel (Ligumia nasuta), a state threatened mussel. This project must not have an impact on native mussels. This applies to both listed and non-listed species, as all species of mussel are protected in Ohio. Per the Ohio Mussel Survey Protocol (2024), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 5 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. If there is no in-water work proposed, impacts to mussels are not likely.

The project is within the range of the following listed fish species.

State Endangered

brook trout (Salvelinus fontinalis)
longnose sucker (Catostomus catostomus)
lake sturgeon (Acipenser fulvescens)
pugnose minnow (Opsopoeodus emiliae)
bigeye shiner (Notropis boops)
western banded killifish (Fundulus diaphanus menona)

State Threatened

channel darter (Percina copelandi)

The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact these or other aquatic species.

The project is within the range of the eastern massasauga (*Sistrurus catenatus*), a state endangered and federally threatened snake species. The eastern massasauga uses a range of habitats including wet prairies, fens, and other wetlands, as well as drier upland habitat. Due to the location, the type of habitat within the project area, and the type of work proposed, this project is not likely to impact this species.

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

The project is within the range of the 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.

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

The project is within the range of the sandhill crane (*Antigone canadensis*), a state threatened species. Sandhill cranes are primarily a wetland-dependent species. On their wintering grounds, they will utilize agricultural fields; however, they roost in shallow, standing water or moist bottomlands. On breeding grounds, they require a rather large tract of wet meadow, shallow marsh, or bog for nesting. If grassland, prairie, or wetland habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of April 1 through August 31. If this habitat will not be impacted, this project is not likely to have an impact on this species.

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

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

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

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



August 7, 2025

Ohio Department of Natural Resources Office of Real Estate & Land Management 2045 Morse Road, Building E-2 Columbus, Ohio 43229

Re: Desktop Assessment for Potential Hibernaculum

Avery-Hayes 138kV Reconductor Erie County, Ohio American Transmission Systems, Inc.

To whom it may concern:

In response to the Ohio Department of Natural Resources (ODNR), Division of Wildlife's recommendations, Kleinfelder, Inc. (Kleinfelder), on behalf of American Transmission Systems, Inc. (ATSI), has completed a desktop habitat assessment to assess the potential presence of threatened and endangered (T&E) bat species habitat within the vicinity of the proposed Avery-Hayes 138kV Reconductor Project (Project) in Erie County, Ohio.

ATSI proposes the replacement of 138kV electric transmission structures between the Avery and Hayes substations. The Project's terminus points and route are depicted in the attached Vicinity Map (Figure 1) and Aerial Imagery map (Figure 2). The Project's proposed limits-of-disturbance will be within the ATSI rights-of-way (ROW), with the addition of a temporary laydown yard at the northwestern terminus. The Project proposes to make use of existing permanent and temporary access roads, and structure replacement work will be completed within the ATSI rights-of-way (ROW). Additionally, a temporary laydown yard will be constructed at the Project's northwestern terminus. The proposed Project area is located almost exclusively within existing cultivated cropland, with several small areas of deciduous forest overlap (Figure 3, NLCD Land Cover Classification Map). The Project does not propose tree clearing, removal of abandoned structures or dwellings, grading/blasting activities, or trenching.

During the recommended desktop habitat assessment, secondary source information was utilized to determine if past or present underground resources were present within 0.25-miles of the Project Study Area. The secondary source information included, but was not limited to: ESRI aerial imagery, karst topography mapping (ODNR, 2024a), mine data mapping (ODNR, 2024b), and land cover dataset mapping (USGS, 2021).

Review of these secondary sources has revealed that the western extent of the Project Study Area overlaps minimally (less than one-acre) with the Silurian karst region. This portion of the study area is a temporary access road to the Project's temporary laydown yard, where no earth disturbance is proposed (Figure 4).

Additionally, no historic mines, abandoned mine openings, underground industrial mineral mines, underground coal mines, surface industrial or coal mines, and/or abandoned underground or surface coal



mines were identified within 0.25-miles of the Project Study Area (Figure 5). The nearest historic surface mine is located at approximately 0.25-miles southwest of the central portion of the Project Study Area; the nearest surface industrial mine is 2-miles west of the Project Study Area; the nearest historic mine is located 2.25-miles west of the Project Study Area; and the nearest abandoned mine opening is located 8-miles northwest of the Project Study Area.

A stream and wetland delineation was conducted by Kleinfelder in 2024, at which time winter and summer bat habitat within the Project area of interest (AOI) was concurrently assessed. During the field investigations, potential roost trees were identified in a forested parcel in the northwestern portion of the site adjacent to the proposed laydown yard and existing substation. No tree clearing, earth disturbance, or other project activities are proposed in this area, and the area is outside the ROW where structure replacement is proposed. No potential habitat was located within the remainder of the Project ROW. A general site photo exhibit from the field investigation is attached (Attachment A).

Although minimal potential habitat was identified within the Project Study Area (potential roost trees), the area in which these were observed is not proposed for earth disturbance or project activities of any type, and no tree clearing will occur within its vicinity. Historic surface mines are located approximately 0.25-miles from the Project; however, no underground mines or portal openings are within the Project Study Area. Due to the distance to features that could serve as potential hibernacula, the absence of any proposed tree clearing, and absence of any proposed blasting or trenching proposed by the Project, it is Kleinfelder's opinion that federally- or state- listed bat species are not likely to be impacted by the Project. We kindly request your concurrence with this finding.

Please address any questions or comments regarding this request to:

Adrianna Stolarski
Advanced Scientist
FirstEnergy Corp.
5001 Nasa Blvd.
Fairmont, WV 26554
304-816-1875
astolarski@firstenergycorp.com

Respectfully submitted, Kleinfelder, Inc.

Clayton C. Lilly EPP Team Lead

cc: Adrianna Stolarski, FirstEnergy Corp.



Enclosures:

Figure 1 – Site Location Map
Figure 2 – Aerial Imagery Map
Figure 3 – Land Cover Classification Map
Figure 4 – Karst Geology Map
Figure 5 – Mine Map

Attachment A – Site General Photo Exhibit

FIGURE 1 SITE LOCATION MAP

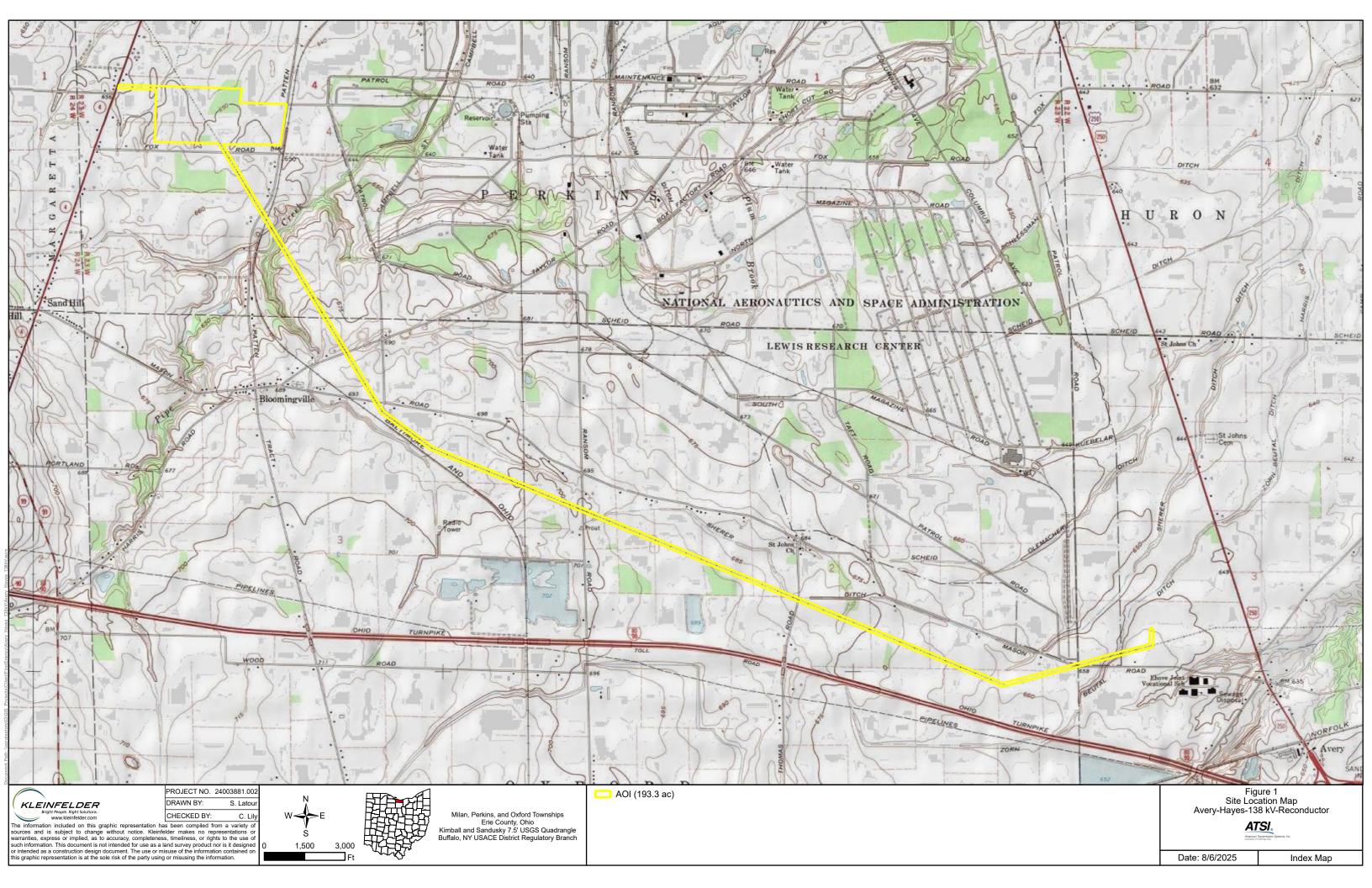


FIGURE 2 AERIAL IMAGERY MAP

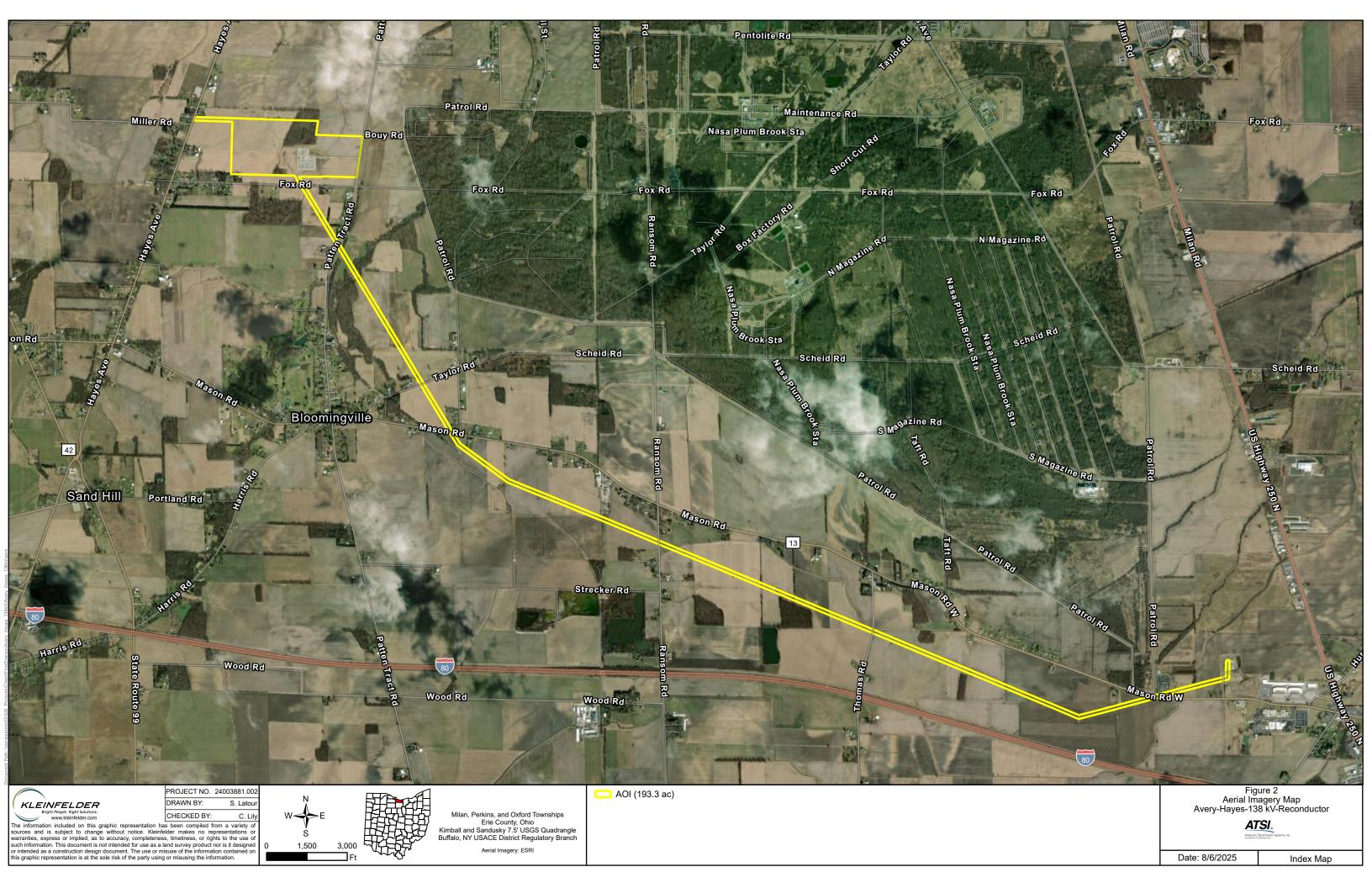


FIGURE 3 LAND COVER CLASSIFICATION MAP

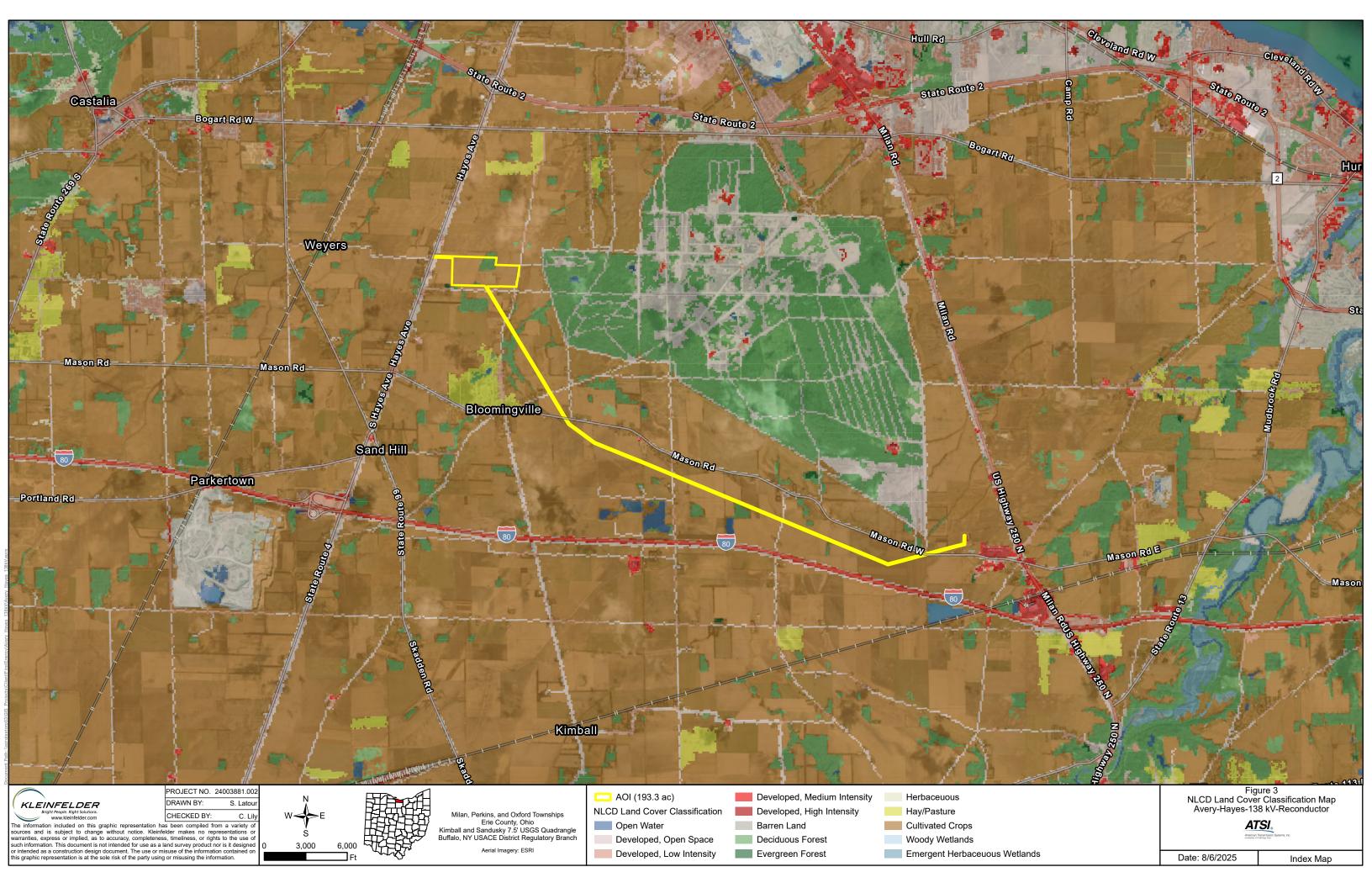


FIGURE 4 KARST GEOLOGY MAP

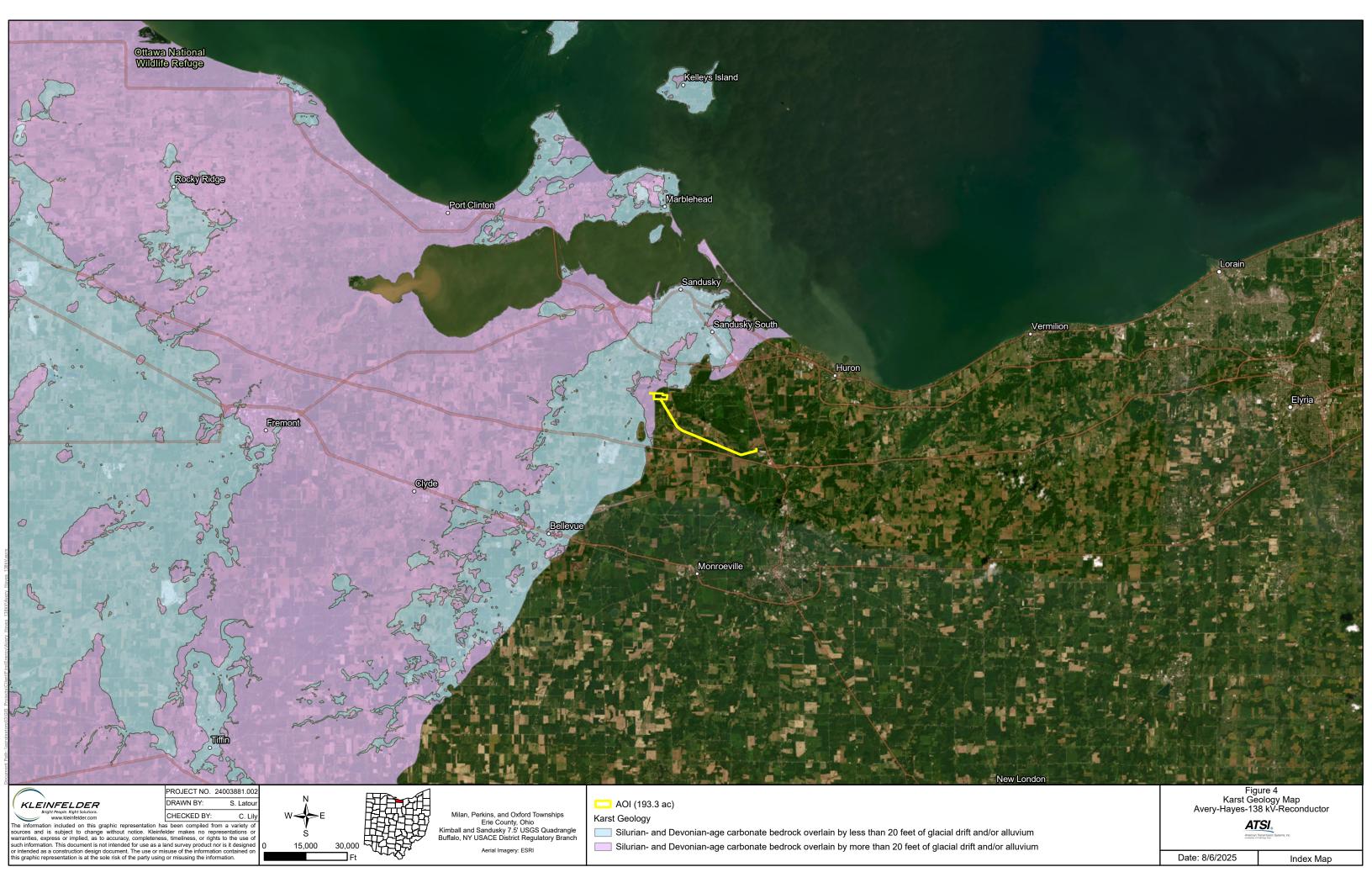
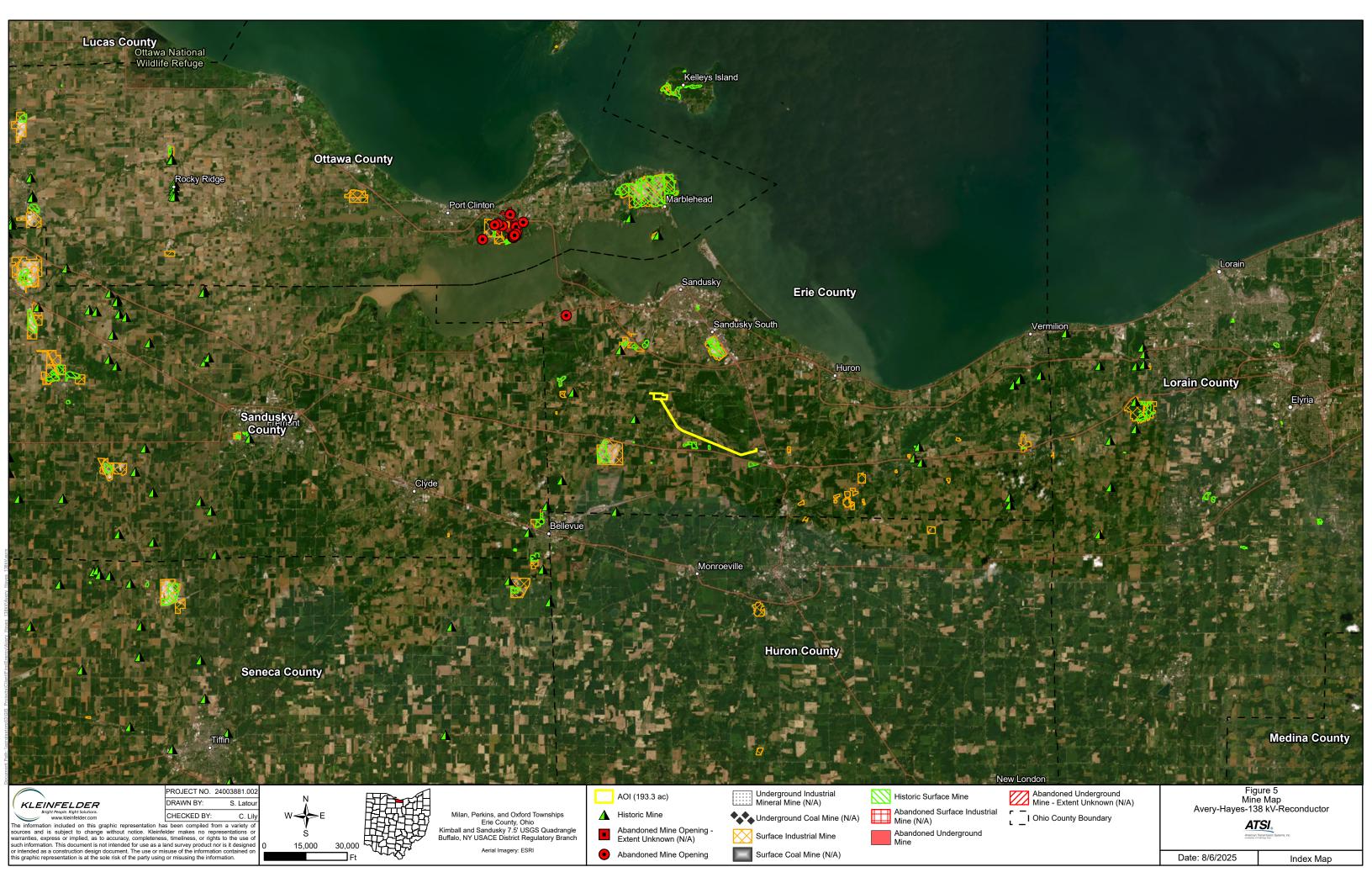


FIGURE 5

MINE MAP



ATTACHMENT A SITE GENERAL PHOTO EXHIBIT



Photo 1. Typical view of the proposed laydown yard, facing south



Photo 2. Typical view of the ROW, near Avery Substation, facing south



Photo 3. Typical view of the ROW, facing north

Stolarski, Adrianna

From: Eileen.Wyza@dnr.ohio.gov

Sent: Wednesday, September 3, 2025 12:12 PM

To: Stolarski, Adrianna Cc: Clayton Lilly

Subject: [EXTERNAL] RE: 25-0867 Avery Hayes 138kV Reconductor, Desktop Habitat Assessment

Report

External Sender, use caution with links/attachments. Click 'Report Message' in Outlook if suspicious.

Hello Adriana and Clayton,

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

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

Thank you,

Eileen Wyza, Ph.D.

(she/her/hers) Wildlife Biologist Ohio Division of Wildlife Phone: 614-265-6764

Email: Eileen.Wyza@dnr.ohio.gov



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From: Stolarski,

Adrianna <astolarski@firstenergycorp.com> Sent: Wednesday, September 3, 2025 10:22 AM To: Wyza, Eileen < Eileen. Wyza@dnr.ohio.gov> Cc: Clayton Lilly <clilly@kleinfelder.com>

Subject: RE: 25-0867 Avery Hayes 138kV Reconductor, Desktop Habitat Assessment Report

Good morning,

Just following up on this request sent August 8, we are submitting a hibernacula assessment for a reconductoring project in Erie County, Ohio. I'm sure it's been a busy end of summer field season out there. Let me know if you have any additional questions or concerns.

Thanks,



Adrianna Stolarski

Adv Scientist

cell: 304-816-1875 | office: 304-534-7525

astolarski@firstenergycorp.com

5001 Nasa Boulevard, Fairmont, WV 26554| mailstop: WV-MP / Fairmont MonPower-Transmission

From: Stolarski, Adrianna

Sent: Thursday, August 21, 2025 1:28 PM

To: Wyza, Eileen < eileen.wyza@dnr.ohio.gov >
Cc: Clayton Lilly < clilly@kleinfelder.com >

Subject: FW: 25-0867 Avery Hayes 138kV Reconductor, Desktop Habitat Assessment Report

Good afternoon,

Just checking in on this request submitted August 8th. Please let me know if there is anything else needed to assess local hibernacula for the proposed reconductoring project.

Thanks,



Adrianna Stolarski

Adv Scientist

cell: 304-816-1875 | office: 304-534-7525

astolarski@firstenergycorp.com

5001 Nasa Boulevard, Fairmont, WV 26554| mailstop: WV-MP / Fairmont MonPower-Transmission

From: Clayton Lilly < CLilly@kleinfelder.com >

Sent: Friday, August 8, 2025 9:46 AM

To: eileen.wyza@dnr.ohio.gov

Cc: Stolarski, Adrianna <astolarski@firstenergycorp.com>; Heather Sexton HSexton@kleinfelder.com **Subject:** [EXTERNAL] 25-0867 Avery Hayes 138kV Reconductor, Desktop Habitat Assessment Report

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Eliza,

Please see the enclosed Desktop Habitat Assessment Report for the ATSI (FirstEnergy) Avery Hayes 138kV Reconductor Project. This report has been prepared in response to an ODNR species records request received from your office (25-0867). We thank you for your review and consideration.

Clayton Lilly, M.S.

EP&P Team Lead

180 White Oaks Blvd / Suite 110 Bridgeport, WV 26330 o| 304.933.3345 m| 304.228.2529



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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



June 11, 2025

Project Code: 2024-0104489

Dear Mr. Lilly:

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

<u>Federally Threatened and Endangered Species</u>: Due to the project, type, size, and location, we do not anticipate adverse effects to federally endangered, threatened, or proposed species or proposed or designated critical habitat. If there are any project modifications during the term of this action, or additional information for listed or proposed species or their critical habitat becomes available, or if new information reveals effects of the action that were not previously considered, then please contact us for additional project review.

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

Sincerely,

Erin Knoll

Field Office Supervisor

STREAM AND WETLAND DELINEATION REPORT

AVERY HAYES-138 kV-Reconductor

MILAN, OXFORD, PERKINS TOWNSHIP ERIE COUNTY, OHIO

JULY 2025

Prepared by:

Kleinfelder, Inc. 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066 p | 724-772-7072 f | 724-203-6737



REPORT CERTIFICATION

This report, including delineation details and conclusions, has been prepared under supervision and review by the persons named below. This report shall not be reproduced in full or in part without the written consent of Kleinfelder, Inc.

Date ______Signature _____

Name: Clayton Lilly

Title: Senior Professional Kleinfelder, Inc.

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Figure 2	Desktop Analysis

Figure 3 Potentially Jurisdictional Waters Map

ATTACHMENTS

Attachment A	USDA/NRCS Custom Soils Report
Attachment B	USACE Wetland Determination Data Forms
Attachment C	Ohio Rapid Assessment Method (ORAM) Forms
Attachment D	Ohio EPA Headwater Habitat Evaluation Index (HHEI) Forms &
	Ohio EPA Qualitative Habitat Evaluation Index (QHEI) Forms
Attachment E	Photos of Potentially Jurisdictional Aquatic Resources & Data Points

EXECUTIVE SUMMARY

Kleinfelder, Inc. (Kleinfelder) conducted stream and wetland delineations within an approximately 193.3-acre area of interest (AOI) on July 30-31st, 2024, and March 10, 2025, for the Avery Hayes-138 kV-Reconductor located in Milan, Oxford, and Perkins Township, Erie County, Ohio.

During the stream and wetland delineation survey, Kleinfelder identified 7 potentially jurisdictional streams, consisting of three perennial, one intermittent, and three ephemeral streams; one jurisdictional ditch; and six potentially jurisdictional palustrine emergent wetlands within the AOI.

1

1.0 INTRODUCTION

Kleinfelder, Inc. (Kleinfelder) conducted stream and wetland delineations on July 30-31st, 2024 and March 10, 2025 within an approximately 193.3-acre area of interest (AOI) for the Avery Hayes-138 kV-Reconductor (Site). The Site is located in Milan, Oxford, and Perkins Township, Erie County, Ohio and is on the Kimball and Sandusky, OH 7.5-minute United States Geological Survey (USGS) quadrangles as shown on the USGS Topographic Map (**Figure 1**). Prior to the field delineation, a desktop study was conducted (**Figure 2**). Aquatic resources identified within the AOI during fieldwork are listed in **Table 1** and shown on **Figure 3**.

The following report documents current Site conditions and the protocol used in determining the occurrence of streams and wetlands. The findings provided in this report are representative of field conditions that were documented at the time of the field investigations.

2.0 BACKGROUND INFORMATION

2.1 Site Description

The Site Northwestern Terminus is located at 41.378225, -82.741261, and the Site Southeastern Terminus at 41.336508, -82.636086. The land cover within the AOI consisted primarily of corn and soybean agricultural field. Land use surrounding the AOI is primarily agricultural and commercial.

2.2 Soils Information

Soil map units at the Site were reviewed for the presence of hydric soils. Hydric soils are formed under conditions of saturation, flooding, or ponding occurring during the growing season, resulting in anaerobic conditions in the upper soil layer. Hydric soils, in addition to hydrophytic vegetation and wetland hydrology are used to define wetlands (Natural Resources Conservation Service [NRCS], National Soil Survey handbook). Of the 26 soil map units located within the AOI, seven map units are listed as hydric.

A Custom Soil Resource Report exported from the United States Department of Agriculture (USDA), NRCS website for the Site is included as **Attachment A**. Soil unit boundaries and associated map units are depicted on the Desktop Analysis Map (**Figure 2**).

Soil information specific to upland environments and wetlands identified during delineation activities at the Site are located within the United States Army Corps of Engineers (USACE) Wetland Determination Data Forms (**Attachment B**).

2.3 National Wetlands Inventory Status

The National Wetlands Inventory (NWI) Program under the United States Fish and Wildlife Service (USFWS) is responsible for the mapping and inventory of United States wetlands. The USFWS Wetlands Mapper (http://www.fws.gov/Wetlands/Data/Mapper.html) was used to review NWI wetlands within the AOI. Based on the USFWS Wetlands Mapper, one NWI wetland was identified within the AOI (Figure 2).

2.4 National Hydrography Dataset Streams

National Hydrography Dataset (NHD) streams are digital representations of the surface waters of the United States (WoUS) and are managed by the USGS under the National Map and Geospatial Program. The National Map Download Viewer (https://viewer.nationalmap.gov/basic/) was used to review NHD streams within the AOI. An examination of the USGS mapping and spatial data indicated three mapped streams, including Pipe Creek, Sherer Ditch, and Zorn Beutal Ditch are located within the AOI (Figure 2).

2.5 Federal Emergency Management Agency Floodplains

The Federal Emergency Management Agency (FEMA) is part of the United States Department of Homeland Security and is responsible for managing the National Flood Insurance Rate Maps (https://msc.fema.gov/portal/advanceSearch). These maps are used to display special hazard areas and floodplains as identified by FEMA. A review of FEMA flood insurance rate mapping panels 39043C0090E, 39043C0205E, and 39043C0210D revealed a portion of the AOI crosses the limits of a designated regulatory floodplain (Figure 2).

3.0 STREAM AND WETLAND DELINEATION PROCEDURES

Kleinfelder conducted stream and wetland delineations within the AOI on July 30-31st, 2024 and March 10, 2025.

Prior to fieldwork, field biologists reviewed available mapping (topographic, aerial, and historic aerial imagery) to identify areas containing wet signatures and to understand what stream and/or wetlands may be encountered. Additionally, a desktop evaluation was conducted to identify NRCS soils, USFWS NWI wetlands, NHD streams, and FEMA floodplains that may be located within or near the AOI.

The wetland delineations were completed in accordance with the wetland delineation methodology outlined in the 1987 Corps of Engineers Wetland Delineation Manual (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region (USACE, 2010). This approach utilizes three parameters including vegetation, soils, and hydrology to identify and delineate wetlands. In situations when one or more of these parameters was absent due to natural, seasonal, or man-made disturbances, a

determination was made if the missing parameter(s) would occur under normal circumstances based on field indicators and best professional judgement.

During delineation activities, the boundaries of aquatic resources were recorded using an EOS Systems Arrow 100 GPS unit. Vegetation, soils, and hydrology were documented at sampling locations throughout the AOI. The information obtained at sampling locations is documented on datasheets (**Attachment B**) as per the 1987 USACE Manual Protocol. Nomenclature and indicator status of vegetative species was identified using the USACE 2020 National Wetland Plant List. Wetlands and streams were classified according to the Classification of Wetlands and Deepwater Habitats of the United States (Cowardin et al.,1979) guidelines. Wetlands were also evaluated using the OH Rapid Assessment Method (ORAM) for Wetlands V. 5.0 (Mack, 2001).

Stream data was documented according to Ohio Environmental Protection Agency (OEPA) guidance using the Primary Headwater Habitat Evaluation Index (HHEI) (Ohio EPA, 2020) and/or the Qualitative Habitat Evaluation Index (QHEI) (Ohio EPA, 2006), as applicable. Streams were identified by the presence and strength of several criteria. These indicators were evaluated, and the stream type was determined based on the criteria presented. A complete list of indicators and methodology used can be found in the Methodology for Identification of Intermittent and Perennial Streams and Their Origins Manual (North Carolina Division of Water Quality, 2010). This methodology was selected due to its qualitative and quantitative approach to classifying the following stream types:

- **Ephemeral:** Features that carry only stormwater in direct response to precipitation with water flowing only during and shortly after large precipitation events. An ephemeral stream may or may not have a well-defined channel, the aquatic bed is always above the water table, and stormwater runoff is the primary source of water. An ephemeral stream typically lacks the biological, hydrological, and physical characteristics commonly associated with the continuous or intermittent conveyance of water. [15A NCAC 02B .0233(2)(d)]
- Intermittent: Well-defined channels that contain water for only part of the year, typically
 during winter and spring when the aquatic bed is below the water table. The flow may be
 heavily supplemented by stormwater runoff. An intermittent stream often lacks the
 biological and hydrological characteristics commonly associated with the conveyance of
 water. [15A NCAC 02B .0233(2)(g)]
- **Perennial**: Well-defined channels that contain water year-round during a year of normal rainfall with the aquatic bed located below the water table for most of the year. Groundwater is the primary source of water for a perennial stream, but it also carries stormwater runoff. A perennial stream exhibits the typical biological, hydrological, and physical characteristics commonly associated with the continuous conveyance of water. [15A NCAC 02B .0233(2)(i)]

To identify the stream type, Kleinfelder biologists collected data in the field, including:

• Geomorphologic:

- o presence of defined bed and banks,
- flow regime,
- bank height
- o ordinary high-water depth and width,
- o sinuosity,
- o substrate, and
- bank erosion.

Biologic:

- o rooted upland plants in streambed,
- o fish, and
- o macrobenthos.

Hydrologic:

- o baseflow, and
- leaf litter.

4.0 STREAM AND WETLAND DELINEATION RESULTS

Kleinfelder identified seven potentially jurisdictional streams, consisting of three perennial, one intermittent, and three ephemeral streams; one potentially jurisdictional ditch; and six potentially jurisdictional palustrine emergent wetlands within the AOI. Documented habitat conditions of aquatic resources are provided in **Table 2** and **Table 3**. Please refer to the Potentially Jurisdictional Water Map (**Figure 3**) for the location of mapped features. Biological, hydrologic, and soil conditions specific to sampling locations within each upland area are found on datasheets in **Attachment B**. Rapid assessments of the quality and category of each wetland are found on ORAM forms in **Attachment C**. Assessments of the quality of each stream are found on HHEI/QHEI forms in **Attachment D**. Photographs of each stream, wetland, and upland point within the AOI are presented in **Attachment E**.

4.1 Stream Descriptions

Kleinfelder identified and delineated seven potentially jurisdictional streams within the AOI as summarized in **Table 1** and **Table 2** and shown on **Figure 3**. The identified streams within the AOI include Pipe Creek, Sherer Ditch, Zorn Beutal Ditch and UNTs to Pipe Creek and Sherer Ditch.

4.2 Wetland Descriptions

Six potentially jurisdictional wetlands were identified and delineated within the AOI, as summarized in **Table 1** and **Table 3**, and shown on **Figure 3**. Data collected during delineation activities to identify potentially jurisdictional wetlands included an assessment of the potential presence of hydric soil, hydrophytic vegetation, and hydrology indicators meeting wetland criteria.

4.3 Upland Environments

Sample point locations not exhibiting wetland hydrology, hydrophytic vegetation, and/or hydric soils were classified as upland. Land cover throughout the AOI includes corn and soybean agricultural fields, barn and residential structures, maintained lawn, and tree lines. Refer to the field datasheets provided in **Attachment B** for additional information specific to the upland conditions documented within the AOI.

5.0 CLOSING REMARKS

Formal determination of jurisdiction regarding WoUS can only be determined by the USACE with the submittal of a jurisdictional determination request by the proponent. All work was completed in accordance with the 1987 USACE Wetland Delineation Manual and the Northcentral and Northeast Regional Supplement. Aquatic resources described within this report are those which were identified within the AOI. All depictions and accounts described within this report are based on field observations made at the time of the investigation.

Wetland delineation studies are generally conducted to support permit applications for various site developments. Wetlands can be subject to national, state, and/or local regulations and are subject to local political and jurisdictional boundaries. Aquatic resource boundaries identified in the field will be considered preliminary unless confirmed by federal and/or state agencies (jurisdictional determination or otherwise). Final determination rests solely at the discretion of agencies with jurisdiction and may occur at any point during the permit process. The decision may depend on the applicable law or regulations governing the decision. As engineers and scientists, we cannot provide legal advice nor guarantee any government ruling. We also cannot accept responsibility for any change in law or regulation.

6.0 REFERENCES

- Cowardin, L.M., V. Carter V., F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service Report No. FWS/OBS/-79/31. Washington, D.C.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS., NTIS No. AD A176 912.
- Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus, Ohio.
- NC Division of Water Quality. 2010. *Methodology for Identification of Intermittent and Perennial Streams and their Origins*, Version 4.11. North Carolina Department of Environment and Natural Resources, Division of Water Quality. Raleigh, NC.
- Ohio EPA. 2020. Field Methods for Evaluating Primary Headwater Streams in Ohio. Version 4.1. Ohio EPA Division of Surface Water, Columbus, Ohio. 130 pp.
- Ohio EPA. 2006. Methods for Assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI). Ohio EPA Division of Surface Water, Columbus, Ohio. 26 pp.
- U.S. Army Corps of Engineers (USACE). 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Version 2.0, ed. J.S. Wakely, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
- U.S. Army Corps of Engineers 2020. *National Wetland Plant List*, version 3.5. Available at http://wetland-plants.usace.army.mil/.
- U.S. Department of Agriculture, National Resources Conservation Service (USDA NRCS). 2008. Soil Survey Geographic (SSURGO) Database for (Erie County), Ohio. Available at http://websoilsurvey.sc.egov.usda.gov.

TABLE 1

POTENTIALLY JURISDICTIONAL WATERS IDENTIFIED IN THE AOI

Table 1: Potentially Jurisdictional Waters Identified in the AOI															
Waters Name ¹	Cowardin Code ²	HGM Code ²	Measurement Type	Amount	Units	Waters Type ²	Latitude ³	Longitude ³	Local Waterway	OH WQ Class⁴	PHWH Class ⁵	HHEI Score ⁶	QHEI Score ⁶	ORAM Score ⁷	ORAM Category ⁷
Streams															
KLF_Pipe Creek (PER)	R3UB	N/A	Linear	101	Feet	RPW	41.366381	-82.725024	Pipe Creek	WWH	Class II	60	38	N/A	N/A
KLF_Sherer Ditch (PER)	R3UB	N/A	Linear	588	Feet	RPW	41.339002	-82.672811	Sherer Ditch	N/A	Class II	60	36	N/A	N/A
KLF_Stream001 (EPH)	R6	N/A	Linear	144	Feet	NRPW	41.372587	-82.730016	UNT to Pipe Creek	N/A	Class I	14	N/A	N/A	N/A
KLF_Stream002 (INT)	R4SB	N/A	Linear	116	Feet	NRPW	41.350276	-82.709056	UNT to Pipe Creek	N/A	Class II	52	N/A	N/A	N/A
KLF_Stream003 (EPH)	R6	N/A	Linear	110	Feet	NRPW	41.344560	-82.690475	UNT to Sherer Ditch	N/A	Class II	54	N/A	N/A	N/A
KLF_Stream004 (EPH)	R6	N/A	Linear	71	Feet	NRPW	41.333947	-82.643256	UNT to Sherer Ditch	N/A	Class I	14	N/A	N/A	N/A
KLF_Zorn Beutal Ditch (PER)	R3UB	N/A	Linear	228	Feet	RPW	41.334545	-82.639873	Zorn Beutal Ditch	N/A	Class I	54	38	N/A	N/A
Wetlands	•							•	•						
KLF_Wetland001 (PEM)	PEM	DEPRESS	Area	0.054	Acre	N/A	41.375333	-82.728736	N/A	N/A	N/A	N/A	N/A	15	1
KLF_Wetland002 (PEM)	PEM	DEPRESS	Area	0.362	Acre	N/A	41.374934	-82.728349	N/A	N/A	N/A	N/A	N/A	13	1
KLF_Wetland003 (PEM)	PEM	DEPRESS	Area	0.199	Acre	N/A	41.370573	-82.728425	N/A	N/A	N/A	N/A	N/A	12	1
KLF_Wetland004 (PEM)	PEM	DEPRESS	Area	0.034	Acre	N/A	41.342017	-82.682098	N/A	N/A	N/A	N/A	N/A	11	1
KLF_Wetland005 (PEM)	PEM	DEPRESS	Area	0.017	Acre	N/A	41.333926	-82.642911	N/A	N/A	N/A	N/A	N/A	14	1
KLF_Wetland006 (PEM)	PEM	DEPRESS	Area	0.328	Acre	N/A	41.335313	-82.636220	N/A	N/A	N/A	N/A	N/A	21	1

NOTES:

- 1. Kleinfelder, Inc naming convention.
- 2. As determined by the USACE's Waters Upload Sheet (pers. comm.)
- 3. North American Datum 1983.
- 4. As defined by OAC Chapter 3745-1 Water Quality Standards, Water use designations and statewide criteria (OAC 3745-1-07). http://www.epa.ohio.gov/dsw/rules/3745_1.aspx.
- Scoring for OEPA Headwater Habitat Evaluation Index (HHEI) Primary Headwater Habitats (PHWH). Class I = 0-29.9 and include "normally dry channels with little or no aquatic life present"; Class II = 30-69.9 and are equivalent to "warm water habitat"; Class III = 70-100 and typically have perennial flow with cool-cold water adapted native fauna.

 Streams classified as Class III PHWH by a Level 1 or Level 2 Assessment are assumed Class IIIB PHWH unless disproved by Level 3 Assessment.
- 6. Streams with drainage areas > 1 sq. mi., which have not received a water use designation under OAC 3745-1 were scored based on OEPA's Methods for assessing Habitat in Flowing Waters: Using the Qualitative Habitat Evaluation Index (QHEI), June 2006. http://www/epa.state.oh.us/portals/35/documents/qheimanualjune2006.pdf.

 Scoring > 75 = Excellent stream habitat; 60-74 = Good; 45-59 = Fair; 30-44 = Poor; < 30 = Very Poor.
- 7. Scoring for ORAM v 5.0: Category 1 = 0-29.9; Category 1 or 2 Gray Zone = 30-34.9; Category Modified 2 = 35-44.9; Category 2 or 3 = 60-64.9; Category 3 = 65-100. ORAM v 5.0 Quantitative Score Calibration, Last Revised: August 15, 2000. http://epa.ohio.gov/portals/35/401/oram50sc_s.pdf.

TABLE 2 POTENTIALLY JURISDICTIONAL STREAM DESCRIPTIONS

Table 2: Potentially Jurisdictional Stream Descriptions												
Stream Name	Stream Type	OHWM Width (feet)	OHWM Depth (Inches)	Flow at time of Delineation	Flow Direction	Bank Definition	Substrate	Aquatic Fauna	Comments	OH WQ Class / PHWH Class	Delineation Date	
KLF_Pipe Creek	Perennial	15.0	12	Yes	Northeast	Well Defined	ଧay, Silt, Gravel, Cobbl	Fish, Macros	Located in the northwestern portion of the AOI, this stream originates outside of the AOI and flows northeast continuing outside of the AOI.	Class II	7/30/2024	
KLF_Sherer Ditch	Perennial	6.0	12	No	Southeast	Well Defined	Clay, Silt, Gravel, Sand	Macros	Located in the central portion of the AOI, this stream originates outside of the AOI and flows northeast continuing outside of the AOI. The stream re-enters the AOI to the east, flowing southeast and turning east before exiting the AOI.	Class II	7/31/2024	
KLF_Stream001	Ephemeral	3.0	6	No	Southwest	Well Defined	Clay, Silt, Gravel, Sand	None	Located in the northwestern portion of the AOI, this stream originates outside of the AOI and flows southwest continuing outside of the AOI.	Class I	7/30/2024	
KLF_Stream002	Intermittent	6.0	10	No	Southwest	Well Defined	Clay, Silt, Gravel, Sand	Macros	Located in the central portion of the AOI, this stream originates outside of the AOI and flows southwest continuing outside of the AOI.	Class II	7/30/2024	
KLF_Stream003	Ephemeral	4.0	12	No	North	Well Defined	Clay, Silt, Gravel, Sand	Macros	Located in the central portion of the AOI, this stream originates outside of the AOI and flows north continuing outside of the AOI.	Class II	7/31/2024	
KLF_Stream004	Ephemeral	2.0	3	No	North	Moderately Defined	Silt, Gravel, Sand	None	Located in the southeast portion of the AOI, this stream originates outside of the AOI and flows north continuing outside of the AOI.	Class I	7/31/2024	
KLF_Zorn Beutal Ditch	Perennial	10.0	18	No	Northeast	Well Defined	Clay, Silt, Gravel, Sand	Macros	Located in the southeast portion of the AOI, this stream originates outside of the AOI and flows northeast continuing outside of the AOI.	Class I	7/31/2024	

TABLE 3 POTENTIALLY JURISDICTIONAL WETLAND DESCRIPTIONS

			Table 3: Potentially Jurisdiction	al Wetland Descriptions				
Wetland Name	Wetland Type	Wetland Hydrology Indicators	Dominant Vegetation Species Hydric Soil Indi		Associated Data Point	Upland Comparison Data Point	Comments	ORAM Category
KLF_Wetland001	PEM	Algal Mat or Crust Surface Soil Cracks Geomorphic Position FAC-Neutral Test	 common fox sedge (Carex vulpinoidea) common sealfheal (Prunella vulgaris) broad-leaf cat-tail (Typha latifolia) purple flat sedge (Cyperus rotundus) 	Depleted Matrix	KLF_SP002	KLF_SP001	Located in the northwestern portion of the AOI. The wetland is located within an herbaceous depression adjacent to a substation and access road.	Category I
ME W. H. 1999		Surface Soil Cracks Drainage Patterns Geomorphic Position FAC-Neutral Test	fowl blue grass (Poa palustris) swamp milkweed (Asclepias incarnata) reed canary grass (Phalaris arundinacea)	• Redox Dark Surface	KLF_SP003	14 F 0D004	Located in the northwestern portion of the AOI. The	Category I
KLF_Wetland002	PEM	Surface Water Saturation Geomorphic Position FAC-Neutral Test	field horsetail (Equisetum arvense) fowl manna grass (Glyceria striata)	• Redox Dark Surface	KLF_SP051	KLF_SP001	wetland is located within an herbaceous depression adjacent to a substation and access road.	
KLF_Wetland003	PEM	Algal Mat or Crust Surface Soil Cracks Geomorphic Position	great ragweed (Ambrosia trifida) field horsetail (Equisetum arvense)	• Redox Dark Surface	KLF_SP006	KLF_SP007	Located in the northern portion of the AOI. The wetland is located within an herbaceous depression within an agricultural field.	Category I
KLF_Wetland004	PEM	Algal Mat or Crust Sparsely Vegetated Concave Surface Surface Soil Cracks Geomorphic Position FAC-Neutral Test	• fowl blue grass (Poa palustris)	Depleted Matrix	KLF_SP020	KLF_SP019	Located in the central portion of the AOI. The wetland is located in an herbaceous depression within an agricultural field.	Category I
KLF_Wetland005	PEM	Algal Mat or Crust Geomorphic Position FAC-Neutral Test	fowl blue grass (Poa palustris) field horsetail (Equisetum arvense)	Depleted Matrix	KLF_SP025	KLF_SP026	Located in the southeast portion of the AOI. The wetland is located within an herbaceous depression adjacent to a parking lot in a maintained lawn.	Category I
KLF_Wetland006	PEM	•Oxidized Rhizospheres on Living Roots •Geomorphic Position	giant reed (Arundo donax) wrinkle-leaf goldenrod (Solidago rugosa)	Depleted Below Dark Surface Depleted Matrix	KLF_SP027	KLF_SP005	Located in the southeast portion of the AOI. The wetland is located within an herbaceous depression adjacent to a parking lot and substation.	Category I

FIGURE 1

VICINITY MAP

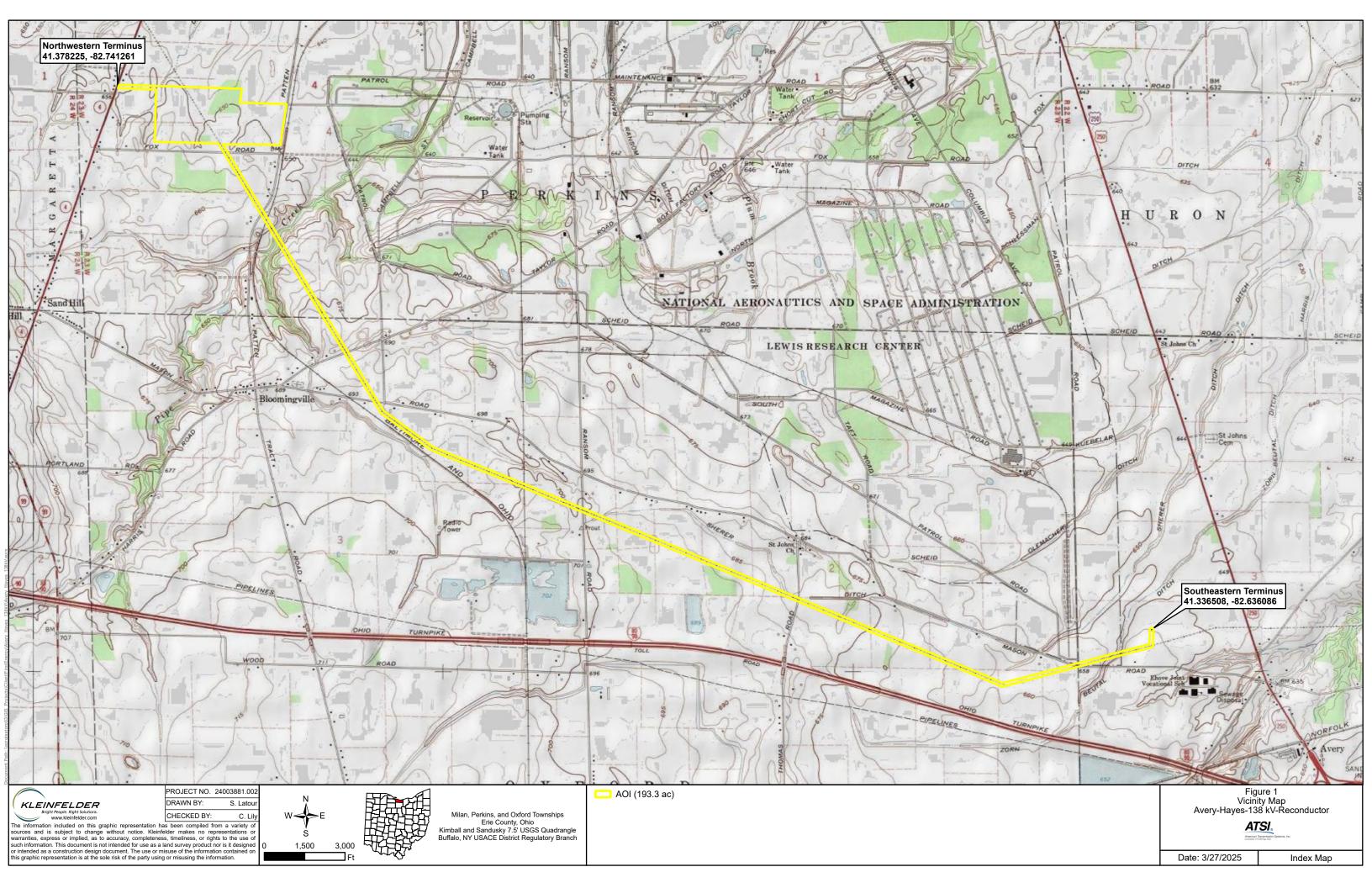


FIGURE 2

DESKTOP ANALYSIS MAP

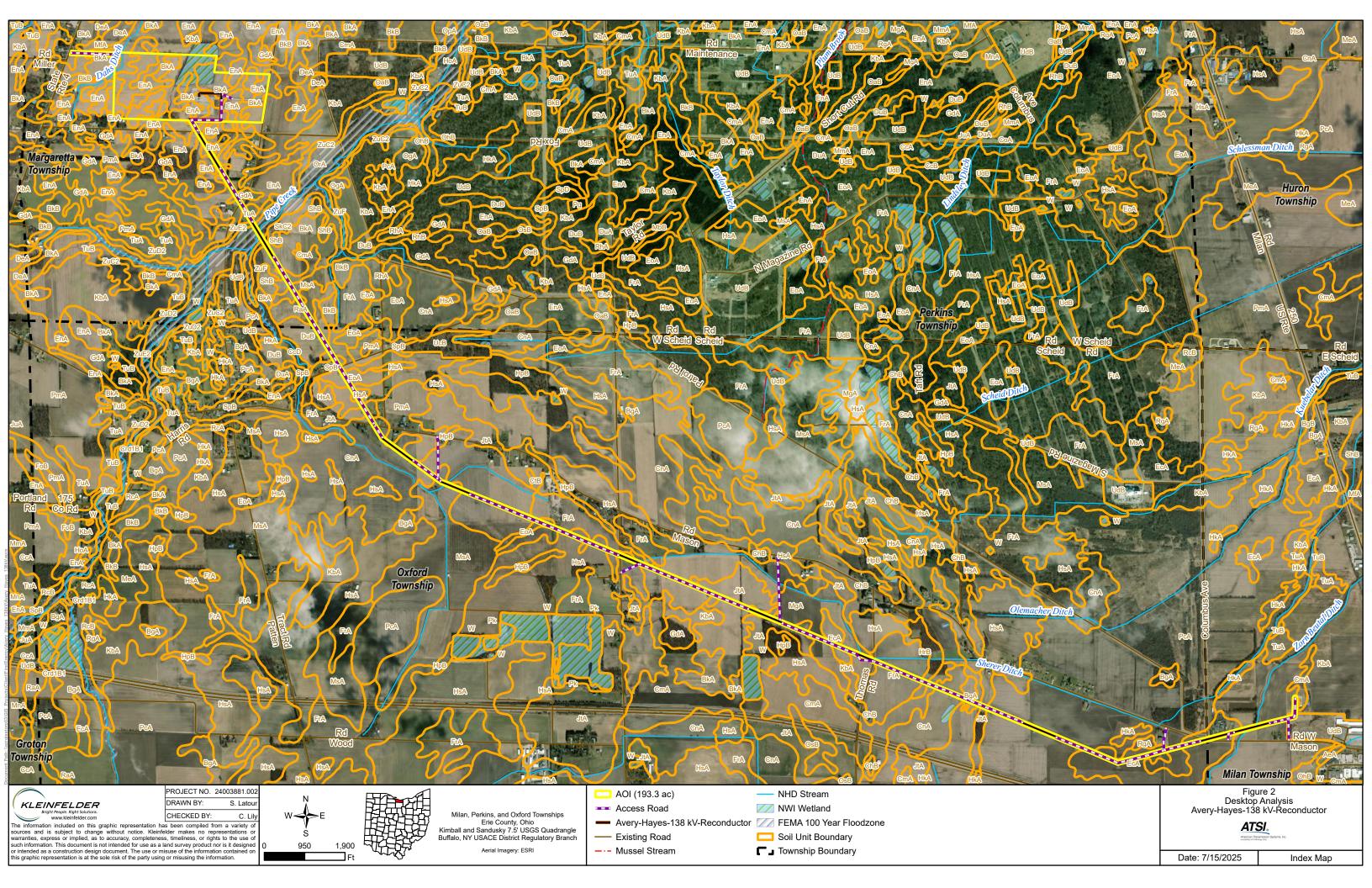
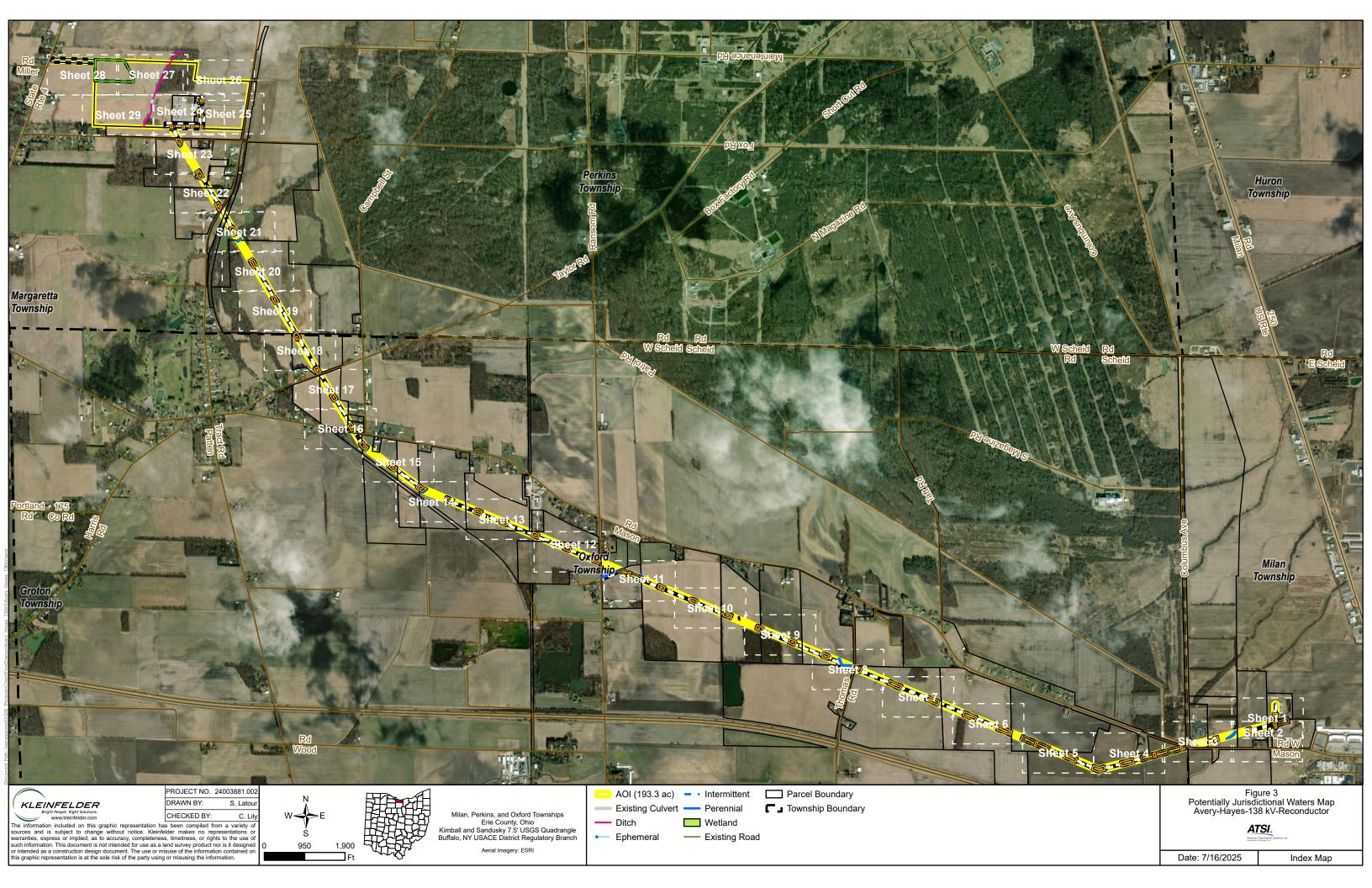
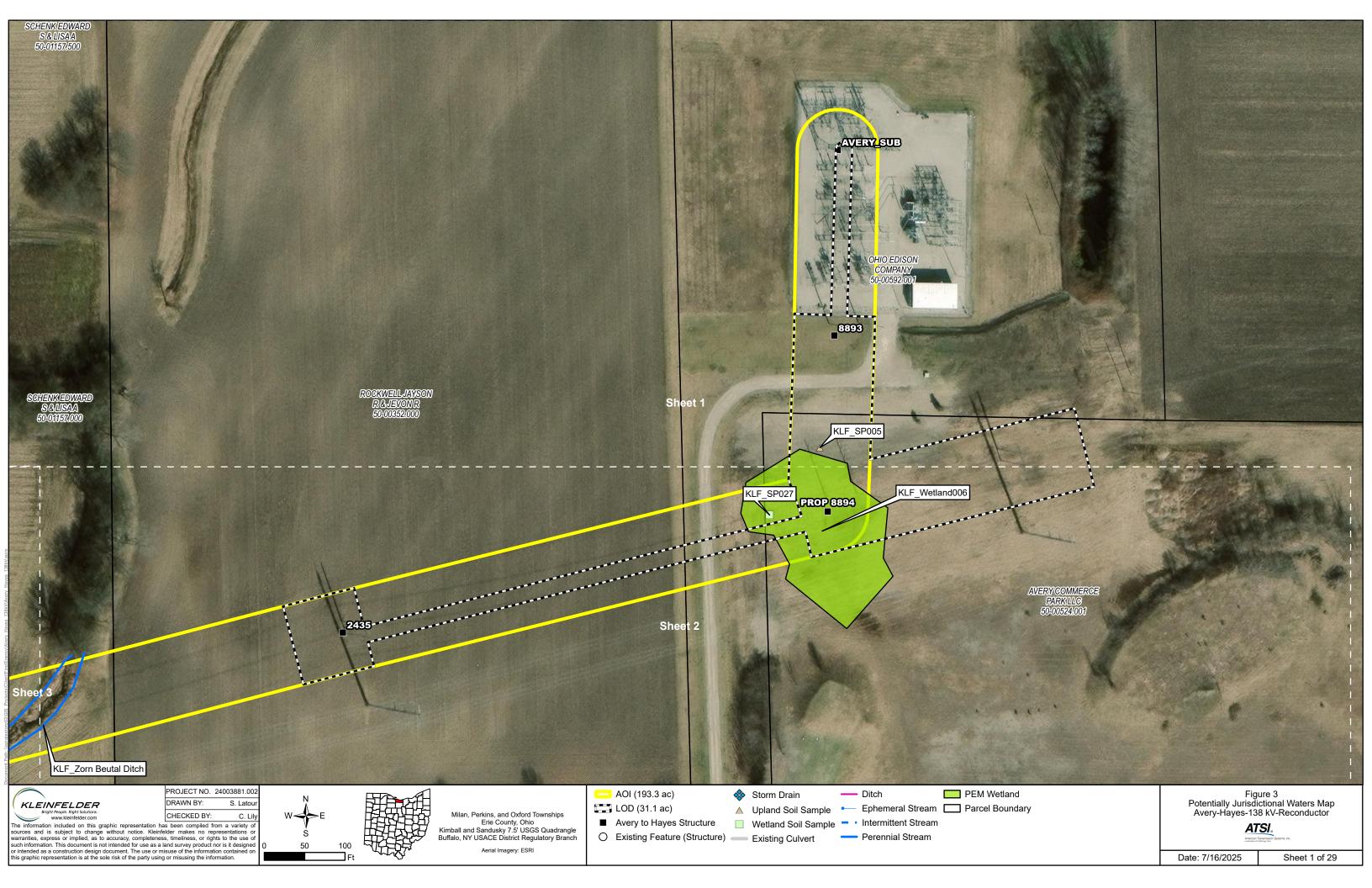
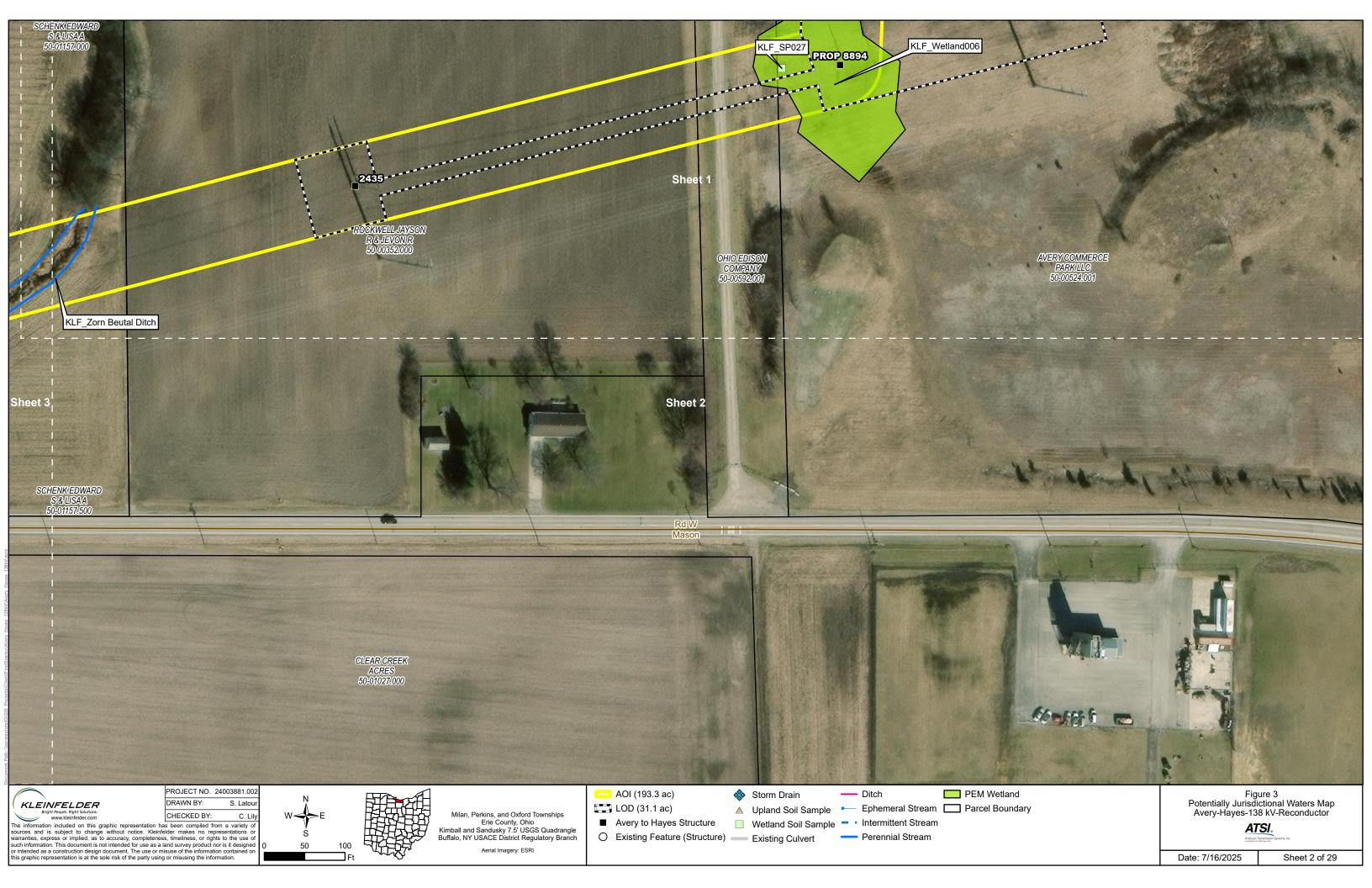
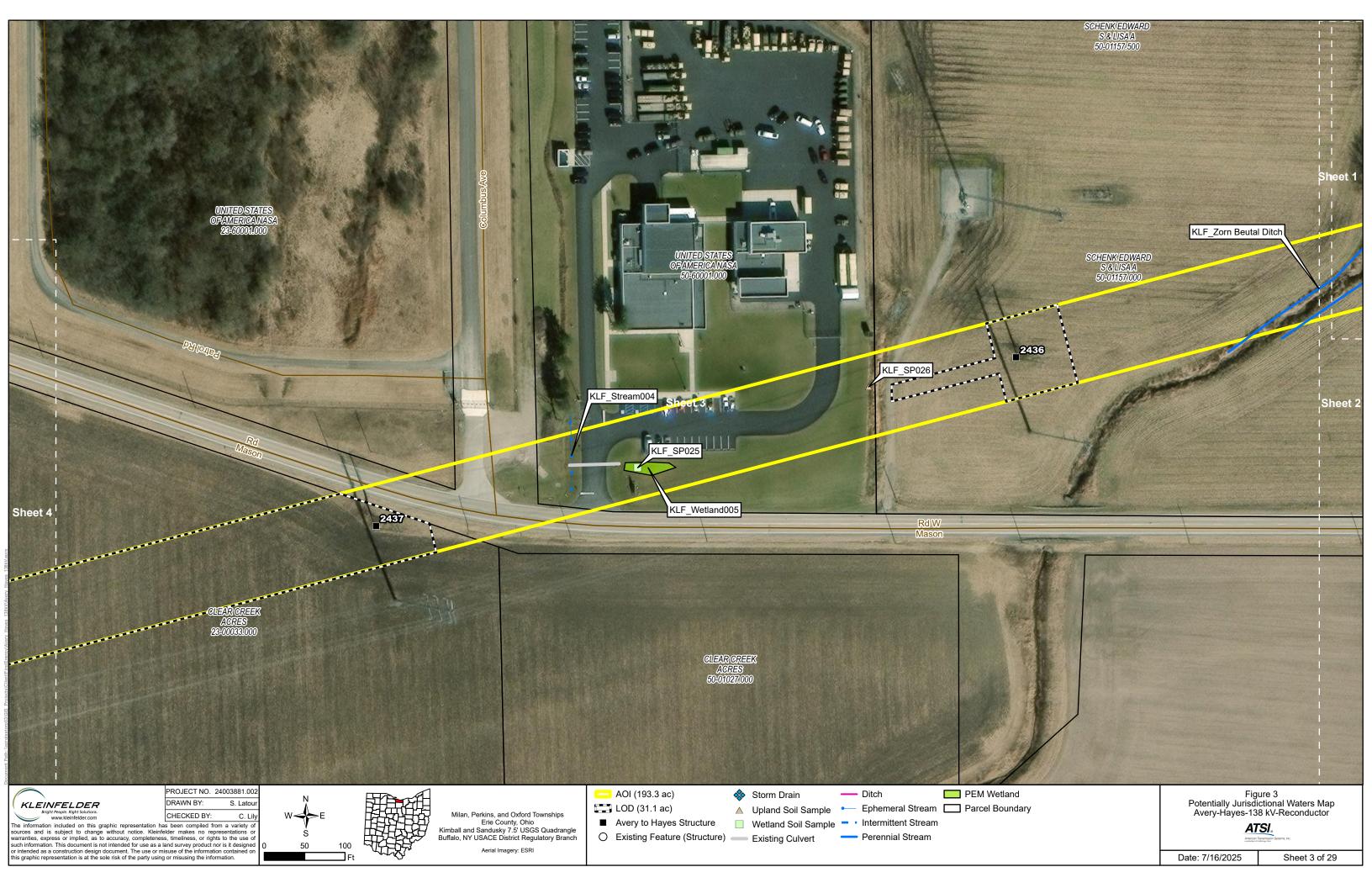


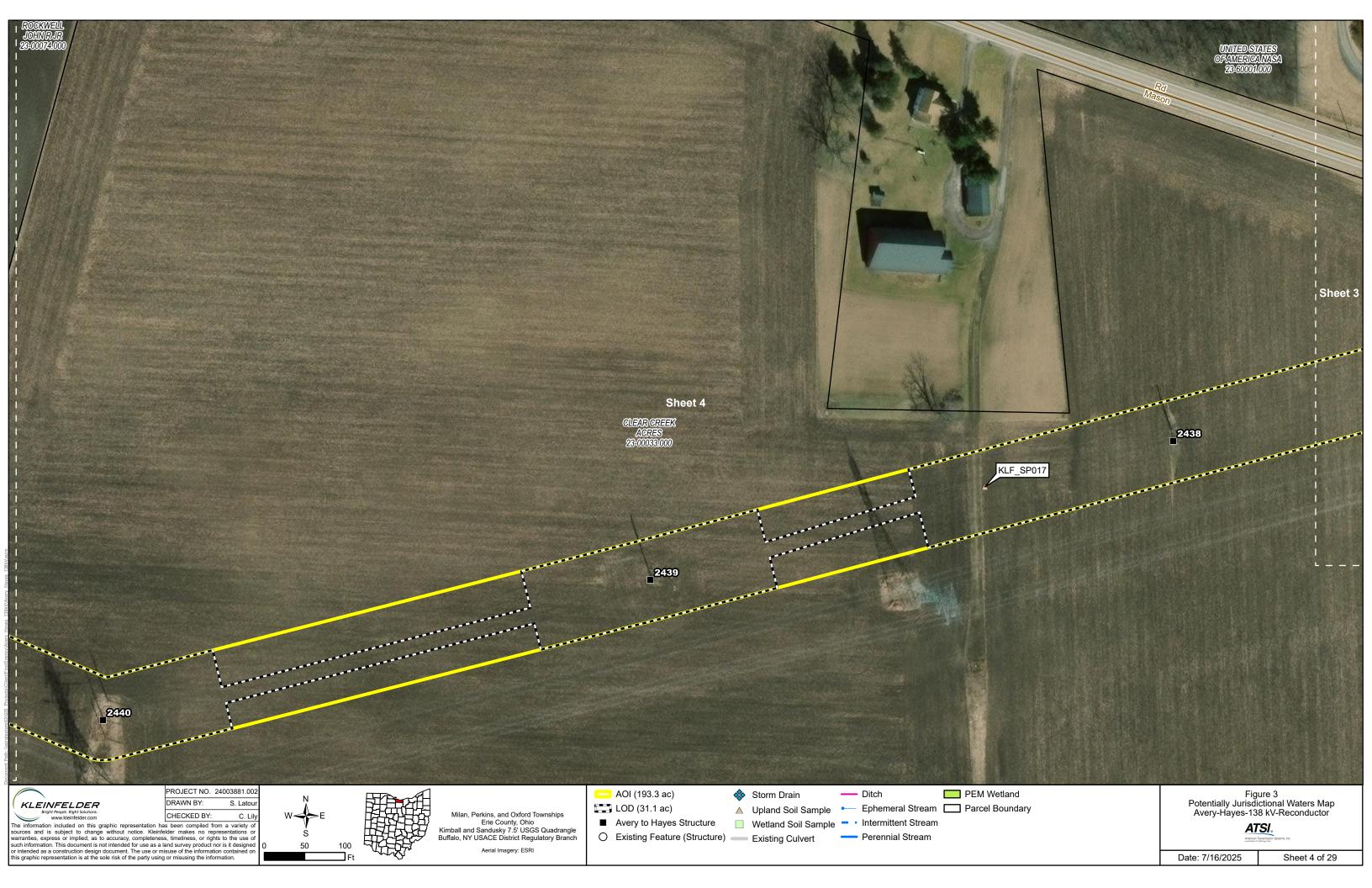
FIGURE 3 POTENTIALLY JURISDICTIONAL WATERS MAP

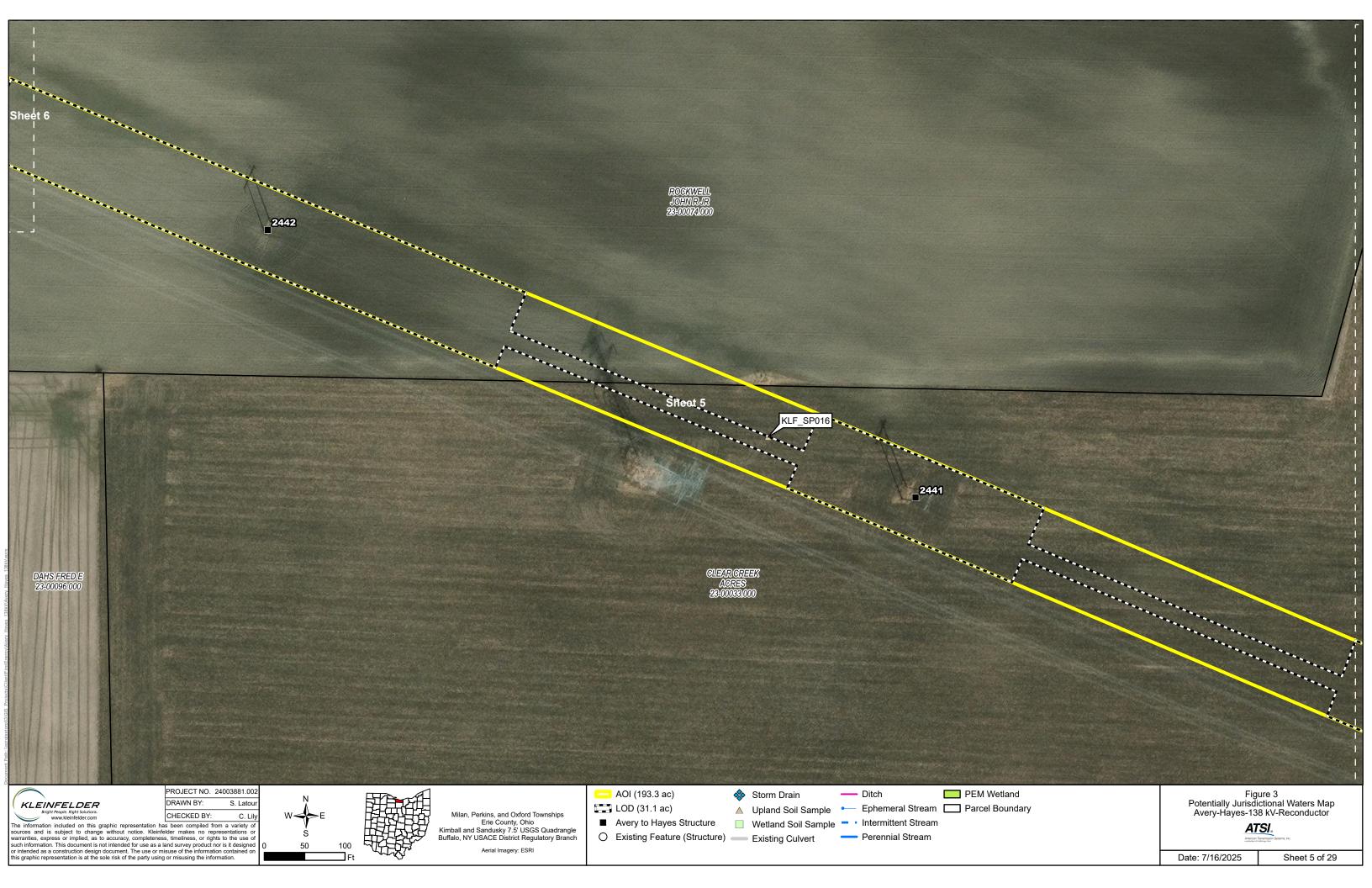


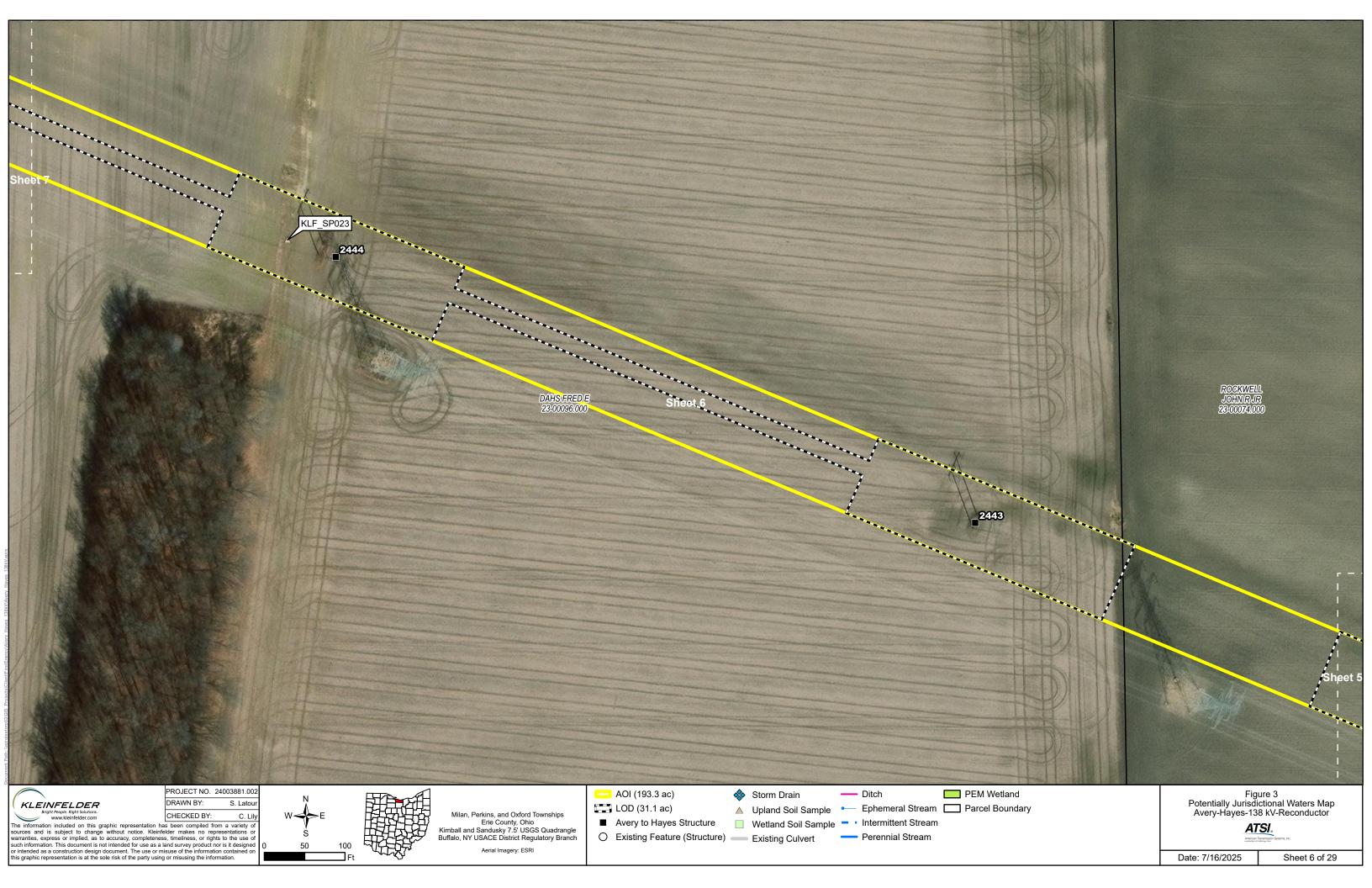


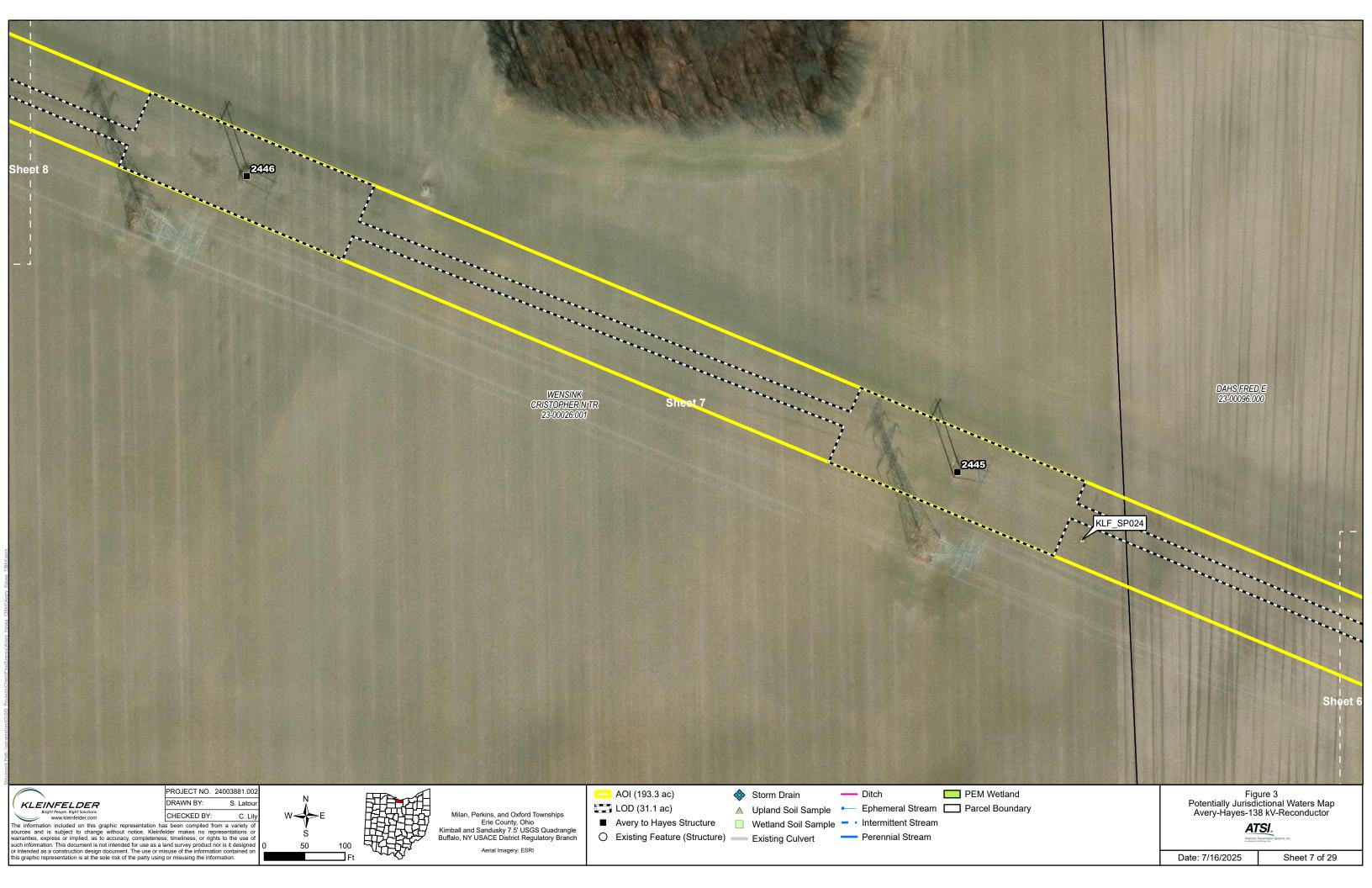


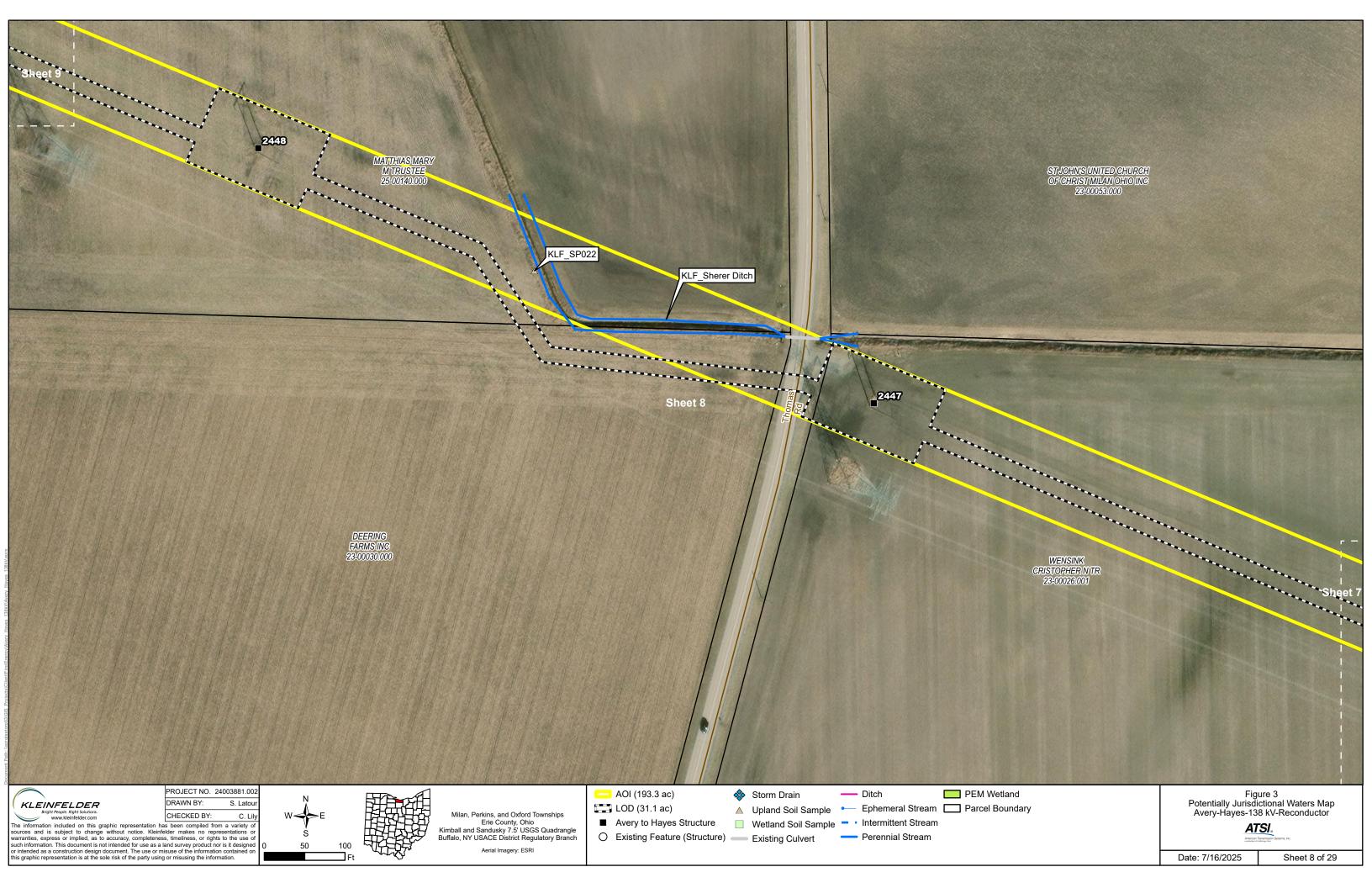


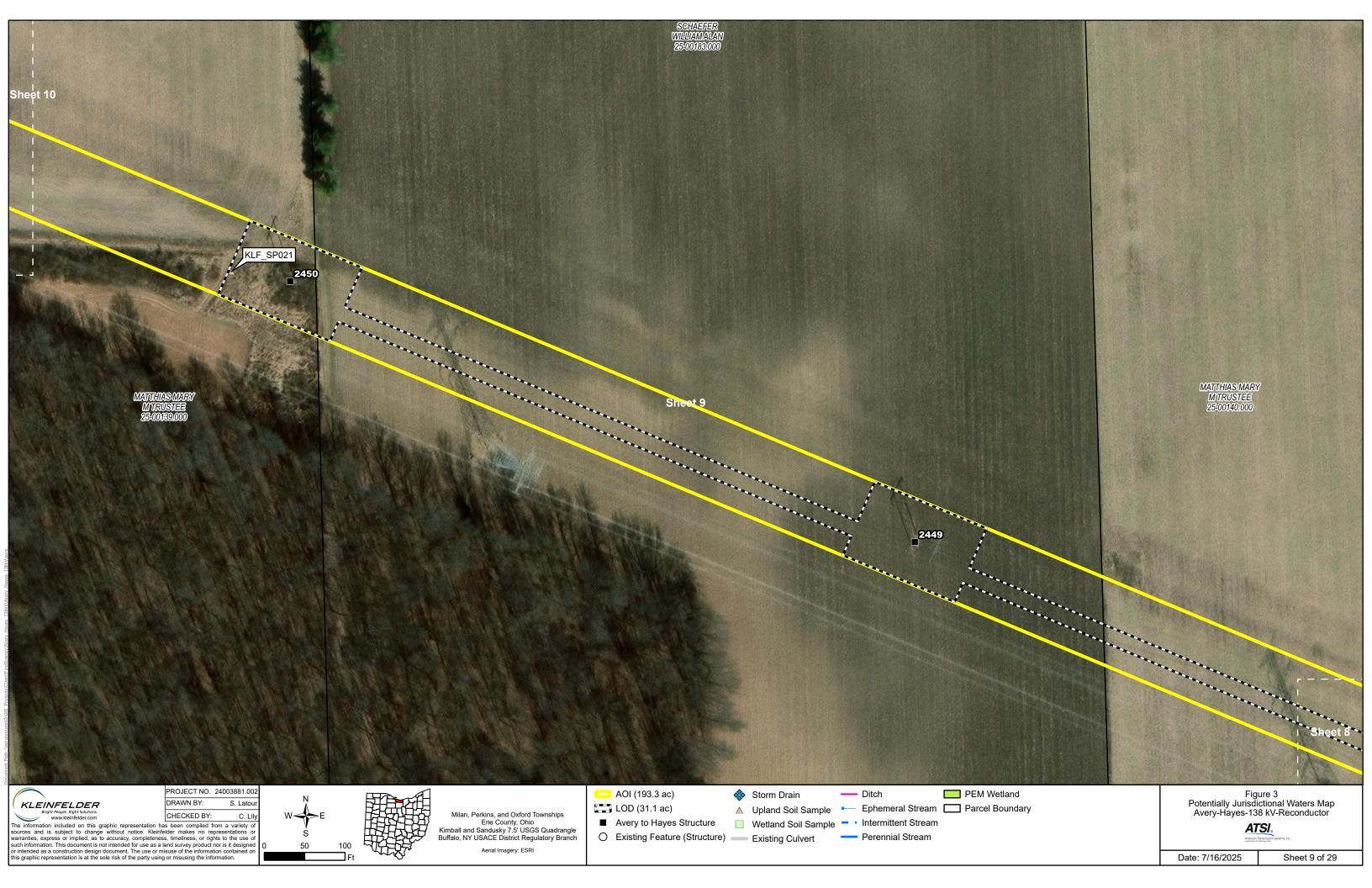


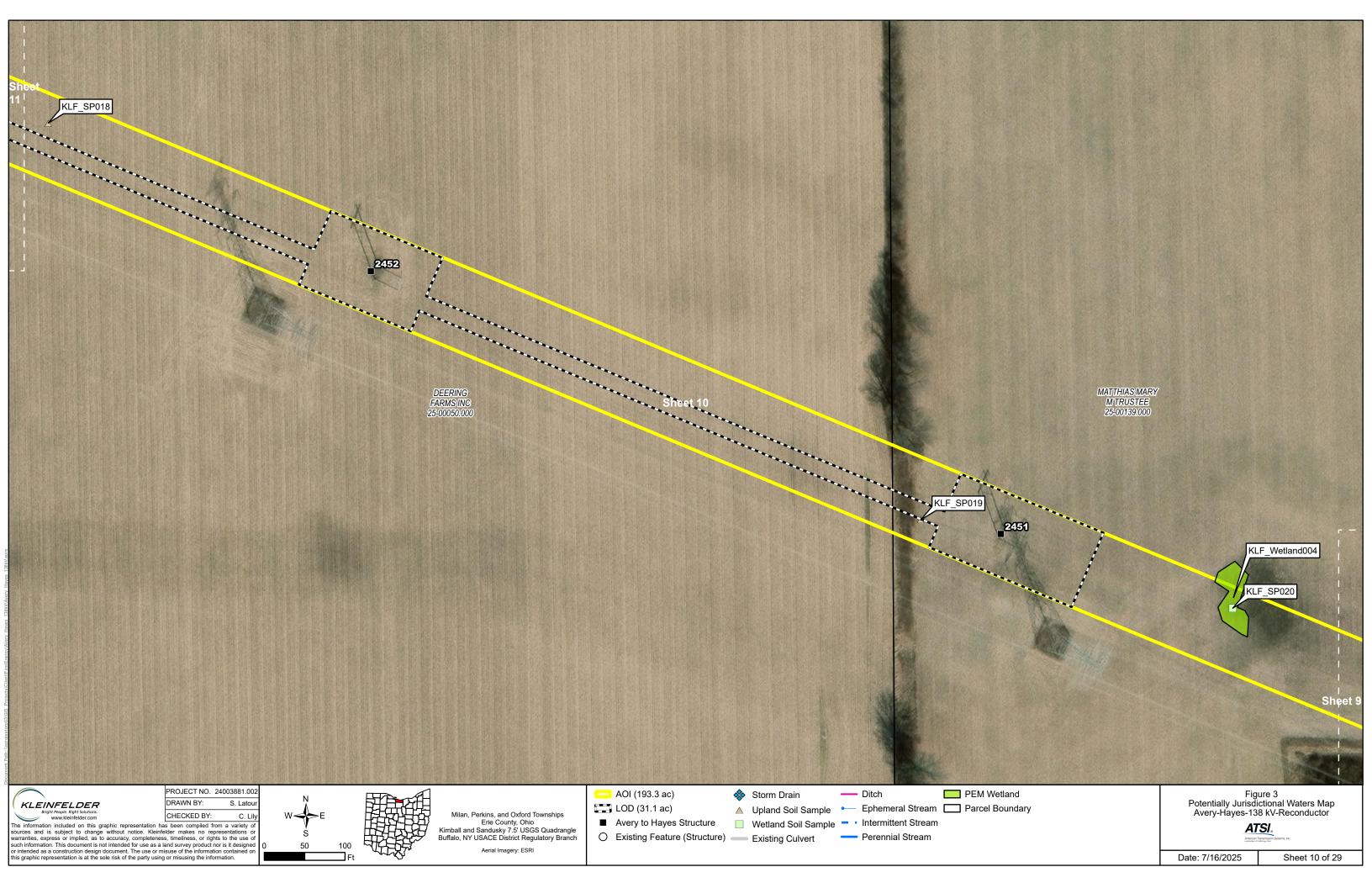


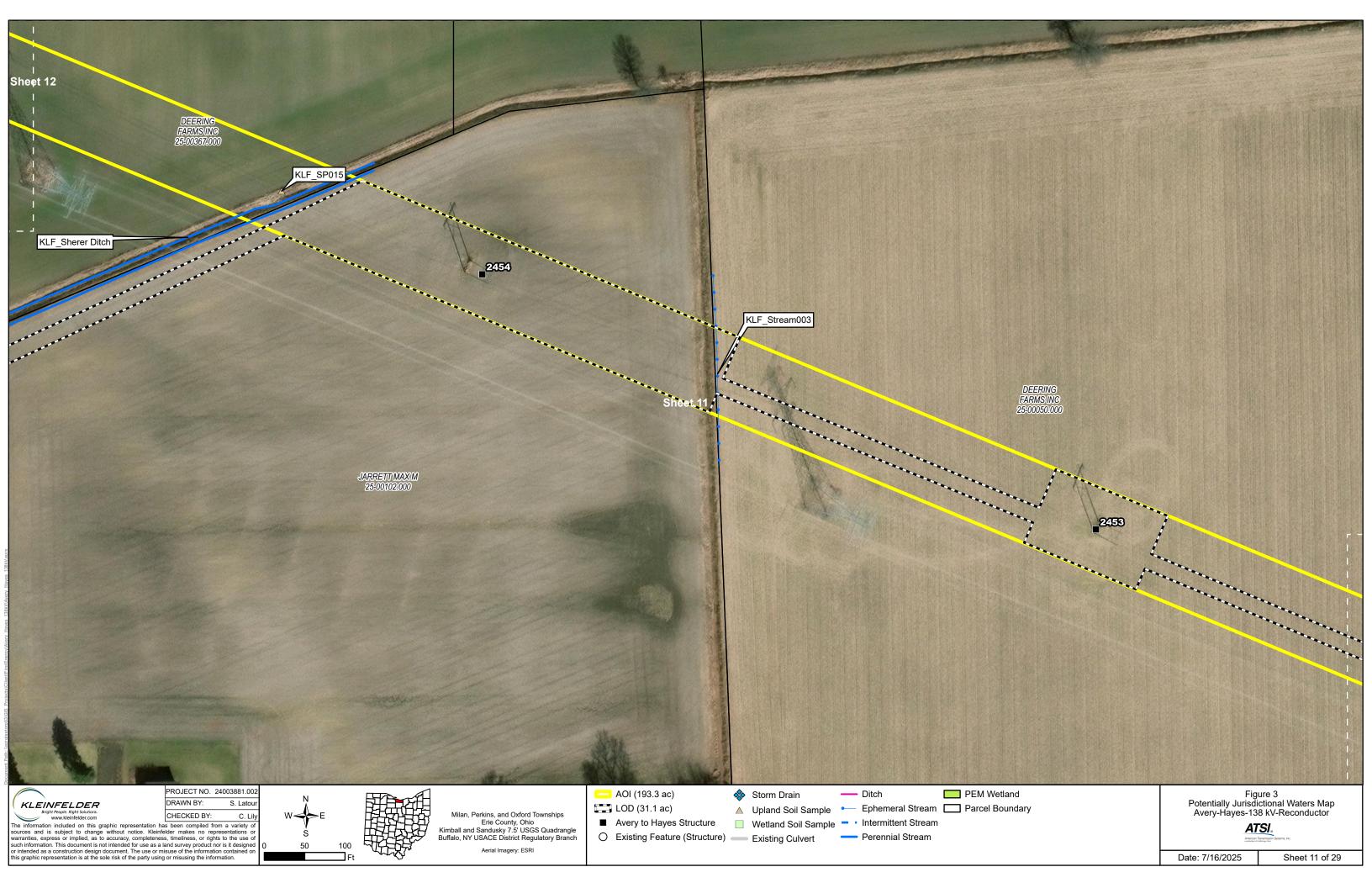


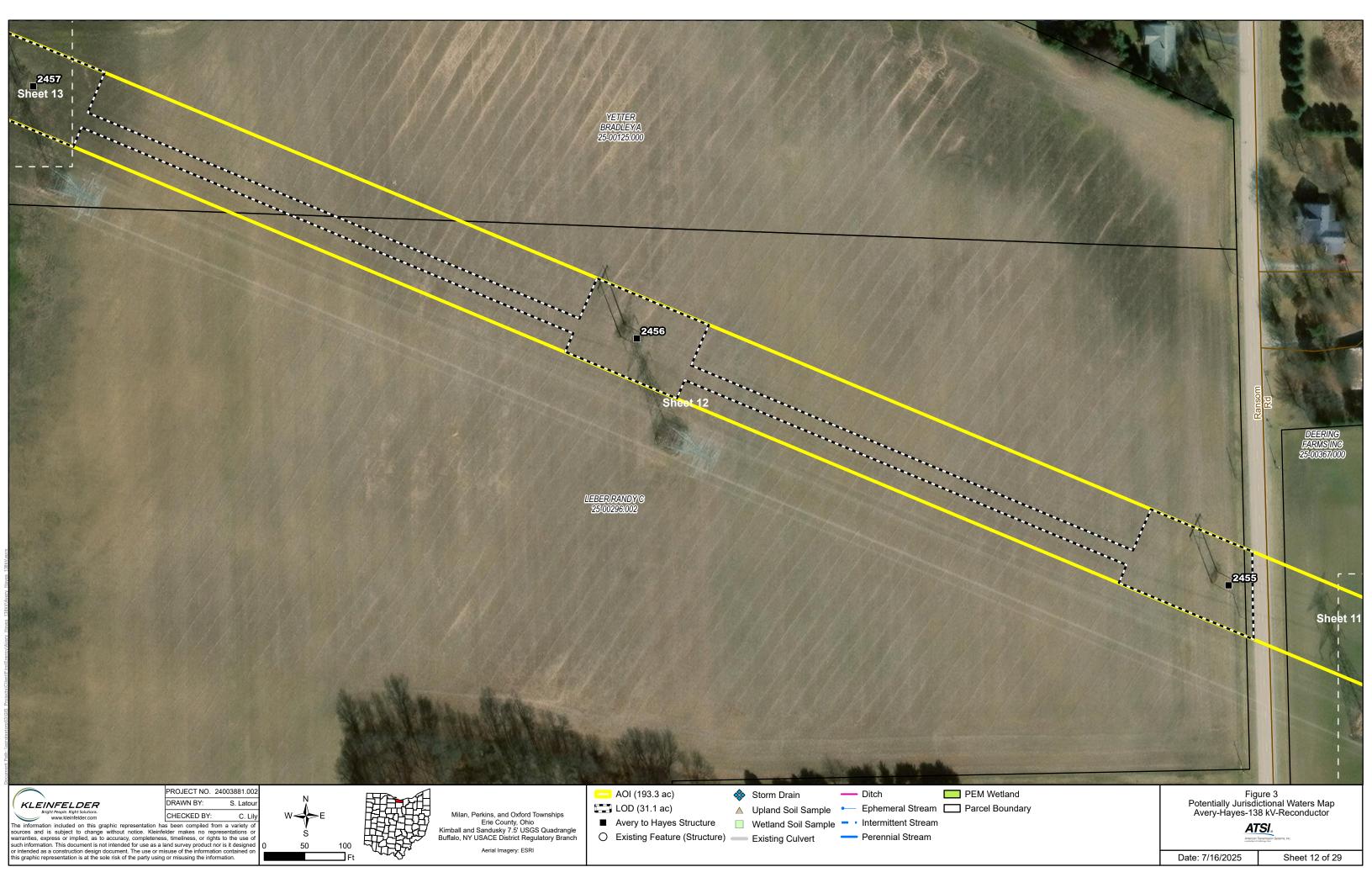


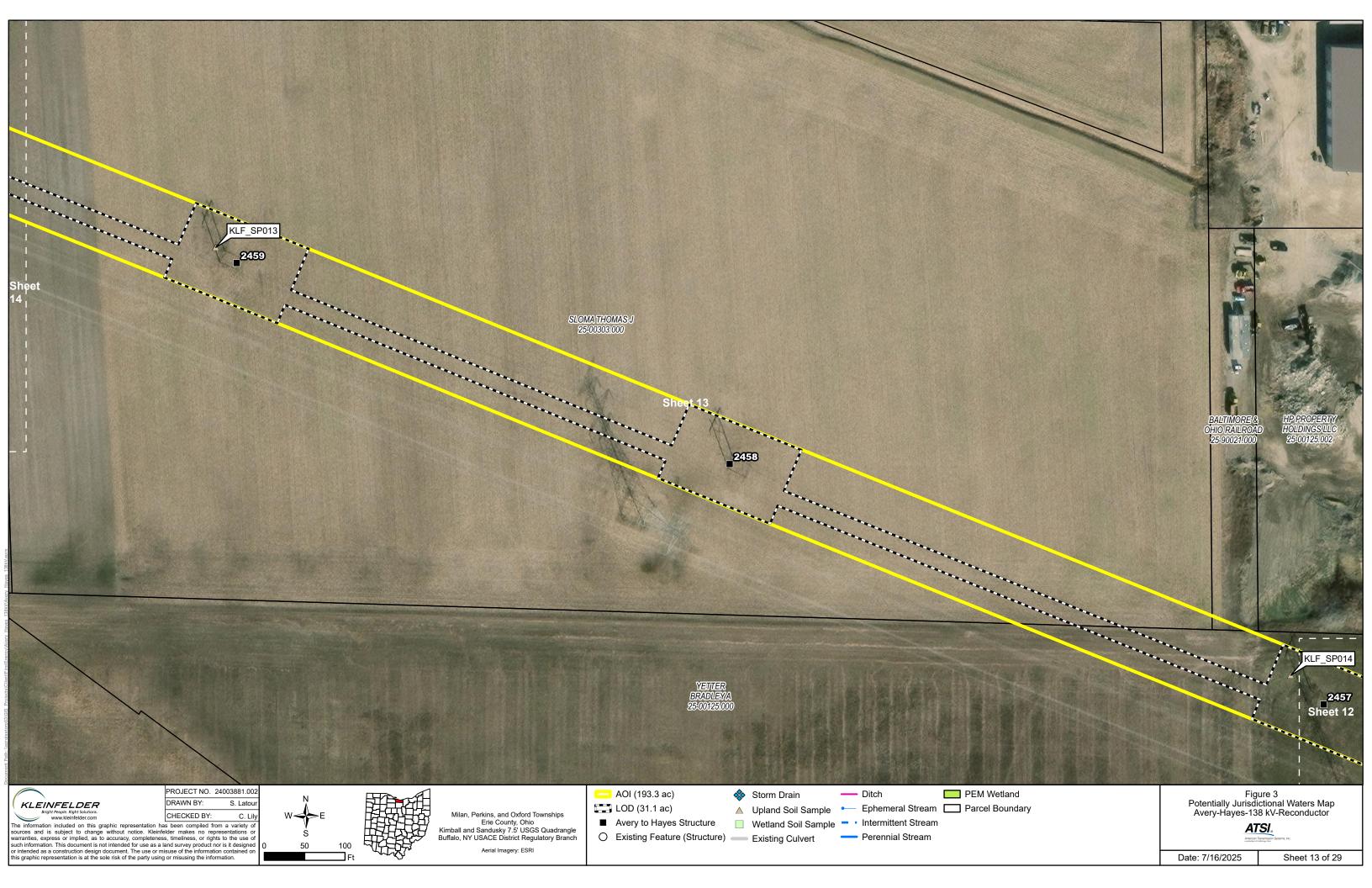


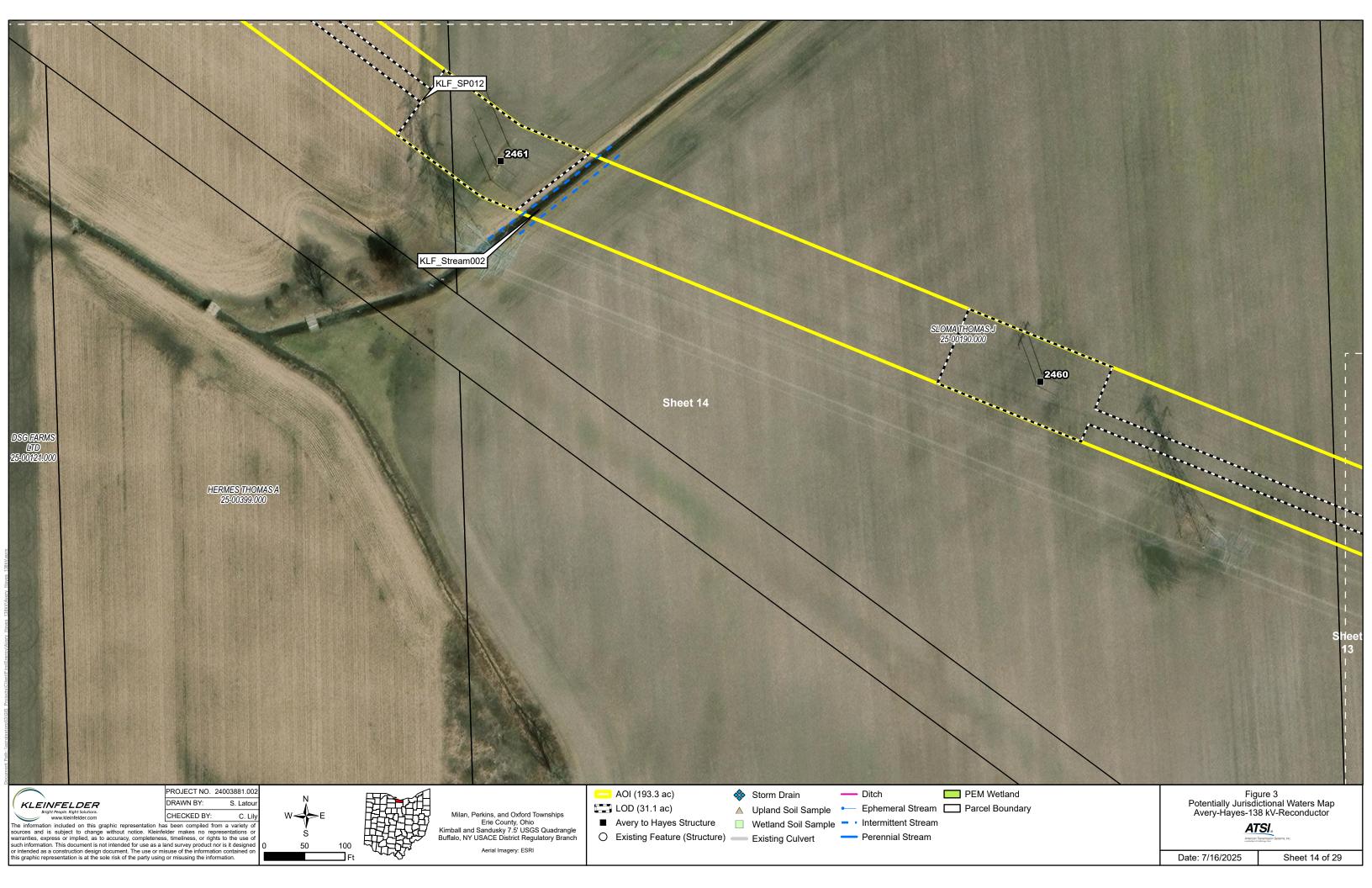


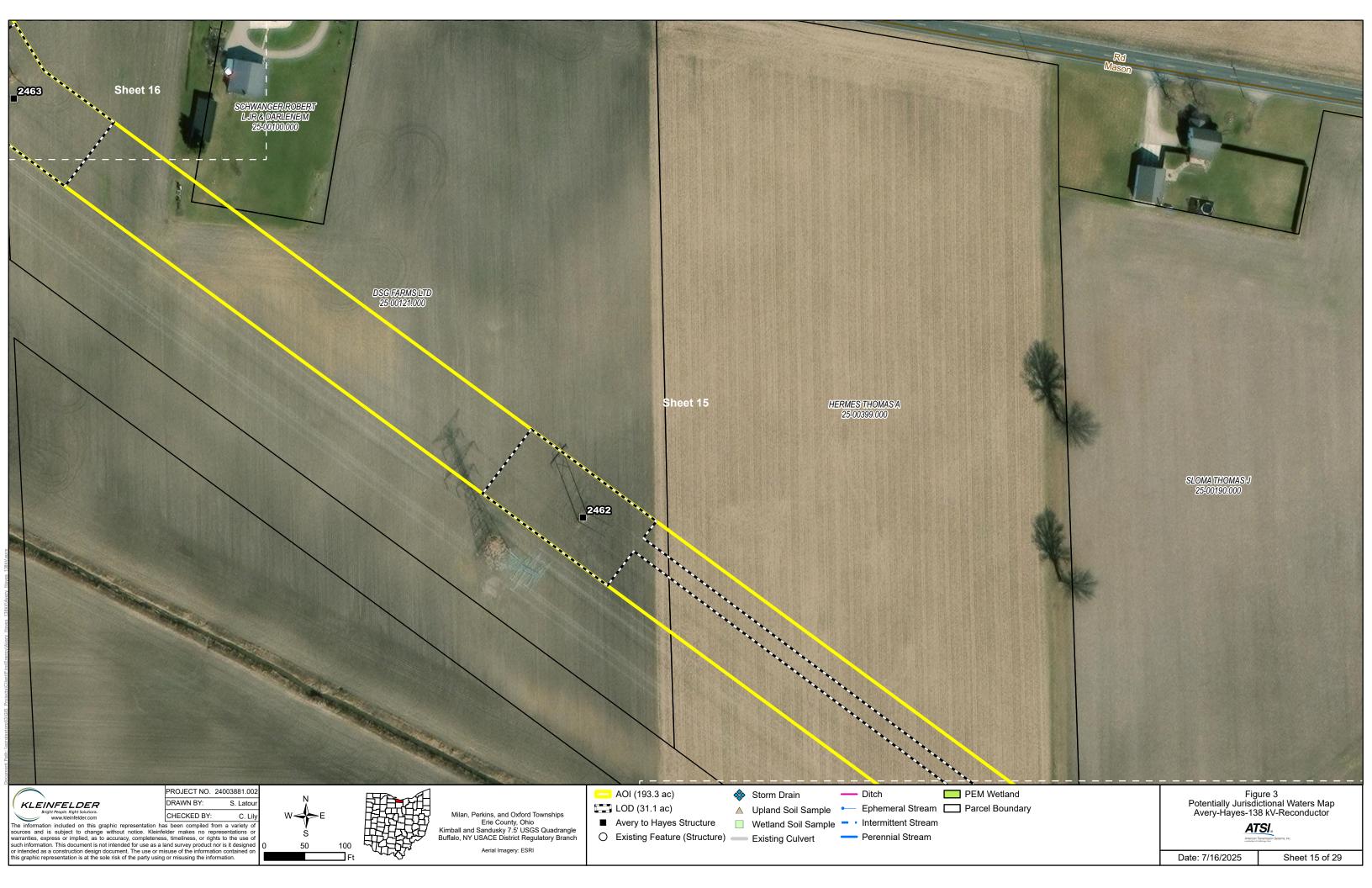


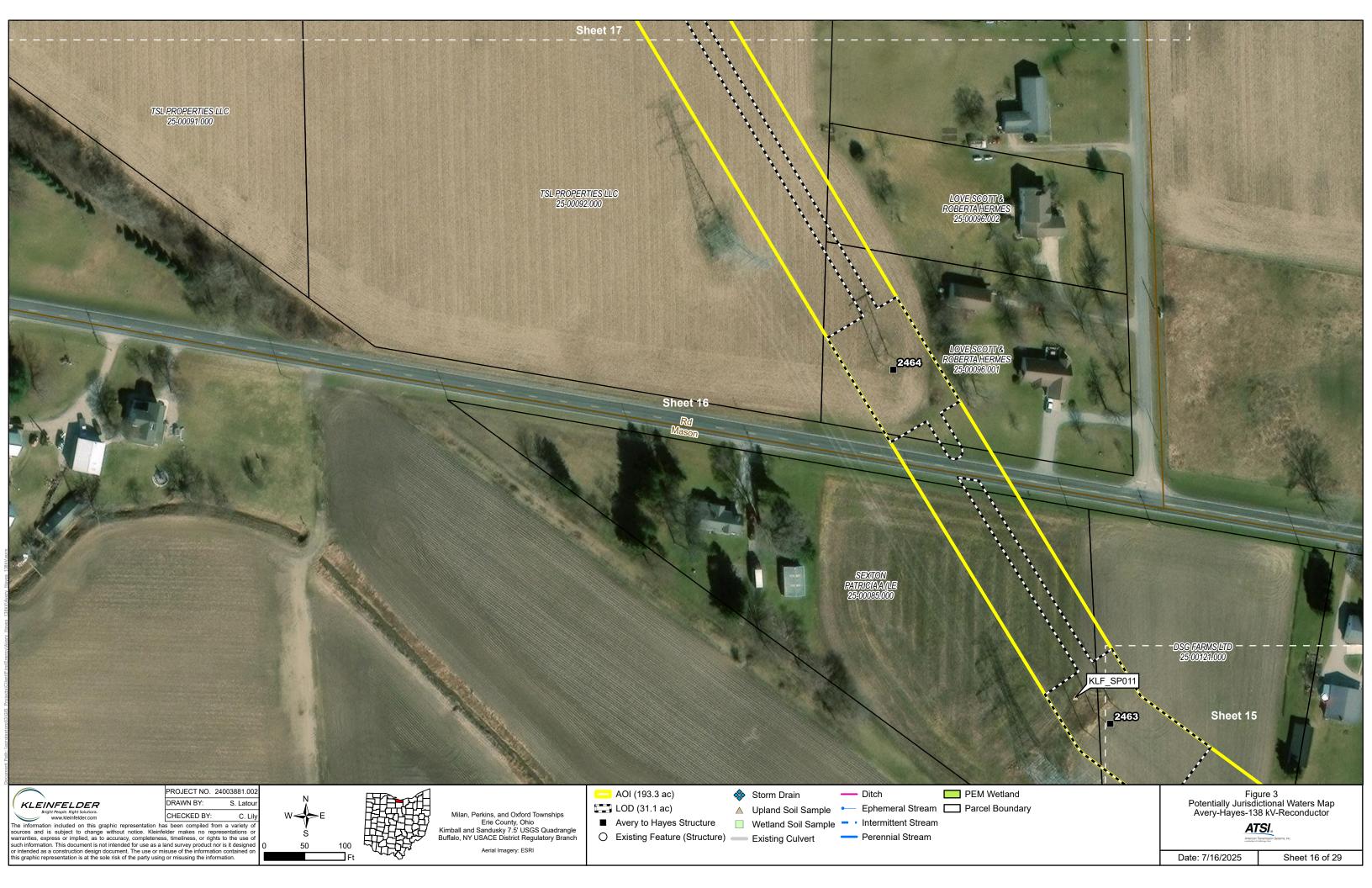


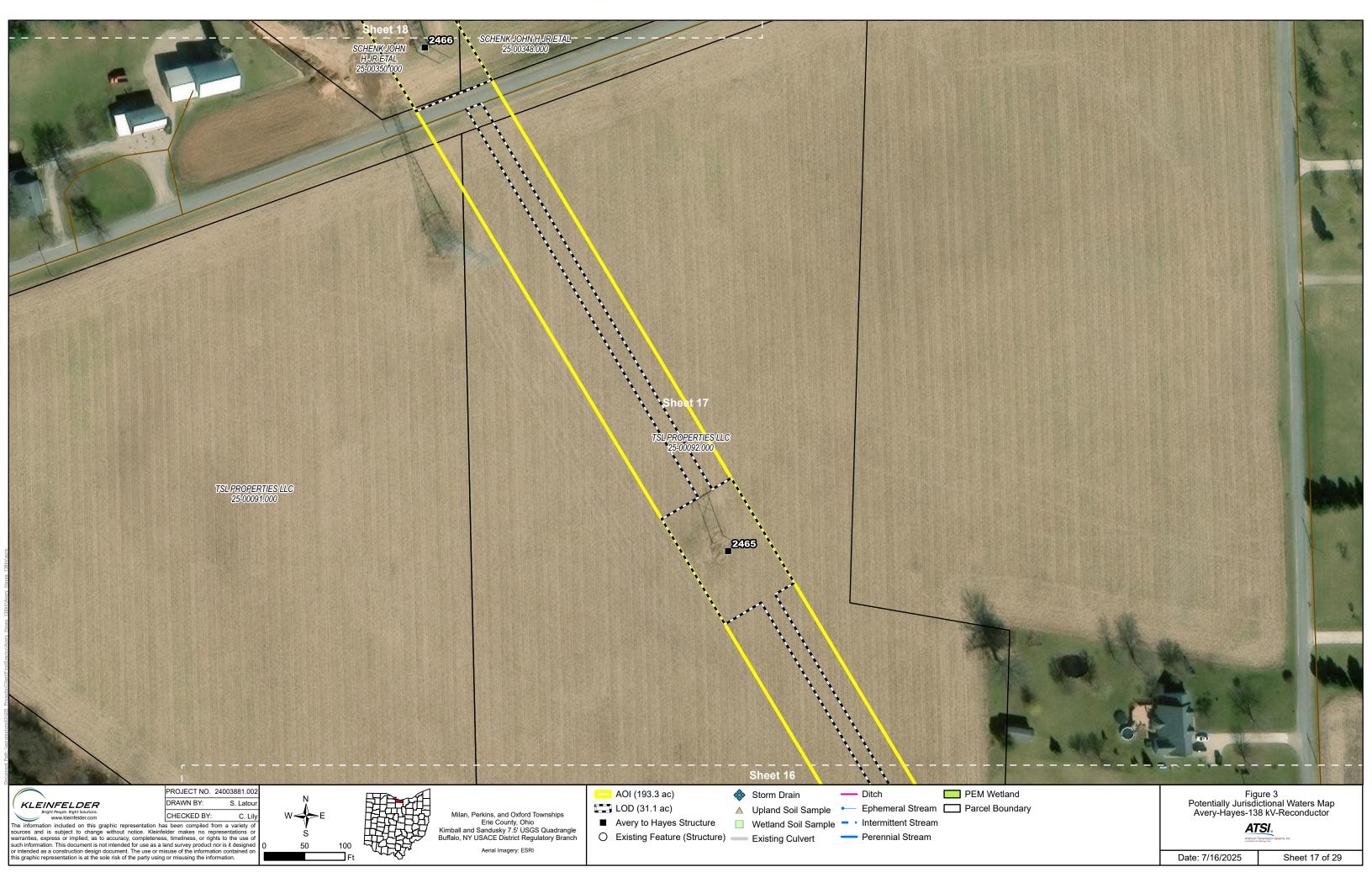


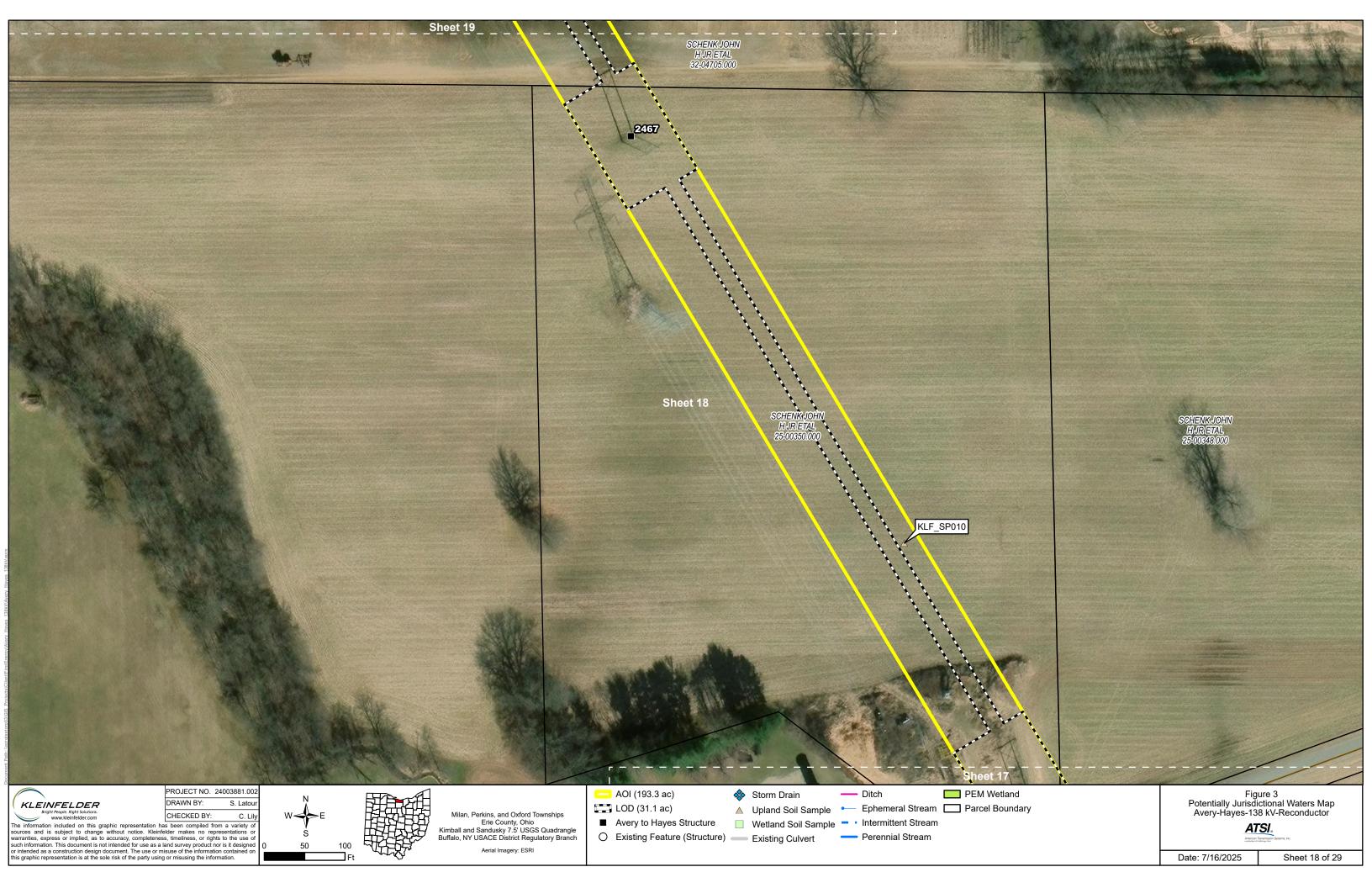


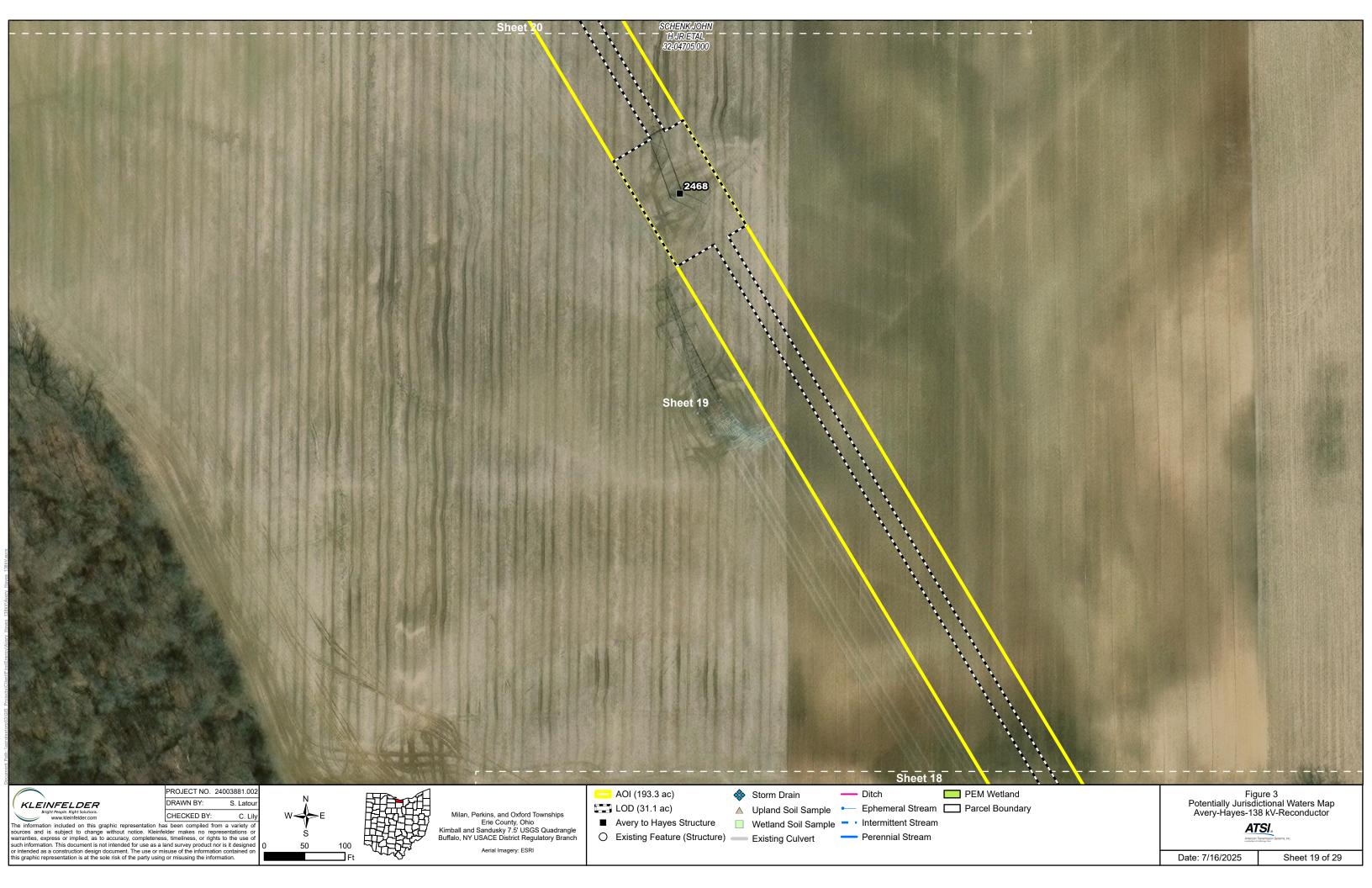


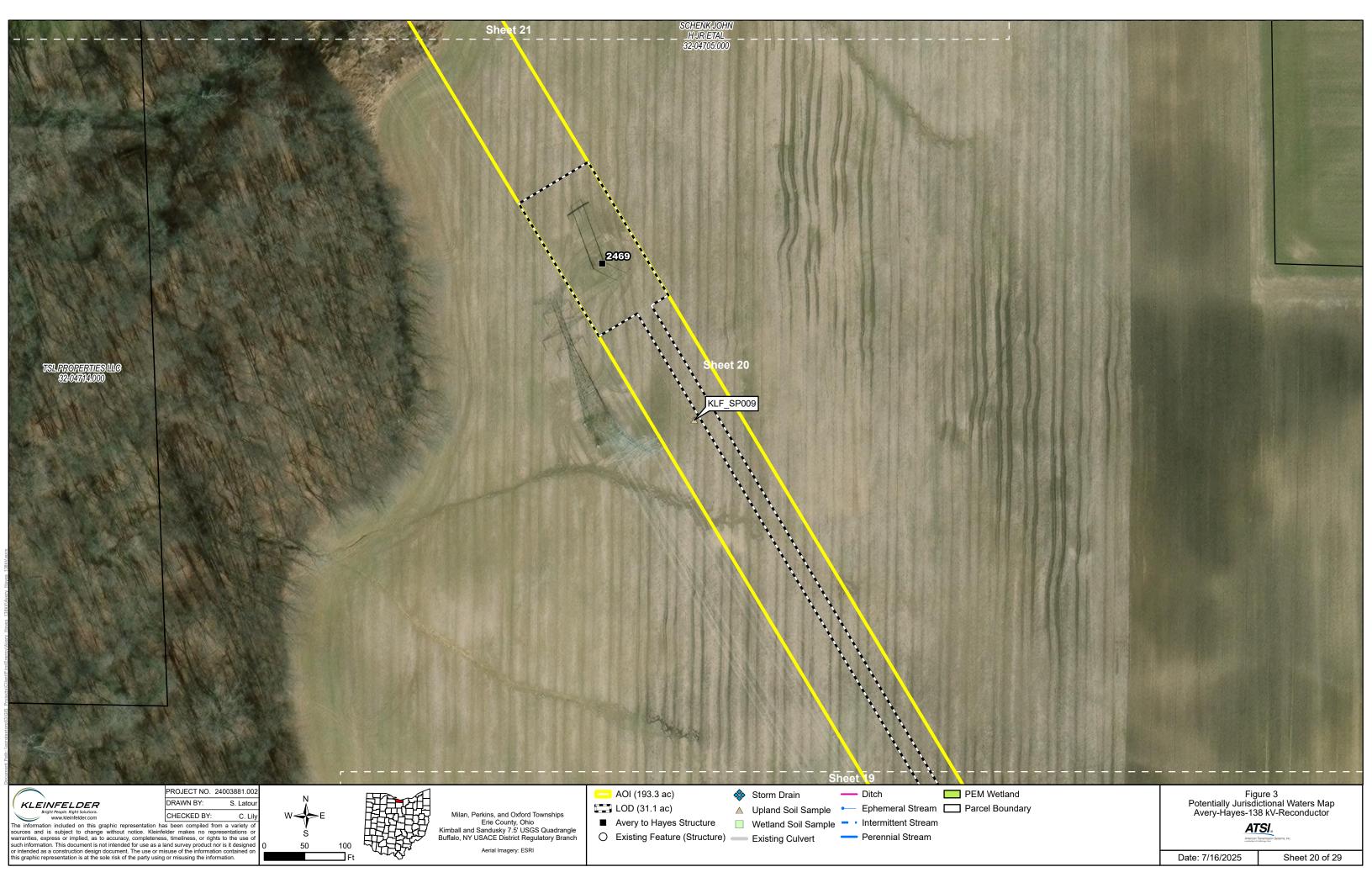


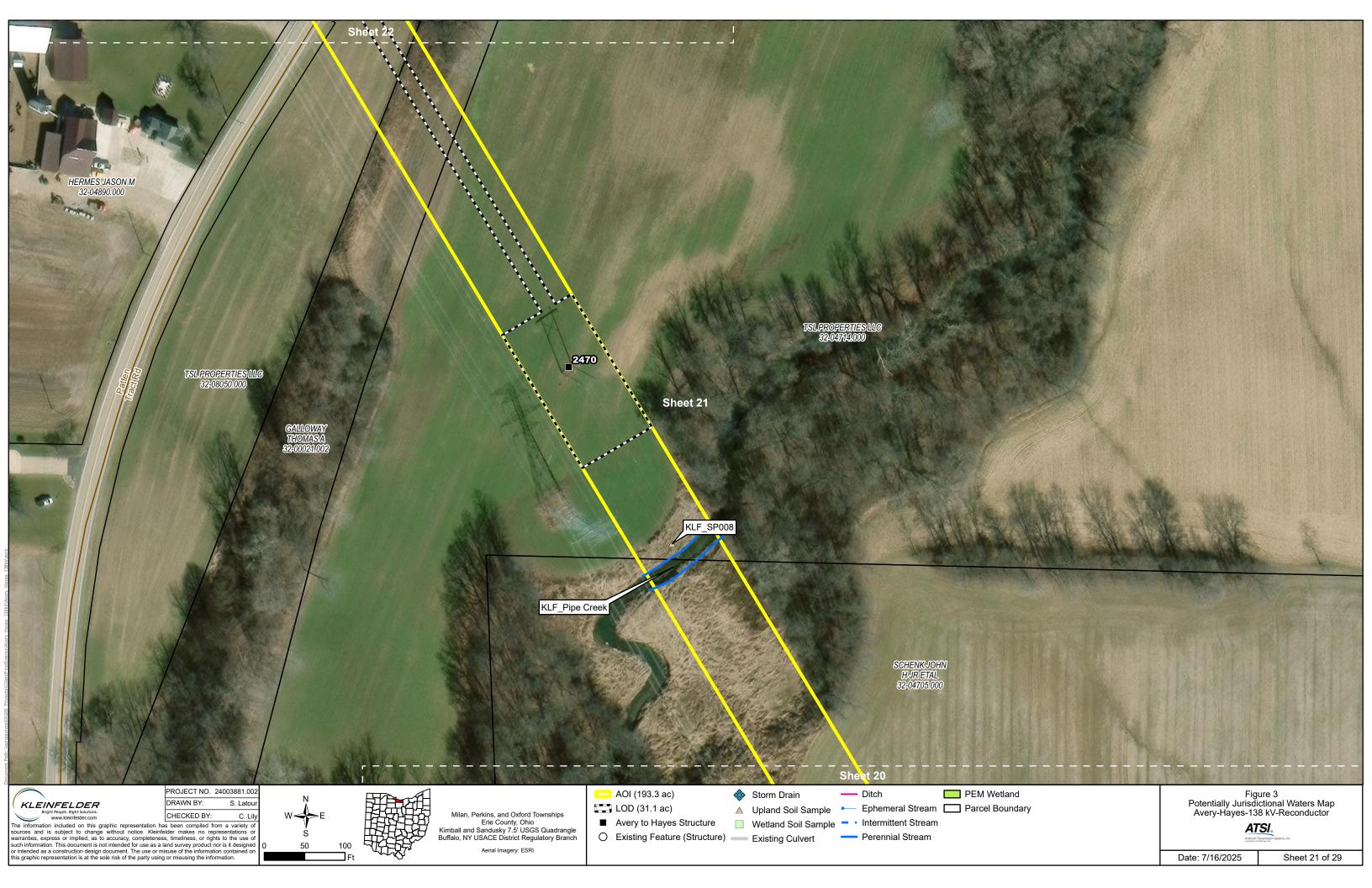


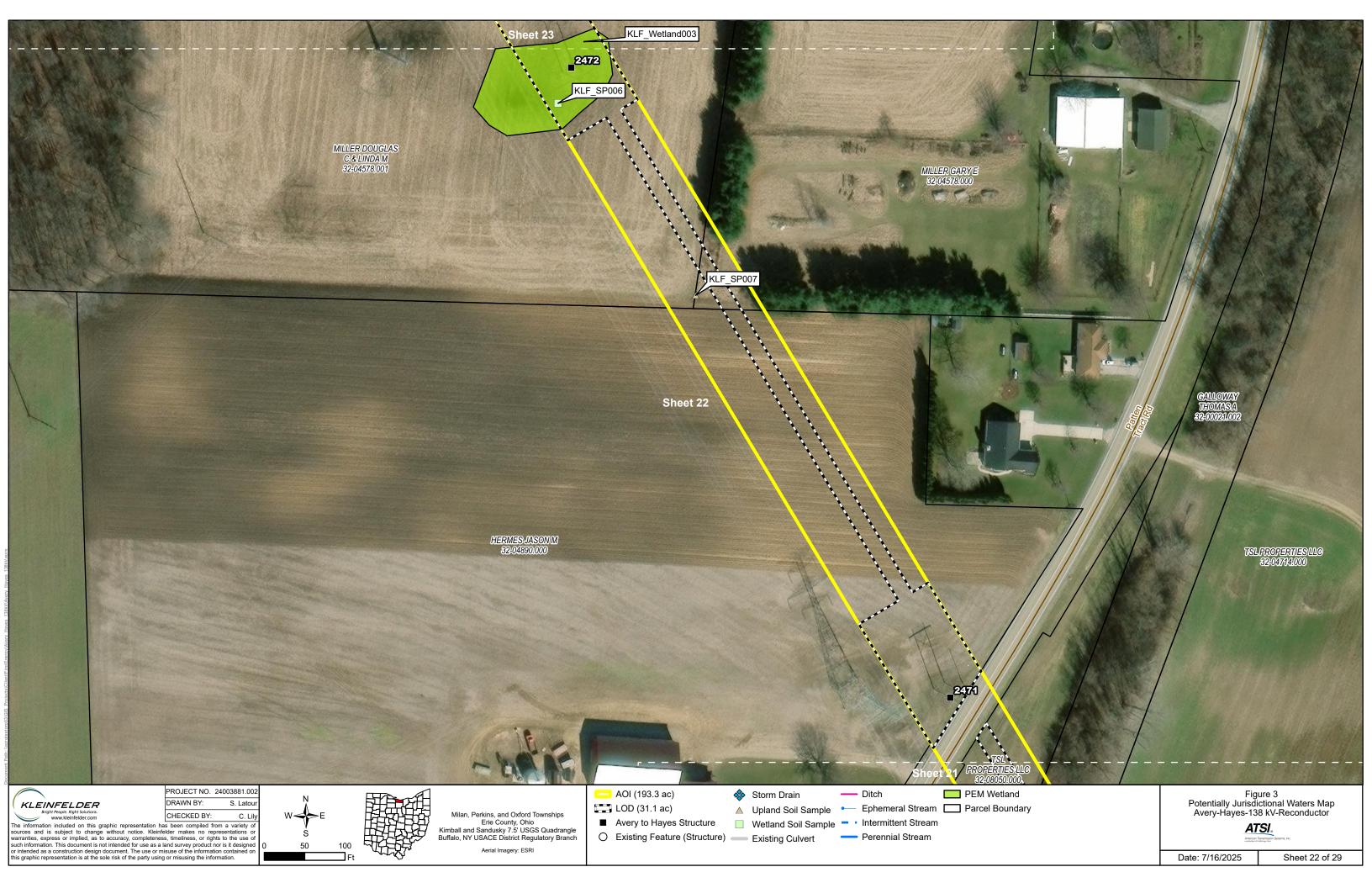


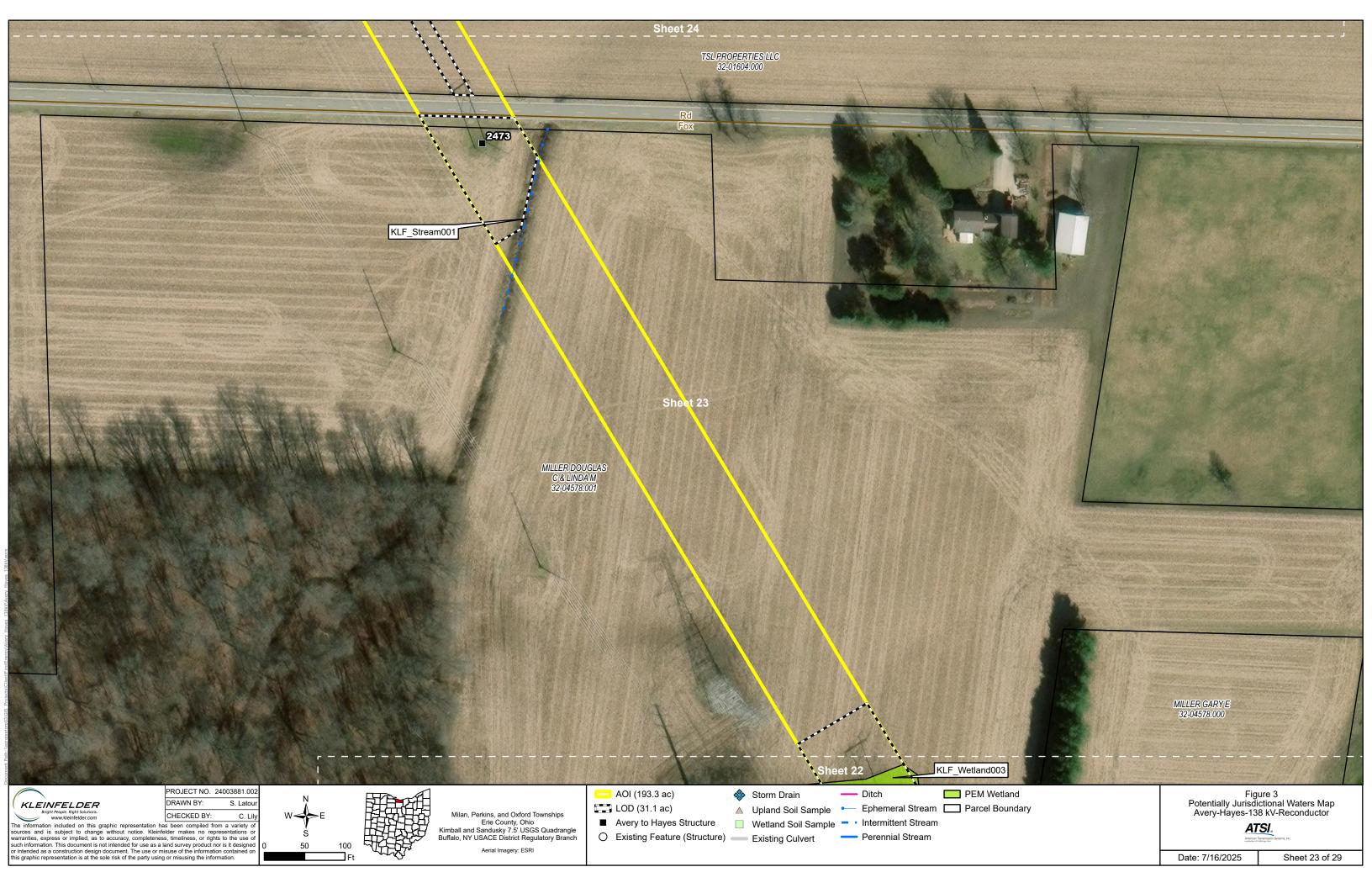


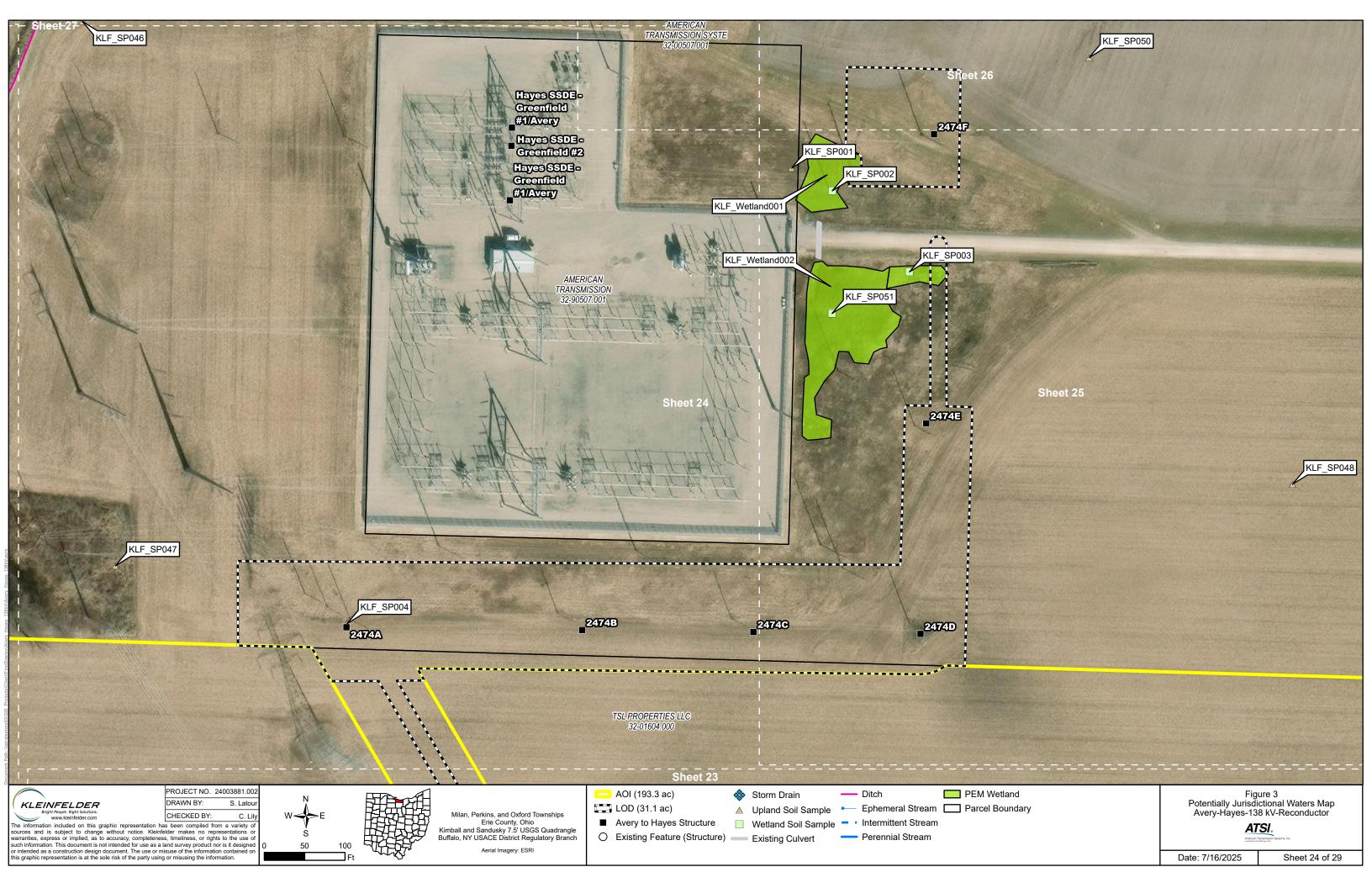


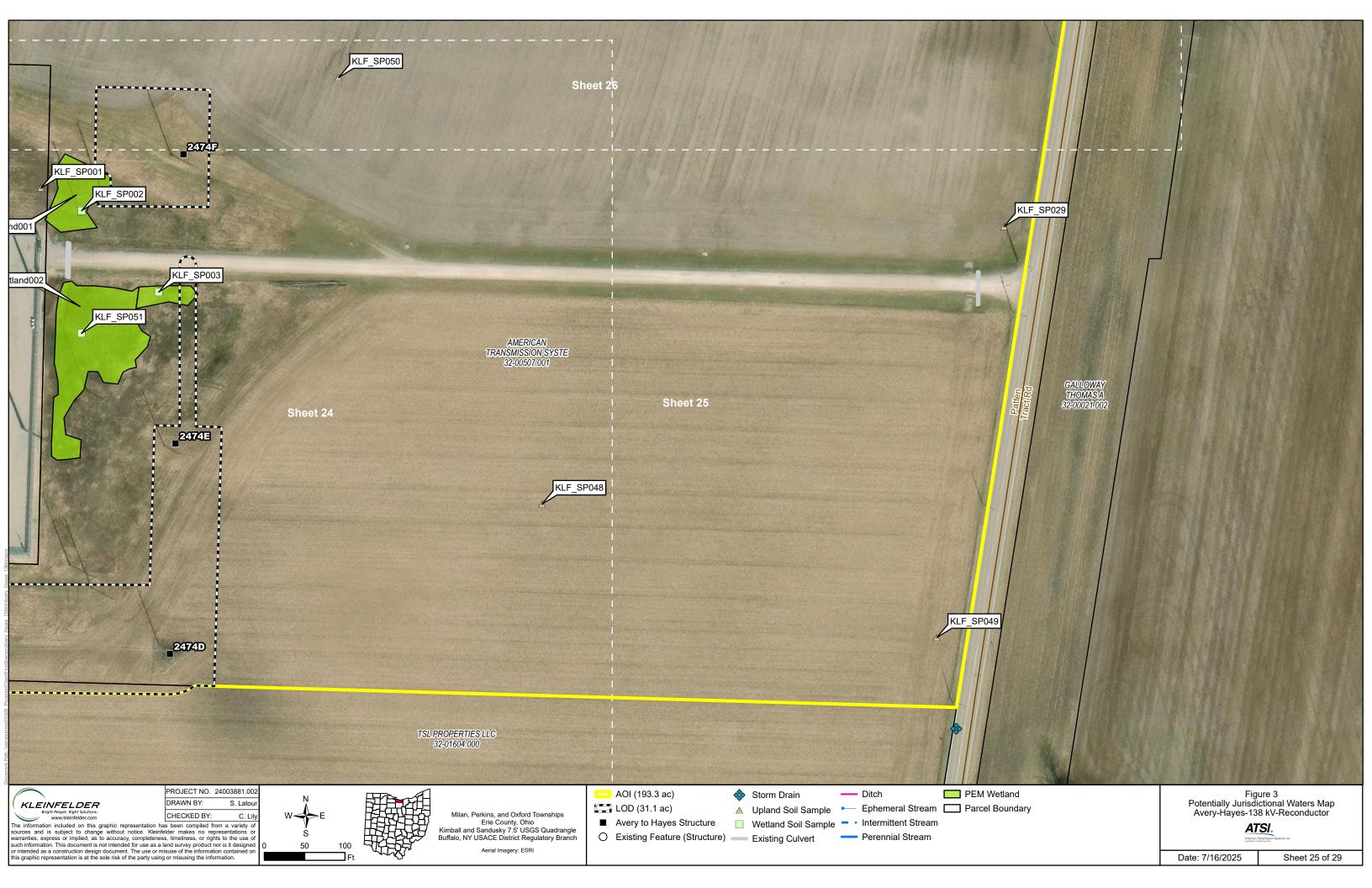


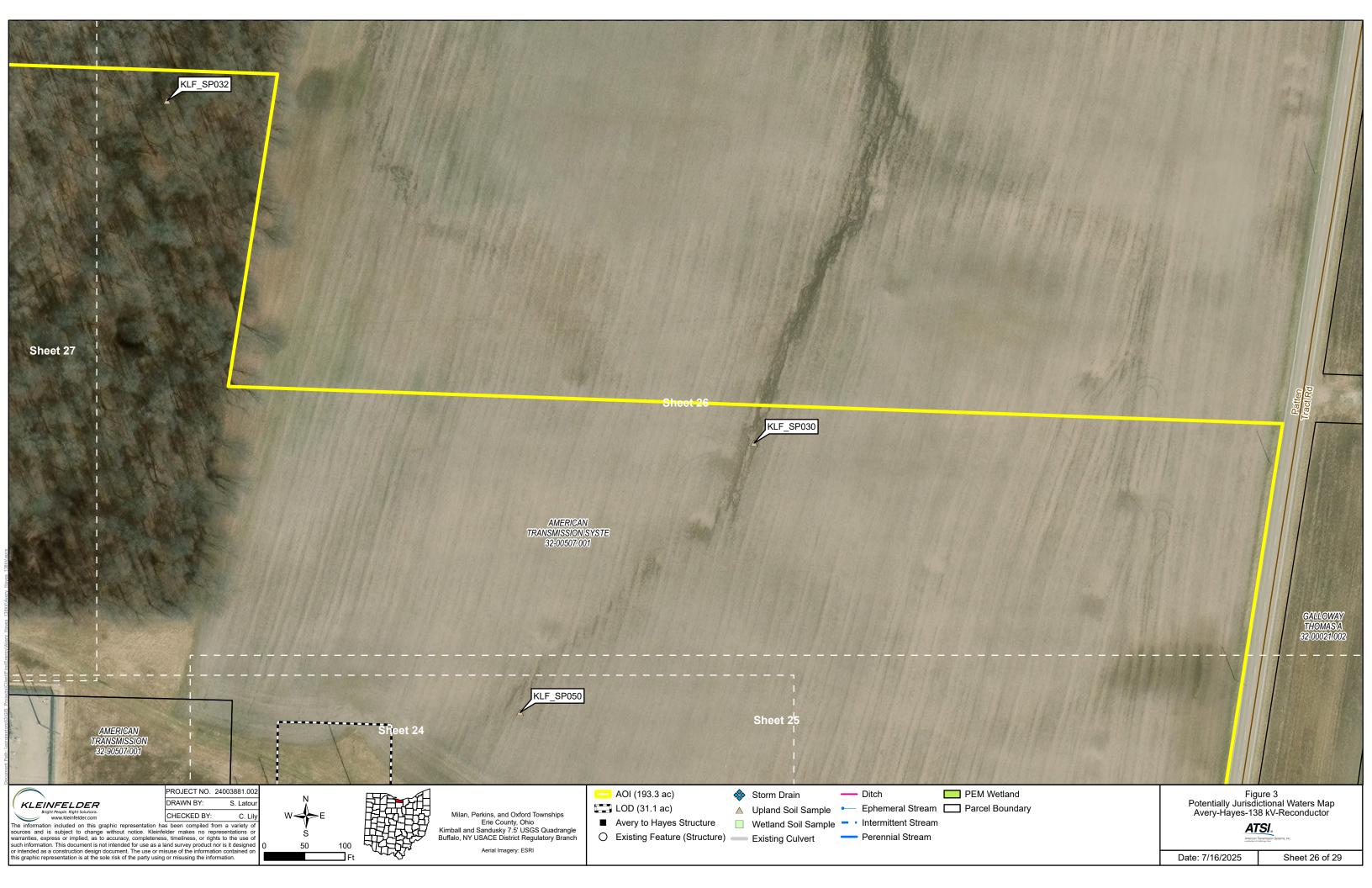


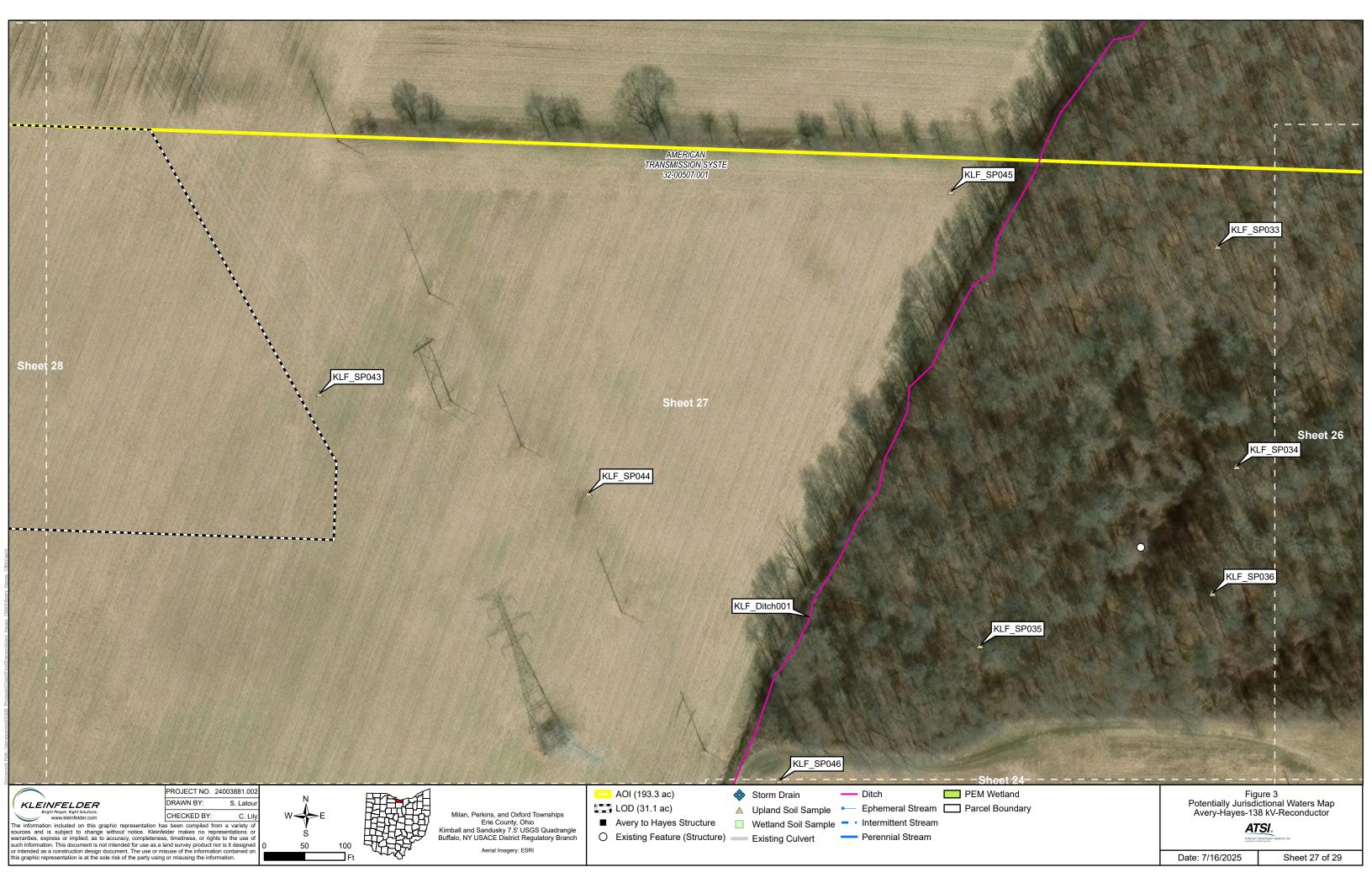


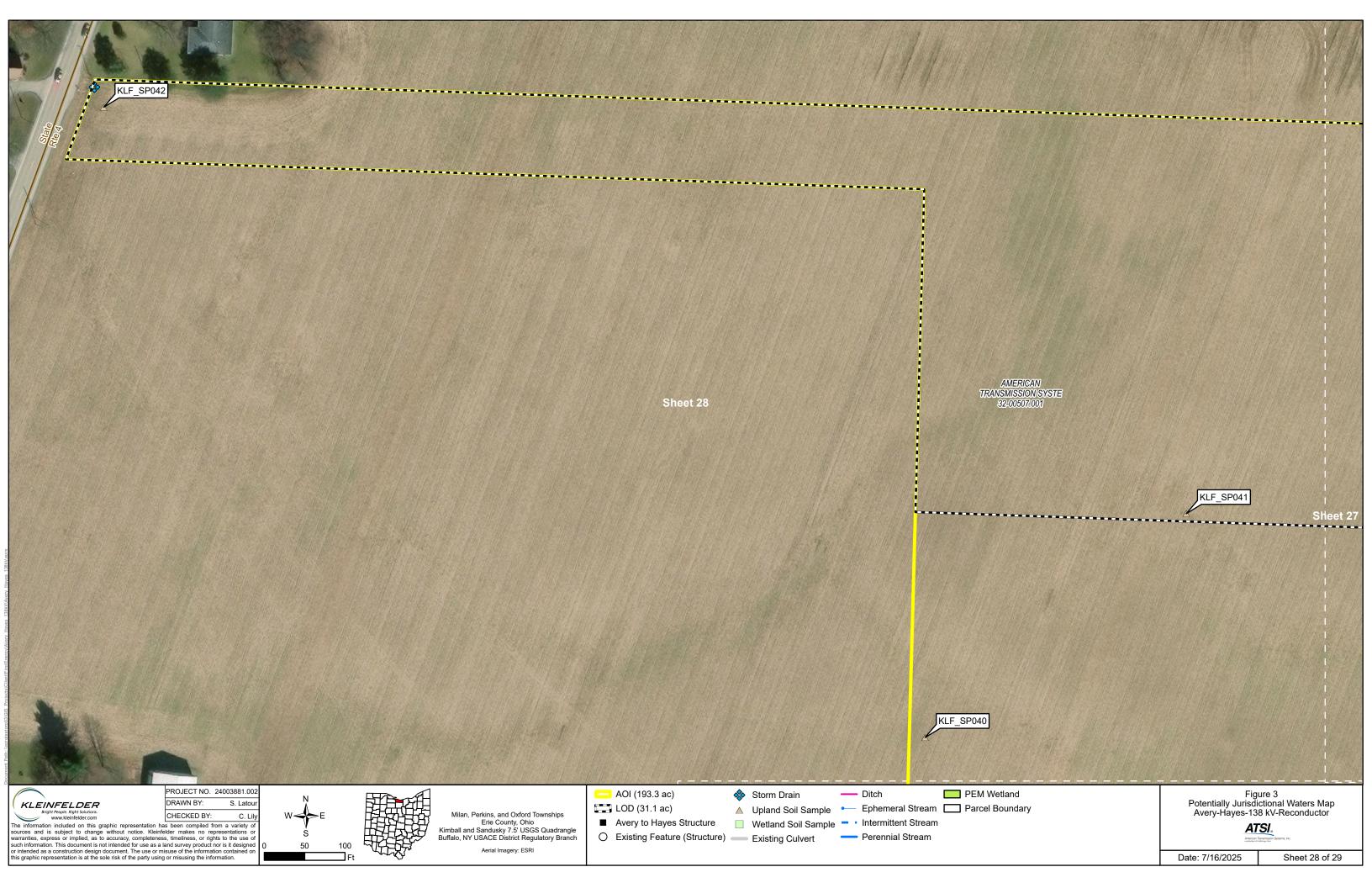


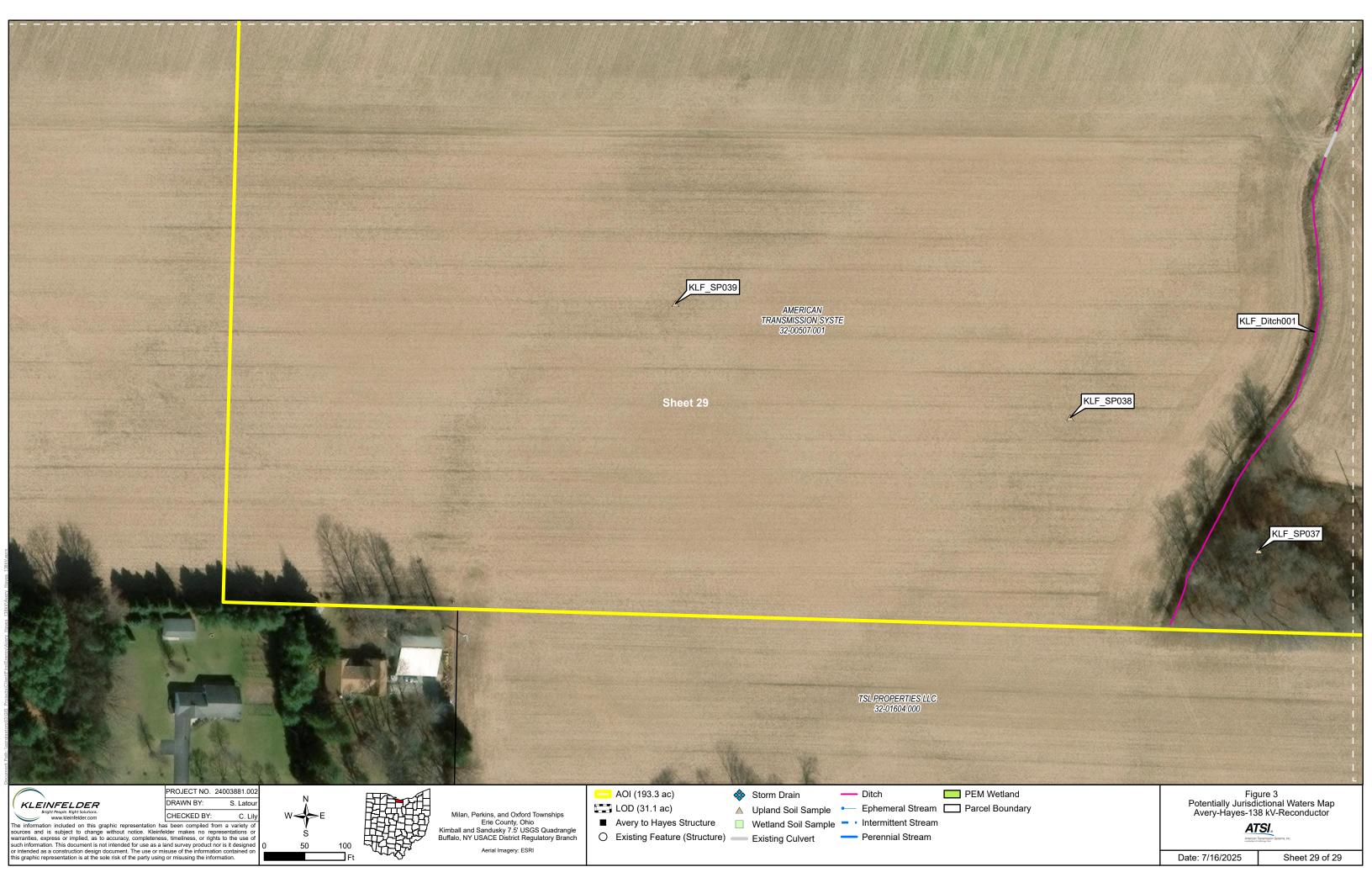












ATTACHMENT A

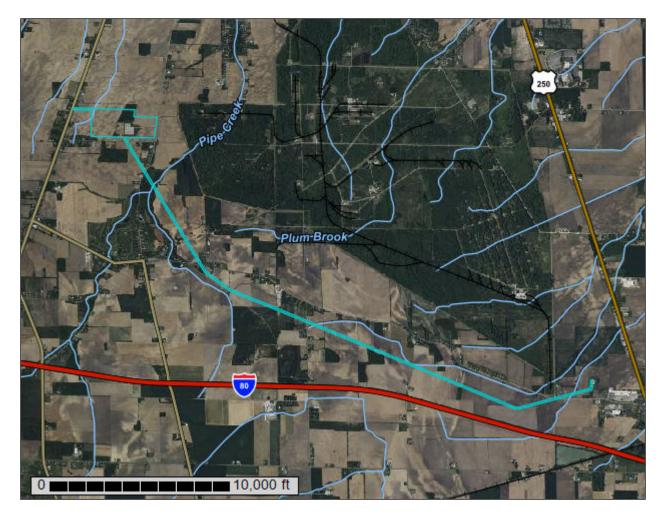
USDA/NRCS CUSTOM SOILS REPORT



Natural Resources Conservation Service A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Erie County, Ohio

Avery Hayes-138 kV-Reconductor



Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2 053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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TuA—Tuscola fine sandy loam, 0 to 2 percent slopes	
UdB—Udorthents, loamy, 0 to 6 percent slopes	
ZuE2—Zurich silt loam, 18 to 25 percent slopes, eroded	
ZuF—Zurich silt loam, 25 to 40 percent slopes	
Poforonoos	50

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

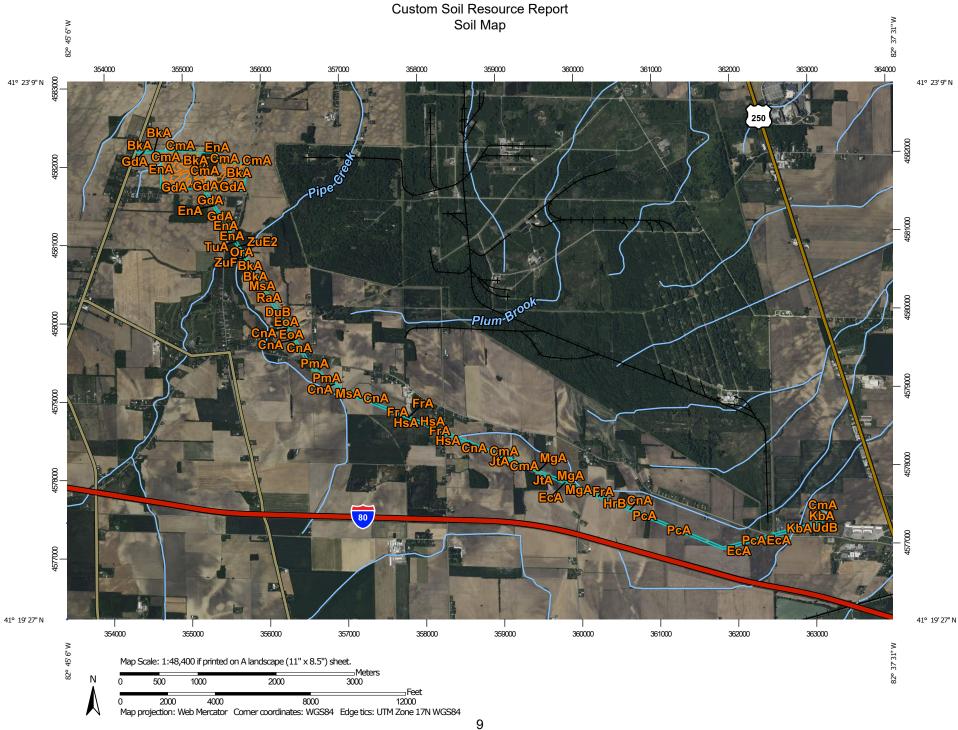
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.



MAP LEGEND

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Water Features

Transportation

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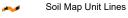
Background

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Map Unit Polygons



Soil Map Unit Points

Special Point Features

Blowout

Borrow Pit

Clay Spot

Closed Depression

Gravel Pit

Gravelly Spot

Candfill

Lava Flow

Marsh or swamp

Mine or Quarry

Miscellaneous Water

Perennial Water

Rock Outcrop

Saline Spot

sandy Spot

Severely Eroded Spot

Sinkhole

Slide or Slip

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Spoil Area

Stony Spot

Wet Spot

Other

Rails

US Routes

Major Roads

Local Roads

Very Stony Spot

Special Line Features

Streams and Canals

Interstate Highways

Aerial Photography

The soil surveys that comprise your AOI were mapped at 1:12.000.

MAP INFORMATION

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service

Web Soil Survey URL:

Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Erie County, Ohio

Survey Area Data: Version 23, Aug 27, 2024

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 21, 2023—Jun 18, 2023

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
BgA	Bennington silt loam, 0 to 2 percent slopes	0.7	0.4%
BkA	Bixler loamy fine sand, 0 to 2 percent slopes	27.2	14.0%
BkB	Bixler loamy fine sand, 2 to 6 percent slopes	0.5	0.3%
CmA	Colwood loam, 0 to 1 percent slopes	51.6	26.7%
CnA	Colwood silt loam, bedrock substratum, 0 to 1 percent slopes	15.7	8.1%
DuB	Dunbridge loamy sand, 2 to 6 percent slopes	1.6	0.8%
EcA	Elliott silt loam, bedrock substratum, 0 to 2 percent slopes	8.4	4.3%
EnA	Elnora loamy fine sand, 0 to 4 percent slopes	41.9	21.7%
EoA	Elnora loamy fine sand, bedrock substratum, 0 to 4 percent slopes	1.9	1.0%
FrA	Fries silty clay loam, 0 to 1 percent slopes	4.5	2.3%
GdA	Gilford fine sandy loam, 0 to 1 percent slopes	7.6	4.0%
HrB	Hornell silt loam, 2 to 6 percent slopes	0.3	0.2%
HsA	Hornell silty clay loam, 0 to 2 percent slopes	4.4	2.3%
JtA	Jimtown loam, 0 to 2 percent slopes	4.6	2.4%
KbA	Kibbie fine sandy loam, 0 to 2 percent slopes	3.6	1.9%
MgA	Millgrove loam, 0 to 1 percent slopes	3.4	1.7%
MsA	Miner silt loam, shale substratum, 0 to 2 percent slopes	2.6	1.3%
OrA	Orrville silt loam, bedrock substratum, 0 to 2 percent slopes, frequently flooded	0.9	0.5%
PcA	Pewamo silty clay loam, 0 to 1 percent slopes	7.2	3.7%
PmA	Plumbrook fine sandy loam, 0 to 2 percent slopes	0.7	0.4%

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI	
RaA	Randolph silt loam, 0 to 2 percent slopes	1.5	0.8%	
SpB	Spinks loamy fine sand, 0 to 6 percent slopes	0.5	0.3%	
TuA	Tuscola fine sandy loam, 0 to 2 percent slopes	0.7	0.4%	
UdB	Udorthents, loamy, 0 to 6 percent slopes	0.6	0.3%	
ZuE2	Zurich silt loam, 18 to 25 percent slopes, eroded	0.3	0.1%	
ZuF	Zurich silt loam, 25 to 40 percent slopes	0.3	0.2%	
Totals for Area of Interest		193.3	100.0%	

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate

pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Erie County, Ohio

BgA—Bennington silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2t6m9 Elevation: 800 to 1,000 feet

Mean annual precipitation: 34 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 145 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Bennington and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bennington

Setting

Landform: Ground moraines, end moraines

Landform position (two-dimensional): Summit, footslope, backslope

Landform position (three-dimensional): Interfluve

Down-slope shape: Linear, concave

Across-slope shape: Linear

Parent material: Wisconsin loamy till derived from sandstone and shale

Typical profile

Ap - 0 to 10 inches: silt loam

Bt - 10 to 29 inches: silty clay loam

BCt - 29 to 42 inches: silty clay loam

C - 42 to 79 inches: clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Runoff class: High

Capacity of the most limiting layer to transmit water (Ksat): Moderately low to

moderately high (0.06 to 0.20 in/hr)

Depth to water table: About 6 to 12 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 22 percent

Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm) Available water supply, 0 to 60 inches: Moderate (about 8.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F111XE502OH - Wet Till Ridge

Hydric soil rating: No

Minor Components

Cardington

Percent of map unit: 7 percent

Landform: Ground moraines, end moraines

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Side slope, crest

Down-slope shape: Linear, convex Across-slope shape: Convex

Ecological site: F111XE503OH - Till Ridge

Hydric soil rating: No

Condit

Percent of map unit: 5 percent

Landform: Depressions, drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear

Across-slope shape: Concave

Ecological site: F111XE501OH - Till Depression

Hydric soil rating: Yes

Pewamo, low carbonate till

Percent of map unit: 3 percent

Landform: Depressions, drainageways

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave, linear Across-slope shape: Concave

Hydric soil rating: Yes

BkA—Bixler loamy fine sand, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s31 Elevation: 650 to 720 feet

Mean annual precipitation: 27 to 36 inches Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 166 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Bixler and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bixler

Setting

Landform: Rises on lake plains, rises on beach ridges, rises on outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Sandy glaciolacustrine deposits over loamy glaciolacustrine

deposits

Typical profile

H1 - 0 to 10 inches: loamy fine sand H2 - 10 to 27 inches: loamy sand H3 - 27 to 37 inches: sandy loam

H4 - 37 to 80 inches: stratified fine sand to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: Moderate (about 7.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A

Ecological site: F099XY003MI - Warm Moist Sandy Depression

Hydric soil rating: No

Minor Components

Gilford

Percent of map unit: 10 percent Landform: Depressions on lake plains

Hydric soil rating: Yes

Sandy loam or fine sandy loam surface layer

Percent of map unit:

Unweathered till at 60 to 80 inches

Percent of map unit:

Sandy layers less than 20 inches thick

Percent of map unit:

BkB—Bixler loamy fine sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5s32 Elevation: 650 to 720 feet

Mean annual precipitation: 27 to 36 inches Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 166 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Bixler and similar soils: 95 percent Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Bixler

Setting

Landform: Beach ridges on outwash plains, beach ridges on lake plains, rises on

outwash plains, rises on lake plains

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Sandy glaciolacustrine deposits over loamy glaciolacustrine

deposits

Typical profile

H1 - 0 to 10 inches: loamy fine sand H2 - 10 to 26 inches: loamy fine sand

h3 - 26 to 80 inches: stratified fine sand to silty clay loam

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: Moderate (about 7.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2e

Hydrologic Soil Group: A

Ecological site: F099XY003MI - Warm Moist Sandy Depression

Hydric soil rating: No

Minor Components

Tuscola soils intermixed throughout the units

Percent of map unit: 5 percent Landform: Deltas, lake plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Moderately well drained soils

Percent of map unit:

More clay in the substratum

Percent of map unit:

Unweathered till at 60 to 80 inches

Percent of map unit:

CmA—Colwood loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s3c Elevation: 600 to 1,500 feet

Mean annual precipitation: 25 to 38 inches Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Colwood and similar soils: 87 percent *Minor components:* 13 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colwood

Settina

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: loam H2 - 11 to 53 inches: loam

H3 - 53 to 80 inches: stratified loamy sand to silt loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 20 percent

Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F099XY013MI - Wet Lake Plain Flats Forage suitability group: Unnamed (G099XYC-1OH)

Other vegetative classification: Unnamed (G099XYC-1OH)

Hydric soil rating: Yes

Minor Components

Kibbie soils on slight rises

Percent of map unit: 10 percent

Landform: Outwash plains, deltas, lake plains, ground moraines

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise, talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

More clay in the substratum

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

More than 15 percent rock fragments in the substratum

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

Less clay in the subsoil

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

CnA—Colwood silt loam, bedrock substratum, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s3d Elevation: 600 to 1,500 feet

Mean annual precipitation: 25 to 38 inches Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Colwood and similar soils: 77 percent

Minor components: 23 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Colwood

Setting

Landform: Flats on lake plains, depressions on lake plains

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 14 inches: silt loam
H2 - 14 to 36 inches: silty clay loam
H3 - 36 to 47 inches: silty clay loam
H4 - 47 to 49 inches: weathered bedrock

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 5 percent

Available water supply, 0 to 60 inches: High (about 9.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F099XY013MI - Wet Lake Plain Flats Forage suitability group: Unnamed (G099XYC-1OH)
Other vegetative classification: Unnamed (G099XYC-1OH)

Hydric soil rating: Yes

Minor Components

Hornell soils on rises

Percent of map unit: 10 percent

Landform: Till plains Hydric soil rating: No

Fries

Percent of map unit: 10 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

More clay in the subsoil

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains

Hydric soil rating: Yes

Bedrock at 60 to 80 inches

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains

Hydric soil rating: Yes

Less clay in the subsoil

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains

Hydric soil rating: Yes

DuB—Dunbridge loamy sand, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5s3n Elevation: 690 to 740 feet

Mean annual precipitation: 27 to 36 inches Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 166 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Dunbridge and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Dunbridge

Setting

Landform: Rises on monadnocks on ground moraines

Landform position (two-dimensional): Summit, shoulder, backslope

Down-slope shape: Convex Across-slope shape: Convex

Parent material: Till over residuum weathered from limestone

Typical profile

H1 - 0 to 17 inches: loamy sand H2 - 17 to 31 inches: clay loam

H3 - 31 to 33 inches: unweathered bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.60 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 3.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: B

Ecological site: F099XY002MI - Shallow Limestone Drift Forage suitability group: Unnamed (G099XYF-1OH)
Other vegetative classification: Unnamed (G099XYF-1OH)

Hydric soil rating: No

Minor Components

Rawson soils intermixed throughout the units

Percent of map unit: 4 percent

Landform: Outwash plains, till plains, lake plains Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Oakville soils on higher positions

Percent of map unit: 3 percent

Landform: Beach ridges on moraines, beach ridges on lake plains, beach ridges on outwash plains, dunes on moraines, dunes on lake plains, dunes on

outwash plains

Landform position (two-dimensional): Summit, shoulder, backslope

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Ritchey soils intermixed throughout the units

Percent of map unit: 3 percent

Landform: Till plains Hydric soil rating: No

Less clay in the subsoil

Percent of map unit:

Bedrock at 40 to 60 inches

Percent of map unit:

EcA—Elliott silt loam, bedrock substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s3p Elevation: 680 to 1,020 feet

Mean annual precipitation: 29 to 42 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Elliott and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elliott

Setting

Landform: Till plains

Landform position (two-dimensional): Summit, shoulder, backslope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Till

Typical profile

H1 - 0 to 15 inches: silt loam H2 - 15 to 49 inches: clay loam H3 - 49 to 65 inches: clay loam

H4 - 65 to 67 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 60 to 80 inches to lithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.60 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 40 percent

Available water supply, 0 to 60 inches: High (about 9.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F139XY002OH - Moist Calcareous Drift Flats

Hydric soil rating: No

Minor Components

Pewamo

Percent of map unit: 10 percent Landform: Depressions on lake plains

Hydric soil rating: Yes

Soils with bedrock at 20 to 40 inches throughout the units

Percent of map unit: 5 percent

Hydric soil rating: No

Lighter colored surface layer

Percent of map unit:

Less clay in the subsoil

Percent of map unit:

Bedrock at 40 to 60 inches

Percent of map unit:

EnA—Elnora loamy fine sand, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 5s3s Elevation: 590 to 1,970 feet

Mean annual precipitation: 32 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Elnora and similar soils: 95 percent Minor components: 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elnora

Setting

Landform: Beach ridges, longshore bars (relict)
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 10 inches: loamy fine sand H2 - 10 to 31 inches: loamy fine sand H3 - 31 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 4 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D

Ecological site: F139XY004OH - Moist Acidic Slopes

Hydric soil rating: No

Minor Components

Plumbrook soils in slight depressions

Percent of map unit: 5 percent

Landform: Lake plains

Landform position (three-dimensional): Dip

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: No

Fine sandy loam surface layer

Percent of map unit:

Well drained soils

Percent of map unit:

More clay in the substratum

Percent of map unit:

Somewhat poorly drained soils

Percent of map unit:

EoA—Elnora loamy fine sand, bedrock substratum, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: 5s3t Elevation: 590 to 1,970 feet

Mean annual precipitation: 32 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Elnora and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Elnora

Setting

Landform: Beach ridges, longshore bars (relict)
Landform position (two-dimensional): Summit
Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 14 inches: loamy fine sand H2 - 14 to 45 inches: loamy fine sand

H3 - 45 to 55 inches: stratified fine sand to very channery fine sandy loam

H4 - 55 to 57 inches: weathered bedrock

Properties and qualities

Slope: 0 to 4 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 18 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 4.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D

Ecological site: F139XY004OH - Moist Acidic Slopes

Hydric soil rating: No

Minor Components

Plumbrook soils in flatter positions

Percent of map unit: 10 percent

Landform: Lake plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Hornell soils in lower positions

Percent of map unit: 5 percent

Landform: Till plains Hydric soil rating: No

Bedrock at 60 to 80 inches

Percent of map unit:

Somewhat poorly drained soils

Percent of map unit:

Darker colored surface layer

Percent of map unit:

More clay in the substratum

Percent of map unit:

FrA—Fries silty clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s3x Elevation: 590 to 1,970 feet

Mean annual precipitation: 32 to 42 inches
Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Fries and similar soils: 83 percent Minor components: 17 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Fries

Setting

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Parent material: Till over residuum weathered from shale

Typical profile

H1 - 0 to 10 inches: silty clay loam

H2 - 10 to 28 inches: clay

H3 - 28 to 30 inches: weathered bedrock

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Ecological site: F099XY013MI - Wet Lake Plain Flats

Hydric soil rating: Yes

Minor Components

Hornell soils on rises

Percent of map unit: 10 percent

Landform: Till plains Hydric soil rating: No

Pewamo

Percent of map unit: 5 percent

Landform: Depressions on lake plains

Hydric soil rating: Yes

Lighter colored surface layer

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

Bedrock at 40 to 60 inches

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

GdA—Gilford fine sandy loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s3z Elevation: 360 to 900 feet

Mean annual precipitation: 30 to 45 inches Mean annual air temperature: 48 to 55 degrees F

Frost-free period: 130 to 190 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Gilford and similar soils: 87 percent Minor components: 13 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gilford

Setting

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

pianis

Parent material: Outwash

Typical profile

H1 - 0 to 12 inches: fine sandy loam H2 - 12 to 32 inches: fine sandy loam H3 - 32 to 44 inches: loamy fine sand H4 - 44 to 80 inches: loamy fine sand

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Poorly drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D

Ecological site: F099XY013MI - Wet Lake Plain Flats

Hydric soil rating: Yes

Minor Components

Plumbrook soils on slightly higher areas

Percent of map unit: 10 percent

Landform: Lake plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Loamy fine sand surface layer

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

More clay in the subsoil

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

More silt in the substratum

Percent of map unit: 1 percent

Landform: Flats on lake plains, depressions on lake plains, drainageways on lake

plains

Hydric soil rating: Yes

HrB—Hornell silt loam, 2 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5s44 Elevation: 590 to 1.970 feet

Mean annual precipitation: 32 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Hornell and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hornell

Setting

Landform: Till plains

Landform position (two-dimensional): Summit, footslope

Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Till over residuum weathered from shale

Typical profile

H1 - 0 to 8 inches: silt loam H2 - 8 to 13 inches: silty clay loam H3 - 13 to 32 inches: silty clay

H4 - 32 to 34 inches: weathered bedrock

Properties and qualities

Slope: 2 to 6 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3e

Hydrologic Soil Group: D

Ecological site: F139XY004OH - Moist Acidic Slopes Forage suitability group: Unnamed (G139XYC-2OH) Other vegetative classification: Unnamed (G139XYC-2OH)

Hydric soil rating: No

Minor Components

Bedrock at 10 to 20 inches intermixed throughout the units

Percent of map unit: 5 percent

Hydric soil rating: No

Fries

Percent of map unit: 5 percent

Landform: Depressions on lake plains

Hydric soil rating: Yes

Moderately well drained soils

Percent of map unit:

Bedrock at 40 to 60 inches

Percent of map unit:

More rock fragments in the subsoil

Percent of map unit:

HsA—Hornell silty clay loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s45 Elevation: 590 to 1,970 feet

Mean annual precipitation: 32 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Hornell and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Hornell

Setting

Landform: Till plains

Landform position (two-dimensional): Summit, footslope Landform position (three-dimensional): Interfluve

Down-slope shape: Concave Across-slope shape: Linear

Parent material: Till over residuum weathered from shale

Typical profile

H1 - 0 to 12 inches: silty clay loam H2 - 12 to 19 inches: silty clay loam

H3 - 19 to 24 inches: channery silty clay loam H4 - 24 to 26 inches: weathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 40 inches to paralithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 6 to 18 inches

Frequency of flooding: None Frequency of ponding: None

Available water supply, 0 to 60 inches: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: D

Ecological site: F139XY004OH - Moist Acidic Slopes Forage suitability group: Unnamed (G139XYC-2OH) Other vegetative classification: Unnamed (G139XYC-2OH)

Hydric soil rating: No

Minor Components

Fries

Percent of map unit: 10 percent Landform: Depressions on lake plains

Hydric soil rating: Yes

Bedrock at 10 to 20 inches intermixed throughout the units

Percent of map unit: 5 percent

Hydric soil rating: No

Bedrock at 40 to 60 inches

Percent of map unit:

More rock fragments in the subsoil

Percent of map unit:

Less clay in the subsoil

Percent of map unit:

JtA—Jimtown loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s46 Elevation: 970 to 1,130 feet

Mean annual precipitation: 30 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 130 to 195 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Jimtown and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jimtown

Setting

Landform: Terraces

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear Parent material: Outwash

Typical profile

H1 - 0 to 9 inches: loam H2 - 9 to 27 inches: clay loam

H3 - 27 to 51 inches: gravelly sandy loam

H4 - 51 to 80 inches: stratified very gravelly loamy sand to loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 12 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Moderate (about 7.1 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F139XY002OH - Moist Calcareous Drift Flats

Forage suitability group: Unnamed (G139XYC-1OH)
Other vegetative classification: Unnamed (G139XYC-1OH)

Hydric soil rating: No

Minor Components

Millgrove

Percent of map unit: 10 percent

Landform: Drainageways on stream terraces, drainageways on beach ridges, drainageways on lake plains, depressions on beach ridges, depressions on

lake plains, depressions on stream terraces

Hydric soil rating: Yes

Very poorly drained soils with till at 40 to 60

Percent of map unit: 5 percent

Landform: Depressions on beach ridges, depressions on lake plains, depressions

on stream terraces Hydric soil rating: Yes

Moderately well drained soils

Percent of map unit:

Less clay in the subsoil

Percent of map unit:

Till or lacustrine sediments between 40 and 80 inches

Percent of map unit:

KbA—Kibbie fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s48 Elevation: 600 to 1,100 feet

Mean annual precipitation: 27 to 36 inches

Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 130 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Kibbie and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Kibbie

Setting

Landform: Outwash plains, deltas, lake plains, ground moraines

Landform position (two-dimensional): Summit, shoulder

Landform position (three-dimensional): Rise

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam H2 - 9 to 42 inches: silty clay loam

H3 - 42 to 80 inches: stratified fine sand to silt loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 12 to 24 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 35 percent

Available water supply, 0 to 60 inches: High (about 11.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F099XY007MI - Lake Plain Flats
Forage suitability group: Unnamed (G099XYC-1OH)
Other vegetative classification: Unnamed (G099XYC-1OH)

Hydric soil rating: No

Minor Components

Colwood

Percent of map unit: 10 percent

Landform: Depressions on deltas, depressions on lake plains

Hydric soil rating: Yes

Thicker surface layer

Percent of map unit:

Lighter colored surface layer

Percent of map unit:

Moderately well drained soils

Percent of map unit:

Loam surface layer

Percent of map unit:

MgA—Millgrove loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s4g Elevation: 760 to 1,000 feet

Mean annual precipitation: 27 to 38 inches Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 198 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Millgrove and similar soils: 88 percent Minor components: 12 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Millgrove

Settina

Landform: Depressions on lake plains, drainageways on lake plains

Parent material: Outwash

Typical profile

H1 - 0 to 13 inches: loam H2 - 13 to 41 inches: clay loam H3 - 41 to 73 inches: loam

H4 - 73 to 80 inches: stratified fine sand to very fine sandy loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 25 percent

Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F139XY011OH - Wet Calcareous Depression

Hydric soil rating: Yes

Minor Components

Jimtown soils on rises

Percent of map unit: 5 percent

Landform: Terraces

Landform position (two-dimensional): Footslope Landform position (three-dimensional): Tread

Down-slope shape: Concave Across-slope shape: Linear Hydric soil rating: No

Haskins soils on slight rises

Percent of map unit: 5 percent Landform: Till plains, lake plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Linear Hydric soil rating: No

Less rock fragments throughout

Percent of map unit: 1 percent

Landform: Depressions on lake plains, drainageways on lake plains

Hydric soil rating: Yes

Unweathered till between 40 and 80 inches

Percent of map unit: 1 percent

Landform: Depressions on lake plains, drainageways on lake plains

Hydric soil rating: Yes

MsA—Miner silt loam, shale substratum, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2v03p Elevation: 590 to 1.970 feet

Mean annual precipitation: 33 to 52 inches
Mean annual air temperature: 43 to 52 degrees F

Frost-free period: 135 to 215 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Miner, shale substratum, and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Miner, Shale Substratum

Setting

Landform: Depressions

Landform position (two-dimensional): Toeslope

Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Parent material: Till over shale bedrock

Typical profile

Ap - 0 to 8 inches: silt loam

Btg1 - 8 to 13 inches: silty clay

Btg2 - 13 to 22 inches: silty clay

Btg3 - 22 to 36 inches: silty clay

C - 36 to 50 inches: silty clay loam

2Cr - 50 to 60 inches: bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 40 to 60 inches to paralithic bedrock

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to

0.14 in/hr)

Depth to water table: About 0 to 6 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 5.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: F139XY012OH - Wet Acidic Depression

Hydric soil rating: Yes

Minor Components

Trumbull

Percent of map unit: 10 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

Allis

Percent of map unit: 5 percent

Landform: Depressions

Landform position (two-dimensional): Toeslope Landform position (three-dimensional): Base slope

Down-slope shape: Concave Across-slope shape: Concave

Hydric soil rating: Yes

OrA—Orrville silt loam, bedrock substratum, 0 to 2 percent slopes, frequently flooded

Map Unit Setting

National map unit symbol: 5s4v Elevation: 900 to 1.060 feet

Mean annual precipitation: 30 to 42 inches
Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 133 to 195 days

Farmland classification: Prime farmland if drained and either protected from flooding

or not frequently flooded during the growing season

Map Unit Composition

Orrville and similar soils: 85 percent Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Orrville

Setting

Landform: Flood plains
Down-slope shape: Concave
Across-slope shape: Linear
Parent material: Alluvium

Typical profile

H1 - 0 to 10 inches: silt loam H2 - 10 to 26 inches: silt loam

H3 - 26 to 69 inches: stratified gravelly loamy sand to silt loam

H4 - 69 to 71 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 60 to 80 inches to lithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.20 in/hr)

Depth to water table: About 12 to 30 inches

Frequency of flooding: Frequent Frequency of ponding: None

Available water supply, 0 to 60 inches: Moderate (about 8.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: B/D

Ecological site: F139XY008OH - Moist Floodplain

Hydric soil rating: No

Minor Components

Holly

Percent of map unit: 10 percent Landform: Depressions on flood plains

Hydric soil rating: Yes

Tioga soils adjacent to stream channels

Percent of map unit: 5 percent Landform: Flood plains Hydric soil rating: No

Bedrock below 80 inches

Percent of map unit:

More sand in the subsoil

Percent of map unit:

PcA—Pewamo silty clay loam, 0 to 1 percent slopes

Map Unit Setting

National map unit symbol: 5s4x Elevation: 600 to 1,400 feet

Mean annual precipitation: 27 to 40 inches

Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 130 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Pewamo and similar soils: 88 percent Minor components: 12 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Pewamo

Setting

Landform: Flats on lake plains, flats on ground moraines, depressions on ground moraines, depressions on lake plains, drainageways on lake plains,

drainageways on ground moraines

Parent material: Till

Typical profile

H1 - 0 to 12 inches: silty clay loam
H2 - 12 to 33 inches: clay loam
H3 - 33 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 1 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Very poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 0 to 12 inches

Frequency of flooding: None Frequency of ponding: Frequent

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: High (about 10.3 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: C/D

Ecological site: F139XY011OH - Wet Calcareous Depression

Hydric soil rating: Yes

Minor Components

Elliott soils on slight rises

Percent of map unit: 5 percent

Landform: Till plains

Landform position (two-dimensional): Summit, shoulder, backslope

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Bennington soils on slight rises

Percent of map unit: 5 percent

Landform: Flats on end moraines, flats on ground moraines, rises on end

moraines, rises on ground moraines

Landform position (two-dimensional): Summit, shoulder

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Bedrock at 40 to 80 inches

Percent of map unit: 1 percent

Landform: Flats on lake plains, flats on ground moraines, depressions on lake plains, depressions on ground moraines, drainageways on lake plains,

drainageways on ground moraines

Hydric soil rating: Yes

Less clay in the subsoil

Percent of map unit: 1 percent

Landform: Flats on lake plains, flats on ground moraines, depressions on lake plains, depressions on ground moraines, drainageways on lake plains, drainageways on ground moraines

Hydric soil rating: Yes

PmA—Plumbrook fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s50 Elevation: 590 to 1,970 feet

Mean annual precipitation: 27 to 36 inches Mean annual air temperature: 45 to 52 degrees F

Frost-free period: 140 to 165 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Plumbrook and similar soils: 90 percent

Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Plumbrook

Setting

Landform: Lake plains

Landform position (three-dimensional): Talf

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Glaciofluvial deposits over silty glaciolacustrine deposits

Typical profile

H1 - 0 to 11 inches: fine sandy loam
H2 - 11 to 29 inches: fine sandy loam
H3 - 29 to 65 inches: fine sand
H4 - 65 to 80 inches: silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high (0.20

to 0.60 in/hr)

Depth to water table: About 12 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 20 percent

Available water supply, 0 to 60 inches: Moderate (about 6.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 2w

Hydrologic Soil Group: A/D

Ecological site: F099XY007MI - Lake Plain Flats

Hydric soil rating: No

Minor Components

Gilford

Percent of map unit: 5 percent

Landform: Depressions on deltas, depressions on lake plains

Hydric soil rating: Yes

Colwood

Percent of map unit: 5 percent

Landform: Depressions on deltas, depressions on lake plains

Hydric soil rating: Yes

Unweathered till at 60 to 80 inches

Percent of map unit:

Lighter colored surface layer

Percent of map unit:

Moderately well drained soils

Percent of map unit:

RaA—Randolph silt loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s51 Elevation: 700 to 1,000 feet

Mean annual precipitation: 27 to 42 inches Mean annual air temperature: 45 to 55 degrees F

Frost-free period: 140 to 180 days

Farmland classification: Prime farmland if drained

Map Unit Composition

Randolph and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Randolph

Setting

Landform: Till plains

Landform position (two-dimensional): Summit Landform position (three-dimensional): Interfluve

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Till over residuum weathered from limestone and dolomite

Typical profile

H1 - 0 to 10 inches: silt loam

H2 - 10 to 37 inches: silty clay loam

H3 - 37 to 39 inches: unweathered bedrock

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: 20 to 40 inches to lithic bedrock

Drainage class: Somewhat poorly drained

Capacity of the most limiting layer to transmit water (Ksat): Very low to moderately

high (0.00 to 0.60 in/hr)

Depth to water table: About 12 to 30 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 15 percent

Available water supply, 0 to 60 inches: Low (about 5.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3w

Hydrologic Soil Group: C/D

Ecological site: F099XY007MI - Lake Plain Flats

Hydric soil rating: No

Minor Components

Millsdale

Percent of map unit: 10 percent Landform: Depressions on lake plains

Hydric soil rating: Yes

Bennington soil near the edge of units

Percent of map unit: 5 percent

Landform: Flats on end moraines, flats on ground moraines, rises on end

moraines, rises on ground moraines

Landform position (two-dimensional): Summit, shoulder

Down-slope shape: Linear Across-slope shape: Linear Hydric soil rating: No

Less clay in the subsoil

Percent of map unit:

Darker colored surface layer

Percent of map unit:

Moderately well drained soils

Percent of map unit:

SpB—Spinks loamy fine sand, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5s5f Elevation: 600 to 1,200 feet

Mean annual precipitation: 29 to 37 inches Mean annual air temperature: 46 to 50 degrees F

Frost-free period: 130 to 170 days

Farmland classification: Not prime farmland

Map Unit Composition

Spinks and similar soils: 95 percent *Minor components:* 5 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Spinks

Setting

Landform: Beach ridges, beach ridges, beach ridges, dunes, dunes,

outwash plains, lake plains, moraines

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Sandy eolian deposits

Typical profile

H1 - 0 to 10 inches: loamy fine sand H2 - 10 to 15 inches: fine sand H3 - 15 to 72 inches: loamy fine sand H4 - 72 to 80 inches: fine sand

Properties and qualities

Slope: 0 to 6 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Well drained

Capacity of the most limiting layer to transmit water (Ksat): High (2.00 to 6.00

in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 10 percent

Available water supply, 0 to 60 inches: Low (about 4.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 3s

Hydrologic Soil Group: A

Ecological site: F099XY004MI - Warm Dry Sandy Ridge

Hydric soil rating: No

Minor Components

Udipsamments in areas mined for sand

Percent of map unit: 5 percent

Hydric soil rating: No

More rock fragments in the substratum

Percent of map unit:

Moderately well drained soils

Percent of map unit:

No lamellae in the subsoil

Percent of map unit:

Unweathered till at 40 to 80 inches

Percent of map unit:

TuA—Tuscola fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 5s5m Elevation: 500 to 1.000 feet

Mean annual precipitation: 27 to 36 inches Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 130 to 180 days

Farmland classification: All areas are prime farmland

Map Unit Composition

Tuscola and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tuscola

Setting

Landform: Deltas, lake plains

Landform position (two-dimensional): Summit, shoulder, backslope

Landform position (three-dimensional): Rise

Down-slope shape: Convex Across-slope shape: Linear

Parent material: Glaciolacustrine deposits

Typical profile

H1 - 0 to 9 inches: fine sandy loam H2 - 9 to 15 inches: loamy fine sand H3 - 15 to 46 inches: fine sandy loam

H4 - 46 to 80 inches: stratified fine sand to silty clay loam

Properties and qualities

Slope: 0 to 2 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 18 to 36 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 25 percent

Available water supply, 0 to 60 inches: High (about 10.0 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 1

Hydrologic Soil Group: C

Ecological site: F099XY007MI - Lake Plain Flats
Forage suitability group: Unnamed (G099XYA-6OH)
Other vegetative classification: Unnamed (G099XYA-6OH)

Hydric soil rating: No

Minor Components

Colwood

Percent of map unit: 10 percent

Landform: Depressions on lake plains, depressions on deltas, drainageways on

lake plains, drainageways on deltas

Hydric soil rating: Yes

Loamy fine sand surface layer

Percent of map unit:

Less clay in the subsoil

Percent of map unit:

Less sand in the subsoil

Percent of map unit:

Somewhat poorly drained soils

Percent of map unit:

UdB—Udorthents, loamy, 0 to 6 percent slopes

Map Unit Setting

National map unit symbol: 5s5q Elevation: 160 to 1,970 feet

Mean annual precipitation: 32 to 42 inches Mean annual air temperature: 48 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Udorthents and similar soils: 85 percent

Minor components: 15 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Udorthents

Typical profile

H1 - 0 to 80 inches: variable

Properties and qualities

Slope: 0 to 6 percent

Depth to restrictive feature: More than 80 inches Depth to water table: More than 80 inches

Frequency of flooding: None Frequency of ponding: None

Minor Components

Undisturbed soils at the edge of units

Percent of map unit: 5 percent Hydric soil rating: No

Rock outcrops intermixed throughout the units

Percent of map unit: 5 percent

Hydric soil rating: No

Small urban areas intermixed throughout the units

Percent of map unit: 5 percent

Hydric soil rating: No

Stockpiles of disturbed soil material

Percent of map unit:

ZuE2—Zurich silt loam, 18 to 25 percent slopes, eroded

Map Unit Setting

National map unit symbol: 5s5z Elevation: 680 to 1,020 feet

Mean annual precipitation: 29 to 42 inches Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Zurich and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zurich

Setting

Landform: Outwash plains

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Loess over outwash

Typical profile

H1 - 0 to 5 inches: silt loam
H2 - 5 to 34 inches: silty clay loam

H3 - 34 to 80 inches: stratified very fine sand to silt loam

Properties and qualities

Slope: 18 to 25 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 24 to 42 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: High (about 11.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: C

Ecological site: F099XY007MI - Lake Plain Flats

Hydric soil rating: No

Minor Components

Algiers soils near the base of slopes

Percent of map unit: 10 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: F099XY008MI - Moist Floodplain

Hydric soil rating: No

Fine sandy loam surface layer

Percent of map unit:

More clay in the subsoil

Percent of map unit:

Well drained soils

Percent of map unit:

ZuF—Zurich silt loam, 25 to 40 percent slopes

Map Unit Setting

National map unit symbol: 5s60 Elevation: 680 to 1,020 feet

Mean annual precipitation: 29 to 42 inches
Mean annual air temperature: 45 to 54 degrees F

Frost-free period: 140 to 195 days

Farmland classification: Not prime farmland

Map Unit Composition

Zurich and similar soils: 90 percent Minor components: 10 percent

Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Zurich

Setting

Landform: Outwash plains

Landform position (two-dimensional): Backslope Landform position (three-dimensional): Side slope

Down-slope shape: Linear Across-slope shape: Linear

Parent material: Loess over outwash

Typical profile

H1 - 0 to 6 inches: silt loam H2 - 6 to 47 inches: silty clay loam

H3 - 47 to 80 inches: stratified very fine sand to silt loam

Properties and qualities

Slope: 25 to 40 percent

Depth to restrictive feature: More than 80 inches

Drainage class: Moderately well drained

Capacity of the most limiting layer to transmit water (Ksat): Moderately high to high

(0.60 to 2.00 in/hr)

Depth to water table: About 24 to 42 inches

Frequency of flooding: None Frequency of ponding: None

Calcium carbonate, maximum content: 30 percent

Available water supply, 0 to 60 inches: High (about 11.9 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7e

Hydrologic Soil Group: C

Ecological site: F099XY007MI - Lake Plain Flats

Hydric soil rating: No

Minor Components

Algiers soils near the base of slopes

Percent of map unit: 10 percent

Landform: Flood plains
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: F099XY008MI - Moist Floodplain

Hydric soil rating: No

More clay in the subsoil

Percent of map unit:

Well drained soils

Percent of map unit:

Fine sandy loam surface layer

Percent of map unit:

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ATTACHMENT B

USACE WETLAND DETERMINATION DATA FORMS

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-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Avery-Hayes-1	38kV-Reconductor		City/County: Erie Co	unty	Sampling Date: 7/30/2024
Applicant/Owner: FirstEr	nergy			State: OH	Sampling Point: KLF_SP001
Investigator(s): Thomas Male	ecki and John Gentilesco)	Section, Tov	vnship, Range: Perkins 1	<u> </u>
Landform (hillside, terrace, etc	c.): flat	Local re	elief (concave, conve	k, none): convex	Slope %: 2
Subregion (LRR or MLRA):		Lat: 41.375297	•	-82.728916	 Datum: NAD83
Soil Map Unit Name: CmA: 0				NWI classification:	N/A
Are climatic / hydrologic condi	tions on the site typical f	or this time of year?	Yes X	No (If no, e	explain in Remarks.)
Are Vegetation, Soil	, or Hydrology	significantly disturb	ed? Are "Norm	nal Circumstances" prese	nt? Yes X No
Are Vegetation, Soil	, or Hydrology	naturally problemat	tic? (If needed	, explain any answers in	Remarks.)
SUMMARY OF FINDING	GS – Attach site m	ap showing samp	oling point locat	ions, transects, im _l	portant features, etc.
Hydrophytic Vegetation Pres	ent? Yes	No X	Is the Sampled Ar	ea	
Hydric Soil Present?	Yes		within a Wetland?		No X
Wetland Hydrology Present?		No X	If yes, optional Wet		- <u> </u>
This sample point is represer substation and access road.	·	, -	·		ŕ
HYDROLOGY					
Wetland Hydrology Indicate	ors:			Secondary Indicators (m	ninimum of two required)
Primary Indicators (minimum	of one is required; chec	k all that apply)		Surface Soil Cracks	(B6)
Surface Water (A1)	W	ater-Stained Leaves (B	9)	Drainage Patterns (B10)
High Water Table (A2)	Ac	quatic Fauna (B13)		Moss Trim Lines (B	16)
Saturation (A3)	Ma	arl Deposits (B15)		Dry-Season Water	Table (C2)
Water Marks (B1)	Hy	ydrogen Sulfide Odor (C	21)	Crayfish Burrows (C	(8)
Sediment Deposits (B2)	O	xidized Rhizospheres or	n Living Roots (C3)	Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3)	Pr	esence of Reduced Iror	n (C4)	Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)	Re	ecent Iron Reduction in	Tilled Soils (C6)	Geomorphic Positio	n (D2)
Iron Deposits (B5)	Th	nin Muck Surface (C7)		Shallow Aquitard (D	3)
Inundation Visible on Ae	rial Imagery (B7)Ot	ther (Explain in Remark	s)	Microtopographic R	elief (D4)
Sparsely Vegetated Con	cave Surface (B8)			FAC-Neutral Test (D5)
Field Observations:					
Surface Water Present?	Yes No 1	X Depth (inches):			
Water Table Present?	Yes No No	X Depth (inches): X Depth (inches):			
Saturation Present?	Yes No No	X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X_
(includes capillary fringe)					
Describe Recorded Data (str	eam gauge, monitoring v	vell, aerial photos, previ	ious inspections), if a	vailable:	
Remarks:					
No indicators of wetland hydi	ology were present at th	e time of the investigati	ion.		

 $\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1 2				Number of Dominant Species That Are OBL, FACW, or FAC:(A)			
3. 4.		<u> </u>		Total Number of Dominant Species Across All Strata: (B)			
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)			
7				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0			
1				FACW species 0 x 2 = 0			
2				FAC species30 x 3 =90			
3.				FACU species			
4				UPL species 0 x 5 = 0			
5				Column Totals: 100 (A) 370 (B)			
6.				Prevalence Index = B/A = 3.70			
7				Hydrophytic Vegetation Indicators:			
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50%			
1. Plantago major	40	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹			
2. Prunella vulgaris	30	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting			
3. Trifolium repens	20	Yes	FACU	data in Remarks or on a separate sheet)			
4. Cyperus rotundus	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. 6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7.				Definitions of Vegetation Strata:			
8. 9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
12.				Harb All back and a constant of the second o			
	100	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size:) 1.				Woody vines – All woody vines greater than 3.28 ft in height.			
2							
2				Hydrophytic			
4.				Vegetation Present? Yes No X			
		=Total Cover		165 <u></u>			
Remarks: (Include photo numbers here or on a separation vegetation did not meet the criteria to be considered h	,	-	e investigation	n.			

Sampling Point: KLF_SP001

SOIL Sampling Point: KLF_SP001

Profile Desci	ription: (Describe to	the de	oth needed to docu	ment th	e indicat	or or co	nfirm the absence of ir	ndicators.)		
Depth Matrix Redox Features										
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-2	10YR 4/2	100					Loamy/Clayey	silt loam		
2-7	10YR 4/3	90	10YR 5/3	10	С	M	Loamy/Clayey	clay loam		
7-12	10YR 4/3	70	10YR 5/6	30	С	M	Loamy/Clayey	clay loam		
							<u></u>			
								_		
								-		
			-							
	ncentration, D=Deple	etion, RM	=Reduced Matrix, M	S=Mask	ed Sand	Grains.		=Pore Lining, M=Matrix.		
Hydric Soil II								r Problematic Hydric Soils ³ :		
Histosol (•		Dark Surface (,	(00) (1			ck (A10) (LRR K, L, MLRA 149B)		
	pedon (A2)		Polyvalue Belo		ce (S8) (L	.RR R,		cky Peat or Peat (S3) (LRR K, L, R)		
Black His	n Sulfide (A4)		MLRA 149B Thin Dark Surf	,	/I DD D	MI DA 1	Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L)			
	Layers (A5)		High Chroma S					ganese Masses (F12) (LRR K, L, R)		
	Below Dark Surface	(A11)	Loamy Mucky				Piedmont Floodplain Soils (F19) (MLRA 149B)			
	rk Surface (A12)	(,,,,	Loamy Gleyed		. , ,	, = /	Red Parent Material (F21) (outside MLRA 145)			
	odic (A17)		Depleted Matri		,		Very Shallow Dark Surface (F22)			
	A 144A, 145, 149B)		Redox Dark Su		6)		Other (Explain in Remarks)			
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	(F7)					
Sandy Gl	eyed Matrix (S4)		Redox Depress	sions (F	3)					
Sandy Re	edox (S5)		Marl (F10) (LR	RK, L)			³ Indicators of hydrophytic vegetation and			
Stripped	Matrix (S6)		Red Parent Ma	terial (F	21) (MLR	A 145)	wetland hydrology must be present,			
							unless	disturbed or problematic.		
	ayer (if observed):									
Type:	Roc									
Depth (in	ches):	12					Hydric Soil Present	t? Yes No <u>X</u>		
Remarks:										
	e does not meet the									
Multiple atten	npts were made to ex	cavate b	eyond 12 , each alle	ilipi resi	alung in re	ock relus	odi.			

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-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Avery-Hayes-138kV-Recond	ductor	City/County: Erie County	Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP002
Investigator(s): Thomas Malecki and John	n Gentilesco	Section, Township, Range:	
Landform (hillside, terrace, etc.): depres		relief (concave, convex, none): concave	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLR		· · · · · · · · · · · · · · · · · · ·	Datum: NAD83
Soil Map Unit Name: BkA: Bixler loamy fi		Long: -82.728732 NWI classification:	N/A
·	·		
Are climatic / hydrologic conditions on the s	,		explain in Remarks.)
Are Vegetation, Soil, or Hy	drologysignificantly disturb	ped? Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hy	drologynaturally problema	tic? (If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attac	ch site map showing sam	pling point locations, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area	
Hydric Soil Present?	Yes X No Yes X No	within a Wetland? Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: KLF We	
Remarks: (Explain alternative procedures		il yes, optional violana olo ib.	tiariado i
This sample point is representative of KLF access road.	F_Wetland001 a PEM wetland. The	e wetland is located in a herbaceous depression	n adjacent to substation and
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (r	ninimum of two required)
Primary Indicators (minimum of one is req	uired; check all that apply)	X Surface Soil Cracks	; (B6)
Surface Water (A1)	Water-Stained Leaves (E	39) Drainage Patterns	(B10)
——High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1) Crayfish Burrows (0	28)
Sediment Deposits (B2)	Oxidized Rhizospheres of		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	on (C4) Stunted or Stressed	d Plants (D1)
X Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6) X Geomorphic Position	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard ([,
Inundation Visible on Aerial Imagery (· / · ·		` '
Sparsely Vegetated Concave Surface	e (B8)	X FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes	No X Depth (inches): No Depth (inches):		
	No Depth (inches):	0 Wetland Hydrology Present?	Yes <u>X</u> No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, I	monitoring well, aerial photos, pre\	vious inspections), if available:	
Remarks: Multiple indicators of wetland hydrology w	ere present at the time of the inve	stigation.	

 $\label{eq:VEGETATION} \textbf{-} \ \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
2.				Number of Dominant Species That Are OBL, FACW, or FAC:3(A)			
3. 4.				Total Number of Dominant Species Across All Strata: 4 (B)			
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC:(A/B)			
7.				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15)				OBL species 40 x 1 = 40			
1				FACW species0 x 2 =0			
2.				FAC species35 x 3 =105			
3				FACU species15 x 4 =60			
4				UPL species10 x 5 =50			
5.				Column Totals: 100 (A) 255 (B)			
6.		'		Prevalence Index = B/A = 2.55			
7.				Hydrophytic Vegetation Indicators:			
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5)				X 2 - Dominance Test is >50%			
1. Carex vulpinoidea	15	Yes	OBL	X 3 - Prevalence Index is ≤3.0 ¹			
2. Prunella vulgaris	15	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting			
3. Typha latifolia	15	Yes	OBL	data in Remarks or on a separate sheet)			
Cyperus rotundus	15	Yes	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. Asclepias incarnata	10	No	OBL	· 			
6. Equisetum arvense	10	No	FAC	 Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic. 			
7. Rumex crispus	10	No	FAC	Definitions of Vegetation Strata:			
8. Taeniatherum caput-medusae	10	No	UPL	-			
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
12				Herb – All herbaceous (non-woody) plants, regardless			
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in			
1				height.			
2.							
3.				Hydrophytic Vegetation			
4				Present?			
		=Total Cover					
Remarks: (Include photo numbers here or on a separa The parameters for hydrophytic vegetation were met a		the investigation	on.				

Sampling Point:

KLF_SP002

SOIL Sampling Point: KLF_SP002

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)										
Depth	Matrix		Redo	x Feature						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks		
0-4	10YR 5/2	95	7.5YR 5/6	5	<u>C</u>	PL	Loamy/Clayey	silt loam		
4-12	10YR 6/1	90	7.5YR 5/4	10	С	PL/M	Loamy/Clayey	clay loam		
12-20	10YR 6/1	80	7.5YR 5/6	20	С	PL/M	Loamy/Clayey	clay loam		
			_							
	ncentration, D=Deple	tion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.		re Lining, M=Matrix.		
Hydric Soil In				~=·				oblematic Hydric Soils ³ :		
Histosol (•	,	Dark Surface (Polyvalue Belo	,	. (CO) (I	DD D		10) (LRR K, L, MLRA 149B)		
Black His	pedon (A2)	·	MLRA 149B		æ (36) (L	KK K,		Peat or Peat (S3) (LRR K, L, R) ow Surface (S8) (LRR K, L)		
	n Sulfide (A4)		Thin Dark Surf	,	(LRR R.	MLRA 1		face (S9) (LRR K, L)		
	Layers (A5)	!	—— High Chroma S					ese Masses (F12) (LRR K, L, R)		
	Below Dark Surface	(A11)	Loamy Mucky				Piedmont Floodplain Soils (F19) (MLRA 149B)			
Thick Dar	rk Surface (A12)	'	Loamy Gleyed	Matrix (F	=2)		Red Parent Material (F21) (outside MLRA 145)			
Mesic Sp	odic (A17)	,	X Depleted Matri	x (F3)			Very Shallow Dark Surface (F22)			
(MLRA	A 144A, 145, 149B)	į	Redox Dark Su	ırface (F	6)		Other (Explain in Remarks)			
	ucky Mineral (S1)		Depleted Dark							
	eyed Matrix (S4)	•	Redox Depress		3)		³ Indicators of hydrophytic vegetation and			
Sandy Re	Matrix (S6)	•	Marl (F10) (LR Red Parent Ma		21\/MI 🗖	Λ 1/15\	³ Indicators of hydrophytic vegetation and wetland hydrology must be present,			
Ourpped	Width (GO)	•	RCGT architime	itoriai (i z	21) (IVILIV	in 140)	wetiand nydrology must be present, unless disturbed or problematic.			
Restrictive L	ayer (if observed):						unicoo dista	indea of problematio.		
Type:										
Depth (in	ches):						Hydric Soil Present?	Yes X No		
Remarks:	<u> </u>		<u> </u>				-			
	ers for hydric soil were	e met at tl	ne time of the inves	tigation.						

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-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Avery-Hayes-138kV-Reconduction	ctor	City/County: Erie County	Sampling Date: <u>7/30/2024</u>
Applicant/Owner: First Energy		State: OH	Sampling Point: KLF_SP003
Investigator(s): Thomas Malecki and John G	Sentilesco	Section, Township, Range: Perkins T	<u> </u>
Landform (hillside, terrace, etc.): depression		elief (concave, convex, none): concave	Slope %: 2
· · · · · · · · · · · · · · · · · · ·			
Subregion (LRR or MLRA): LRR R, MLRA		Long: -82.728383	
Soil Map Unit Name: CmA: Colwwod loam,	o to 1 percent slopes	NWI classification:	N/A
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X No (If no, e	explain in Remarks.)
Are Vegetation, Soil, or Hydro	ology significantly disturb	ed? Are "Normal Circumstances" prese	nt? Yes X No
Are Vegetation, Soil, or Hydro	ology naturally problemat	tic? (If needed, explain any answers in	Remarks.)
		oling point locations, transects, imp	portant features, etc.
	· · · ·		,
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area	
Hydric Soil Present?	Yes X No	within a Wetland? Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: KLF_Wet	land002
This sample point is representative of KLF_\ access road.	Vetland002 a PEM wetland. The	e wetland is located in a herbaceous depressio	n adjacent to substation and
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (m	inimum of two required)
Primary Indicators (minimum of one is require	red; check all that apply)	X Surface Soil Cracks	(B6)
Surface Water (A1)	Water-Stained Leaves (B	9) X Drainage Patterns (I	310)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water 1	Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1) Crayfish Burrows (C	8)
Sediment Deposits (B2)	Oxidized Rhizospheres of	n Living Roots (C3) Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4) Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6) X Geomorphic Position	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D	3)
Inundation Visible on Aerial Imagery (B7	')Other (Explain in Remark	ss) Microtopographic Re	elief (D4)
Sparsely Vegetated Concave Surface (E	38)	X FAC-Neutral Test (D	05)
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes	No X Depth (inches):		
Saturation Present? Yes	No X Depth (inches):	Wetland Hydrology Present?	Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	ious inspections), if available:	
Remarks: Multiple indicators of wetland hydrology were	e present at the time of the inves	stigation.	

 $\label{eq:VEGETATION} \textbf{-} \ \textbf{Use scientific names of plants}.$

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1		· <u></u>		Number of Dominant Species
2.				That Are OBL, FACW, or FAC:3(A)
3. 4.				Total Number of Dominant Species Across All Strata:3(B)
5.6.		·		Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 30 x 1 = 30
1		<u> </u>		FACW species 60 x 2 = 120
2.				FAC species0 x 3 =0
3.				FACU species10 x 4 =40
4.				UPL species 0 x 5 = 0
5.				Column Totals:(A)(B)
6.				Prevalence Index = B/A = 1.90
7				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)				X 2 - Dominance Test is >50%
1. Poa palustris	40	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
2. Asclepias incarnata	30	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. Phalaris arundinacea	20	Yes	FACW	data in Remarks or on a separate sheet)
4. Festuca arundinacea	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must be
6.				present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8. 9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
		. <u></u>		at breast neight (DBH), regardless of height.
11.				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				
12-	100	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)		•		
1.				Woody vines – All woody vines greater than 3.28 ft in height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separa	te sheet.)	1		
The parameters for hydrophytic vegetation were met a		the investigation	on.	

Sampling Point: KLF_SP003

SOIL Sampling Point: KLF_SP003

		the de				or or co	nfirm the absence of indi	cators.)		
Depth	Matrix			Featur		. 2				
(inches)	Color (moist)	%	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks		
0-4	10YR 3/1	100					Loamy/Clayey	silt loam		
4-12	10YR 2/1	90	10YR 5/3	10	С	PL/M	Loamy/Clayey	clay loam		
12-20	10YR 5/2	80	7.5YR 5/6	20	С	PL/M	Loamy/Clayey	clay loam		
		etion, RM	I=Reduced Matrix, MS	S=Mask	ed Sand	Grains.		ore Lining, M=Matrix.		
Hydric Soil Ir			Dayle Curfoss (6	> 7\				roblematic Hydric Soils ³ :		
Histosol (Dark Surface (S	,	o (CO) (I	DD D		A10) (LRR K, L, MLRA 149B)		
Black His	pedon (A2) tic (A3)		MLRA 149B)		Je (30) (L	.KK K,		Peat or Peat (S3) (LRR K, L, R) elow Surface (S8) (LRR K, L)		
	Sulfide (A4)		Thin Dark Surfa		(LRR R.	MLRA 1		urface (S9) (LRR K, L)		
	Layers (A5)		High Chroma S					ese Masses (F12) (LRR K, L, R)		
	Below Dark Surface	(A11)	Loamy Mucky N				Piedmont Floodplain Soils (F19) (MLRA 149B)			
	k Surface (A12)	` ,	Loamy Gleyed			. ,	Red Parent Material (F21) (outside MLRA 145)			
Mesic Sp	odic (A17)		Depleted Matrix	(F3)			Very Shallow Dark Surface (F22)			
(MLRA	A 144A, 145, 149B)		X Redox Dark Su	rface (F	6)		Other (Expla	in in Remarks)		
Sandy Mu	ucky Mineral (S1)		Depleted Dark	Surface	(F7)					
Sandy Gl	eyed Matrix (S4)		Redox Depress		3)					
Sandy Re			Marl (F10) (LRI				³ Indicators of hydrophytic vegetation and			
Stripped I	Matrix (S6)		Red Parent Ma	terial (F	21) (MLR	A 145)	wetland hydrology must be present,			
B. delanti							unless dis	turbed or problematic.		
Type:	ayer (if observed):									
Depth (in	ches):						Hydric Soil Present?	Yes X No		
Remarks:							,			
	rs for hydric soil wer	e met at	the time of the invest	igation.						
·	·									

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-CO-R

OMB Control #: 0710-0024, Exp: 11/30/2024 Requirement Control Symbol EXEMPT: (Authority: AR 335-15, paragraph 5-2a)

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Erie County Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy	State: OH Sampling Point: KLF_SP004
Investigator(s): Thomas Malecki and John Gentilesco	Section, Township, Range: Perkins Township
	elief (concave, convex, none): convex Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.373744	Long: -82.730918 Datum: NAD83
Soil Map Unit Name: EnA: Elnora loamy fine sand, 0 to 4 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation , Soil , or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrology naturally problemate	
SUMMARY OF FINDINGS – Attach site map showing samp	
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No X
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
Remarks: (Explain alternative procedures here or in a separate report.)	
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B	9) Drainage Patterns (B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3)Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1) Hydrogen Sulfide Odor (0	C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizospheres o	n Living Roots (C3) Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iro	n (C4) Stunted or Stressed Plants (D1)
Algal Mat or Crust (B4)Recent Iron Reduction in	Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)Thin Muck Surface (C7)	Shallow Aquitard (D3)
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remark	Microtopographic Relief (D4)
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present? Yes No _X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	ious inspections), if available:
Remarks: No indicators of wetland hydrology were present at the time of the investigat	ion.

 $\label{eq:VEGETATION} \textbf{-} \ \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:			
1. 2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A)			
3. 4.				Total Number of Dominant Species Across All Strata: 2 (B)			
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)			
7				Prevalence Index worksheet:			
		=Total Cover		Total % Cover of: Multiply by:			
Sapling/Shrub Stratum (Plot size: 15)				OBL species 0 x 1 = 0			
1				FACW species 0 x 2 = 0			
2				FAC species 10 x 3 = 30			
3.				FACU species 40 x 4 = 160			
4				UPL species 20 x 5 = 100			
5				Column Totals: (A) (B)			
6				Prevalence Index = B/A = 4.14			
7				Hydrophytic Vegetation Indicators:			
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation			
Herb Stratum (Plot size: 5)	_			2 - Dominance Test is >50%			
1. Trifolium pratense	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹			
2. Daucus carota	20	Yes	UPL	4 - Morphological Adaptations ¹ (Provide supporting			
3. Trifolium repens	10	No	FACU	data in Remarks or on a separate sheet)			
4. Toxicodendron radicans	10	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)			
5. 6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.			
7				Definitions of Vegetation Strata:			
8. 9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
10				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.			
12.	_			Harb All barbassaya (non woody) plants regardless			
	70	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in			
1				height.			
2				Hydrophytic			
3				Vegetation			
4.				Present?			
		=Total Cover					
Remarks: (Include photo numbers here or on a separar Vegetation did not meet the criteria to be considered hy		t the time of th	e investigation	ı. 30% planted soy.			

Sampling Point:

KLF_SP004

SOIL Sampling Point: KLF_SP004

		the depth		or or co	nfirm the absence of indicate	ors.)				
Depth	Matrix			ox Feature						
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarl	ks	
0-2	10YR 4/3	100					Loamy/Clayey silt loam			
2-18	10YR 4/3	98	10YR 5/6	2	С	М	Loamy/Clayey	clay loa	ım	
										-
¹ Type: C=Co	ncentration, D=Deple	tion RM=I	Reduced Matrix M	MS=Mask	ed Sand	Grains	² Location: PL=Pore	Lining M=Mat	riy	
Hydric Soil I		tion, rawi–i	teduced Matrix, M	IO-Mask	ca Garia	Oranis.	Indicators for Prob			
Histosol (Dark Surface ((S7)			2 cm Muck (A10	_		9B)
	pedon (A2)	_	Polyvalue Belo	` '	ce (S8) (I	LRR R,	5 cm Mucky Pea			
Black His		_	, MLRA 149B		() (,	Polyvalue Below			
	Sulfide (A4)		Thin Dark Surf		(LRR R	, MLRA 1		` '		,
Stratified	Layers (A5)	_	— High Chroma S				Iron-Manganese			, L, R)
	Below Dark Surface	(A11)	Loamy Mucky				Piedmont Floodplain Soils (F19) (MLRA 149B)			
	rk Surface (A12)	` ′ _	Loamy Gleyed	,	` ' '	,	Red Parent Material (F21) (outside MLRA 145)			
	odic (A17)	_	Depleted Matri		,		Very Shallow Dark Surface (F22)			
	A 144A, 145, 149B)	_	— . Redox Dark Su		6)		Other (Explain in Remarks)			
Sandy M	ucky Mineral (S1)	_	 Depleted Dark							
	eyed Matrix (S4)	_	Redox Depress							
Sandy Re		_	 Marl (F10) (LR	•	,		³ Indicators of hydrophytic vegetation and			
	Matrix (S6)	_	Red Parent Ma		21) (MLF	RA 145)	wetland hydrology must be present,			
	, ,	_	_	,	, .	•	unless disturbed or problematic.			
Restrictive L	ayer (if observed):							'		
Type:	, , , , , , , , , , , , , , , , , , ,									
Depth (in							Hydric Soil Present?	Yes	No	X
							Tiyano com ricconci			
Remarks:	a dage not most the	oritorio for	any of the hydric a	oil indica	toro ot th	o timo of	the investigation			
The soil profil	e does not meet the o	internation a	any of the nyunc s	on maica	lors at tri	e ume or	the investigation.			

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Er	rie County	Sampling Date: <u>7/31/2024</u>		
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP005		
Investigator(s): Thomas Malecki and John Gent	ilesco Section	n, Township, Range: Milan Tov	vnship		
Landform (hillside, terrace, etc.): flat	Local relief (concave, o	convex, none): convex	Slope %: 2		
Subregion (LRR or MLRA): LRR R, MLRA 139	 Lat: 41.335518 L	_ong: -82.636171	Datum: NAD83		
Soil Map Unit Name: KbA: Kibbie fine sand loan		NWI classification:	N/A		
Are climatic / hydrologic conditions on the site ty	pical for this time of year? Yes	X No (If no, e	explain in Remarks.)		
Are Vegetation, SoilX_, or Hydrolog	ysignificantly disturbed? Are	"Normal Circumstances" prese	nt? Yes X No		
Are Vegetation , Soil , or Hydrolog	yy naturally problematic? (If ne	eeded, explain any answers in	Remarks.)		
SUMMARY OF FINDINGS – Attach si		locations, transects, imp	portant features, etc.		
Hydrophytic Vegetation Present? Ye	es No X Is the Sample	led Area			
, , , ,	es No X within a Wet		No X		
Wetland Hydrology Present?		al Wetland Site ID:			
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (m	inimum of two required)		
Primary Indicators (minimum of one is required;	check all that apply)	Surface Soil Cracks			
Surface Water (A1)	Water-Stained Leaves (B9)		Drainage Patterns (B10)		
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C1)		Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Roots (
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed	Stunted or Stressed Plants (D1)		
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils (C6	Geomorphic Position	Geomorphic Position (D2)		
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D	Shallow Aquitard (D3)		
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remarks)	Microtopographic Re	Microtopographic Relief (D4)		
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D	95)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes N	No X Depth (inches): W				
	lo X Depth (inches): W	/etland Hydrology Present?	Yes No _X		
(includes capillary fringe)		> ifilabla.			
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, previous inspection	is), ii avallable:			
Remarks:					
No indicators of wetland hydrology were presen	t at the time of the investigation.				
ENG FORM 6116-8, FEB 2024		Northcontro	al and Northeast – Version 2 (

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	(City/County: Erie County	Sampling Date: <u>7/30/2024</u>				
Applicant/Owner: FirstEnergy	State: OH Sampling Point: KLF_SP006						
Investigator(s): Thomas Malecki and John Gentiles	co	Section, Township, Range: Perkins 1	ownship				
Landform (hillside, terrace, etc.): depression	l ocal rel	ief (concave, convex, none): concave	Slope %: 2				
		,					
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.370470	Long: -82.728472					
Soil Map Unit Name: GdA: Gilford fine sandy loam	, 0 to 1 percent slopes	NWI classification:	N/A				
Are climatic / hydrologic conditions on the site typical	I for this time of year?	Yes X No (If no, e	explain in Remarks.)				
Are Vegetation X, Soil , or Hydrology	significantly disturbe	d? Are "Normal Circumstances" prese	nt? Yes X No				
Are Vegetation, Soil, or Hydrology _	naturally problemation	c? (If needed, explain any answers in	Remarks.)				
SUMMARY OF FINDINGS – Attach site			,				
COMMENT OF FINDINGS – Attach site	map snowing samp	ing point locations, transects, imp	Jortant leatures, etc.				
Hydrophytic Vegetation Present? Yes	X No	Is the Sampled Area					
Hydric Soil Present? Yes	X No	within a Wetland? Yes X	No				
Wetland Hydrology Present? Yes		If yes, optional Wetland Site ID: KLF_Wet	tland003				
Remarks: (Explain alternative procedures here or i	n a senarate report)						
This sample point is representative of KLF_Wetland		wetland is located in a herbaceous depressio	n within an agricultural field.				
The area was significantly disturbed by agricultural							
HYDROLOGY							
		C	::::::::::::::::::::::::::::::::::::::				
Wetland Hydrology Indicators:		Secondary Indicators (m	-				
Primary Indicators (minimum of one is required; che		X Surface Soil Cracks					
\ 	Water-Stained Leaves (B9	·					
<u> </u>	Aquatic Fauna (B13)	Moss Trim Lines (B					
· · · · · · · · · · · · · · · · · · ·	Marl Deposits (B15)	Dry-Season Water 1	* *				
\ 	Hydrogen Sulfide Odor (C	 `	,				
	Oxidized Rhizospheres on	· · / —	n Aerial Imagery (C9)				
	Presence of Reduced Iron		, ,				
	Recent Iron Reduction in 1	• • • • • • • • • • • • • • • • • • • •	` '				
	Thin Muck Surface (C7)	Shallow Aquitard (D	,				
	Other (Explain in Remarks	<u>—</u>	, ,				
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (E)5)				
Field Observations:							
Surface Water Present? Yes No _							
Water Table Present? Yes No _	X Depth (inches):						
Saturation Present? Yes No	X Depth (inches):	Wetland Hydrology Present?	Yes X No				
(includes capillary fringe)							
Describe Recorded Data (stream gauge, monitoring	y well, aerial photos, previo	ous inspections), if available:					
Remarks: Multiple indicators of wetland hydrology were prese	nt at the time of the invest	igation					
Multiple indicators of wettand flydrology were prese	int at the time of the invest	igation.					

 $\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3. 4.				Total Number of Dominant Species Across All Strata: 2 (B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1.				FACW species0 x 2 =0
2.				FAC species 30 x 3 = 90
3.				FACU species 0 x 4 = 0
4.				UPL species0 x 5 =0
5				Column Totals: 30 (A) 90 (B)
6.				Prevalence Index = B/A = 3.00
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)				X 2 - Dominance Test is >50%
1. Ambrosia trifida	20	Yes	FAC	X 3 - Prevalence Index is ≤3.0 ¹
2. Equisetum arvense	10	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3 4				Problematic Hydrophytic Vegetation ¹ (Explain)
5.6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
9.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.
12.				Hank All bank are an of an area to be already as a small and
	30	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2.				Hydrophytic
3				Vegetation
4				Present?
		=Total Cover		
Remarks: (Include photo numbers here or on a separa The parameters for hydrophytic vegetation were met at		the investigation	on. 50% soy.	

Sampling Point:

KLF_SP006

Depth (inches) Matrix (inches) Redox Features 0-20 10YR 3/1 93 7.5R 5/6 7 C PL Loamy/Clayey silt loam	
0-20 10YR 3/1 93 7.5R 5/6 7 C PL Loamy/Clayey silt loam	
	_ _ _
	<u> </u>
	_
	
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. ² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil Indicators: Indicators for Problematic Hydric Soils ³ :	
Histosol (A1) Dark Surface (S7) 2 cm Muck (A10) (LRR K, L, MLRA 149B)	
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, 5 cm Mucky Peat or Peat (S3) (LRR K, L, l)	
Black Histic (A3) MLRA 149B) Polyvalue Below Surface (S8) (LRR K, L)	
Hydrogen Sulfide (A4) Thin Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L)	
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L,	R)
Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 14)	
Thick Dark Surface (A12) Loamy Gleyed Matrix (F2) Red Parent Material (F21) (outside MLRA	
Mesic Spodic (A17) Depleted Matrix (F3) Very Shallow Dark Surface (F22)	
(MLRA 144A, 145, 149B) X Redox Dark Surface (F6) Other (Explain in Remarks)	
Sandy Mucky Mineral (S1) Depleted Dark Surface (F7)	
Sandy Gleyed Matrix (S4) Redox Depressions (F8)	
Sandy Redox (S5) Marl (F10) (LRR K, L) 3Indicators of hydrophytic vegetation and	
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present,	
unless disturbed or problematic.	
Restrictive Layer (if observed):	
Туре:	
Depth (inches):	
Remarks:	
The parameters for hydric soil were met at the time of the investigation.	

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	(City/County: Erie County	Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP007
Investigator(s): Thomas Malecki and John Gentilesco		Section, Township, Range: Perkins	Township
Landform (hillside, terrace, etc.): flat	Local re	lief (concave, convex, none): convex	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.369819	Long: -82.727848	Datum: NAD83
Soil Map Unit Name: EnA: Elnora loamy fine sand, 0 to	-	NWI classification.	
· ·			
Are climatic / hydrologic conditions on the site typical for t	•		, explain in Remarks.)
	_		
Are Vegetation, Soil, or Hydrology	naturally problemati	c? (If needed, explain any answers i	n Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing samp	ling point locations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present? Yes	No X	Is the Sampled Area	
Hydric Soil Present? Yes	No X	within a Wetland? Yes	No X
Wetland Hydrology Present? Yes	No X	If yes, optional Wetland Site ID:	
This sample point is representative of the upland areas a between soy and corn crop. The area was significantly d managed plant community.	•		_
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check a	ll that apply)	Surface Soil Crack	s (B6)
Surface Water (A1) Wate	r-Stained Leaves (B9	9) Drainage Patterns	(B10)
	tic Fauna (B13)	Moss Trim Lines (,
	Deposits (B15)	Dry-Season Water	• •
	ogen Sulfide Odor (C	· - ·	` ,
	zed Rhizospheres or	· · · —	on Aerial Imagery (C9)
l 	ence of Reduced Iron		
<u> </u>	nt Iron Reduction in ⁻ Muck Surface (C7)	Tilled Soils (C6) Geomorphic Posit Shallow Aquitard (, ,
	r (Explain in Remarks		
Sparsely Vegetated Concave Surface (B8)	(Explain in Romana	FAC-Neutral Test	` ,
Field Observations:		<u> </u>	(- /
Surface Water Present? Yes No X	Depth (inches):		
Water Table Present? Yes No X			
Saturation Present? Yes No X	Depth (inches):		Yes No X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well	l, aerial photos, previ	ous inspections), if available:	
Remarks: No indicators of wetland hydrology were present at the ti	ime of the investigation	on.	

$\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
1				Number of Dominant Species That Are OBL, FACW, or FAC:	(A)
3. 4.				Total Number of Dominant Species Across All Strata:	(B)
5				Percent of Dominant Species That Are OBL, FACW, or FAC:	(A/B)
7.				Prevalence Index worksheet:	
		=Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15)				OBL species x	1 =
1.				FACW species x	2 =
2.					3 =
3.				FACU species x	4 =
4.					5 =
5.					A) (B)
6.				Prevalence Index = B/A =	
7.				Hydrophytic Vegetation Indicat	
		=Total Cover		1 - Rapid Test for Hydrophyti	
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50%	• • • • • • • • • • • • • • • • • • •
				3 - Prevalence Index is ≤3.0 ¹	
·				4 - Morphological Adaptation	
				data in Remarks or on a se	
4.				Problematic Hydrophytic Veg	etation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetla	and hydrology must be
6.				present, unless disturbed or probl	
7				Definitions of Vegetation Strata	n:
8.				Tree – Woody plants 3 in. (7.6 cn	n) or more in diameter
9.				at breast height (DBH), regardles	
10				Sapling/shrub – Woody plants le	ess than 3 in DBH and
11.				greater than or equal to 3.28 ft (1	
12.		=Total Cover		Herb – All herbaceous (non-wood of size, and woody plants less that	
Woody Vine Stratum (Plot size: 30)		10101 0 - 1 -			
1				Woody vines – All woody vines gheight.	greater than 3.28 ft in
2				Tioigit.	
3				Hydrophytic	
4.				Vegetation Present? Yes	No X
4.		=Total Cover		P1636111: 163	NO
5		- Tulai Guvei			
Remarks: (Include photo numbers here or on a separative Vegetation did not meet the criteria to be considered higher routine removal and suppression of native vegetations.)	ydrophytic at				

Sampling Point: KLF_SP007

	ription: (Describe to Matrix	the depth		ment the		or or con	nfirm the absence of indic	ators.)	
Depth (inches)		%		% realure	Type ¹	Loc ²	Texture	Remar	ko
(inches)	Color (moist)	70	Color (moist)	90	Туре	LOC	rexture	Remar	KS
0-20	10YR 5/3	100					Loamy/Clayey	clay loa	am
									_
		— –							
¹ Type: C=Co	ncentration, D=Deplet	tion, RM=R	deduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=Pc	ore Lining, M=Mat	rix.
Hydric Soil II						-	Indicators for Pr		
Histosol (A1)		Dark Surface (S	S7)			2 cm Muck (A	(10) (LRR K, L, N	ILRA 149B)
	pedon (A2)		Polyvalue Belov	w Surfac	e (S8) (L	.RR R,		Peat or Peat (S3)	
Black His	tic (A3)		MLRA 149B))			Polyvalue Be	low Surface (S8)	(LRR K, L)
Hydroger	Sulfide (A4)		Thin Dark Surfa	ace (S9)	(LRR R,	MLRA 1	49B) Thin Dark Su	rface (S9) (LRR I	(, L)
Stratified	Layers (A5)		— High Chroma S	ands (S	11) (LRR	K, L)	Iron-Mangane	ese Masses (F12)	(LRR K, L, R)
Depleted	Below Dark Surface ((A11)	Loamy Mucky N	Mineral (F1) (LRR	(K, L)	Piedmont Flo	odplain Soils (F1	9) (MLRA 149B)
Thick Da	k Surface (A12)		Loamy Gleyed	Matrix (F	- 2)		Red Parent M	laterial (F21) (ou t	tside MLRA 145)
Mesic Sp	odic (A17)		Depleted Matrix	x (F3)			Very Shallow	Dark Surface (F2	22)
(MLRA	A 144A, 145, 149B)	_	Redox Dark Su	ırface (Ff	6)		Other (Explai	n in Remarks)	
Sandy M	ucky Mineral (S1)		Depleted Dark	Surface	(F7)				
Sandy Gl	eyed Matrix (S4)		Redox Depress	sions (F8	3)				
Sandy Re	edox (S5)		Marl (F10) (LRI	RK, L)			³ Indicators of	hydrophytic vege	tation and
Stripped	Matrix (S6)		Red Parent Ma	iterial (F2	21) (MLR	A 145)	wetland hy	drology must be p	oresent,
							unless dist	urbed or problema	atic.
Restrictive L	ayer (if observed):								
Type:									
Depth (in	ches):						Hydric Soil Present?	Yes	No X
Remarks:									
	e does not meet the c	riteria for a	ny of the hydric so	oil indica	tors at the	e time of	the investigation.		
'			,				3		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

ıctor	City/County: Erie County	Sampling Date: <u>7/30/2024</u>		
	State: OH	Sampling Point: KLF_SP008		
Gentilesco	Section, Township, Range: Perkins			
		Slope %: 2		
		Datum: NAD83		
bedrock substrat, 0 to 2% slopes	NVVI classification:	N/A		
e typical for this time of year?	Yes X No (If no,	explain in Remarks.)		
rologysignificantly disturb	ped? Are "Normal Circumstances" prese	nt? Yes X No		
rology naturally problema	tic? (If needed, explain any answers in	Remarks.)		
		portant features, etc.		
		•		
Yes No X	•			
		No X		
Yes No X	If yes, optional Wetland Site ID:			
of the upland areas located within	n the FEMA mapped floodplain of KLF_Pipe Ci	reek.		
	Secondary Indicators (m	ninimum of two required)		
red; check all that apply)	Surface Soil Cracks	(B6)		
Water-Stained Leaves (B	9) Drainage Patterns (Drainage Patterns (B10)		
Aquatic Fauna (B13)	Moss Trim Lines (B	Moss Trim Lines (B16)		
Marl Deposits (B15)	Dry-Season Water	Dry-Season Water Table (C2)		
Hydrogen Sulfide Odor (0	C1) Crayfish Burrows (C	Crayfish Burrows (C8)		
Oxidized Rhizospheres o	n Living Roots (C3) Saturation Visible o	n Aerial Imagery (C9)		
Presence of Reduced Iro	n (C4) Stunted or Stressed	Plants (D1)		
Recent Iron Reduction in	Tilled Soils (C6) Geomorphic Positio	n (D2)		
Thin Muck Surface (C7)	Shallow Aquitard (D	3)		
7)Other (Explain in Remark	(s)Microtopographic R	elief (D4)		
B8)	FAC-Neutral Test (I	D5)		
No X Depth (inches):				
No X Depth (inches):				
No X Depth (inches):		Yes No _X_		
onitoring well, aerial photos, prev	rious inspections), if available:			
esent at the time of the investigat	ion.			
	Local recompliance of the state of the upland areas located within the upland areas located wi	State: OH Gentilesco		

 $\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.	70 0010.			
2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3. 4.		·		Total Number of Dominant Species Across All Strata:(B)
5.6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)
7		. <u></u>		Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15)				OBL species 0 x 1 = 0
1				FACW species 40 x 2 = 80
2				FAC species10 x 3 =30
3.				FACU species 30 x 4 = 120
4				UPL species10 x 5 =50
5.				Column Totals: 90 (A) 280 (B)
6.				Prevalence Index = B/A = 3.11
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)		•		2 - Dominance Test is >50%
1. Phalaris arundinacea	30	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Symphyotrichum ericoides	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supporting
3. Asclepias syriaca	10	No	UPL	data in Remarks or on a separate sheet)
4. Ambrosia trifida	10	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Vernonia noveboracensis	10	No	FACW	
6. Ipomoea purpurea	10	No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10.		·		Sapling/shrub – Woody plants less than 3 in. DBH and
11.				greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardless
W. 1. V. O. 1. (D. 1.)	90	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in
1.				height.
2.				Hydrophytic
3.				Vegetation
4.				Present?
		=Total Cover		
Remarks: (Include photo numbers here or on a separate Vegetation did not meet the criteria to be considered h		at the time of the	a investigation	n
vegetation did not meet the chiena to be considered in	yuropriyiic a		e investigation	

Sampling Point: KLF_SP008

Profile Descr	iption: (Describe to	the depth ne	eded to docu	ment the	indicat	or or co	nfirm the absence of indicat	ors.)	
Depth	Matrix		Redo	x Feature	es				
(inches)	Color (moist)	% Co	olor (moist)	%	Type ¹	Loc ²	Texture	Remarks	
0-20	10YR 3/2	90	10YR 4/3	10	С	PL	Loamy/Clayey	clay loam	
							. <u></u>		
¹ Type: C=Cel	ncentration, D=Deple	tion DM-Dod	seed Matrix M	IS-Macke	nd Sand	Grains	² Location: PL=Pore	Lining M-Matrix	
Hydric Soil Ir		lion, Rivi-Reut	iceu mairix, m	IS-IVIASKE	eu Sanu	Grains.		lematic Hydric Soils ³ :	
Histosol (Г	Dark Surface (S7)				() (LRR K, L, MLRA 149B)	
	pedon (A2)		Polyvalue Belo	,	e (S8) (I	RR R		at or Peat (S3) (LRR K, L, R)	
Black His		<u>—</u>	MLRA 149B		o (00) (-			w Surface (S8) (LRR K, L)	
	Sulfide (A4)	7	Thin Dark Surf		(LRR R.	MLRA 1		ice (S9) (LRR K, L)	
	Layers (A5)		High Chroma S					e Masses (F12) (LRR K, L, R)	
	Below Dark Surface (oamy Mucky					Iplain Soils (F19) (MLRA 149B)	
	k Surface (A12)		oamy Gleyed	•	, ,	,,		terial (F21) (outside MLRA 145)	
	odic (A17)		Depleted Matri		,			ark Surface (F22)	
	144A, 145, 149B)		Redox Dark Su		3)		Other (Explain i		
-	ucky Mineral (S1)		Depleted Dark	•	,			,	
	eyed Matrix (S4)		Redox Depress						
Sandy Re			Marl (F10) (LR	,	,		³ Indicators of hy	drophytic vegetation and	
	Matrix (S6)		Red Parent Ma		21) (MLR	A 145)			
	,			`	, ,	,	•	ped or problematic.	
Restrictive L	ayer (if observed):							1	
Type:									
Depth (in							Hydric Soil Present?	Yes No _X_	
							,		
Remarks:	e does not meet the o	riteria for any	of the hydric s	oil indicat	ore at th	e time of	the investigation		
The son promi	e does not meet the t	interia ioi ariy	of the flydric so	on mulcat	ors at tir	e unie oi	tile ilivestigation.		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconduction	tor	City/County: Erie County	Sampling Date: <u>7/30/2024</u>		
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP009		
Investigator(s): Thomas Malecki and John G	entilesco	Section, Township, Range: Perkins 1	ownship		
Landform (hillside, terrace, etc.): flat		elief (concave, convex, none): convex	Slope %: 2		
Subregion (LRR or MLRA): LRR R, MLRA 1					
,		Long: <u>-82.723397</u>			
Soil Map Unit Name: BkA: Bixler loamy fine	sand, 0 to 2 percent slopes	NWI classification:	N/A		
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X No (If no, e	explain in Remarks.)		
Are Vegetation X, Soil , or Hydro	ology significantly disturb	ped? Are "Normal Circumstances" prese	nt? Yes X No		
Are Vegetation, Soil, or Hydro	ology naturally problemat	tic? (If needed, explain any answers in	Remarks.)		
	·	oling point locations, transects, imp	portant features, etc.		
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Area	N V		
Hydric Soil Present?	Yes No X	within a Wetland? Yes	No X		
Wetland Hydrology Present?	Yes No X	If yes, optional Wetland Site ID:			
The sample point is representative of an actidue to the routine suppression of native vege	,	y and corn crop. The area was significantly dist imunity.	urbed by agricultural activity		
HYDROLOGY					
Wetland Hydrology Indicators:		Secondary Indicators (m	inimum of two required)		
Primary Indicators (minimum of one is require	ed; check all that apply)	Surface Soil Cracks	(B6)		
Surface Water (A1)	Water-Stained Leaves (B				
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B16)		
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water Table (C2)		
Water Marks (B1)	Hydrogen Sulfide Odor (C		Crayfish Burrows (C8)		
Sediment Deposits (B2)	Oxidized Rhizospheres o		n Aerial Imagery (C9)		
Drift Deposits (B3)	Presence of Reduced Iron				
Algal Mat or Crust (B4)	Recent Iron Reduction in				
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D	3)		
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	(s) Microtopographic R	elief (D4)		
Sparsely Vegetated Concave Surface (B	38)	FAC-Neutral Test (I	05)		
Field Observations:					
Surface Water Present? Yes	No X Depth (inches):				
Water Table Present? Yes					
Saturation Present? Yes	No X Depth (inches):		Yes No X		
(includes capillary fringe)					
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	rious inspections), if available:			
Remarks: No indicators of wetland hydrology were pres	sent at the time of the investigat	ion.			

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.	70 OOVC1	Орескоз	Otatus	
2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3				Total Number of Dominant
4.				Species Across All Strata:(B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC:(A/B)
7				Prevalence Index worksheet:
	:	=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species x 1 =
1				FACW species x 2 =
2.				FAC species x 3 =
3.				FACU species x 4 =
4.				UPL species x 5 =
5				Column Totals: (A)(B)
6.				Prevalence Index = B/A =
7.				Hydrophytic Vegetation Indicators:
	· ·	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50%
1				3 - Prevalence Index is ≤3.0 ¹
2.				4 - Morphological Adaptations ¹ (Provide supporting
3.				data in Remarks or on a separate sheet)
4.				Problematic Hydrophytic Vegetation ¹ (Explain)
5.				¹ Indicators of hydric soil and wetland hydrology must be
6.				present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH and
11.				greater than or equal to 3.28 ft (1 m) tall.
12.				Herb – All herbaceous (non-woody) plants, regardless
	:	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4.				Present? Yes No X
		=Total Cover		
Remarks: (Include photo numbers here or on a separ	ate sheet.)			1
Vegetation did not meet the criteria to be considered h	ydrophytic at			n. Vegetation was considered significantly disturbed due to
the routine removal and suppression of native vegetat	ion for farmin	g of cultivated	crops. Vegeta	ation was dominated by soy and corn.

Sampling Point: KLF_SP009

		the dept				or or co	nfirm the absence of indicato	ors.)	
Depth	Matrix			x Feature		. 2	T 6		
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remark	<u>s</u>
0-20	10YR 5/3	70	10YR 4/3	30	D	M	Loamy/Clayey	silt loan	n
	·								
		— -							
									_
							. <u></u>		
¹ Type: C=Co	ncentration, D=Deplet	tion, RM=	Reduced Matrix, M	IS=Mask	ed Sand	Grains.	² Location: PL=Pore	Lining, M=Matr	ix.
Hydric Soil II			· · · · · · · · · · · · · · · · · · ·				Indicators for Probl		
Histosol (A1)		Dark Surface (S7)			2 cm Muck (A10) (LRR K, L, M	LRA 149B)
Histic Epi	pedon (A2)	_	Polyvalue Belo	w Surfac	ce (S8) (l	RR R,	5 cm Mucky Pea		
Black His	tic (A3)	_	MLRA 149B	;)			Polyvalue Below	Surface (S8) (LRR K, L)
	Sulfide (A4)		Thin Dark Surfa	ace (S9)	(LRR R,	MLRA 1	49B) Thin Dark Surface	ce (S9) (LRR K	, L)
Stratified	Layers (A5)	_	High Chroma S	Sands (S	11) (LRF	₹ K, L)	Iron-Manganese	Masses (F12)	(LRR K, L, R)
Depleted	Below Dark Surface ((A11)	Loamy Mucky I	Mineral ((F1) (LRF	₹ K, L)	Piedmont Flood	olain Soils (F19) (MLRA 149B)
Thick Da	k Surface (A12)	_	Loamy Gleyed	Matrix (F	F2)		Red Parent Mate	erial (F21) (out s	side MLRA 145)
Mesic Sp	odic (A17)	_	Depleted Matri	x (F3)			Very Shallow Da	ırk Surface (F2	2)
(MLRA	A 144A, 145, 149B)	_	Redox Dark Su	urface (F	6)		Other (Explain ir	Remarks)	
Sandy Mi	ucky Mineral (S1)	_	Depleted Dark	Surface	(F7)				
Sandy Gl	eyed Matrix (S4)	_	Redox Depress	sions (F8	3)				
Sandy Re	edox (S5)	_	Marl (F10) (LR	RK, L)			³ Indicators of hy	drophytic veget	ation and
Stripped	Matrix (S6)	_	Red Parent Ma	aterial (F2	21) (MLR	(A 145)	wetland hydro	logy must be pi	resent,
							unless disturb	ed or problema	tic.
Restrictive L	ayer (if observed):								
Type:									
Depth (in	ches):						Hydric Soil Present?	Yes	No X
Remarks:	<u>-</u>								
	e does not meet the c	riteria for	any of the hydric s	oil indica	itors at th	e time of	the investigation.		
·							v		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconduc	tor	City/County: Erie Cou	unty	Sampling Date: <u>7/30/2024</u>
Applicant/Owner: FirstEnergy			State: OH	Sampling Point: KLF_SP010
Investigator(s): Thomas Malecki and John G	entilesco	Section, Tow	vnship, Range: Oxford T	ownship
Landform (hillside, terrace, etc.): flat	Local re	elief (concave, convex	. none): convex	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 1			-82.718824	 Datum: NAD83
Soil Map Unit Name: BkA: Bixler loamy fine			NWI classification:	N/A
·	<u> </u>			
Are climatic / hydrologic conditions on the site	•	Yes X	<u></u>	explain in Remarks.)
Are Vegetation X, Soil , or Hydro	ologysignificantly disturb	ed? Are "Norm	al Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydro	ologynaturally problemat	tic? (If needed	, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing samp	oling point locati	ons, transects, im	portant features, etc.
Hydrophytic Vegetation Present?	Yes No X	Is the Sampled Ar		
Hydric Soil Present?	Yes No X	within a Wetland?		No X
Wetland Hydrology Present?	Yes No X	If yes, optional Wet		<u>κ</u>
Remarks: (Explain alternative procedures he		,,		
The sample point is representative of an active due to the routine suppression of native vege			rea was significantly dis	turbed by agricultural activity
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1)	Water-Stained Leaves (B	9)	Drainage Patterns ((B10)
High Water Table (A2)	Aquatic Fauna (B13)	•	Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (C	
Sediment Deposits (B2)	Oxidized Rhizospheres or	,		n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron		Stunted or Stressed	
Algal Mat or Crust (B4)	Recent Iron Reduction in		Geomorphic Positio	·
Iron Deposits (B5)	Thin Muck Surface (C7)	(22)	Shallow Aquitard (D	,
Inundation Visible on Aerial Imagery (B7		:s)	Microtopographic R	,
Sparsely Vegetated Concave Surface (B		/	FAC-Neutral Test (I	
Field Observations:	- '			- /
	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):		d Hydrology Present?	Yes No _ X _
(includes capillary fringe)	No X Deput (menes).		rriyarology r resent:	iesitoX
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, prev	ious inspections), if a	vailable:	
, 3 3 ,	3 / T /T	1 //		
Remarks: No indicators of wetland hydrology were pres	ent at the time of the investigati	ion.		

$\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Number of Dominat	
2. That Are OBL, F 3. Total Number of Species Across. 5. Percent of Domi That Are OBL, F 7. Prevalence Ind	t worksheet:
Total Number of Species Across. Factor Species Across. Percent of Dominat Are OBL, Factor Prevalence India	nant Species
Species Across Species Across Percent of Domi	ACW, or FAC:(A)
Percent of Domit That Are OBL, F Prevalence Indicates Total Cover Prevalence Indicates	Dominant
That Are OBL, F Prevalence Indicates Total Cover Total % Ct OBL species FACW species UPL sp	All Strata: (B)
That Are OBL, F Prevalence Indicates Total Cover Total % Ct OBL species FACW species UPL sp	nant Species
=Total Cover	•
Sapling/Shrub Stratum (Plot size:	x worksheet:
FACW species FAC species FAC species FAC species FAC species FACU species FACU species UPL species UPL species UPL species UPL species Column Totals: Prevalent FACU species Prevalent FACU species UPL species UPL species UPL species Column Totals: Prevalent FACU species UPL spec	over of: Multiply by:
FAC species FACU species FACU species UPL species UPL species Column Totals: Prevalence Hydrophytic Ve 1 - Rapid Te 2 - Dominan 3 - Prevalen 4 - Morphold data in Re Problematic Indicators of hypresent, unless of Definitions of V Tree – Woody p at breast height Sapling/shrub- greater than or e Herb - All herba of size, and woo Woody Vine Stratum (Plot size:	x 1 =
FACU species UPL species UPL species UPL species UPL species UPL species Column Totals: Prevalent Hydrophytic Vegetation Hydrophytic Vegetation UPL species UPL	x 2 =
UPL species Column Totals:	x 3 =
UPL species Column Totals: Prevalent Hydrophytic Vegetation UPL species Column Totals: Prevalent	x 4 =
Column Totals:	x 5 =
Prevalence Proposition Proposi	(A) (B)
Hydrophytic Very stratum (Plot size: 5) 1.	ce Index = B/A =
Total Cover	getation Indicators:
2 - Dominan 3 - Prevalen 4 - Morpholo data in Ri	est for Hydrophytic Vegetation
3 - Prevalen 4 - Morpholo data in Ro	ce Test is >50%
2.	ce Index is ≤3.0 ¹
data in Reserved.	ogical Adaptations ¹ (Provide supporting
Problematic	emarks or on a separate sheet)
5.	Hydrophytic Vegetation ¹ (Explain)
Indicators of hypresent, unless of Definitions of V Definitions of V Tree – Woody p at breast height Sapling/shrub— greater than or e greater than or e woody Vine Stratum (Plot size: 30) Woody Vines— height. Hydrophytic Vegetation	
7. B. Definitions of V 8. Tree – Woody p at breast height 10. Sapling/shrub - greater than or e 12. Herb – All herba of size, and woo Woody Vine Stratum (Plot size: 30) 1. Woody vines – height. 4. Hydrophytic Vegetation	dric soil and wetland hydrology must be disturbed or problematic.
8	egetation Strata:
Tree – Woody p at breast height Sapling/shrub – greater than or e Herb – All herba of size, and woo Woody Vine Stratum (Plot size: 30) 1.	
10	lants 3 in. (7.6 cm) or more in diameter (DBH), regardless of height.
11	
Table 12. Total Cover Herb - All herbator of size, and woody vine Stratum Plot size: 30 Woody vines - height.	- Woody plants less than 3 in. DBH an qual to 3.28 ft (1 m) tall.
Woody Vine Stratum (Plot size: 30) 1.	
Woody Vine Stratum (Plot size:	ceous (non-woody) plants, regardless dy plants less than 3.28 ft tall.
1. Woody vines – height. 2. Hydrophytic Vegetation	
2	All woody vines greater than 3.28 ft in
3. Hydrophytic Vegetation	
Vegetation	
A L Mroson C	Vaa No Y
4 Present?	Yes No _X
=Total Cover Remarks: (Include photo numbers here or on a separate sheet.)	

	ription: (Describe to Matrix	the depth				or or cor	nfirm the absence of indica	ators.)	
Depth (inches)		%	Color (moist)	x Feature %	Type ¹	Loc ²	Texture	Rema	rko
(inches)	Color (moist)	70	Color (moist)	90	Туре	LOC	rexture	Rema	IKS
0-20	10YR 3/2	100					Loamy/Clayey	silt loa	am
	<u> </u>								
	ncentration, D=Deplet	ion, RM=F	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=Po		
Hydric Soil In							Indicators for Pro	-	
Histosol (_	Dark Surface (S	,				10) (LRR K, L, I	
	ipedon (A2)	_	Polyvalue Belov		:e (S8) (L	.RR R,		Peat or Peat (S3)	
Black His	` '		MLRA 149B)	•				ow Surface (S8)	
	n Sulfide (A4)	_	Thin Dark Surfa					face (S9) (LRR	
	Layers (A5)	_	High Chroma S					,	2) (LRR K, L, R)
	Below Dark Surface (A11)	Loamy Mucky N	•	. , ,	(K , L)			19) (MLRA 149B)
	rk Surface (A12)	_	Loamy Gleyed		-2)				utside MLRA 145)
	odic (A17)	_	Depleted Matrix		۵۱			Dark Surface (F	22)
	A 144A, 145, 149B)	_	Redox Dark Su	•	•		Other (Explain	ı in Remaiks)	
	ucky Mineral (S1)	_	Depleted Dark						
Sandy Gi	leyed Matrix (S4)	_	Redox Depress Marl (F10) (LRI	,	')		³ Indicators of	hydrophytic vege	otation and
	edox (S5) Matrix (S6)	_	Red Parent Ma		24) /MI R	A 145)		nyaropnytic vege drology must be	
Suipped	Mairix (30)	_	— Reu Falentina	lenai (i z	21) (WILLS	A 140)	•	arology must be arbed or problem	
Restrictive I	ayer (if observed):						นกเธออ นเอเน	Inea or brone	iatic.
Type:	ayer (ii observeu).								
-	shoo):						Hydric Soil Present?	Vaa	No. V
Depth (in			<u> </u>				nyunc son Present?	Yes	NoX
Remarks:							n - 5 e e		
rne soli profili	e does not meet the c	riteria for a	any of the nyaric so	on indicat	tors at the	e time of	the investigation.		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Erie County	Sampling Date: <u>7/30/2024</u>
Applicant/Owner: FirstEnergy	State: OH	Sampling Point: KLF_SP011
Investigator(s): Thomas Malecki and John Gentilesco	Section, Township, Range: Oxford To	
• ()	elief (concave, convex, none): convex	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.353240	Long: -82.714540	Datum: NAD83
Soil Map Unit Name: CnA: Colwood silt loam, bedrock substratum, 0 to 1 per		N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, e	explain in Remarks.)
Are Vegetation X , Soil , or Hydrology significantly disturbed		
Are Vegetation, Soil, or Hydrologynaturally problemati		
SUMMARY OF FINDINGS – Attach site map showing samp		
No. V	In the Committed Association	
Hydrophytic Vegetation Present? Yes No X Hydric Soil Present? Yes No X	Is the Sampled Area within a Wetland? Yes	No. V
Hydric Soil Present? Yes No X Wetland Hydrology Present? Yes No X	within a Wetland? Yes If yes, optional Wetland Site ID:	No X
Remarks: (Explain alternative procedures here or in a separate report.)	ii yes, optional wetiand one ib.	
The sample point is representative of an active agricultural field between soy due to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression of native vegetation as a managed plant common to the routine suppression to the routine suppression of native vegetation as a managed plant common to the routine suppression of the ro		
HYDROLOGY		
Wetland Hydrology Indicators:	Secondary Indicators (m	inimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks	(B6)
Surface Water (A1)Water-Stained Leaves (B9	9) Drainage Patterns (I	B10)
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B ²	16)
Saturation (A3)Marl Deposits (B15)	Dry-Season Water 1	√able (C2)
Water Marks (B1) Hydrogen Sulfide Odor (C	C1) Crayfish Burrows (C	:8)
Sediment Deposits (B2) Oxidized Rhizospheres on	Living Roots (C3)Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3) Presence of Reduced Iron	n (C4) Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)Recent Iron Reduction in	Tilled Soils (C6) Geomorphic Position	n (D2)
Iron Deposits (B5) Thin Muck Surface (C7)	Shallow Aquitard (D	,
Inundation Visible on Aerial Imagery (B7)Other (Explain in Remarks	· - · · · · · · · · · · · · · · · · · ·	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D)5)
Field Observations:		
Surface Water Present? Yes No X Depth (inches):		
Water Table Present? Yes No X Depth (inches):		
Saturation Present? Yes No X Depth (inches):	Wetland Hydrology Present?	Yes No _X
(includes capillary fringe)		
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previ	ous inspections), if available:	
Remarks:		
No indicators of wetland hydrology were present at the time of the investigation	on.	

$\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

<u>Tree Stratum</u> (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.		· <u> </u>		l
2.				Number of Dominant Species That Are OBL, FACW, or FAC: (A)
3.				Total Number of Dominant
4.		- ——		Species Across All Strata: 4 (B)
5 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)
7.		-		Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15)		•		OBL species 0 x 1 = 0
1				FACW species 0 x 2 = 0
2.				FAC species 0 x 3 = 0
3				FACU species 30 x 4 = 120
1				UPL species 30 x 5 = 150
5.		-		Column Totals: 60 (A) 270 (B)
6.		-		Prevalence Index = B/A = 4.50
7.		-		Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)		-10141 00.0.		2 - Dominance Test is >50%
Symphyotrichum ericoides	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
Daucus carota	10	Yes	UPL	4 - Morphological Adaptations ¹ (Provide supporting
Asclepias syriaca	10	Yes	UPL	data in Remarks or on a separate sheet)
Rubus occidentalis	10	Yes	UPL	Problematic Hydrophytic Vegetation ¹ (Explain)
5.				<u></u>
6.				¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7				Definitions of Vegetation Strata:
8.				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10.				Sapling/shrub – Woody plants less than 3 in. DBH and
11				greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	60	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in
1		- ——		height.
2		- ——		Hydrophytic
3				Vegetation
4		- ——		Present?
		=Total Cover		
Remarks: (Include photo numbers here or on a separar Vegetation did not meet the criteria to be considered by the routine removal and suppression of native vegetation	ydrophytic a			n. Vegetation was considered significantly disturbed due to ation was dominated by soy and corn.

Sampling Point: KLF_SP011

Profile Desc	ription: (Describe to	the dept	h needed to docu	ment the	e indicat	or or cor	nfirm the absence of in	dicators.)	
Depth	Matrix			x Featur					
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	rks
0-10	10YR 4/3	100					Loamy/Clayey	silt loa	am
10-20	10YR 5/6	65	10YR 4/3	30	D	М	Loamy/Clayey	clay lo	am
			7.5R 5/6	5	С	PL		Prominent redox	concentrations
			_						
¹ Type: C=Co	ncentration, D=Deple	etion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=	Pore Lining, M=Ma	trix.
Hydric Soil I	ndicators:							Problematic Hydri	
Histosol ((A1)	_	Dark Surface (S7)			2 cm Muck	(A10) (LRR K, L, I	MLRA 149B)
Histic Ep	ipedon (A2)	_	Polyvalue Belo	w Surfac	ce (S8) (L	.RR R,	5 cm Muck	xy Peat or Peat (S3)	(LRR K, L, R)
Black His	` ,		MLRA 149B	,				Below Surface (S8)	
	n Sulfide (A4)	_	Thin Dark Surf					Surface (S9) (LRR	*
	Layers (A5)		High Chroma S					anese Masses (F12	
	Below Dark Surface	(A11) _	Loamy Mucky	,	, ,	R K, L)		Floodplain Soils (F1	
	rk Surface (A12)	-	Loamy Gleyed		-2)			nt Material (F21) (ou	
	odic (A17)	_	Depleted Matri		6)			ow Dark Surface (F	22)
-	A 144A, 145, 149B) ucky Mineral (S1)	-	Redox Dark Su Depleted Dark				Other (Exp	olain in Remarks)	
	leyed Matrix (S4)	_	Redox Depres						
	edox (S5)	_	Marl (F10) (LR		,,		³ Indicators	of hydrophytic vege	etation and
	Matrix (S6)	_	Red Parent Ma		21) (MLR	A 145)		hydrology must be	
	, ,	_		,	, ,	-	unless d	listurbed or problem	atic.
Restrictive L	ayer (if observed):							•	
Type:									
Depth (in	ches):						Hydric Soil Present?	? Yes	No X
Remarks:									
	e does not meet the	criteria for	any of the hydric s	oil indica	tors at th	e time of	the investigation.		

Profile Desc	ription: (Describe to	the depth n	eeded to docum	ent the	e indicat	or or cor	nfirm the absence of indicators.)	
Depth	Matrix		Redox	Feature	es			
(inches)	Color (moist)	% C	Color (moist)	%	Type ¹	Loc ²	Texture Remarks	
0-20	10YR 3/2	95	7.5R 4/6	5	С	PL	Loamy/Clayey silt loam	
				<u> </u>				
			_					
			_				· ·	_
¹ Type: C=Co	ncentration, D=Deple	tion, RM=Red	duced Matrix, MS	=Mask	ed Sand	Grains.	² Location: PL=Pore Lining, M=Matrix.	
Hydric Soil I							Indicators for Problematic Hydric Soils ³ :	
Histosol ((A1)		Dark Surface (S	7)			2 cm Muck (A10) (LRR K, L, MLRA 149	B)
Histic Ep	ipedon (A2)		Polyvalue Below	/ Surfac	ce (S8) (L	.RR R,	5 cm Mucky Peat or Peat (S3) (LRR K, I	∟, R)
Black His	stic (A3)		MLRA 149B)				Polyvalue Below Surface (S8) (LRR K, L	_)
Hydroger	n Sulfide (A4)		Thin Dark Surface	ce (S9)	(LRR R,	MLRA 1	49B) Thin Dark Surface (S9) (LRR K, L)	
Stratified	Layers (A5)		High Chroma Sa	ands (S	11) (LRR	K, L)	Iron-Manganese Masses (F12) (LRR K ,	L, R)
Depleted	Below Dark Surface	(A11)	Loamy Mucky M	lineral (F1) (LRR	k K, L)	Piedmont Floodplain Soils (F19) (MLRA	149B)
Thick Da	rk Surface (A12)		Loamy Gleyed N	∕latrix (F	- 2)		Red Parent Material (F21) (outside MLF	RA 145)
Mesic Sp	odic (A17)		Depleted Matrix	(F3)			Very Shallow Dark Surface (F22)	
(MLR	A 144A, 145, 149B)	X	Redox Dark Sur	face (F	6)		Other (Explain in Remarks)	
Sandy M	ucky Mineral (S1)		Depleted Dark S	Surface	(F7)			
Sandy G	leyed Matrix (S4)		Redox Depressi	ons (F8	3)			
Sandy Re	edox (S5)		Marl (F10) (LRR	k K, L)			³ Indicators of hydrophytic vegetation and	t
Stripped	Matrix (S6)		Red Parent Mate	erial (F2	21) (MLR	A 145)	wetland hydrology must be present,	
							unless disturbed or problematic.	
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Present? Yes X No	
Remarks:	·							
	ers for hydric soil were	met at the ti	me of the investi	gation.	Soils with	in the plo	ow layer were considered significantly disturbed due to	routine
	ciated with the farming			-		•	•	

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconduct	or City/C	County: Erie County	Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP013
Investigator(s): Thomas Malecki and John Ge	entilesco	Section, Township, Range: Oxford	Township
Landform (hillside, terrace, etc.): flat		concave, convex, none): convex	
Subregion (LRR or MLRA): LRR R, MLRA 1:	,	Long: -82.704576	' Datum: NAD83
Soil Map Unit Name: CnA: Colwood silt loam			
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X No (If no,	explain in Remarks.)
Are Vegetation X, Soil , or Hydrol	ogysignificantly disturbed?	Are "Normal Circumstances" pres	ent? Yes X No
Are Vegetation, Soil, or Hydrol	ogynaturally problematic?	(If needed, explain any answers in	n Remarks.)
SUMMARY OF FINDINGS – Attach	site map showing sampling	point locations, transects, in	nportant features, etc.
Hydrophytic Vegetation Present?	Yes No X Is th	he Sampled Area	
Hydric Soil Present?	Yes No X with	hin a Wetland? Yes	No X
Wetland Hydrology Present?	Yes No X If ye	es, optional Wetland Site ID:	
The sample point is located within an active a suppression of native vegetation as a manage	, ,	igrillicantiy disturbed by agricultural ac	livity due to the foutilie
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is require	d; check all that apply)	Surface Soil Crack	s (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns	(B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (E	
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (,
Sediment Deposits (B2)	Oxidized Rhizospheres on Livir	• • • • • • • • • • • • • • • • • • • •	on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	·	
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled		` '
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7)	Thin Muck Surface (C7) Other (Explain in Remarks)	Shallow Aquitard (l	
Sparsely Vegetated Concave Surface (B		FAC-Neutral Test (
Field Observations:	<u>"</u>		
Surface Water Present? Yes	No X Depth (inches):		
Water Table Present? Yes	No X Depth (inches):		
Saturation Present? Yes	No X Depth (inches): No X Depth (inches):	Wetland Hydrology Present?	Yes No X
(includes capillary fringe)		_	··· <u>-</u>
Describe Recorded Data (stream gauge, mor	nitoring well, aerial photos, previous i	inspections), if available:	
, , ,		•	
Remarks: No indicators of wetland hydrology were pres	ent at the time of the investigation.		
ENC FORM 6446 9 FER 2024		N.L. adds ad	wal and Nambaaat - Vancian 2.0

VEGETATION – Use scientific names of plants.

Fron Stratum (Plot size: 30)		Dominant Species?	Indicator Status	Dominance Test worksheet:	
ree Stratum (Plot size: 30)	76 COVEI	Species:	Status	Dominance rest worksheet.	
				Number of Dominant Species	(
2.	· -			That Are OBL, FACW, or FAC:	(A)
3.				Total Number of Dominant	(D)
4 5.				Species Across All Strata:	(B)
				Percent of Dominant Species	/ A / D
5.	· -			That Are OBL, FACW, or FAC: Prevalence Index worksheet:	(A/E
7		otal Cover			
Sapling/Shrub Stratum (Plot size: 15		olai Covei			
·	,			OBL species	
				'.	
3.	· — — —			FAC species x 3 = FACU species x 4 =	
3. 4.	· -			UPL species x 5 =	
-					
•					(E
5.				Prevalence Index = B/A =	
7				Hydrophytic Vegetation Indicators:	
				1 - Panid Leet for Hydrophytic Vegetation	
	=10	otal Cover		1 - Rapid Test for Hydrophytic Vegetation	
		otal Cover		2 - Dominance Test is >50%	
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹	-4:
1. 2.				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide su	
1			<u> </u>	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet)
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide su)
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet	ain)
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology	ain)
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹ Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata:	ain) ain) / must
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic.	ain) w must
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹ Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height.	ain) must
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in the	ain) must
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall.	ain) must diame
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in a threast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in.	ain) must diame
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regord size, and woody plants less than 3.28 ft tall.	ain) must diame DBH
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide su data in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, reg	ain) must diame DBH
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide sudata in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regord size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3 height.	ain) / mus diame
1				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide sudata in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regord size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3 height.	ain) must diame DBH
2				2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide sudata in Remarks or on a separate sheet Problematic Hydrophytic Vegetation¹ (Expl¹Indicators of hydric soil and wetland hydrology be present, unless disturbed or problematic. Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regord size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3 height.	ain) must diame DBH

(inches) 0-20			Nedux	Feature	es				
0-20	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
	10YR 3/1	100					Loamy/Clayey	clay lo	oam
-									
Type: C=Con	centration, D=Deple	tion, RM	=Reduced Matrix, MS	S=Mask	ed Sand	Grains.	² Location: PL=Poi	re Lining, M=Ma	atrix.
Hydric Soil Inc	dicators:						Indicators for Pro		
Histosol (A	.1)		Dark Surface (S	S7)			2 cm Muck (A	10) (LRR K, L ,	MLRA 149B
Histic Epip	edon (A2)		Polyvalue Belov	v Surfac	e (S8) (I	LRR R,		eat or Peat (S3	
Black Histi			MLRA 149B)					ow Surface (S8	
	Sulfide (A4)		Thin Dark Surfa		•		· ·	face (S9) (LRR	•
Stratified L		,	High Chroma Sa					se Masses (F12	
	Below Dark Surface ((A11)	Loamy Mucky M			R K, L)		dplain Soils (F	
	Surface (A12)		Loamy Gleyed N		-2)			aterial (F21) (o u	
Mesic Spo	aic (A17) 144A, 145, 149B)		Depleted Matrix Redox Dark Sur		8)		Other (Explain	Dark Surface (F	-22)
•	cky Mineral (S1)		Depleted Dark S	,	,		Other (Explain	iii Neiliaiks)	
	yed Matrix (S4)		Redox Depress		` '				
Sandy Red			Marl (F10) (LRF		′)		³ Indicators of h	nydrophytic veg	etation and
Stripped M			Red Parent Mat		21) (MLF	RA 145)		rology must be	
	, ,			,	, ,	,		rbed or problen	
Restrictive La	yer (if observed):							·	
Type:									
Depth (incl	hes):						Hydric Soil Present?	Yes	No >
Zemarks:	<u> </u>								
	does not meet the c	criteria fo	or any of the hydric so	oil indica	tors at th	ne time of	the investigation.		
Remarks: The soil profile	does not meet the c	criteria fo	or any of the hydric so	oil indica	tors at th	ne time of	the investigation.		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	C	City/County: Erie Co	unty	Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy	_		State: OH	Sampling Point: KLF_SP014
Investigator(s): Thomas Malecki and John Gentilesco	0	Section. To	vnship, Range: Oxford T	ownship
Landform (hillside, terrace, etc.): flat		lief (concave, conve	<u></u>	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.347497	-	-82.699720	Datum: MAD83
Soil Map Unit Name: FrA: Fries silty clay loam, 0 to			NWI classification:	N/A
Are climatic / hydrologic conditions on the site typical	for this time of year?	Yes X	No (If no,	explain in Remarks.)
Are Vegetation X , Soil , or Hydrology	significantly disturbe	ed? Are "Norm	nal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problemation	c? (If needed	I, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site m			ions, transects, im	portant features, etc.
Lludraphytic Vegetation Present?	No. V	le the Compled As		
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes	No X No X	Is the Sampled Arwithin a Wetland?		No. V
Wetland Hydrology Present?	— No X	If yes, optional We		No <u>X</u>
Remarks: (Explain alternative procedures here or in		n yes, optional we		
The sample point is located within an active agricultu suppression of native vegetation as a managed plant		vas significantly dist	urbed by agricultural acti	ivity due to the routine
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (r	minimum of two required)
Primary Indicators (minimum of one is required; chec	ck all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1) W	ater-Stained Leaves (B9	9)	Drainage Patterns ((B10)
High Water Table (A2)	quatic Fauna (B13)		Moss Trim Lines (B	316)
Saturation (A3)	arl Deposits (B15)		Dry-Season Water	Table (C2)
Water Marks (B1)	ydrogen Sulfide Odor (C	1)	Crayfish Burrows (0	C8)
Sediment Deposits (B2)	xidized Rhizospheres on	Living Roots (C3)	Saturation Visible o	on Aerial Imagery (C9)
Drift Deposits (B3)	resence of Reduced Iron	(C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	ecent Iron Reduction in T	Filled Soils (C6)	Geomorphic Position	on (D2)
Iron Deposits (B5)	nin Muck Surface (C7)		Shallow Aquitard (E	D3)
Inundation Visible on Aerial Imagery (B7) Ot	ther (Explain in Remarks	s)	Microtopographic R	Relief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present? Yes No:				
Water Table Present? Yes No	X Depth (inches):			
Saturation Present? Yes No	X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monitoring	well, aerial photos, previ	ous inspections), if	available:	
Remarks: No indicators of wetland hydrology were present at the	he time of the investigation	on.		
ENG FORM 6116-8, FEB 2024			Northcentr	ral and Northeast – Version 2.0

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
l. <u> </u>				Number of Dominant Species	
2.				That Are OBL, FACW, or FAC	
3.				Total Number of Dominant	
4.				Species Across All Strata:	(B)
5.				Percent of Dominant Species	
3.				That Are OBL, FACW, or FAC	;:(A/E
7. <u> </u>				Prevalence Index worksheet	t:
	·=	Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size:15)			OBL species	x 1 =
1.				FACW species	x 2 =
2.				FAC species	x 3 =
3.				FACU species	x 4 =
4.				UPL species	x 5 =
5.				Column Totals:	(A) (I
5.				Prevalence Index = B/A	
7				Hydrophytic Vegetation Indi	
-		=Total Cover		1 - Rapid Test for Hydroph	
		10			119110 105-1111
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50	ገ%
					
1.				3 - Prevalence Index is ≤3	3.0 ¹
1 2					3.0 ¹ ions ¹ (Provide supporti
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a	3.0 ¹ cions ¹ (Provide supporti a separate sheet)
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat	3.0 ¹ cions ¹ (Provide supporti a separate sheet)
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and w	3.0 ¹ cions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and w be present, unless disturbed o	3.0 ¹ cions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic.
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and w	3.0 ¹ cions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic.
2				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and was be present, unless disturbed on the present of the present	3.0 ¹ cions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and was be present, unless disturbed on the present of the present	3.0 ¹ cions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and was present, unless disturbed of the present of	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height.
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ ¹Indicators of hydric soil and whe present, unless disturbed of the present of	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height.
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic V 1 Indicators of hydric soil and we be present, unless disturbed of Definitions of Vegetation Str. Tree – Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub – Woody plant and greater than or equal to 3. Herb – All herbaceous (non-weight data in Remarks or equal to 3.)	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall.
1		=Total Cover		3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic V 1 Indicators of hydric soil and was be present, unless disturbed of Definitions of Vegetation Str. Tree – Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub – Woody plant and greater than or equal to 3.	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall.
1				3 - Prevalence Index is ≤3 4 - Morphological Adaptate data in Remarks or on a Problematic Hydrophytic Notes and the present, unless disturbed of Definitions of Vegetation Structure - Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub - Woody plant and greater than or equal to 3. Herb - All herbaceous (non-word size, and woody plants less Woody vines - All woody vines	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall. voody) plants, regardless than 3.28 ft tall.
1		-Total Cover		3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic Note that the present, unless disturbed of Definitions of Vegetation Structure - Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub - Woody plant and greater than or equal to 3. Herb - All herbaceous (non-woof size, and woody plants less	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall. voody) plants, regardless than 3.28 ft tall.
1		=Total Cover		3 - Prevalence Index is ≤3 4 - Morphological Adaptat data in Remarks or on a Problematic Hydrophytic \ 1 Indicators of hydric soil and we be present, unless disturbed of Definitions of Vegetation Structure — Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub — Woody plant and greater than or equal to 3. Herb — All herbaceous (non-wof size, and woody plants less Woody vines — All woody vines height.	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall. voody) plants, regardless than 3.28 ft tall.
1		=Total Cover		3 - Prevalence Index is ≤3 4 - Morphological Adaptate data in Remarks or on a Problematic Hydrophytic Notes and the present, unless disturbed of Definitions of Vegetation Structure - Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub - Woody plant and greater than or equal to 3. Herb - All herbaceous (non-word size, and woody plants less Woody vines - All woody vines	icions¹ (Provide supporti a separate sheet) Vegetation¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. Its less than 3 in. DBH .28 ft (1 m) tall. voody) plants, regardles to than 3.28 ft tall. es greater than 3.28 ft
1		=Total Cover		3 - Prevalence Index is ≤3 4 - Morphological Adaptate data in Remarks or on a Problematic Hydrophytic \ 1 Indicators of hydric soil and we be present, unless disturbed of Definitions of Vegetation Structure - Woody plants 3 in. (7.6 at breast height (DBH), regard Sapling/shrub - Woody plant and greater than or equal to 3. Herb - All herbaceous (non-wof size, and woody plants less Woody vines - All woody vines height.	ions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) vetland hydrology must or problematic. rata: 6 cm) or more in diame dless of height. ts less than 3 in. DBH .28 ft (1 m) tall. voody) plants, regardless than 3.28 ft tall.

(inches)	Matrix		Redo	ox Featur						
2 12	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	ırks	
0-12	10YR 3/2	100					Loamy/Clayey	clay lo	oam	
12-20	10YR 3/2	95	7.5YR 5/4	5	C	PL	Loamy/Clayey	clay lo	am	
 -										
	ncentration, D=Deple	etion, RM=	-Reduced Matrix, M	/IS=Mask	ed Sand	Grains.	² Location: PL=Pore			
Hydric Soil Inc			Dark Surface ((C7)			Indicators for Prob	_		
Histosol (A Histic Epip	•	•	Dark Surface (Polyvalue Belo	-	ne (S8) (I	I RR R.	2 cm Muck (A10 5 cm Mucky Pea			
Black Histic		-	MLRA 149B		.6 (00) (-	-1111 11,	Polyvalue Below	•		
	Sulfide (A4)		Thin Dark Surf	,	(LRR R	, MLRA 1				,
	_ayers (A5)		High Chroma S				Iron-Manganese	Masses (F12	2) (LRR K	, L, R)
	Below Dark Surface	(A11)	Loamy Mucky			R K, L)	Piedmont Flood	· · ·		
	Surface (A12)	,	Loamy Gleyed		F2)		Red Parent Mate			.RA 145
Mesic Spo	odic (A17) . 144A, 145, 149B)		Depleted Matri Redox Dark Su	. ,	(A)		Very Shallow Da Other (Explain ir		-22)	
	cky Mineral (S1)	-	Depleted Dark	-	•		Outer (Explain ii	i Nemano)		
	eyed Matrix (S4)	-	Redox Depress							
Sandy Red	• • •	-	Marl (F10) (LR	-	• /		³ Indicators of hy	drophytic veg	etation ar	nd
Stripped M	latrix (S6)	-	Red Parent Ma	aterial (F	21) (MLF	₹A 145)				
							unless disturb	ed or problen	natic.	
	ayer (if observed):					ľ				
	shoo):					ŗ				
Deptri (inci	:hes):					1	Hydric Soil Present?	Yes	NI.	\/

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: I	Erie County	Sampling Date: <u>7/30/2024</u>
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP015
Investigator(s): Thomas Malecki and John Gentilesco	Secti	ion, Township, Range: Oxford To	ownship
Landform (hillside, terrace, etc.): flat		, convex, none): convex	
,	•	Long: -82.692444	' Datum: NAD83
Soil Map Unit Name: HsA: Hornell silty clay loam, 0 to 2 perce		NWI classification:	N/A
Are climatic / hydrologic conditions on the site typical for this tir	ne of year? Yes	es X No (If no, e	explain in Remarks.)
Are Vegetation X, Soil X, or Hydrology signif	icantly disturbed? Are	e "Normal Circumstances" prese	nt? Yes X No
Are Vegetation, Soil, or Hydrology natur	ally problematic? (If	needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map sho		locations, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes No	X Is the Sam	nlad Araa	
Hydric Soil Present? Yes X No			No_X_
Wetland Hydrology Present? Yes No		onal Wetland Site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separa This upland sample point is representative of the upland areas activity due to the routine suppression of native vegetation as	s adjacent to KLF_Sherer D		listurbed by agricultural
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (m	inimum of two required)
Primary Indicators (minimum of one is required; check all that	apply)	Surface Soil Cracks	,
	ned Leaves (B9)	Drainage Patterns (
High Water Table (A2) Aquatic Fat		Moss Trim Lines (B1	
Saturation (A3) Marl Depos		Dry-Season Water T	
	Sulfide Odor (C1)	Crayfish Burrows (C	·
	hizospheres on Living Roots	· · ·	n Aerial Imagery (C9)
	f Reduced Iron (C4)	Stunted or Stressed	
	Reduction in Tilled Soils (C		` ,
	Surface (C7)	Shallow Aquitard (D	
	lain in Remarks)	Microtopographic Re	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D	05)
Field Observations:			
Surface Water Present? Yes No X De	epth (inches):		
Water Table Present? Yes No X De Saturation Present? Yes No X De	pth (inches):		
	pth (inches):	Wetland Hydrology Present?	Yes No_X_
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring well, aeria	al photos, previous inspection	ons), if available:	
Remarks: No indicators of wetland hydrology were present at the time of	f the investigation.		
ENC FORM 6446 9 FER 2024		N1_wdffw	al and North cost - Vancius 2.6

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
ree Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
· .				Number of Dominant Species
·				That Are OBL, FACW, or FAC:1 (A)
· <u></u>				Total Number of Dominant
·				Species Across All Strata: 2 (B)
·				Percent of Dominant Species
				That Are OBL, FACW, or FAC:(A/B)
·				Prevalence Index worksheet:
	=	=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size:15)			OBL species 0 x 1 = 0
·				FACW species 0 x 2 = 0
· .				FAC species 20 x 3 = 60
				FACU species 40 x 4 = 160
				UPL species 0 x 5 = 0
				Column Totals: 60 (A) 220 (B)
				Prevalence Index = B/A = 3.67
				Hydrophytic Vegetation Indicators:
	·	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
lerb Stratum (Plot size: 5)				2 - Dominance Test is >50%
. <u>Setaria italica</u>	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
. Ambrosia trifida	20	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
. Cirsium vulgare	10	No	FACU	data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
· .				Tree – Woody plants 3 in. (7.6 cm) or more in diamete
- <u> </u>				at breast height (DBH), regardless of height.
0.				Sapling/shrub – Woody plants less than 3 in. DBH
1.				and greater than or equal to 3.28 ft (1 m) tall.
				Haub All bank account (non woods) plants regardlesses
	60 =	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Voody Vine Stratum (Plot size: 30)			Woody vines All woody vines greater than 2.29 ft in
				Woody vines – All woody vines greater than 3.28 ft in height.
				Hydrophytic
	- ——			Vegetation Present? Yes No X
		=Total Cover		
	_			•

0-8 8-20		95 93	Color (moist) 10YR 5/3 10YR 5/3 7.5YR 5/6	5 5 2	Type ¹ C C C	PL M PL	Texture Loamy/Clayey Loamy/Clayey	Remarks clay loam clay loam
			10YR 5/3	5	С	М		
8-20	10YR 3/1	93	-1				Loamy/Clayey	clay loam
		 	7.5YR 5/6	2	С	PL		·
								Prominent redox concentrat
		<u> </u>						T TOTTILLOTTE TOGOT CONTOCHILL
			_					
Type: C=Concent	tration, D=Depletio	n, RM=F	Reduced Matrix, M	IS=Mask	ed Sand	Grains.	² Location: PL=	Pore Lining, M=Matrix.
Hydric Soil Indica		<u> </u>						Problematic Hydric Soils ³ :
Histosol (A1)		_	Dark Surface (-				(A10) (LRR K, L, MLRA 149
Histic Epipedo		_	Polyvalue Belo		e (S8) (I	_RR R,		ky Peat or Peat (S3) (LRR K ,
Black Histic (A	,		MLRA 149B	•	// DD D			Below Surface (S8) (LRR K, I
Hydrogen Sulfi		_	Thin Dark Surf		-			Surface (S9) (LRR K, L)
Stratified Laye			High Chroma S					anese Masses (F12) (LRR K, Floodplain Soils (F10) (ML PA
Thick Dark Sur	w Dark Surface (A rface (A12)	'''	Loamy Mucky Loamy Gleyed			κκ, L)		Floodplain Soils (F19) (MLRA it Material (F21) (outside ML l
Mesic Spodic (_	Depleted Matri		2)			ow Dark Surface (F22)
	A, 145, 149B)	_	X Redox Dark Su	` '	3)			plain in Remarks)
Sandy Mucky I		_	— Depleted Dark	-	•			,
Sandy Gleyed			Redox Depress		• •			
Sandy Redox (Marl (F10) (LR	-	,		³ Indicators	of hydrophytic vegetation and
Stripped Matrix	x (S6)		Red Parent Ma	iterial (F2	21) (MLR	RA 145)	wetland	hydrology must be present,
						,	unless d	isturbed or problematic.
Restrictive Layer	(if observed):							
Type:								
Depth (inches)):						Hydric Soil Present	? Yes <u>X</u> No_
Remarks:	w laver were cons	idered si	anificantly disturb	ed due to	routine	nlowing a	essociated with the farmi	ing of cultivated row crops.
Jons within the plo	W layer were cons	idered 3i	grimoarity disturb	ca auc ic	Toddine	plowing	13300lated with the famili	ing of cultivated fow crops.

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Erie County Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy	State: OH Sampling Point: KLF_SP016
Investigator(s): Thomas Malecki and John Gentilesco	Section, Township, Range: Oxford Township
Landform (hillside, terrace, etc.): flat	Local relief (concave, convex, none): convex Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.33	
Soil Map Unit Name: PcA: Pewamo silty clay loam, 0 to 1 percent s	
Are climatic / hydrologic conditions on the site typical for this time of	year? Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significant	ly disturbed? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally p	oroblematic? (If needed, explain any answers in Remarks.)
	g sampling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area
Hydric Soil Present? Yes No X	within a Wetland? Yes No _X_
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply	· · · · · · · · · · · · · · · · · · ·
Surface Water (A1) Water-Stained L	
High Water Table (A2) Aquatic Fauna (I	
Saturation (A3) Marl Deposits (B	<u> </u>
Water Marks (B1) Hydrogen Sulfide	e Odor (C1) Crayfish Burrows (C8)
Sediment Deposits (B2) Oxidized Rhizos	pheres on Living Roots (C3)Saturation Visible on Aerial Imagery (C9)
Drift Deposits (B3) Presence of Rec	duced Iron (C4) Stunted or Stressed Plants (D1)
1 	uction in Tilled Soils (C6) Geomorphic Position (D2)
Iron Deposits (B5)Thin Muck Surfa	<u> </u>
Inundation Visible on Aerial Imagery (B7)Other (Explain ir	
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)
Field Observations:	
Surface Water Present? Yes No X Depth (i Water Table Present? Yes No X Depth (i	ncnes):
Water Table Present? Yes No X Depth (i Saturation Present? Yes No X Depth (i	nches): Wetland Hydrology Present? Yes No X
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial pho	otos, previous inspections), if available:
Remarks:	
No indicators of wetland hydrology were present at the time of the i	nvestigation.
1	

VEGETATION – Use scientific names of plants.

Fron Stratum (Plot size: 30)		ominant Indic oecies? Stat	
ree Stratum (Plot size:30)	⁷⁶ Covei S₁	Jecies : Stat	Dominance Test worksheet.
	·		Number of Dominant Species
2.			That Are OBL, FACW, or FAC:(A
3.			Total Number of Dominant
4 5.			Species Across All Strata: (B
			Percent of Dominant Species
5.			That Are OBL, FACW, or FAC: (A
7		al Cover	
Sapling/Shrub Stratum (Plot size: 15		al Covei	
·)		OBL species
			— I '. ——— . ———
			—
3. 4.			FACU species x 4 = UPL species x 5 =
			_
•			
· ·			Prevalence Index = B/A =
7			Hydrophytic Vegetation Indicators:
			4 5 117 12 11 11 11 11 11 11 11 11 11 11 11 11
	=Tota	al Cover	1 - Rapid Test for Hydrophytic Vegetation
		al Cover	2 - Dominance Test is >50%
1		al Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹
1. 2.		al Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide suppor
1 2 3		al Cover	2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor data in Remarks or on a separate sheet)
1			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (Provide suppor
1			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor data in Remarks or on a separate sheet)
1			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor data in Remarks or on a separate sheet) Problematic Hydrophytic Vegetation¹ (Explain) ¹Indicators of hydric soil and wetland hydrology mus
1			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor 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:
1			2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor 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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1	=Tota		2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor 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 diamat 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.
1	=Tota		2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor 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 diam 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, regardle of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft height.
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2	=Tota		2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0¹ 4 - Morphological Adaptations¹ (Provide suppor 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 diam 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, regardle of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft height.

Color (moist)	10YR 4/3 100 Loamy/Clayey Clay loam	m m
*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. **Indicators:* **Hydric Soil Indicators:* **Histosol (A1) **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Indicators for Problematic Hydric Soils*:* **Jecation: PL=Pore Lining, M=Matrix.* **Jecation: PL=	8-16 10YR 4/3 98 7.5YR 5/4 2 C PL Loamy/Clayey clay loam Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) MICRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Indicators: 2 Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Sc 2 cm Muck (A10) (LRR K, L, MLR 5 cm Mucky Peat or Peat (S3) (LR Polyvalue Below Surface (S8) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LI	m rix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histosol (A2) Black Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 1445, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type:	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Hydric Epipedon (A2) Black Histic (A3) Histo Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Stratified Layers (A5) Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Sc 2 cm Muck (A10) (LRR K, L, MLR 5 cm Mucky Peat or Peat (S3) (LR Polyvalue Below Surface (S8) (LRR R, Polyvalue Below Surface (S8) (LR R, Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LFR K, L)	rix.
¹ Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Dark Surface (S7) Histosol (A2) Black Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Mesic Spodic (A17) (MLRA 144A, 1445, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type:	Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. Hydric Soil Indicators: Histosol (A1) Hydric Epipedon (A2) Black Histic (A3) Histo Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Hydrogen Sulfide (A4) Stratified Layers (A5) Location: PL=Pore Lining, M=Matrix. Indicators for Problematic Hydric Sc 2 cm Muck (A10) (LRR K, L, MLR 5 cm Mucky Peat or Peat (S3) (LR Polyvalue Below Surface (S8) (LRR R, Polyvalue Below Surface (S8) (LR R, Hydrogen Sulfide (A4) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LFR K, L)	
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Histosol (A1) Dark Surface (S7) Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 149B) Amedic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Dark Surface (S7) Polyvalue Below Surface (S3) (LRR K, L, MLRA 149B) Str Mucky Peat or Peat (S3) (LRR K, L, L) Str Mucky Peat or Peat (S3) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, L) Piedmont Floodplain Soils (F19) (MLRA 14 Peledmont Floodplain Soils (F19) (MLRA 14 Polyvalue Below Surface (S9) (LRR K, L, L) Iron-Manganese Masses (F12) (LRR K, L, L) Piedmont Floodplain Soils (F19) (MLRA 14 Polyvalue Below Surface (S9) (LRR K, L, L) Iron-Manganese Masses (F12) (LRR K, L, L) Piedmont Floodplain Soils (F19) (MLRA 14 Polyvalue Below Surface (S9) (LRR K, L, L) Iron-Manganese Masses (F12) (LRR K, L, L) Piedmont Floodplain Soils (F19) (MLRA 14 Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L, L) Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Piedmont Floodplain Soils (F19) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 14 Polyvalue Below Surface (S9) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Polyvalue Below Surface (F9) Thin Dark Surface (S9) (LRR K, L) Piedmont Floodplain Soils (F19) (LRR K, L) Piedmont Floodplain Soils (F19) (LRR K, L) Polyvalue Below	Histosol (A1) Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Dark Surface (S7) Polyvalue Below Surface (S8) (LRR R, 5 cm Mucky Peat or Peat (S3) (LR Polyvalue Below Surface (S8) (LR Polyvalue Below Surface (S8) (LR Polyvalue Below Surface (S8) (LR Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LR	Soils ³
Histic Epipedon (A2) Polyvalue Below Surface (S8) (LRR R, Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Stripped Matrix (S6) Polyvalue Below Surface (S9) (LRR K, L, Polyvalue Below Surface (S8) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, Piedmont Floodplain Soils (F19) (MLRA 145) Red Parent Material (F21) (outside MLRA 145) Very Shallow Dark Surface (F22) Other (Explain in Remarks) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Histic Epipedon (A2) Black Histic (A3) Hydrogen Sulfide (A4) Stratified Layers (A5) Polyvalue Below Surface (S8) (LRR R, 5 cm Mucky Peat or Peat (S3) (LR Polyvalue Below Surface (S8) (LR Polyvalue Below Surface (S8) (LR Polyvalue Below Surface (S9) (LRR R, MLRA 149B) Thin Dark Surface (S9) (LRR R, MLRA 149B) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LR	
Hydrogen Sulfide (A4) Stratified Layers (A5) Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) Sandy Mucky Mineral (S1) Sandy Redox (S5) Sandy Redox (S5) Stripped Matrix (S6) Restrictive Layer (if observed): Type: Thin Dark Surface (S9) (LRR K, L) High Chroma Sands (S11) (LRR K, L) High Chroma Sands (S11) (LRR K, L) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, Piedmont Floodplain Soils (F19) (MLRA 14 14 14 14 14 14 14 14 14 14 14 14 14	Hydrogen Sulfide (A4) Stratified Layers (A5) Thin Dark Surface (S9) (LRR R, MLRA 149B) High Chroma Sands (S11) (LRR K, L) Thin Dark Surface (S9) (LRR K, L) Iron-Manganese Masses (F12) (LFR K, L)	•
Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LRR K, L, Depleted Below Dark Surface (A11) Loamy Mucky Mineral (F1) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 14 Loamy Mucky Mineral (F1) (LRR K, L) Piedmont Floodplain Soils (F19) (MLRA 14 Loamy Gleyed Matrix (F2) Red Parent Material (F21) (outside MLRA Mesic Spodic (A17) Depleted Matrix (F3) Very Shallow Dark Surface (F22) (MLRA 144A, 145, 149B) Redox Dark Surface (F6) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) 3Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	Stratified Layers (A5) High Chroma Sands (S11) (LRR K, L) Iron-Manganese Masses (F12) (LR	LRR K, L)
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (outside MLRA 145) Piedmont Floodplain Soils (F19) (MLRA 14 145) Red Parent Material (F21) (outside MLRA 146) Red Parent Material (F21) (outside MLRA 147) Very Shallow Dark Surface (F22) Other (Explain in Remarks) Other (Explain in Remarks) Sandy Redox (S5) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:	_ · · · · · · · _ · · · · · · _ · · · · · · · · · · · _ · · · · · · · · · · · · · · · · · · ·	, L)
Thick Dark Surface (A12) Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Redox Dark Surface (F2) Mesic Spodic (A17) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Red Parent Material (F21) Meric F21) Red Parent Material (F21) Meric F21) Meric F21) Meric F21) Meric Parent Material (F21) Meric F21) Meric F21) Meric Parent Material (F21) Meric F21) Meric F21) Meric Parent Material (F21) Meric F21) Meric F22) Meric F22) Meric F22) Meric F22) Meric F22) Meric F21) Meric F22) Meric F23	Deploted Polosy Park Curfoce (A11) Leamy Musicy Mineral (F1) (LDD K L) Diadment Floodalain Coile (F10) (L	•
Mesic Spodic (A17) (MLRA 144A, 145, 149B) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetry Shallow Dark Surface (F22) Other (Explain in Remarks) All (Explain in Remarks) Shad Parent (F7) Marl (F10) (LRR K, L) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Wetry Shallow Dark Surface (F22) Other (Explain in Remarks) All (Explain in Remarks) Shad Parent (F7) Wetry Shallow Dark Surface (F22) Other (Explain in Remarks) All (Explain in Remarks) Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.		
(MLRA 144A, 145, 149B) Redox Dark Surface (F6) Other (Explain in Remarks) Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Sandy Redox (S5) Marl (F10) (LRR K, L) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:		
Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic.		2)
Sandy Gleyed Matrix (S4) Sandy Redox (S5) Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) Restrictive Layer (if observed): Type: Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic.		
Stripped Matrix (S6) Red Parent Material (F21) (MLRA 145) wetland hydrology must be present, unless disturbed or problematic. Restrictive Layer (if observed): Type:		
Restrictive Layer (if observed): Type:		
Restrictive Layer (if observed): Type:	_	
Type:		tic.
···		
riyunc 30ii Flesent: Tes NoX	···	
	Deput (indies).	No. Y
Remarks: The soil profile does not meet the criteria for any of the hydric soil indicators at the time of the investigation.		No X

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconduc	etor	City/County: Erie Co	unty	Sampling Date: 7/30/2024
Applicant/Owner: FirstEnergy	_		State: OH	Sampling Point: KLF_SP017
Investigator(s): Thomas Malecki and John G	entilesco	Section, To	wnship, Range: Oxford T	
Landform (hillside, terrace, etc.): flat		<u></u>	x, none): convex	
Subregion (LRR or MLRA): LRR R, MLRA 1		-	-82.647287	Datum: NAD83
Soil Map Unit Name: EcA: Elliott silt loam, b			NWI classification:	N/A
Are climatic / hydrologic conditions on the site	e typical for this time of year?	Yes X	No (If no,	explain in Remarks.)
Are Vegetation X , Soil , or Hydro	ology significantly disturb	ed? Are "Norm	nal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydro	plogy naturally problema	tic? (If needed	d, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach	<u> </u>			•
Lludrophytic Vegetation Present?	Voc. No. V	le the Compled A		
Hydrophytic Vegetation Present? Hydric Soil Present?	Yes No X Yes No X	Is the Sampled American within a Wetland?		No. Y
Wetland Hydrology Present?	Yes No X	If yes, optional We		No_X_
Remarks: (Explain alternative procedures he		, 500, 0 pt. 0		
The sample point is located within an active suppression of native vegetation as a management		was significantly dist	urbed by agricultural acti	vity due to the routine
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (r	ninimum of two required)
Primary Indicators (minimum of one is requir	ed; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1)	Water-Stained Leaves (B	9)	Drainage Patterns ((B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (0	C1)	Crayfish Burrows (0	C8)
Sediment Deposits (B2)	Oxidized Rhizospheres o	n Living Roots (C3)	Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iro	n (C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	03)
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remark	s)	Microtopographic R	telief (D4)
Sparsely Vegetated Concave Surface (E	38)		FAC-Neutral Test (D5)
Field Observations:				
Surface Water Present? Yes	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	vious inspections), if	available:	
Remarks: No indicators of wetland hydrology were pres	sent at the time of the investiga	tion.		
ENG FORM 6116-8, FEB 2024			Northcentr	al and Northeast – Version 2.0

VEGETATION – Use scientific names of plants.

	Absolute	Dominant	Indicator	
ree Stratum (Plot size:30)	% Cover	Species?	Status	Dominance Test worksheet:
· -				Number of Dominant Species
·				That Are OBL, FACW, or FAC: 0 (A
· <u></u>				Total Number of Dominant
				Species Across All Strata: 2 (B
·				Percent of Dominant Species
·				That Are OBL, FACW, or FAC: 0.0% (A
				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size: 15)			OBL species 0 x 1 = 0
				FACW species 0 x 2 = 0
·				FAC species 0 x 3 = 0
·				FACU species 60 x 4 = 240
·				UPL species0 x 5 =0
·				Column Totals: 60 (A) 240
				Prevalence Index = B/A = 4.00
				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
erb Stratum (Plot size: 5)				2 - Dominance Test is >50%
Poa pratensis	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
. Trifolium repens	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide suppor
. Plantago major	10	No	FACU	data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology mu
				be present, unless disturbed or problematic.
·	_			Definitions of Vegetation Strata:
· <u></u>				Tree – Woody plants 3 in. (7.6 cm) or more in diam
·				at breast height (DBH), regardless of height.
0				Sapling/shrub – Woody plants less than 3 in. DBH
1				and greater than or equal to 3.28 ft (1 m) tall.
2				Herb – All herbaceous (non-woody) plants, regardl
	60	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Voody Vine Stratum (Plot size: 30	_)			Woody vines – All woody vines greater than 3.28 f
·				height.
				Hydrophytic Vegetation
				Present? Yes No X
	_	=Total Cover		

ist) % 3 100	Color (moist) %	Type ¹ Loc ²	Texture Loamy/Clayey	Remarks clay loam
	=Reduced Matrix, MS=Mas	ked Sand Grains	Loamy/Clayey	clay loam
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
D=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
D=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
D=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
D=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	l=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
=Depletion, RM	=Reduced Matrix, MS=Mas	ked Sand Grains		
		Red Garid Grains.	² Location: PL=Pore I	Lining, M=Matrix.
			Indicators for Proble	ematic Hydric Soils ³ :
	Dark Surface (S7)		2 cm Muck (A10)	(LRR K, L, MLRA 149B)
	Polyvalue Below Surfa	ace (S8) (LRR R ,		t or Peat (S3) (LRR K, L, R)
	MLRA 149B)			Surface (S8) (LRR K, L)
	Thin Dark Surface (S9		· · · · · · · · · · · · · · · · · · ·	e (S9) (LRR K, L)
	High Chroma Sands (Masses (F12) (LRR K, L, R)
				olain Soils (F19) (MLRA 149E
2)		(F2)		
149B)		- 6)		
•		·		. tomano,
•		` '		
,			³ Indicators of hyd	drophytic vegetation and
	Red Parent Material (F	² 21) (MLRA 145)	wetland hydrol	ogy must be present,
			unless disturbe	ed or problematic.
rved):				
Hard Pan				
10			Hydric Soil Present?	Yes No _X
	Hard Pan 10	Loamy Gleyed Matrix Depleted Matrix (F3) 49B) Redox Dark Surface (IS1) Depleted Dark Surface (IS4) Redox Depressions (FMarl (F10) (LRR K, L) Red Parent Material (FIVed): Hard Pan 10	Loamy Gleyed Matrix (F2) Depleted Matrix (F3) Redox Dark Surface (F6) Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) Red Parent Material (F21) (MLRA 145)	2) Loamy Gleyed Matrix (F2) Red Parent Mate Depleted Matrix (F3) Very Shallow Da 49B) Redox Dark Surface (F6) Other (Explain in Depleted Dark Surface (F7) Redox Depressions (F8) Marl (F10) (LRR K, L) Red Parent Material (F21) (MLRA 145) wetland hydrol unless disturber rved): Hard Pan

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/Cou	inty: Erie County	Sampling Date: 7/31/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP018
Investigator(s): Thomas Malecki and John Gentiles	sco	Section, Township, Range: Oxford	
Landform (hillside, terrace, etc.): flat		cave, convex, none): convex	-
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.343663	Long: -82.687451	 Datum: NAD83
Soil Map Unit Name: CnA: Colwood silty loam, 0 t		NWI classification	
Are climatic / hydrologic conditions on the site typic	al for this time of year?	Yes X No (If no	o, explain in Remarks.)
Are Vegetation X , Soil , or Hydrology	significantly disturbed?	Are "Normal Circumstances" pre	sent? Yes X No
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed, explain any answers	in Remarks.)
SUMMARY OF FINDINGS – Attach site		,	•
Lhudus why the Managathan Bussant?	No. V. lo the	Computed Avec	
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes		Sampled Area a Wetland? Yes	No. Y
Wetland Hydrology Present? Yes		optional Wetland Site ID:	NoX
Remarks: (Explain alternative procedures here or			
The sample point is located within an active agricu		nificantly disturbed by agricultural a	ctivity due to the routine
suppression of native vegetation as a managed pla		, , ,	•
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators	(minimum of two required)
Primary Indicators (minimum of one is required; ch	neck all that apply)	Surface Soil Crac	ks (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Pattern	s (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines	(B16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Wate	er Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows	(C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living	Roots (C3) Saturation Visible	on Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stress	ed Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So	oils (C6) Geomorphic Posi	tion (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard	(D3)
— — · — — · — — · — — · — · — · — · —	Other (Explain in Remarks)	Microtopographic	Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test	: (D5)
Field Observations:			
Surface Water Present? Yes No	X Depth (inches):		
Water Table Present? Yes No	X Depth (inches): X Depth (inches):		
Saturation Present? Yes No	X Depth (inches):	Wetland Hydrology Present	? Yes No X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	ng well, aerial photos, previous ins	pections), if available:	
Remarks: No indicators of wetland hydrology were present a	t the time of the investigation		
The indicators of welland flydrology were present a	t the time of the investigation.		
ENC FORM 6446 9 FER 2024		Nig. att	atual and Nauthaaat - Vacatan O.C

Fron Stratum (Plot size: 30)	Absolute	Dominant	Indicator	Dominance Test worksheet	
Free Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksneet	
l				Number of Dominant Species	
2				That Are OBL, FACW, or FAC	C:(A)
3.	-			Total Number of Dominant	(5)
4 -				Species Across All Strata:	(B)
5.				Percent of Dominant Species	
3				That Are OBL, FACW, or FAC	
7				Prevalence Index workshee	
	=	=Total Cover		Total % Cover of:	Multiply by:
Sapling/Shrub Stratum (Plot size: 15)			OBL species	x 1 =
I				FACW species	· · · · · · · · · · · · · · · · · · ·
2.				FAC species	x 3 =
3				FACU species	x 4 =
4				UPL species	x 5 =
5.	<u> </u>			Column Totals:	(A)(I
3.				Prevalence Index = B	/A =
7				Hydrophytic Vegetation Ind	licators:
	=	=Total Cover		1 - Rapid Test for Hydrop	hytic Vegetation
(II				I ⁻	
Herb Stratum (Plot size: 5)				2 - Dominance Test is >5	60%
				2 - Dominance Test is >5 3 - Prevalence Index is ≤	
1					3.0 ¹
1 2				3 - Prevalence Index is ≤	3.0 ¹ tions ¹ (Provide supporti
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta	3.0 ¹ tions ¹ (Provide supporti a separate sheet)
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic	3.0 ¹ tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain)
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and of	3.0 ¹ tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology musi
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed	3.0 ¹ tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology must or problematic.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and was be present, unless disturbed to perfinitions of Vegetation St	3.0 ¹ tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology must or problematic.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and to be present, unless disturbed to be present. Definitions of Vegetation St Tree – Woody plants 3 in. (7.	3.0 ¹ tions ¹ (Provide supporting a separate sheet) Vegetation ¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diame
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and to be present, unless disturbed to Definitions of Vegetation State Tree – Woody plants 3 in. (7. at breast height (DBH), regard	tions ¹ (Provide supporting a separate sheet) Vegetation ¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diamed dless of height.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and one be present, unless disturbed of the present of the	tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology must or problematic. trata: 6 cm) or more in diamedless of height.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and to be present, unless disturbed to Definitions of Vegetation State Tree – Woody plants 3 in. (7. at breast height (DBH), regard	tions ¹ (Provide supporting a separate sheet) Vegetation ¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diamedeless of height.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed to be present, unless disturbed to Definitions of Vegetation St Tree – Woody plants 3 in. (7. at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3. Herb – All herbaceous (non-vegetation services)	tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology must or problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardle
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and value present, unless disturbed to Definitions of Vegetation St Tree – Woody plants 3 in. (7. at breast height (DBH), regarment of Sapling/shrub – Woody plants and greater than or equal to 3.	tions¹ (Provide supporti a separate sheet) Vegetation¹ (Explain) wetland hydrology musor problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardle
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and vide present, unless disturbed of the present of the p	tions¹ (Provide supporti a separate sheet) Vegetation¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardles than 3.28 ft tall.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed to be present, unless disturb	tions¹ (Provide supporti a separate sheet) Vegetation¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardles than 3.28 ft tall.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and was present, unless disturbed of the present of the pr	tions¹ (Provide support a separate sheet) Vegetation¹ (Explain) wetland hydrology musor problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardles than 3.28 ft tall.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and vide present, unless disturbed of the present of the p	tions¹ (Provide supporti a separate sheet) Vegetation¹ (Explain) wetland hydrology mustor problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardles than 3.28 ft tall.
2				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and wide present, unless disturbed of the present of the p	tions ¹ (Provide supporti a separate sheet) Vegetation ¹ (Explain) wetland hydrology must or problematic. trata: 6 cm) or more in diamedless of height. ats less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardles than 3.28 ft tall.

(inches) 0-16			Redux	Feature	es				
0-16	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	ırks
	10YR 4/1	100					Loamy/Clayey	clay lo	oam
						—			
Type: C=Con	centration, D=Deple	etion, RM	l=Reduced Matrix, MS	S=Mask	ed Sand	Grains.	² Location: PL=Pore	E Lining, M=Ma	atrix.
Hydric Soil Inc	dicators:						Indicators for Prol		
Histosol (A	.1)		Dark Surface (S	37)			2 cm Muck (A1	0) (LRR K, L,	MLRA 149E
Histic Epip	edon (A2)		Polyvalue Belov	v Surfac	e (S8) (I	RR R,	5 cm Mucky Pe	-	
Black Histi			MLRA 149B)				Polyvalue Belo		
	Sulfide (A4)		Thin Dark Surfa		•				•
Stratified L			High Chroma Sa	-			Iron-Manganes	•	-
	Below Dark Surface ((A11)	Loamy Mucky M			R K, L)	Piedmont Floor		
	Surface (A12)		Loamy Gleyed N		-2)		Red Parent Ma		
Mesic Spo	aic (A17) 144A, 145, 149B)		Depleted Matrix Redox Dark Sur		3)		Very Shallow D Other (Explain		-22)
•	cky Mineral (S1)		Depleted Dark S	-	•		Other (Explain	iii Neiliaiks)	
	yed Matrix (S4)		Redox Depress		. ,				
Sandy Red			Marl (F10) (LRF		')		³ Indicators of h	ydrophytic veg	etation and
Stripped M			Red Parent Mat		21) (MLR	RA 145)		ology must be	
	, ,		_	,	, ,	•		bed or problen	
Restrictive La	yer (if observed):							•	
Type:									
Depth (incl	hes):						Hydric Soil Present?	Yes	No 🗅
Remarks:	<u> </u>								
	does not meet the c	criteria fo	or any of the hydric so	il indica	tors at th	ne time of	the investigation.		
Remarks: The soil profile	does not meet the c	criteria fo	or any of the hydric so	oil indica	tors at th	ne time of	the investigation.		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/Coun	ty: Erie County	Sampling Date: 7/31/2024			
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP019			
Investigator(s): Thomas Malecki and John Gentilesco		Section, Township, Range: Oxford	<u> </u>			
Landform (hillside, terrace, etc.): flat		ave, convex, none): convex	·			
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.342321	Long: -82.683510	' Datum: NAD83			
Soil Map Unit Name: JtA: Jimtown loam, 0 to 2 perce		NWI classification:				
Are climatic / hydrologic conditions on the site typical f	or this time of year?	Yes X No (If no	explain in Remarks.)			
Are Vegetation X, Soil , or Hydrology	significantly disturbed?	Are "Normal Circumstances" pres	ent? Yes X No			
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed, explain any answers i	n Remarks.)			
SUMMARY OF FINDINGS – Attach site m		int locations, transects, in	nportant features, etc.			
Hydrophytic Vogotation Propert?	No. V. In the S	ampled Area				
Hydrophytic Vegetation Present? Yes Hydric Soil Present? Yes		ampled Area ı Wetland? Yes	No X			
Wetland Hydrology Present? Yes		ptional Wetland Site ID:	<u> </u>			
Remarks: (Explain alternative procedures here or in		·	ı			
This sample point serves as a representation of the u The area was significantly disturbed by agricultural ac	pland areas adjacent to KLF_We					
HYDROLOGY						
Wetland Hydrology Indicators:		Secondary Indicators (minimum of two required)			
Primary Indicators (minimum of one is required; check	k all that apply)	Surface Soil Crack	s (B6)			
Surface Water (A1) Wa	ater-Stained Leaves (B9)	Drainage Patterns	Drainage Patterns (B10)			
High Water Table (A2) Aq	uatic Fauna (B13)	Moss Trim Lines (I	Moss Trim Lines (B16)			
Saturation (A3)	arl Deposits (B15)	Dry-Season Water	Table (C2)			
Water Marks (B1)	drogen Sulfide Odor (C1)	Crayfish Burrows (C8)			
Sediment Deposits (B2) Ox	idized Rhizospheres on Living R	oots (C3) Saturation Visible	on Aerial Imagery (C9)			
Drift Deposits (B3)	esence of Reduced Iron (C4)					
Algal Mat or Crust (B4)	cent Iron Reduction in Tilled Soil	• • • • • • • • • • • • • • • • • • • •				
Iron Deposits (B5)	in Muck Surface (C7)	Shallow Aquitard (D3)				
Inundation Visible on Aerial Imagery (B7) Oth	her (Explain in Remarks)	Microtopographic I	Relief (D4)			
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test	(D5)			
Field Observations:						
Surface Water Present? Yes No _>	C Depth (inches):					
Water Table Present? Yes No	C Depth (inches):					
Saturation Present? Yes No	C Depth (inches): C Depth (inches):	Wetland Hydrology Present?	Yes No _ X			
(includes capillary fringe)						
Describe Recorded Data (stream gauge, monitoring v	vell, aerial photos, previous inspe	ections), if available:				
Remarks: No indicators of wetland hydrology were present at th	e time of the investigation.					
ENC FORM 6446 0 FED 2024		N a while a a sec	inal and Nauthanat Vancion 2.6			

Constitute (Districts 20	Absolute	Dominant	Indicator	Daminana Taat wadahaat	
ee Stratum (Plot size: 30)	% Cover	Species?	Status	Dominance Test worksheet:	
				Number of Dominant Species	0 (4)
				That Are OBL, FACW, or FAC:	0 (A)
				Total Number of Dominant	0 (D)
				Species Across All Strata:	(B)
				Percent of Dominant Species	0.00/ /4/5
				That Are OBL, FACW, or FAC:	0.0% (A/E
				Prevalence Index worksheet:	A 14: 1 la
online (Cherch Cherchure (Dlateine)		=Total Cover			fultiply by:
upling/Shrub Stratum (Plot size: 15)			OBL species 0 x 1 =	
				FACW species 0 x 2 =	
				FAC species 0 x 3 =	
				FACU species 15 x 4 =	
				UPL species 30 x 5 =	
				Column Totals: 45 (A)	(E
				Prevalence Index = B/A =	4.67
	-			Hydrophytic Vegetation Indicators	
		=Total Cover		1 - Rapid Test for Hydrophytic Ve	egetation
erb Stratum (Plot size:5)				2 - Dominance Test is >50%	
Rubus occidentalis	30	Yes	UPL	3 - Prevalence Index is ≤3.0 ¹	
Rubus occidentalis Ipomoea purpurea	30 15	Yes Yes	UPL FACU	3 - Prevalence Index is ≤3.0 ¹ 4 - Morphological Adaptations ¹ (F data in Remarks or on a separ	
Ipomoea purpurea				4 - Morphological Adaptations ¹ (F	rate sheet)
Ipomoea purpurea				4 - Morphological Adaptations¹ (F data in Remarks or on a separation Problematic Hydrophytic Vegetatatatatatatatatatatatatatatatatatat	rate sheet) tion ¹ (Explain) hydrology must
				4 - Morphological Adaptations ¹ (Factorial of the data in Remarks or on a separation of the data in Remarks or on the data in R	rate sheet) tion ¹ (Explain) hydrology must
Ipomoea purpurea				4 - Morphological Adaptations¹ (F data in Remarks or on a separation Problematic Hydrophytic Vegetatatatatatatatatatatatatatatatatatat	rate sheet) tion ¹ (Explain) hydrology must
Ipomoea purpurea				4 - Morphological Adaptations ¹ (Factorial of the data in Remarks or on a separation of the data in Remarks or on the data in R	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet
Ipomoea purpurea	15			4 - Morphological Adaptations¹ (F data in Remarks or on a separation Problematic Hydrophytic Vegetata¹ Indicators of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet
Ipomoea purpurea	15			4 - Morphological Adaptations¹ (Formula of the data in Remarks or on a separation of the data in Remarks or on a s	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH
Ipomoea purpurea D	15			4 - Morphological Adaptations¹ (F data in Remarks or on a separation of Problematic Hydrophytic Vegetatatatatara of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (7.6 cm) of the same o	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall.
Ipomoea purpurea D	15	Yes		4 - Morphological Adaptations¹ (F data in Remarks or on a separal Problematic Hydrophytic Vegetata¹ Indicators of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (4 Herb – All herbaceous (non-woody)	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles
Ipomoea purpurea D. 1. 2.	15			4 - Morphological Adaptations¹ (F data in Remarks or on a separal Problematic Hydrophytic Vegetata¹ Indicators of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (7 Herb – All herbaceous (non-woody) of size, and woody plants less than 3	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles
Ipomoea purpurea O	15	Yes		4 - Morphological Adaptations¹ (F data in Remarks or on a separal Problematic Hydrophytic Vegetatal Indicators of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (7 Herb – All herbaceous (non-woody) of size, and woody plants less than 3 Woody vines – All woody vines greater	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles
Ipomoea purpurea October 1.	15	Yes		4 - Morphological Adaptations¹ (F data in Remarks or on a separal Problematic Hydrophytic Vegetata¹ Indicators of hydric soil and wetland be present, unless disturbed or problemations of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (7 Herb – All herbaceous (non-woody) of size, and woody plants less than 3	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles
Ipomoea purpurea O. 1. 2. Voody Vine Stratum (Plot size: 30	15	Yes		4 - Morphological Adaptations¹ (Findata in Remarks or on a separation Problematic Hydrophytic Vegetation ¹Indicators of hydric soil and wetland be present, unless disturbed or problematic Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (1.6 cm) of size, and woody plants less than 3 woody vines – All woody vines greateight.	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles
Ipomoea purpurea In a series of the series	15	Yes		4 - Morphological Adaptations¹ (Findata in Remarks or on a separation Problematic Hydrophytic Vegetation ¹Indicators of hydric soil and wetland be present, unless disturbed or problematic Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (1.6 cm) of size, and woody plants less than 3 woody vines – All woody vines greately the sight. Hydrophytic Vegetation	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles 2.28 ft tall. ster than 3.28 ft i
Ipomoea purpurea Ipomoea purpurea Individual services s		Yes		4 - Morphological Adaptations¹ (Findata in Remarks or on a separation Problematic Hydrophytic Vegetation ¹Indicators of hydric soil and wetland be present, unless disturbed or problematic Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) of at breast height (DBH), regardless of Sapling/shrub – Woody plants less and greater than or equal to 3.28 ft (1.6 cm) of size, and woody plants less than 3 woody vines – All woody vines greately the sight. Hydrophytic Vegetation	rate sheet) tion¹ (Explain) hydrology must ematic. r more in diamet height. than 3 in. DBH 1 m) tall. plants, regardles

to the routine removal and suppression of native vegetation for farming of cultivated crops. Vegetation was dominated by soy.

(inches) 0-16	Matrix		Redox	Feature	es				
0-16	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
	10YR 4/1	100					Loamy/Clayey	clay lo	oam
<u></u>									
-									
	-								
Type: C=Conc	entration. D=Deple	etion. RM	I=Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=Por	e Linina. M=M	atrix.
Hydric Soil Indi		, • • • •				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Indicators for Pro		
Histosol (A1			Dark Surface (S	57)			2 cm Muck (A1	_	
Histic Epipe	don (A2)		Polyvalue Belov	v Surfac	e (S8) (I	_RR R,	5 cm Mucky Pe	eat or Peat (S3) (LRR K, L, R)
Black Histic	(A3)		MLRA 149B)				Polyvalue Belo	w Surface (S8) (LRR K, L)
Hydrogen S	ulfide (A4)		Thin Dark Surfa	ce (S9)	(LRR R,	MLRA 1	49B) Thin Dark Surfa	ace (S9) (LRR	K, L)
Stratified La	yers (A5)		High Chroma S	ands (S	11) (LRF	R K, L)	Iron-Manganes	se Masses (F1	2) (LRR K, L, R)
	elow Dark Surface	(A11)	Loamy Mucky N			R K, L)			19) (MLRA 149 E
	Surface (A12)		Loamy Gleyed I		=2)				utside MLRA 14
Mesic Spodi			Depleted Matrix		۵)		Very Shallow D		F22)
•	44A, 145, 149B)		Redox Dark Sui	-	•		Other (Explain	in Remarks)	
	ky Mineral (S1)		Depleted Dark S		` '				
Sandy Gleye Sandy Redo	ed Matrix (S4)		Redox Depress Marl (F10) (LRF		5)		³ Indicators of h	vdrophytic voc	otation and
Stripped Ma			Red Parent Mat		21) (MI F	2Δ 145)		ology must be	
ourpped ivid	iii x (00)		RCG T dicit Mat	Criai (i z	21) (IVILI	(A 140)		bed or probler	
Restrictive Lay	er (if observed):						unicos distar	bed of problet	nano.
Type:	,								
Depth (inche	es):						Hydric Soil Present?	Yes	No X
							,		<u> </u>
Remarks:	loes not meet the	critoria fo	or any of the hydric so						

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Erie County Sampling Date: 7/31/2024
Applicant/Owner: FirstEnergy	State: OH Sampling Point: KLF_SP020
Investigator(s): Thomas Malecki and John Gentilesco	Section, Township, Range: Oxford Township
	relief (concave, convex, none): concave Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.342022	Long: -82.682102 Datum: NAD83
Soil Map Unit Name: CmA: Colwood loam, 0 to 1 percent slopes	NWI classification: N/A
Are climatic / hydrologic conditions on the site typical for this time of year?	Yes X No (If no, explain in Remarks.)
Are Vegetation X, Soil , or Hydrology significantly disturb	ped? Are "Normal Circumstances" present? Yes X No
Are Vegetation, Soil, or Hydrologynaturally problemate	tic? (If needed, explain any answers in Remarks.)
SUMMARY OF FINDINGS – Attach site map showing samp	pling point locations, transects, important features, etc.
Hydrophytic Vegetation Present? Yes X No	Is the Sampled Area
Hydric Soil Present? Yes X No	within a Wetland? Yes X No
Wetland Hydrology Present? Yes X No	If yes, optional Wetland Site ID: KLF_Wetland004
The area was significantly disturbed by agricultural activity due to the routine	e suppression of native vegetation as a managed plant community.
HYDROLOGY	
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)
Primary Indicators (minimum of one is required; check all that apply)	X Surface Soil Cracks (B6)
Surface Water (A1) Water-Stained Leaves (B	· · · · · · · · · · · · · · · · · · ·
High Water Table (A2) Aquatic Fauna (B13)	Moss Trim Lines (B16)
Saturation (A3) Marl Deposits (B15)	Dry-Season Water Table (C2)
Water Marks (B1)Hydrogen Sulfide Odor (C	
Sediment Deposits (B2) Oxidized Rhizospheres o	• · · · <u>—</u>
Drift Deposits (B3) Presence of Reduced Iro	
X Algal Mat or Crust (B4) Recent Iron Reduction in	
Iron Deposits (B5) Inundation Visible on Aerial Imagery (B7) Thin Muck Surface (C7) Other (Explain in Remark	Shallow Aquitard (D3) Microtopographic Relief (D4)
X Sparsely Vegetated Concave Surface (B8)	X FAC-Neutral Test (D5)
Field Observations:	<u> </u>
Surface Water Present? Yes No X Depth (inches):	
Water Table Present? Yes No X Depth (inches):	
Saturation Present? Yes No X Depth (inches):	
(includes capillary fringe)	
Describe Recorded Data (stream gauge, monitoring well, aerial photos, prev	vious inspections), if available:
Remarks: Multiple indicators of wetland hydrology were present at the time of the inves	stigation.

 $\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
2.				Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3. 4.				Total Number of Dominant Species Across All Strata: 1 (B)
5.6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 0 x 1 = 0
1				FACW species 30 x 2 = 60
2				FAC species 0 x 3 = 0
3				FACU species 0 x 4 = 0
4.				UPL species 0 x 5 = 0
5.				Column Totals: 30 (A) 60 (B)
6.				Prevalence Index = B/A = 2.00
7				Hydrophytic Vegetation Indicators:
<i>'</i>		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)		-10101 00101		X 2 - Dominance Test is >50%
	30	Yes	FACW	$\begin{array}{c} X \\ \hline X \\ \hline \end{array}$ 3 - Prevalence Index is $\leq 3.0^{1}$
		1 62	FACTV	I
2.				4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet)
3.				
4				Problematic Hydrophytic Vegetation ¹ (Explain)
5				¹ Indicators of hydric soil and wetland hydrology must be
6		, -		present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH and
11				greater than or equal to 3.28 ft (1 m) tall.
12.				Herb All berbassaus (non woody) plants regardless
	30	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				
1.				Woody vines – All woody vines greater than 3.28 ft in height.
2				
3				Hydrophytic
				Vegetation Present? Yes X No
4				Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separa The parameters for hydrophytic vegetation were met at		the investigation	on. 70% soy.	

Sampling Point: KLF_SP020

	ription: (Describe to	o the dep				or or co	nfirm the absence of indic	ators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-20	10YR 4/1	95	7.5R 5/6	5	С	PL	Loamy/Clayey	clay loam
								_
	·							
								_
4								_
	ncentration, D=Deple	etion, RM	=Reduced Matrix, M	S=Mask	ed Sand	Grains.		ore Lining, M=Matrix.
Hydric Soil I				~= \				oblematic Hydric Soils ³ :
Histosol			Dark Surface ((00) (1	DD D		(10) (LRR K, L, MLRA 149B)
	ipedon (A2)		Polyvalue Belo		ce (58) (L	.KK K,		Peat or Peat (S3) (LRR K, L, R)
Black His	า Sulfide (A4)		MLRA 149B Thin Dark Surfa	,	/I DD D	MI DA 1		low Surface (S8) (LRR K, L) rface (S9) (LRR K, L)
	Layers (A5)		High Chroma S					ese Masses (F12) (LRR K, L, R)
	Below Dark Surface	(Δ11)	Loamy Mucky					odplain Soils (F19) (MLRA 149B)
	rk Surface (A12)	(Δ11)	Loamy Gleyed			κ rx, ∟)		Material (F21) (outside MLRA 145)
	odic (A17)		X Depleted Matri		· <i>-</i>)			Dark Surface (F22)
	A 144A, 145, 149B)		Redox Dark Su		6)			n in Remarks)
	ucky Mineral (S1)		Depleted Dark					,
	leyed Matrix (S4)		Redox Depress					
	edox (S5)		Marl (F10) (LR		- /		³ Indicators of	hydrophytic vegetation and
	Matrix (S6)		Red Parent Ma		21) (MLR	A 145)		drology must be present,
<u> </u>	, ,		_	,	, .	,	· ·	urbed or problematic.
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Present?	Yes X No
Remarks:							•	
The paramete	ers for hydric soil wer	e met at	the time of the invest	tigation.				

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconducto	or (City/County: Erie Co	unty	Sampling Date: 7/31/2024	
Applicant/Owner: FirstEnergy			State: OH	Sampling Point: KLF_SP021	
Investigator(s): Thomas Malecki and John Ger	ntilesco	Section. To	wnship, Range: Oxford T	ownship	
Landform (hillside, terrace, etc.): flat		elief (concave, conve	<u></u>	Slope %: 2	
Subregion (LRR or MLRA): LRR R, MLRA 13		•	-82.680616	Datum: NAD83	
Soil Map Unit Name: JtA: Jimtown loam, 0 to 2	· · · · · · · · · · · · · · · · · · ·		NWI classification:	N/A	
Are climatic / hydrologic conditions on the site t	ypical for this time of year?	Yes X	No (If no,	explain in Remarks.)	
Are Vegetation X , Soil X , or Hydrolo	ogy significantly disturb	ed? Are "Norn	nal Circumstances" prese	ent? Yes X No	
Are Vegetation , Soil , or Hydrolo		ic? (If needed	d, explain any answers in	Remarks.)	
SUMMARY OF FINDINGS – Attach s				·	
Lindran hutia Vanatatian Duaranto	/aa Na V	In the Committed A			
	Yes X No X	Is the Sampled Americand?		No. Y	
*	Yes No X	If yes, optional We		No X	
Remarks: (Explain alternative procedures here		ii yes, optional vve			
This sample point serves as a representation of maintained utility right of way. The area was si managed plant community.	of the upland areas adjacent to				
HYDROLOGY					
Wetland Hydrology Indicators:			Secondary Indicators (n	ninimum of two required)	
Primary Indicators (minimum of one is required	d; check all that apply)		Surface Soil Cracks	s (B6)	
Surface Water (A1)	Water-Stained Leaves (B	9)	Drainage Patterns ((B10)	
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)	
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	Table (C2)	
Water Marks (B1)	Hydrogen Sulfide Odor (C	(1)	Crayfish Burrows (0	C8)	
Sediment Deposits (B2)	Oxidized Rhizospheres or	n Living Roots (C3)	Saturation Visible o	n Aerial Imagery (C9)	
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed	d Plants (D1)	
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	on (D2)	
Iron Deposits (B5)	Thin Muck Surface (C7)				
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	s)	Microtopographic R	telief (D4)	
Sparsely Vegetated Concave Surface (B8))		FAC-Neutral Test (I	D5)	
Field Observations:					
	No X Depth (inches):				
Water Table Present? Yes	No X Depth (inches):				
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X	
(includes capillary fringe)					
Describe Recorded Data (stream gauge, moni	toring well, aerial photos, prev	rious inspections), if	available:		
Remarks: No indicators of wetland hydrology were prese	ent at the time of the investigat	ion.			
ENG FORM 6116-8, FEB 2024			Northcentr	al and Northeast – Version 2.0	

/EGETATION – Use scientific names of pla	nts.			Sampling Point: KLF_SP021
Tree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1				Number of Dominant Species
2				That Are OBL, FACW, or FAC:(A)
3.				Total Number of Dominant
4.				Species Across All Strata: 4 (B)
5.				Percent of Dominant Species
6.				That Are OBL, FACW, or FAC: 50.0% (A/B)
7		=Total Cover		Prevalence Index worksheet: Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size: 15)		- Total Cover		OBL species 0 x 1 = 0
1. Sambucus nigra	40	Yes	FACW	FACW species 70 x 2 = 140
2.				FAC species 0 x 3 = 0
3.				FACU species 35 x 4 = 140
4.				UPL species 20 x 5 = 100
5.				Column Totals: 125 (A) 380 (B)
6				Prevalence Index = B/A = 3.04
7				Hydrophytic Vegetation Indicators:
	40	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size:5)				2 - Dominance Test is >50%
1. Phalaris arundinacea	30	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹
2. Rubus occidentalis	20	Yes	UPL	4 - Morphological Adaptations ¹ (Provide supporting
3. Symphyotrichum ericoides	20	Yes	FACU	data in Remarks or on a separate sheet)
4. Phleum pratense	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. <u>Ipomoea purpurea</u> 6.	5	No No	FACU	¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH
11				and greater than or equal to 3.28 ft (1 m) tall.
12	85	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:30)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				Hydrophytic
3. 4.				Vegetation Present? Yes No X
		=Total Cover		100
Remarks: (Include photo numbers here or on a separa	ate sheet \			1

Vegetation did not meet the criteria to be considered hydrophytic at the time of the investigation. Vegetation was considered significantly disturbed due to the routine removal and suppression of native vegetation for farming of cultivated crops. Vegetation was dominated by soy.

Profile Desci Depth	ription: (Describe to Matrix	the de		ment th x Featur		tor or co	nfirm the absence o	f indicators.)
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-10	10YR 3/1	100					Loamy/Clayey	Silt loam
10-20	10YR 5/2	85	10YR 3/1	10	D	М	Loamy/Clayey	Clay loam
			7.5YR 5/6	5	С	PL		Prominent redox concentrations
	ncentration, D=Deple	tion, RM	I=Reduced Matrix, M	S=Mask	ked Sand	Grains.		PL=Pore Lining, M=Matrix.
Hydric Soil I			Danis Occidence (6	22/				for Problematic Hydric Soils ³ :
Histosol (pedon (A2)		Dark Surface (S	,	ca (S8) (I	DDD		uck (A10) (LRR K, L, MLRA 149B) ucky Peat or Peat (S3) (LRR K, L, R)
Black His			MLRA 149B)		ce (30) (i	LKK K,		ue Below Surface (S8) (LRR K, L)
	n Sulfide (A4)		Thin Dark Surfa		(LRR R	MLRA 1		ark Surface (S9) (LRR K, L)
	Layers (A5)		High Chroma S					anganese Masses (F12) (LRR K, L, R)
	Below Dark Surface	(A11)	Loamy Mucky N					ont Floodplain Soils (F19) (MLRA 149B)
Thick Dar	rk Surface (A12)		Loamy Gleyed	Matrix (I	F2)		Red Pa	rent Material (F21) (outside MLRA 145)
Mesic Sp	odic (A17)		X Depleted Matrix	۲ (F3)			Very Sh	nallow Dark Surface (F22)
	A 144A, 145, 149B)		Redox Dark Su	-	•		Other (F	Explain in Remarks)
	ucky Mineral (S1)		Depleted Dark		` '			
	eyed Matrix (S4)		Redox Depress		3)		3Indiant	ors of hydrophytic vegetation and
	edox (S5) Matrix (S6)		Marl (F10) (LRI Red Parent Ma		21) (MI F	2Δ 145)		and hydrology must be present,
ourpped	Width (OO)		Treat arent wa	teriai (i z	21) (IVILI	VA 140)		es disturbed or problematic.
Restrictive L	ayer (if observed):							
Type:								
Depth (in	ches):						Hydric Soil Prese	ent? Yes X No
Remarks:	-							
	ers for hydric soil were	e met at	the time of the invest	tigation.	Soils wit	hin the pl	ow layer were consid	ered significantly disturbed due to
routine plowir	ng associated with the	e farming	of cultivated row cro	ps.				

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/County: Erie County Sampling Date: 7/31/2024				
Applicant/Owner: FirstEnergy	State: OH Sampling Point: KLF_SP022				
Investigator(s): Thomas Malecki and John Gentilesco	Section, Township, Range: Oxford Township				
	ocal relief (concave, convex, none): convex Slope %: 2				
Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 41.339	·				
Soil Map Unit Name: MgA: Millgrove loam, 0 to 1 percent slopes	NWI classification: N/A				
Are climatic / hydrologic conditions on the site typical for this time of year	ear? Yes X No (If no, explain in Remarks.)				
Are Vegetation X, Soil , or Hydrology significantly	disturbed? Are "Normal Circumstances" present? Yes X No				
Are Vegetation, Soil, or Hydrology naturally pro	blematic? (If needed, explain any answers in Remarks.)				
SUMMARY OF FINDINGS – Attach site map showing	sampling point locations, transects, important features, etc.				
Hydrophytic Vegetation Present? Yes No X	Is the Sampled Area				
Hydric Soil Present? Yes No X	within a Wetland? Yes No X				
Wetland Hydrology Present? Yes No X	If yes, optional Wetland Site ID:				
This upland sample point is representative of the upland areas adjace activity due to the routine suppression of native vegetation as a mana	ent to KLF_Sherer Ditch. The area was significantly disturbed by agricultural aged plant community.				
HYDROLOGY					
Wetland Hydrology Indicators:	Secondary Indicators (minimum of two required)				
Primary Indicators (minimum of one is required; check all that apply)	Surface Soil Cracks (B6)				
Surface Water (A1) Water-Stained Lea	ves (B9) Drainage Patterns (B10)				
High Water Table (A2) Aquatic Fauna (B1	3) Moss Trim Lines (B16)				
Saturation (A3) Marl Deposits (B15	Dry-Season Water Table (C2)				
Water Marks (B1) Hydrogen Sulfide (Odor (C1) Crayfish Burrows (C8)				
Sediment Deposits (B2) Oxidized Rhizosph	s on Living Roots (C3) Saturation Visible on Aerial Imagery (C9)				
Drift Deposits (B3) Presence of Reduc					
	tion in Tilled Soils (C6) Geomorphic Position (D2)				
Iron Deposits (B5) Thin Muck Surface					
Inundation Visible on Aerial Imagery (B7) Other (Explain in F					
Sparsely Vegetated Concave Surface (B8)	FAC-Neutral Test (D5)				
Field Observations:					
Surface Water Present? Yes No X Depth (inc	hes):				
Water Table Present? Yes No X Depth (inc Saturation Present? Yes No X Depth (inc	hes):				
	thes): Wetland Hydrology Present? Yes No _X				
(includes capillary fringe)					
Describe Recorded Data (stream gauge, monitoring well, aerial photo	s, previous inspections), if available:				
Remarks:					
No indicators of wetland hydrology were present at the time of the inv	restigation.				
ENC FORM 6446 9 FER 2024	North control and North cost - Varrier O.C.				

ree Stratum (Plot size:30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:	
·				Number of Descinant Species	
				Number of Dominant Species That Are OBL, FACW, or FAC: 1	(A)
·				Total Number of Dominant	
·					(B)
i				Percent of Dominant Species	
i				·	(A/B)
·				Prevalence Index worksheet:	_
	:	=Total Cover		Total % Cover of: Multiply by:	_
Sapling/Shrub Stratum (Plot size:15)			OBL species 0 x 1 = 0	_
·				FACW species 30 x 2 = 60	_
				FAC species 5 x 3 = 15	_
i				FACU species 20 x 4 = 80	_
l				UPL species 10 x 5 = 50	_
i				Column Totals: 65 (A) 205	(B)
S				Prevalence Index = B/A = 3.15	_
·	·			Hydrophytic Vegetation Indicators:	
	·	=Total Cover		1 - Rapid Test for Hydrophytic Vegetation	
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50%	
	30	Yes	FACW	3 - Prevalence Index is ≤3.0 ¹	
2. Phleum pratense	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supp	۵ortin
3. Asclepias syriaca	10	No	UPL	data in Remarks or on a separate sheet)	
Persicaria maculosa	5	No	FAC	Problematic Hydrophytic Vegetation ¹ (Explain	n)
5. 5.				¹ Indicators of hydric soil and wetland hydrology me be present, unless disturbed or problematic.	nust
7.				Definitions of Vegetation Strata:	
3.	•				+
9.				Tree – Woody plants 3 in. (7.6 cm) or more in dia at breast height (DBH), regardless of height.	ımeı
10				Sapling/shrub – Woody plants less than 3 in. DE	вн
11				and greater than or equal to 3.28 ft (1 m) tall.	-
12				Herb – All herbaceous (non-woody) plants, regar	rdles
	65 :	=Total Cover	_	of size, and woody plants less than 3.28 ft tall.	uica
Woody Vine Stratum (Plot size: 30))			Woody vines – All woody vines greater than 3.28 height.	:8 ft i
				neight.	
2.				Hydrophytic	
3.	- ——			Vegetation	
4.				Present? Yes No X	
	,	=Total Cover			

Profile Des	cription: (Describe to Matrix	o the dep		ı ment th x Featur		or or co	nfirm the absence of indic	ators.)	
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
0-10	10YR 3/1	100					Loamy/Clayey	silt lo	am
10-20	10YR 3/1	100					Loamy/Clayey	clay lo	oam
									_
¹ Typo: C=C	oncentration, D=Deple				od Sand	Grains	² Location: PL=Pc	ro Lining M=M	otriv
Hydric Soil		suon, raw	-Neduced Matrix, IV	IO-IVIASN	eu Sanu	Giailis.	Indicators for Pro		
Histosol			Dark Surface (S7)				10) (LRR K, L ,	
	oipedon (A2)		Polyvalue Belo		e (S8) (L	RR R,	5 cm Mucky Peat or Peat (S3) (LRR K, L, F		
	istic (A3)		MLRA 149B	•	(1.55.5			ow Surface (S8	
	en Sulfide (A4) d Layers (A5)		Thin Dark Surfa					face (S9) (LRR	2) (LRR K, L, R)
	d Below Dark Surface	(A11)	Loamy Mucky					· ·	19) (MLRA 149B)
	ark Surface (A12)	,	Loamy Gleyed			, ,			utside MLRA 145)
	podic (A17)		Depleted Matri					Dark Surface (I	⁻ 22)
,	RA 144A, 145, 149B)		Redox Dark Su	-	-		Other (Explain	in Remarks)	
	Mucky Mineral (S1) Bleyed Matrix (S4)		Depleted Dark Redox Depress						
	Redox (S5)		Marl (F10) (LR	-	')		³ Indicators of	hydrophytic veg	etation and
	Matrix (S6)		Red Parent Ma		21) (MLR	A 145)		Irology must be	
							unless distu	irbed or probler	natic.
	Layer (if observed):								
Type:									
	nches):						Hydric Soil Present?	Yes	NoX
Remarks:	file does meet the crite	aria for an	y of the hydric soil i	ndicators	at the ti	ne of the	investigation		
THE SOII PIO	me does meet the onte	ina ioi aii	y or the flydrid don in	naioatore	out the th	110 01 1110	mvootigation.		

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/Cour	nty: Erie County	Sampling Date: 7/31/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP023
Investigator(s): Thomas Malecki and John Gentile	esco	Section, Township, Range: Oxford T	ownship
Landform (hillside, terrace, etc.): flat		cave, convex, none): convex	•
Subregion (LRR or MLRA): LRR R, MLRA 139	,	Long: -82.662513	Datum: NAD83
Soil Map Unit Name: JtA: Jimtown loam, 0 to 4 pe	· · · · · · · · · · · · · · · · · · ·	NWI classification:	N/A
Are climatic / hydrologic conditions on the site typic	ical for this time of year?	Yes X No (If no,	explain in Remarks.)
Are Vegetation X , Soil , or Hydrology	•	Are "Normal Circumstances" prese	
	· 		
Are Vegetation, Soil, or Hydrology SUMMARY OF FINDINGS – Attach site		If needed, explain any answers in oint locations, transects, im	•
		<u> </u>	. ,
Hydrophytic Vegetation Present? Yes		Sampled Area	N V
<u> </u>		a Wetland? Yes optional Wetland Site ID:	NoX
Wetland Hydrology Present? Yes Remarks: (Explain alternative procedures here or		optional Wetland Site ID.	
This upland sample point is representative of the activity due to the routine suppression of native ve	upland areas within an active agricu		y disturbed by agricultural
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (n	ninimum of two required)
Primary Indicators (minimum of one is required; c	check all that apply)	Surface Soil Cracks	s (B6)
Surface Water (A1)	_Water-Stained Leaves (B9)	Drainage Patterns (B10)
High Water Table (A2)	_Aquatic Fauna (B13)	Moss Trim Lines (B	16)
Saturation (A3)	_Marl Deposits (B15)	Dry-Season Water	Table (C2)
Water Marks (B1)	_Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C	-
Sediment Deposits (B2)	_Oxidized Rhizospheres on Living F	Roots (C3) Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed	l Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled So	` · · —	
Iron Deposits (B5)	_Thin Muck Surface (C7)	Shallow Aquitard (D	,
Inundation Visible on Aerial Imagery (B7)	_Other (Explain in Remarks)	Microtopographic R	
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (I	D5)
Field Observations:			
<u> </u>	Depth (inches):		
Water Table Present? Yes No	Depth (inches):		
	Depth (inches):	Wetland Hydrology Present?	Yes No _X
(includes capillary fringe) Describe Recorded Data (stream gauge, monitori	ing well periol photog provious incr	postions) if available.	
Describe Recorded Data (stream gauge, monitori	ing weil, aeriai priotos, previous insp	ections), ii avallable.	
Remarks:			
No indicators of wetland hydrology were present a	at the time of the investigation.		
ENG FORM 6116-8. FEB 2024		Northcentr	al and Northeast – Version 2 (

	Absolute	Dominant	Indicator	
ree Stratum (Plot size: 30)	% Cover	Species?	Status	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: 0.0% (A/B)
				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
apling/Shrub Stratum (Plot size:15)			OBL species0 x 1 =0
				FACW species 0 x 2 = 0
				FAC species 0 x 3 = 0
				FACU species 60 x 4 = 240
				UPL species 0 x 5 = 0
				Column Totals: 60 (A) 240 (B
				Prevalence Index = B/A = 4.00
				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
erb Stratum (Plot size: 5)				2 - Dominance Test is >50%
. Poa pratensis	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹
Trifolium repens	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supportin
. Symphyotrichum ericoides	10	No	FACU	data in Remarks or on a separate sheet)
				Problematic Hydrophytic Vegetation ¹ (Explain)
				¹ Indicators of hydric soil and wetland hydrology must
				be present, unless disturbed or problematic.
				Definitions of Vegetation Strata:
				Tree – Woody plants 3 in. (7.6 cm) or more in diamete
				at breast height (DBH), regardless of height.
0.				Sapling/shrub – Woody plants less than 3 in. DBH
1.				and greater than or equal to 3.28 ft (1 m) tall.
2.	J (Literature de la constantina della constantina d
	60	=Total Cover		Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.
Voody Vine Stratum (Plot size: 30)			Weeds vines All weeds vines are start than 2.20 ft in
				Woody vines – All woody vines greater than 3.28 ft in height.
				Hydrophytic
				Vegetation Present? Yes No X
_		=Total Cover		
		. Julia Juvol		

0-20	Color (moint)		Redox	Feature	es			
0-20	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
	10YR 5/2	98	7.5R 5/6	2	С	PL	Loamy/Clayey	silt loam
								
Type: C=Conce	entration, D=Deplet	tion, RM	=Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=Por	e Lining, M=Matrix.
Hydric Soil Indi	cators:						Indicators for Pro	blematic Hydric Soils ³ :
Histosol (A1))		Dark Surface (S				2 cm Muck (A1	0) (LRR K, L, MLRA 149B)
Histic Epiped			Polyvalue Belov		e (S8) (L	RR R,		eat or Peat (S3) (LRR K, L, R)
Black Histic (MLRA 149B)					w Surface (S8) (LRR K, L)
Hydrogen Su			Thin Dark Surfa		•			ace (S9) (LRR K, L)
Stratified Lay		(4.4.4)	High Chroma S					se Masses (F12) (LRR K, L, R)
	low Dark Surface (A11)	Loamy Clayed			K K, L)		dplain Soils (F19) (MLRA 149B
Thick Dark S Mesic Spodio			Loamy Gleyed X Depleted Matrix		-2)			iterial (F21) (outside MLRA 14 Park Surface (F22)
	14A, 145, 149B)		Redox Dark Su		3)		Other (Explain	
	y Mineral (S1)		Depleted Dark	,	,			
	ed Matrix (S4)		Redox Depress					
Sandy Redox	, ,		 Marl (F10) (LRF		,		³ Indicators of h	ydrophytic vegetation and
Stripped Mat	rix (S6)		Red Parent Ma	terial (F2	21) (MLR	RA 145)	wetland hydi	ology must be present,
							unless distur	bed or problematic.
Restrictive Laye	er (if observed):							
Type:								
Depth (inche	es):						Hydric Soil Present?	Yes X No
Remarks:								
	for hydric soil were	met at t	the time of the invest	igation.				

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor		City/County: Erie Co	unty	Sampling Date: 7/31/2024
Applicant/Owner: FirstEnergy	_		State: OH	Sampling Point: KLF_SP024
Investigator(s): Thomas Malecki and John Gent	tilesco	Section, To	wnship, Range: Oxford T	ownship
Landform (hillside, terrace, etc.): flat		elief (concave, conve	<u></u>	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139		•	-82.664936	Datum: NAD83
Soil Map Unit Name: CnA: Colwood silty loam,			NWI classification:	N/A
Are climatic / hydrologic conditions on the site ty	pical for this time of year?	Yes X	No (If no,	explain in Remarks.)
Are Vegetation X, Soil , or Hydrolog	gysignificantly disturb	ed? Are "Norn	nal Circumstances" prese	ent? Yes X No
Are Vegetation , Soil , or Hydrolog	gy naturally problemat	tic? (If needed	d, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach si			tions, transects, im	portant features, etc.
Lludronhutia Vagatatian Present?	oo No Y	le the Compled A		
' ' ' ' ' '	es No X es No X	Is the Sampled American within a Wetland?		No. Y
1 ′	es No X	If yes, optional We		No_X_
Remarks: (Explain alternative procedures here		, 500, 0 pt		
The sample point is located within an active agr suppression of native vegetation as a managed		was significantly dist	urbed by agricultural acti	vity due to the routine
HYDROLOGY				
Wetland Hydrology Indicators:			Secondary Indicators (r	ninimum of two required)
Primary Indicators (minimum of one is required;	; check all that apply)		Surface Soil Cracks	s (B6)
Surface Water (A1)	Water-Stained Leaves (B	9)	Drainage Patterns ((B10)
High Water Table (A2)	Aquatic Fauna (B13)		Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)		Dry-Season Water	Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1)	Crayfish Burrows (0	C8)
Sediment Deposits (B2)	Oxidized Rhizospheres or	n Living Roots (C3)	Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6)	Geomorphic Position	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)		Shallow Aquitard (D	03)
Inundation Visible on Aerial Imagery (B7)	Other (Explain in Remark	s)	Microtopographic R	elief (D4)
Sparsely Vegetated Concave Surface (B8)			FAC-Neutral Test (I	D5)
Field Observations:				
	No X Depth (inches):			
Water Table Present? Yes	No X Depth (inches):			
Saturation Present? Yes	No X Depth (inches):	Wetlan	d Hydrology Present?	Yes No _X
(includes capillary fringe)				
Describe Recorded Data (stream gauge, monito	oring well, aerial photos, prev	vious inspections), if	available:	
Remarks: No indicators of wetland hydrology were presen	nt at the time of the investigat	tion.		
ENG FORM 6116-8, FEB 2024			Northcentr	al and Northeast – Version 2.0

Fron Stratum (Plot size: 30)		Dominant Species?	Indicator Status	Dominance Test workshee	4.
ree Stratum (Plot size: 30)	76 COVEL	species:	Status	Dominance rest worksnee	.
	- —— –			Number of Dominant Species	
2.				That Are OBL, FACW, or FA	C:(A)
3.				Total Number of Dominant	(P)
1				Species Across All Strata:	(B)
5.				Percent of Dominant Species	
5.	- —— –			That Are OBL, FACW, or FA	
7		otal Cover		Total % Cover of:	
Sapling/Shrub Stratum (Plot size: 15		itai Covei			Multiply by:
· · · · · · · · · · · · · · · · · · ·)			OBL species	
l 2.	_			FAC species	
	- —— –			FACIL species	
3.				FACU species	x 4 =
1				UPL species	x 5 =
5.				Column Totals:	(A)(
5				Prevalence Index = B	
7				Hydrophytic Vegetation Inc	
	=10	otal Cover		1 - Rapid Test for Hydror	ohytic Vegetation
· · · · · · · · · · · · · · · · · · ·	<u> </u>			· · · · · · · · · · · · · · · · · ·	
				2 - Dominance Test is >5	
1.				3 - Prevalence Index is ≤	3.0 ¹
1				3 - Prevalence Index is ≤	:3.0 ¹ ations ¹ (Provide support
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on	3.0 ¹ ations ¹ (Provide support a separate sheet)
1				3 - Prevalence Index is ≤	3.0 ¹ ations ¹ (Provide support a separate sheet)
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic 1Indicators of hydric soil and	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic 1Indicators of hydric soil and	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic.
1				3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7.	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata:
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata:
1				3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7.	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height.
1				3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regard	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic 1Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall.
1		otal Cover		3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic 1 Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. Ints less than 3 in. DBH 3.28 ft (1 m) tall.
1				3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3 Herb – All herbaceous (non-term)	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardless than 3.28 ft tall.
1	=To			3 - Prevalence Index is ≤ 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3 Herb – All herbaceous (non-of size, and woody plants less	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardless than 3.28 ft tall.
1	=To			3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3 Herb – All herbaceous (non-of size, and woody plants les Woody vines – All woody vin height.	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardless than 3.28 ft tall.
1	=To			3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic ¹Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3 Herb – All herbaceous (non-of size, and woody plants les Woody vines – All woody vin height.	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardless than 3.28 ft tall.
2	=To			3 - Prevalence Index is 4 - Morphological Adapta data in Remarks or on Problematic Hydrophytic Indicators of hydric soil and be present, unless disturbed Definitions of Vegetation S Tree – Woody plants 3 in. (7 at breast height (DBH), regar Sapling/shrub – Woody plant and greater than or equal to 3 Herb – All herbaceous (non-of size, and woody plants les Woody vines – All woody vin height.	ations ¹ (Provide support a separate sheet) Vegetation ¹ (Explain) wetland hydrology mus or problematic. trata: 6 cm) or more in diamedeless of height. hts less than 3 in. DBH 3.28 ft (1 m) tall. woody) plants, regardless than 3.28 ft tall.

(inches) 0-16	Matrix		Redox	Feature	es				
0-16	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rema	arks
	10YR 4/1	100					Loamy/Clayey	clay lo	oam
<u></u>									
-									
	-								
Type: C=Conc	entration. D=Deple	etion. RM	I=Reduced Matrix, M	S=Mask	ed Sand	Grains.	² Location: PL=Por	e Linina. M=M	atrix.
Hydric Soil Indi		, • • • •				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Indicators for Pro		
Histosol (A1			Dark Surface (S	57)			2 cm Muck (A1	_	
Histic Epipe	don (A2)		Polyvalue Belov	v Surfac	e (S8) (I	_RR R,	5 cm Mucky Pe	eat or Peat (S3) (LRR K, L, R)
Black Histic	(A3)		MLRA 149B)				Polyvalue Belo	w Surface (S8) (LRR K, L)
Hydrogen S	ulfide (A4)		Thin Dark Surfa	ce (S9)	(LRR R,	MLRA 1	49B) Thin Dark Surfa	ace (S9) (LRR	K, L)
Stratified La	yers (A5)		High Chroma S	ands (S	11) (LRF	R K, L)	Iron-Manganes	se Masses (F1	2) (LRR K, L, R)
	elow Dark Surface	(A11)	Loamy Mucky N			R K, L)			19) (MLRA 149 E
	Surface (A12)		Loamy Gleyed I		=2)				utside MLRA 14
Mesic Spodi			Depleted Matrix		۵)		Very Shallow D		F22)
•	44A, 145, 149B)		Redox Dark Sui	-	•		Other (Explain	in Remarks)	
	ky Mineral (S1)		Depleted Dark S		` '				
Sandy Gleye Sandy Redo	ed Matrix (S4)		Redox Depress Marl (F10) (LRF		5)		³ Indicators of h	vdrophytic voc	otation and
Stripped Ma			Red Parent Mat		21) (MI F	2Δ 145)		ology must be	
ourpped ivid	iii x (00)		RCG T dicit Mat	Criai (i z	21) (IVILI	(A 140)		bed or probler	
Restrictive Lay	er (if observed):						unicos distar	bed of problet	nano.
Type:	,								
Depth (inche	es):						Hydric Soil Present?	Yes	No X
							,		<u> </u>
Remarks:	loes not meet the	critoria fo	or any of the hydric so						

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/Cοι	unty: Erie County	Sampling Date: <u>7/31/2024</u>
Applicant/Owner: First Energy		State: OH	Sampling Point: KLF_SP025
Investigator(s): Thomas Malecki and John Gentilesco		Section, Township, Range: Milan To	wnship
Landform (hillside, terrace, etc.): depression	Local relief (cor	ncave, convex, none): concave	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.333926	Long: -82.642959	 Datum: NAD83
Soil Map Unit Name: EcA: Elliot silt loam, 0 to 2 percent		NWI classification:	N/A
	•		
Are climatic / hydrologic conditions on the site typical for the	•		explain in Remarks.)
Are Vegetation, Soil, or Hydrology	significantly disturbed?	Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation, Soil, or Hydrology	naturally problematic?	(If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach site map	showing sampling p	oint locations, transects, im	portant features, etc.
Hydrophytic Vegetation Present? Yes X	No Is the	Sampled Area	
Hydrophytic Vegetation Present? Yes X Hydric Soil Present? Yes X	· —	n a Wetland? Yes X	No
Wetland Hydrology Present? Yes X	· —	optional Wetland Site ID: KLF_We	
Remarks: (Explain alternative procedures here or in a se			
This sample point is representative of KLF_Wetland005, lot in a maintained lawn.	' '	d is located within an herbaceous dep	ression adjacent to a parking
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (n	ninimum of two required)
Primary Indicators (minimum of one is required; check al	l that apply)	Surface Soil Cracks	s (B6)
Surface Water (A1)Water	r-Stained Leaves (B9)	Drainage Patterns ((B10)
High Water Table (A2) Aquat	tic Fauna (B13)	Moss Trim Lines (B	16)
Saturation (A3)Marl [Deposits (B15)	Dry-Season Water	Table (C2)
	ogen Sulfide Odor (C1)	Crayfish Burrows (C	C8)
Sediment Deposits (B2) Oxidiz	zed Rhizospheres on Living	Roots (C3) Saturation Visible o	n Aerial Imagery (C9)
	ence of Reduced Iron (C4)	Stunted or Stressed	d Plants (D1)
	nt Iron Reduction in Tilled So		` '
<u> </u>	Muck Surface (C7)	Shallow Aquitard (D	•
	(Explain in Remarks)	Microtopographic R	
Sparsely Vegetated Concave Surface (B8)		X FAC-Neutral Test (I	D5)
Field Observations:			
Surface Water Present? Yes No X		.	
Water Table Present? Yes No X Saturation Present? Yes No X	Depth (inches):	- '	V V N-
Saturation Present? Yes No X (includes capillary fringe)	Depth (inches):	Wetland Hydrology Present?	Yes <u>X</u> No
Describe Recorded Data (stream gauge, monitoring well	aerial photos, previous inst		
Describe Necorded Data (stream gauge, monitoring weil	, aeriai priotos, previous irisp	rections), il available.	
Remarks: Multiple indicators of wetland hydrology were present at	the time of the investigation.		

 $\label{eq:VEGETATION} \textbf{VEGETATION} - \textbf{Use scientific names of plants}.$

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1.	70 00101	оролоо.	Cialab	
2.				Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)
3. 4.				Total Number of Dominant Species Across All Strata:(B)
5 6				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species 40 x 1 = 40
1				FACW species 50 x 2 = 100
2				FAC species 0 x 3 = 0
3.				FACU species 5 x 4 = 20
4				UPL species0 x 5 =0
5				Column Totals: 95 (A) 160 (B)
6.		•		Prevalence Index = B/A = 1.68
7.				Hydrophytic Vegetation Indicators:
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)				X 2 - Dominance Test is >50%
1. Poa palustris	50	Yes	FACW	X 3 - Prevalence Index is ≤3.0 ¹
Eleocharis palustris	40	Yes	OBL	4 - Morphological Adaptations ¹ (Provide supporting
3. Trifolium repens	5	No	FACU	data in Remarks or on a separate sheet)
4.			17100	Problematic Hydrophytic Vegetation ¹ (Explain)
5.				
				¹ Indicators of hydric soil and wetland hydrology must be
6.				present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9				at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH and
11	-			greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	95	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size:)				Woody vines – All woody vines greater than 3.28 ft in
1				height.
2				
3				Hydrophytic Vegetation
4.				Present?
		=Total Cover		
Remarks: (Include photo numbers here or on a separa	ate sheet)	<u> </u>		
The parameters for hydrophytic vegetation were met a		the investigation	on.	

Sampling Point: KLF_SP025

	• ,	o the dep				or or co	nfirm the absence of indica	ators.)
Depth (inches)	Matrix	0/		x Featur		1.002	Taytura	Damarka
(inches)	Color (moist)	<u>%</u>	Color (moist)	<u>%</u>	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/1	100					Loamy/Clayey	silt loam
8-20	10YR 6/1	92	7.5YR 5/4	8	<u>C</u>	PL ——	Loamy/Clayey	clay loam
		<u>_</u>			<u> </u>	<u>_</u>		
		<u> </u>		<u> </u>		_ _		
		<u> </u>				<u> </u>		
¹ Type: C=Co	ncentration, D=Deple	etion RM	=Reduced Matrix M	S=Mask	ed Sand	Grains	² Location: PL=Po	re Lining, M=Matrix.
Hydric Soil Ir		Zuon, ruvi	-reduced Matrix, M	O-Mask	cu Gariu	Oranis.		oblematic Hydric Soils ³ :
Histosol (Histic Epi Black His Hydrogen Stratified X Depleted Thick Dar Mesic Sp (MLRA Sandy Mt Sandy Gt Stripped I	A1) pedon (A2) tic (A3) n Sulfide (A4) Layers (A5) Below Dark Surface rk Surface (A12) odic (A17) A 144A, 145, 149B) ucky Mineral (S1) eyed Matrix (S4) edox (S5) Matrix (S6)	(A11)	Dark Surface (Spolyvalue Belomura 149B) Thin Dark Surface High Chroma Scamy Mucky I Loamy Gleyed X Depleted Matrix Redox Dark Surface Depleted Dark Redox Depress Marl (F10) (LR Red Parent Matrix	w Surface) ace (S9) ands (S Mineral (Matrix (I x (F3) urface (F Surface sions (FE R K, L)	(LRR R, 11) (LRF (F1) (LRF (F2) 6) (F7)	MLRA 1	2 cm Muck (A 5 cm Mucky P Polyvalue Bel Thin Dark Sur Iron-Mangane Piedmont Floc Red Parent M Very Shallow Other (Explair	10) (LRR K, L, MLRA 149B) Peat or Peat (S3) (LRR K, L, R) OW Surface (S8) (LRR K, L) Face (S9) (LRR K, L) Se Masses (F12) (LRR K, L, R) Odplain Soils (F19) (MLRA 149B) Dark Surface (F22)
							Tryuno con Froconti	
Remarks: The paramete	ers for hydric soil wer	e met at	the time of the invest	tigation.				

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconductor	City/Count	y: Erie County	Sampling Date: 7/31/2024
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP026
Investigator(s): Thomas Malecki and John Gentiles	.co S _f	ection, Township, Range: Milan To	wnship
Landform (hillside, terrace, etc.): flat		ive, convex, none): convex	Slope %: 2
Subregion (LRR or MLRA): LRR R, MLRA 139	Lat: 41.334203	Long: -82.641917	 Datum: NAD83
Soil Map Unit Name: EcA: Elliott silt loam, 0 to 2 pe		NWI classification:	N/A
Are climatic / hydrologic conditions on the site typical	al for this time of year?	Yes X No (If no,	explain in Remarks.)
Are Vegetation X , Soil X , or Hydrology	significantly disturbed?	Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation , Soil , or Hydrology	naturally problematic?	(If needed, explain any answers ir	Remarks.)
SUMMARY OF FINDINGS – Attach site			•
Lludraphytic Vegetation Present?	No. V. le the St	ampled Avec	
Hydrophytic Vegetation Present? Yes _ Hydric Soil Present? Yes		ampled Area Wetland? Yes	No. Y
Wetland Hydrology Present? Yes		otional Wetland Site ID:	No_X
Remarks: (Explain alternative procedures here or i			
This sample point serves as a representation of the commercial lawn and maintained utility right of way managed plant community.			
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (r	minimum of two required)
Primary Indicators (minimum of one is required; che	eck all that apply)	Surface Soil Crack	s (B6)
Surface Water (A1)	Water-Stained Leaves (B9)	Drainage Patterns	(B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (E	316)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	Table (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C1)	Crayfish Burrows (C8)
Sediment Deposits (B2)	Oxidized Rhizospheres on Living Ro	oots (C3)Saturation Visible o	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron (C4)	Stunted or Stressed	d Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in Tilled Soils	Geomorphic Position	on (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard ([03)
Inundation Visible on Aerial Imagery (B7)0	Other (Explain in Remarks)	Microtopographic F	Relief (D4)
Sparsely Vegetated Concave Surface (B8)		FAC-Neutral Test (D5)
Field Observations:			
Surface Water Present? Yes No _	X Depth (inches):		
Water Table Present? Yes No	X Depth (inches):		
Saturation Present? Yes No	X Depth (inches): X Depth (inches):	Wetland Hydrology Present?	Yes No _ X
(includes capillary fringe)			
Describe Recorded Data (stream gauge, monitoring	g well, aerial photos, previous inspe	ctions), if available:	
Remarks: No indicators of wetland hydrology were present at	the time of the investigation.		
ENC FORM 6446 9, FER 2024		N1	and and Nambaaat - Vansian 2.6

	Absolute	Dominant	Indicator			
ree Stratum (Plot size:)	% Cover	Species?	Status	Dominance Test worksheet:		
·				Number of Dominant Species		
· <u>-</u>				That Are OBL, FACW, or FAC: 0 (A)		
				Total Number of Dominant		
·				Species Across All Strata: 2 (B)		
i				Percent of Dominant Species		
i				That Are OBL, FACW, or FAC: 0.0% (A/B		
		. <u></u>		Prevalence Index worksheet:		
		=Total Cover		Total % Cover of: Multiply by:		
Sapling/Shrub Stratum (Plot size:15)				OBL species0 x 1 =0		
·				FACW species 0 x 2 = 0		
1.				FAC species 0 x 3 = 0		
i				FACU species 70 x 4 = 280		
·.				UPL species 5 x 5 = 25		
i.				Column Totals: 75 (A) 305 (B		
j.				Prevalence Index = B/A = 4.07		
				Hydrophytic Vegetation Indicators:		
		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation		
Herb Stratum (Plot size: 5)				2 - Dominance Test is >50%		
. Poa pratensis	30	Yes	FACU	3 - Prevalence Index is ≤3.0 ¹		
2. Cirsium vulgare	20	Yes	FACU	4 - Morphological Adaptations ¹ (Provide supportin		
3. Dipsacus fullonum	10	No	FACU	data in Remarks or on a separate sheet)		
. Plantago major	10	No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)		
5. Asclepias syriaca	5	No	UPL	<u> </u>		
S.				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.		
0				at breast fielgrit (DDFF), regardless of fielgrit.		
				Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.		
				and greater than or equal to 3.26 it (1 iii) tall.		
2				Herb – All herbaceous (non-woody) plants, regardless		
Mandy Vina Stratum (Plat size) 30	75	=Total Cover		of size, and woody plants less than 3.28 ft tall.		
Noody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in height.		
				noight.		
2	-			Hydrophytic		
3				Vegetation		
1.				Present?		
		=Total Cover				

ENG FORM 6116-8, FEB 2024

Profile Desc Depth	ription: (Describe to Matrix	the dep		ı ment th x Featur		or or co	nfirm the absence of ind	icators.)		
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Rem	arks	
0-20	10YR 4/2	100					Loamy/Clayey	Silt I	oam	
¹ Type: C=Co	oncentration, D=Deple	etion, RM	=Reduced Matrix, M	1S=Mask	ed Sand	Grains.	² Location: PL=P	ore Lining, M=N	/latrix.	
Hydric Soil I	ndicators:						Indicators for P			
Histosol	(A1)		Dark Surface (S7)			2 cm Muck (A10) (LRR K, L	, MLRA 149	9B)
Histic Ep	ipedon (A2)		Polyvalue Belo	w Surfac	ce (S8) (I	.RR R,	5 cm Mucky	Peat or Peat (S	3) (LRR K,	L, R)
Black His			MLRA 149B	•				elow Surface (S		L)
	n Sulfide (A4)		Thin Dark Surf				· ·	ırface (S9) (LRI	-	
	Layers (A5)		High Chroma S					ese Masses (F		-
	Below Dark Surface	(A11)	Loamy Mucky			R K, L)		oodplain Soils (F		
	rk Surface (A12) oodic (A17)		Loamy Gleyed Depleted Matri		-2)			Material (F21) (c / Dark Surface (KA 145)
	A 144A, 145, 149B)		Redox Dark St		6)			in in Remarks)	F22)	
	ucky Mineral (S1)		Depleted Dark	-	•		Other (Expla	iii iii rteiliaiko)		
	leyed Matrix (S4)		Redox Depres							
	edox (S5)		Marl (F10) (LR	-	,		³ Indicators o	f hydrophytic ve	getation an	d
	Matrix (S6)		Red Parent Ma	aterial (F	21) (MLR	A 145)	wetland hy	drology must b	e present,	
							unless dist	turbed or proble	matic.	
Restrictive L	ayer (if observed):									
Type:										
Depth (in	ches):						Hydric Soil Present?	Yes	No_	Χ
Remarks:										
The soil profi	le does meet the crite	ria for an	ny of the hydric soil i	ndicators	at the ti	ne of the	investigation.			

WETLAND DETERMINATION DATA SHEET – Northcentral and Northeast Region

See ERDC/EL TR-12-1; the proponent agency is CECW-CO-R

Project/Site: Avery-Hayes-138kV-Reconduction	ctor	City/County: Erie County	Sampling Date: <u>7/31/2024</u>
Applicant/Owner: FirstEnergy		State: OH	Sampling Point: KLF_SP027
Investigator(s): Thomas Malecki and John G	entilesco	Section, Township, Range: Milan To	<u> </u>
Landform (hillside, terrace, etc.): depression		elief (concave, convex, none): concave	Slope %: 2
,			
Subregion (LRR or MLRA): LRR R, MLRA		Long: <u>-82.636397</u>	
Soil Map Unit Name: UdB: Udorthents, loan	ny, u to 6 percent slopes	NWI classification:	N/A
Are climatic / hydrologic conditions on the site	typical for this time of year?	Yes X No (If no, e	explain in Remarks.)
Are Vegetation, Soil, or Hydro	ology significantly disturb	ed? Are "Normal Circumstances" prese	nt? Yes X No
Are Vegetation, Soil, or Hydro	ology naturally problemat	tic? (If needed, explain any answers in	Remarks.)
		oling point locations, transects, imp	oortant features, etc.
			·
Hydrophytic Vegetation Present?	Yes X No	Is the Sampled Area	
Hydric Soil Present?	Yes X No	within a Wetland? Yes X	No
Wetland Hydrology Present?	Yes X No	If yes, optional Wetland Site ID: KLF_We	tland006
Remarks: (Explain alternative procedures h This sample point is representative of KLF_\ and substation.	,	e wetland is located in a herbaceous depressio	n adjacent to a parking lot
HYDROLOGY			
Wetland Hydrology Indicators:		Secondary Indicators (m	iinimum of two required)
Primary Indicators (minimum of one is require	ed; check all that apply)	Surface Soil Cracks	(B6)
Surface Water (A1)	Water-Stained Leaves (B	9) Drainage Patterns (B10)
High Water Table (A2)	Aquatic Fauna (B13)	Moss Trim Lines (B	16)
Saturation (A3)	Marl Deposits (B15)	Dry-Season Water	Γable (C2)
Water Marks (B1)	Hydrogen Sulfide Odor (C	C1) Crayfish Burrows (C	8)
Sediment Deposits (B2)	X Oxidized Rhizospheres of	n Living Roots (C3) Saturation Visible or	n Aerial Imagery (C9)
Drift Deposits (B3)	Presence of Reduced Iron	n (C4) Stunted or Stressed	Plants (D1)
Algal Mat or Crust (B4)	Recent Iron Reduction in	Tilled Soils (C6) X Geomorphic Positio	n (D2)
Iron Deposits (B5)	Thin Muck Surface (C7)	Shallow Aquitard (D	3)
Inundation Visible on Aerial Imagery (B7	Other (Explain in Remark	ss) Microtopographic R	elief (D4)
Sparsely Vegetated Concave Surface (E	38)	FAC-Neutral Test (D	05)
Field Observations:			
Surface Water Present? Yes	No X Depth (inches):		
	No X Depth (inches):		
Saturation Present? Yes	No X Depth (inches):		Yes X No
(includes capillary fringe)			
Describe Recorded Data (stream gauge, mo	nitoring well, aerial photos, prev	ious inspections), if available:	
Remarks: Multiple indicators of wetland hydrology were	e present at the time of the inves	stigation.	

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status	Dominance Test worksheet:
1. 2.		-		Number of Dominant Species That Are OBL, FACW, or FAC:(A)
3. 4.				Total Number of Dominant Species Across All Strata:(B)
5. 6.				Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)
7				Prevalence Index worksheet:
		=Total Cover		Total % Cover of: Multiply by:
Sapling/Shrub Stratum (Plot size:)				OBL species10 x 1 =10
1				FACW species 5 x 2 = 10
2				FAC species 65 x 3 = 195
3				FACU species10 x 4 =40
4.				UPL species 10 x 5 = 50
5.				Column Totals: 100 (A) 305 (B)
6.				Prevalence Index = B/A = 3.05
7				Hydrophytic Vegetation Indicators:
1.		=Total Cover		1 - Rapid Test for Hydrophytic Vegetation
Herb Stratum (Plot size: 5)		-10141 00.5.		X 2 - Dominance Test is >50%
1. Arundo donax	45	Yes	FAC	3 - Prevalence Index is ≤3.0 ¹
Solidago rugosa	20	Yes	FAC	4 - Morphological Adaptations ¹ (Provide supporting
	10	-	OBL	data in Remarks or on a separate sheet)
3. Carex vulpinoidea	10	No No		Problematic Unidearly tip Vagatation (Evaluin)
4. Dipsacus fullonum		No No	FACU	Problematic Hydrophytic Vegetation ¹ (Explain)
5. Daucus carota		No No	UPL	¹ Indicators of hydric soil and wetland hydrology must be
6. Cyperus esculentus	5	No	FACW	present, unless disturbed or problematic.
7.				Definitions of Vegetation Strata:
8				Tree – Woody plants 3 in. (7.6 cm) or more in diameter
9.				at breast height (DBH), regardless of height.
10				Sapling/shrub – Woody plants less than 3 in. DBH and
11				greater than or equal to 3.28 ft (1 m) tall.
12				Herb – All herbaceous (non-woody) plants, regardless
	100	=Total Cover		of size, and woody plants less than 3.28 ft tall.
Woody Vine Stratum (Plot size: 30)				Woody vines – All woody vines greater than 3.28 ft in
1.				height.
2.				
3.				Hydrophytic
4.				Vegetation Present? Yes X No
		=Total Cover		
Remarks: (Include photo numbers here or on a separa				
The parameters for hydrophytic vegetation were met at		the investigation	on.	
		-		

Sampling Point: KLF_SP027

Profile Desci	ription: (Describe to	the dept	h needed to docu	ment the	e indicat	or or co	nfirm the absence of indic	cators.)
Depth	Matrix			x Featur				
(inches)	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²	Texture	Remarks
0-8	10YR 3/1	100					Loamy/Clayey	silt loam
8-20	10YR 4/1	92	7.5YR 5/6	8	С	PL	Loamy/Clayey	clay loam
							<u> </u>	,
								-
								-
								-
								-
								_
	ncentration, D=Deple	tion, RM=	Reduced Matrix, M	S=Mask	ed Sand	Grains.		ore Lining, M=Matrix.
Hydric Soil I	ndicators:							oblematic Hydric Soils³:
Histosol (•	_	Dark Surface (,				A10) (LRR K, L, MLRA 149B)
Histic Epi	pedon (A2)	_	Polyvalue Belo	w Surfac	ce (S8) (L	RR R,	5 cm Mucky	Peat or Peat (S3) (LRR K, L, R)
Black His	tic (A3)		MLRA 149B)			Polyvalue Be	elow Surface (S8) (LRR K, L)
Hydroger	Sulfide (A4)	_	Thin Dark Surfa	ace (S9)	(LRR R,	MLRA 1	49B) Thin Dark Su	ırface (S9) (LRR K, L)
Stratified	Layers (A5)	_	High Chroma S	Sands (S	11) (LRF	R K, L)	Iron-Mangan	ese Masses (F12) (LRR K, L, R)
X Depleted	Below Dark Surface	(A11)	Loamy Mucky I	Mineral (F1) (LRF	R K, L)	Piedmont Flo	oodplain Soils (F19) (MLRA 149B)
Thick Da	rk Surface (A12)	_	Loamy Gleyed	Matrix (F	- 2)		Red Parent N	Material (F21) (outside MLRA 145)
Mesic Sp	odic (A17)	_	X Depleted Matrix	x (F3)			Very Shallow	Dark Surface (F22)
(MLR	A 144A, 145, 149B)	_	Redox Dark Su	ırface (F	6)		Other (Explai	in in Remarks)
Sandy M	ucky Mineral (S1)	_	Depleted Dark	Surface	(F7)			
Sandy Gl	eyed Matrix (S4)	_	Redox Depress	sions (F8	3)			
	edox (S5)	_	Marl (F10) (LR				³ Indicators of	hydrophytic vegetation and
Stripped	Matrix (S6)	_	Red Parent Ma		21) (MLR	A 145)	wetland hy	drology must be present,
	, ,	_		,	, ,	•	•	urbed or problematic.
Restrictive L	ayer (if observed):							'
Type:	, , , , , , , , , , , , , , , , , , , ,							
-	ab a a \.						Hydric Soil Present?	Van V Na
Depth (in	cnes).						Hydric Soil Present?	Yes X No
Remarks:								
The paramete	ers for hydric soil were	e met at th	e time of the invest	tigation.				

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):								
					Slope (%):			
					Datum:			
					ssification:			
Are climatic / hydrologic condition								
Are Vegetation, Soil					es" present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)			
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc			
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No			
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:				
HADBOI OCA								
HYDROLOGY								
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)			
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave			e Patterns (B10)			
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			Moss Trim Lines (B16)Dry-Season Water Table (C2)			
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)			
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)			
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)			
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)			
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)			
Field Observations:								
	Yes No							
Water Table Present?	Yes No							
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No			
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:				
Remarks:								

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4	c:	41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1447, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):								
					Slope (%):			
					Datum:			
					ssification:			
Are climatic / hydrologic condition								
Are Vegetation, Soil					es" present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)			
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc			
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No			
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:				
HADBOI OCA								
HYDROLOGY								
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)			
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave			e Patterns (B10)			
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			Moss Trim Lines (B16)Dry-Season Water Table (C2)			
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)			
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)			
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)			
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)			
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)			
Field Observations:								
	Yes No							
Water Table Present?	Yes No							
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No			
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:				
Remarks:								

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4	c:	41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1447, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site:		City/C	County:		Sampling Date:			
Applicant/Owner:				State:	Sampling Point:			
Investigator(s):								
					Slope (%):			
					Datum:			
					ssification:			
Are climatic / hydrologic condition								
Are Vegetation, Soil					es" present? Yes No			
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)			
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc			
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No			
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:				
HADBOI OCA								
HYDROLOGY								
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)			
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)			
Surface Water (A1)		Water-Stained Leave			e Patterns (B10)			
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			Moss Trim Lines (B16)Dry-Season Water Table (C2)			
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)			
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)			
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)			
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)			
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)			
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)			
Field Observations:								
	Yes No							
Water Table Present?	Yes No							
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No			
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:				
Remarks:								

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	<u>.</u> Tupo ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	edox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	edox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	ledox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	ledox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	_ Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	aladiana (Daganila d	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	_ Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	aladiana (Daganila d	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	_ Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4	c:	41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	edox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	ledox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	ledox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL									Sampling	Point:
Profile Desc	ription: (Describe t	o the depti				or confirm	the absence of	findicato	ors.)	
Depth (inches)	Matrix	<u></u> %		x Features	3 Tuno ¹	Loc ²	Toyturo		Domark	
(inches)	Color (moist)	<u> % </u>	Color (moist)	%	_ rype	LOC	<u>Texture</u>		Remark	S
	oncentration, D=Depl	etion, RM=F	Reduced Matrix, MS	S=Masked	Sand Gra	ains.	² Location:			
Hydric Soil I						_	Indicators fo		_	
Histosol	, ,	_	Polyvalue Belov		(S8) (LRF	RR,				MLRA 149B)
Black His	oipedon (A2)		MLRA 149B) Thin Dark Surfa	,	DD D MI	DA 1/0R)				RR K, L, R)) (LRR K, L, R)
	n Sulfide (A4)	_	Loamy Mucky N						(LRR K, L,	
	Layers (A5)	_	Loamy Gleyed			, –,) (LRR K, L)
	d Below Dark Surface	(A11) _	Depleted Matrix						(S9) (LRR	
Thick Da	ark Surface (A12)	_	Redox Dark Su	rface (F6)			Iron-Mar	nganese N	/lasses (F12	2) (LRR K, L, R)
	lucky Mineral (S1)	_	Depleted Dark	Surface (F	7)					19) (MLRA 149E
	Bleyed Matrix (S4)	_	Redox Depress	sions (F8)						44A, 145, 149B)
-	ledox (S5)							ent Materi		
	Matrix (S6)								Surface (T	F12)
Dark Sur	rface (S7) (LRR R, M	LRA 149B))				Other (E	xplain in F	≺emarks)	
³ Indicators of	f hydrophytic vegetati	on and wet	land hydrology mus	et he nrese	nt unless	disturbed of	or problematic			
	_ayer (if observed):	on and wet	and Hydrology mas	st be prese	int, unicoo	distarbed	or problematic.			
Type:										
· · · —	ches):						Hydric Soil P	resent?	Yes	No
Remarks:	51100)						11,741.10 00.11			
Remarks.										

Project/Site:		City/C	County:		Sampling Date:		
Applicant/Owner:				State:	Sampling Point:		
Investigator(s):							
					Slope (%):		
					Datum:		
					ssification:		
Are climatic / hydrologic condition							
Are Vegetation, Soil					es" present? Yes No		
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)		
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc		
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No		
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:			
HADBOI OCA							
HYDROLOGY							
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)		
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)		
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)		
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)		
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)		
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)		
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)		
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)		
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)		
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtopographic Relief (D4)			
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)		
Field Observations:							
	Yes No						
Water Table Present?	Yes No						
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No		
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:			
Remarks:							

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
•			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5,			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

Project/Site:		City/C	County:		Sampling Date:
Applicant/Owner:				State:	Sampling Point:
Investigator(s):					
					Slope (%):
					Datum:
					ssification:
Are climatic / hydrologic condition					
Are Vegetation, Soil					es" present? Yes No
Are Vegetation, Soil	, or Hydrology	naturally problema	atic? ((If needed, explain any an	swers in Remarks.)
SUMMARY OF FINDING	S – Attach site ı	map showing san	npling poi	nt locations, transe	ects, important features, etc
Hydrophytic Vegetation Present Hydric Soil Present?	Yes	No No	Is the Sam within a We	V	No
Wetland Hydrology Present? Remarks: (Explain alternative)		No	If yes, optio	nal Wetland Site ID:	
HADBOI OCA					
HYDROLOGY					
Wetland Hydrology Indicator		ala all Mark and A			ndicators (minimum of two required)
Primary Indicators (minimum of	-		(DO)		Soil Cracks (B6)
Surface Water (A1)	·	Water-Stained Leave			e Patterns (B10)
High Water Table (A2) Saturation (A3)		_ Aquatic Fauna (B13) _ Marl Deposits (B15)			im Lines (B16) son Water Table (C2)
Water Marks (B1)		_ Hydrogen Sulfide Od	or (C1)		Burrows (C8)
Sediment Deposits (B2)		Oxidized Rhizospher			on Visible on Aerial Imagery (C9)
Drift Deposits (B3)		Presence of Reduced			or Stressed Plants (D1)
Algal Mat or Crust (B4)		_ Recent Iron Reduction			phic Position (D2)
Iron Deposits (B5)		_ Thin Muck Surface (0	27)	Shallow	Aquitard (D3)
Inundation Visible on Aeria	ıl Imagery (B7)	_ Other (Explain in Rer	marks)	Microtop	oographic Relief (D4)
Sparsely Vegetated Conca	ve Surface (B8)			FAC-Net	utral Test (D5)
Field Observations:					
	Yes No				
Water Table Present?	Yes No				
Saturation Present? (includes capillary fringe)	Yes No	Depth (inches):		Wetland Hydrology Pre	esent?Yes No
Describe Recorded Data (strea	m gauge, monitoring	well, aerial photos, pre	vious inspec	tions), if available:	
Remarks:					

	Absolute	Dominant Indicator	
Tree Stratum (Plot size:)		Species? Status	Dominance Test worksheet:
1			Number of Dominant Species That Are OBL, FACW, or FAC: (A)
2.			That Ale Obl., I AOV, OI I AO.
			Total Number of Dominant
<u> </u>			Species Across All Strata: (B)
l			Percent of Dominant Species
i,			That Are OBL, FACW, or FAC: (A/B
i			Prevalence Index worksheet:
·			Total % Cover of: Multiply by:
		= Total Cover	OBL species x 1 =
Sapling/Shrub Stratum (Plot size:)			FACW species x 2 =
· - · · · · · · · · · · · · · · · · · ·			FAC species x 3 =
•			FACU species x 4 =
			UPL species x 5 =
<u> </u>			Column Totals: (A) (B)
·			(b)
i			Prevalence Index = B/A =
i			Hydrophytic Vegetation Indicators:
			1 - Rapid Test for Hydrophytic Vegetation
			2 - Dominance Test is >50%
		= Total Cover	3 - Prevalence Index is ≤3.0 ¹
lerb Stratum (Plot size:)			4 - Morphological Adaptations¹ (Provide supporting
			data in Remarks or on a separate sheet)
2.			Problematic Hydrophytic Vegetation ¹ (Explain)
3			¹ Indicators of hydric soil and wetland hydrology must
			be present, unless disturbed or problematic.
l			Definitions of Versatetian Streets
i			Definitions of Vegetation Strata:
5			Tree – Woody plants 3 in. (7.6 cm) or more in diamete
			at breast height (DBH), regardless of height.
8			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
0			size, and woody plants less than 3.28 ft tall.
11			Woody vines – All woody vines greater than 3.28 ft in
2	_		height.
		= Total Cover	
Noody Vine Stratum (Plot size:)			
l.			
2.			Hydrophytic
			Vegetation Yes No
3			Tresent:
1,			
		= Total Cover	

OIL	what are (Danamila A	- 411 41	b	4 4 1 !	!! 4		41	Samplin	g Point:
	ription: (Describe to	the dept				or confirm	the absence of ind	icators.)	
Depth (inches)	Matrix Color (moist)	 -	Color (moist)	x Features %	S Type ¹	Loc ²	Texture	Remar	ks
(11101100)			Goro. (moior)		.,,,,,		. 67.16.1.0	11011101	
				-					
1= 0.0							2, ,,		
Type: C=Cd Hydric Soil I	oncentration, D=Deple Indicators:	etion, RM=	Reduced Matrix, M	S=Masked	Sand Gra	ains.	² Location: PL= Indicators for Pr		
Histosol		-	Polyvalue Belov		(S8) (LRF	RR,		A10) (LRR K, L ,	MLRA 149B)
Black Hi	stic (A3)	-	Thin Dark Surfa				5 cm Mucky	Peat or Peat (S	3) (LRR K, L, R)
	n Sulfide (A4) I Layers (A5)	-	Loamy Mucky N Loamy Gleyed			, L)		e (S7) (LRR K, L elow Surface (S8	
	d Below Dark Surface	(A11)	Depleted Matrix		,			ırface (S9) (LRF	
	ark Surface (A12)	-	Redox Dark Su						(12) (LRR K, L, R)
	lucky Mineral (S1) Bleyed Matrix (S4)	-	Depleted Dark : Redox Depress		7)				⁻ 19) (MLRA 149E 144A, 145, 149B
	ledox (S5)	-	Nedox Bepress	,ions (1 0)			Red Parent N		1442, 140, 1408
-	Matrix (S6)						· · · · · · · · · · · · · · · · · · ·	Dark Surface (TF12)
Dark Sui	rface (S7) (LRR R, M l	LRA 149B)				Other (Expla	in in Remarks)	
³ Indicators of	f hydrophytic vegetation	on and wet	tland hydrology mus	st be prese	ent, unless	disturbed of	or problematic.		
Restrictive L	_ayer (if observed):								
, 	ches):						Hydric Soil Prese	ent? Yes	No
Remarks:									

ATTACHMENT C

OHIO RAPID ASSESSMENT METHOD (ORAM) FORMS

Background Information

Name: John Gentilesco

Date: 08/13/2024

Affiliation:

Kleinfelder

Address: 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066

Phone Number: 724-772-7072

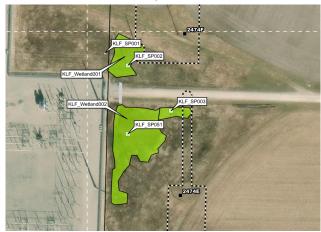
e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland001

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



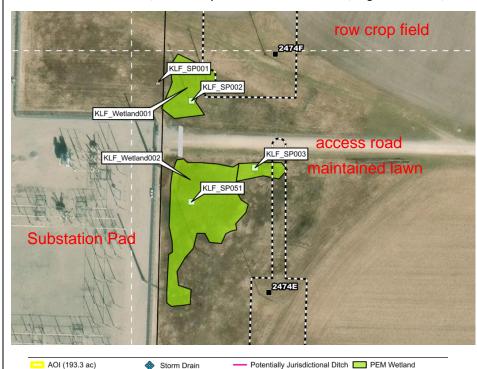


Lat/Long or UTM Coordinate 41.375333, -82.728736	
USGS Quad Name Sandusky, OH	
County Erie	
Township Perkins	
Section and Subsection	
Hydrologic Unit Code 410001101	
Site Visit 07/30/2024 - 07/31/2024	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map N/A	
Soil Survey BkA: Bixler loamy fine sand, 0 to 2 percent slopes	
Delineation report/map Previously provided.	

Name of Wetland: KLF_Wetland001

Wetland Size (acres, hectares): 0.054 acres

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



△ Upland Soil Sample • Ephemeral Stream Wetland Soil Sample Intermittent Stream

Perennial Stream

Comments, Narrative Discussion, Justification of Category Changes:

Storm Drain

KLF_Wetland001 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression adjacent to a substation and access road.

Parcel Boundary

Final score: 15

AOI (193.3 ac)

Avery to Hayes Structure

O Existing Feature (Structure) Existing Culvert

LOD (31.1 ac)

Category:

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 humaninduced 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.	Х	
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.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х	
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.	Х	

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland to the wetland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	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	YES	MO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater triair 450m (17.7m) don:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	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?	Go to Question 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
	Hative species can also be present?	3 wetland	Go to Question se
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	tors and have praint opening manning regionalist communities.	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	20 10 3000101111
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	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.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,		
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
		nauriy	1

Table 1. Characteristic plant species.

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

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

Site:	KLF_Wetland01	Rater(s):	J. Gentilesco	Date: 8/13/2024
0 0	Metric 1. Wetlan	d Area (size).		
max 6 pts. subtotal	10 to <25 acres (4 3 to <10 acres (1.2 0.3 to <3 acres (0.1) (6 pts) .1 to <20.2ha (5 pts) .0 <10.1ha) (4 pts) to <4ha) (3 pts) 2 to <1.2ha (2pts) .04 to <0.12ha (1 pt)		
2 2	<u></u> ,	buffers and surrounding	land use.	
max 14 pts. subtotal	WIDE. Buffers ave MEDIUM. Buffers 1 NARROW. Buffers VERY NARROW. B 2b. Intensity of surrounding la VERY LOW. 2nd gr LOW. Old field (>1 MODERATELY HIGH	width. Select only one and assign scor rage 50m (164ft) or more around wet average 25m to <50 (82 to <164ft) are average 10m to <25m (32ft to <82ft) iffers average <10m (<32ft) around we not use. Select one or double check a bowth or older forest, prairie, savanna 0 years), shrub land, young second gr 1. Residential, fenced pasture, park, o strial, open pasture, row cropping, m	land perimeter (7) cound wetland perimeter (4) around wetland perimeter (1) retland perimeter (0) nd average h, wildlife area, etc. (7) cowth forest. (5) conservation tillage, new fallow	
5 7	Metric 3. Hydrol	ogy.		
max 30 pts. subtotal	Perennial surface v 3c. Maximum water depth. Se	ent (5) rent surface water (3) vater (lake or stream (5) lect only one and assign score. p 27.6in) (2) vdrologic regime. Score one or doubl irent (12)	Betweer Part of w Part of ri 3d. Duration Inunda Semi- to Regulari 2 Seasona Seasona	r floodplain (1) n stream/lake and other human use (1) vetland/upland (e.g. forest), complex (1) iparian or upland corridor (1) ation/saturation. Score one or dbl check. permanently inundated/saturated (4) y Inundated/saturated (3) lly inundated (2) lly saturated in upper 30cm (12in) (1)
3 10		t Alteration and Developr	nent.	
max 20 pts. subtotal	None or none app: Recovered (3) Recovering (2) 1 Recent or no recov 4b. Habitat development. Sel Excellent (7) Very good (6) Good (5) Moderately good (Fair (3) Poor to fair (2) 1 Poor (1) 4c. Habitat alteration. Score of	ery (1) ect only one and assign score. 4) nne or double check and average.	Charles II di	
10 subtotal this pa	None or none appa Recovered (6) Recovering (3) 1 Recent or no recov		Check all disturbances obs X mowing grazing clearcutting selective cutting woody debris remov toxic pollutants	X shrub/sapling removal herbaceous/aquatic bed removal sedimentation dredging

Site:	К	LF_Wetland01	Rater(s):	J. Ge	ntilesco	Date:	8/13/2024
10	0						
subtotal f	first page						
- 10	0	Metric 5. Spec	ial Wetlands.				
max 10 pts. subt	total Ch	eck all that apply and sco	ore as indicated.				
		Bog (10)					
		Fen (10)					
		Old growth fore					
		Mature foreste	d wetland (5) al/tributary wetland-unrestrict	tod bydrology (10)			
			al/tributary wetland-restricted				
			Prairies (Oak Openings) (10)	,8/ (-/			
		Relict Wet Prair	ries (10)				
			nce state/federal threatened of		0)		
			atory songbird/water fowl hal				
		Category 1 wet	land. See Question 1 Qualitat	ive Rating (-10)			
5 15	5	Metric 6. Plan	t communities, inter	spersion, microt	opography	/ ·	
nax 20 pts. subt	^{total} 6a.	Wetland Vegetation Co	ommunities.	Vegetation	Community Co	over Scale	
	Sco	ore all present using a 0 to	to 3 scale.	0	Absent or co	mprises <0.1ha (0.	2471 acres) contiguous area
		0 Aquatic bed		1	Drocont and	oithar comprises s	mall part of watland's vagatation and i
		1 Emergent					mall part of wetland's vegetation and is ses a significant part but is of low
		0 Shrub			quality.	quanty, or compris	ses a significant part but is of low
		0 Forest		2		either comprises si	gnificant part of a wetland's vegetation
		0 Mudflats			and is of mo	derate quality or co	omprises a small part and is of high
		0 Open water			quality.		
	Ch	0 Other		3			nt part, or more, of a wetland's
	60.	Horizontal (plan view) High (5)	interspersion.		vegetation a	nd is of high quality	/.
		Moderately Hig	h (4)	Narrative D	escription of V	egetation Quality	
		3 Moderate (3)		low		. ,	minance of nonnative or disturbance
		Moderately Lov	v (2)		tolerant nati	ve species.	
		Low (1)		mod			
	۲-	None (0)	D-f				onent of the vegetation, although
		Coverage of invasive pl Table 1 ORAM long form					olerant native spp can also be present, to moderately high, but generally w/o
		deduct points for covera				rare threatened or	
		Extensive >75%	-	high			ies, with nonnative spp and/or
		Moderate 25-7	5% cover (-3)	_	disturbance	tolerant native spp	absent or virtually absent, and high sp
		Sparse 5-25% c					ays, the presence of rare, threatened,
		Nearly absent <	:5% cover (0)		or endangere	ed spp	
	cd	1 Absent (1) Microtopography.		Mudfleten	Open Water	Class Quality	
		rivilerotopography. ore all present using 0 to	3 scale	0		na (0.247 acres)	
	300	0 Vegetated hum		1		1ha (0.247 to 2.47	acres)
			debris >15cm (6in)	2		to <4ha (2.47 to 9.8	
		0 Standing dead		3		38 acres) or more	
		0 Amphibian bree	eding pools				
					raphy Cover So	cale	
				0 1	Absent		
				1	Present verv	small amounts or	if more common of marginal quality
				2	Present in m	oderate amounts	but not of highest quality or in small

End of Quantitative Rating. Complete Categorization Worksheets.

amounts of highest quality

Present in moderate or greater amounts and of highest quality.

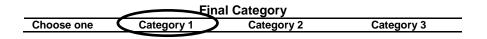
ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: John Gentilesco

Date: 08/13/2024

Affiliation:

Kleinfelder

Address: 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066

Phone Number: 724-772-7072

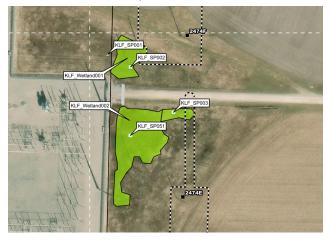
e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland002

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.





Lat/Long or UTM Coordinate 41.374945, -82.728383	
USGS Quad Name Kimball, OH	
County Erie	
Township Perkins	
Section and Subsection	
Hydrologic Unit Code HUC 410001101	
Site Visit 07/30/2024 - 07/31/2024, 3/10/2025	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map N/A	
Soil Survey CmA: Colwood loam, 0 to 1 percent slopes	
Delineation report/map Previously provided.	

Name of Wetland: KLF_Wetland002 Wetland Size (acres, hectares): 0.199 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. row crop field KLF_SP002 KLF Wetland001 access road KLF_Wetland002 maintained lawn Substation Pad AOI (193.3 ac) Potentially Jurisdictional Ditch PEM Wetland Storm Drain LOD (31.1 ac) △ Upland Soil Sample • Ephemeral Stream Parcel Boundary Avery to Hayes Structure Wetland Soil Sample - Intermittent Stream O Existing Feature (Structure) ____ Existing Culvert Comments, Narrative Discussion, Justification of Category Changes: KLF_Wetland002 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression adjacent to substation and access road.

Category:

Final score: 13

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.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and humaninduced 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.	Х	
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.	Х	
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.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х	
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.	Х	

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland In the watland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland	Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7 YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

		T	
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	MO
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status.	
		Calegory 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO)
	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?	Wetland should be evaluated for possible	Go to Question 9c
	landward dikes of other hydrological controls?	Category 3 status	
		Go to Question 10	410
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	MO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9е	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	(NO)
	tolerant halive plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	30 10 900311011 11
	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	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Cuantitatina	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
			l .

Table 1. Characteristic plant species.

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

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

Site:		KL	F_Wetland02	Rater(s):	J. Gentilesco	Date: 8/13/2024
1	1	1	Metric 1. Wetland	Area (size).		
max 6 pts.	subtotal	J	Select one size class and as	sign score.		
			>50 acres (>20.2ha) (
			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	o <4ha) (3 pts)		
			0.3 to <3 acres (0.12	to <1.2ha (2pts)		
			1 0.1 to <0.3 acres (0.0	04 to <0.12ha (1 pt)		
			<0.1 acres (0.04ha) (0 pts)		
2	3		Metric 2. Upland	buffers and surrounding I	and use.	
max 14 pts.	subtotal	2a.	Calculate average buffer wid	Ith. Select only one and assign score.	Do not double check.	
				ge 50m (164ft) or more around wetla		
				verage 25m to <50 (82 to <164ft) arou		
				verage 10m to <25m (32ft to <82ft) a		
				fers average <10m (<32ft) around we		
		2h	L	d use. Select one or double check and		
				wth or older forest, prairie, savannah,		
				years), shrub land, young second gro		
				Residential, fenced pasture, park, co		field (3)
				rial, open pasture, row cropping, min		rileid. (3)
		_	Tillion. Orban, illoust	riai, operi pasture, row tropping, min	ing, construction. (1)	
5	8		Metric 3. Hydrolo	gy.		
max 30 pts.	subtotal	3a.	Sources of Water. Score all	that apply	3b. Connectivity. Sc	core all that apply
			High pH groundwate			r floodplain (1)
			Other groundwater (Between	n stream/lake and other human use (1)
			1 Precipitation (1)	•		vetland/upland (e.g. forest), complex (1)
			Seasonal/Intermitter	nt surface water (3)		iparian or upland corridor (1)
				iter (lake or stream (5)		ation/saturation. Score one or dbl check.
		3.0		ct only one and assign score.		permanently inundated/saturated (4)
		50.	>0.7 (27.6in) (3)	et only one and assign score.		y Inundated/saturated (3)
			0.4 to 0.7m (15.7 to 2	27.6in) (2)		lly inundated (2)
			1 <0.4m (<15.7in) (1)		Seasonal	lly saturated in upper 30cm (12in) (1)
		3e.		rologic regime. Score one or double		
			None or none appare	ent (12)	Check all disturbances obse	
			Recovered (7)		ditch tile	point source (nonstormwater)
			Recovering (3) 1 Recent or no recover	ov (1)	dike	X filling/grading road bed/RR track
			Thecent of no recover	y (1)	weir	dredging
					X stormwater input	other
					x stormwater input	<u> </u>
3	11	1	Metric 4. Habitat	Alteration and Developm	ent.	
max 20 pts.	subtotal		C			
		4a.		e one or double check and average		
			None or none appare	ent (4)		
			Recovered (3)			
			Recovering (2)			
			1 Recent or no recover			
		4b.	Habitat development. Selec	t only one and assign score.		
			Excellent (7)			
			Very good (6) Good (5)			
			Moderately good (4)			
			Fair (3)			
			Poor to fair (2)			
			1 Poor (1)			
		4c.	Habitat alteration. Score on	e or double check and average.		
			None or none appare	ent (9)	Check all disturbances obse	
			Recovered (6)		X mowing	X shrub/sapling removal
			Recovering (3)	o. (1)	grazing	herbaceous/aquatic bed removal
ſ		1	1 Recent or no recover	y (±)	clearcutting	sedimentation
	11	1			selective cutting	dredging
Ļ		1			woody debris remov	
sub	btotal this p	age			toxic pollutants	nutrient enrichment
				<u> </u>		

ORAM v. 5.0 Field Form Quantitative Rating KLF_Wetland02 Rater(s): J. Gentilesco 8/13/2024 Site: Date: 11 Metric 5. Special Wetlands. 11 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) -10 Category 1 Wetland. See Question 1 Qualitative Rating (-10) Metric 6. Plant communities, interspersion, microtopography. 13 **Vegetation Community Cover Scale** 6a. Wetland Vegetation Communities. Score all present using a 0 to 3 scale. Absent or comprises < 0.1ha (0.2471 acres) contiguous area 0 Aquatic bed resent and either comprises small part of wetland's vegetation and is 1 Emergent of moderate quality, or comprises a significant part but is of low 0 Shrub guality. Present and either comprises significant part of a wetland's vegetation 0 Forest 2 0 Mudflats and is of moderate quality or comprises a small part and is of high 0 Open water quality. 0 Other 3 Present and comprises significant part, or more, of a wetland's egetation and is of high quality Horizontal (plan view) interspersion. High (5) Moderately High (4) Narrative Description of Vegetation Quality Low spp diversity and/or predominance of nonnative or disturbance Moderate (3) 2 Moderately Low (2) tolerant native species. Low (1) mod Native spp are dominant component of the vegetation, although None (0) 6c. Coverage of invasive plants. Refer nonnative and/or disturbance tolerant native spp can also be present, to Table 1 ORAM long form for list. Add and species diversity moderate to moderately high, but generally w/o or deduct points for coverage. presence of rare threatened or endangered spp Extensive >75% cover (-5) high A predominance of native species, with nonnative spp and/or Moderate 25-75% cover (-3) disturbance tolerant native spp absent or virtually absent, and high spp -1 Sparse 5-25% cover (-1) diversity and often, but not always, the presence of rare, threatened, or Nearly absent <5% cover (0) endangered spp Absent (1) 6d. Microtopography. **Mudflat and Open Water Class Quality** Score all present using 0 to 3 scale. Absent < 0.1ha (0.247 acres) 0 Vegetated hummucks/tussucks Low 0.1 to <1ha (0.247 to 2.47 acres) 0 Coarse woody debris >15cm (6in) Moderate 1 to <4ha (2.47 to 9.88 acres 0 Standing dead >25cm (10in) dbh 3 High 4ha (9.88 acres) or more 0 Amphibian breeding pools **Microtopography Cover Scale** resent very small amounts or if more common of marginal quality

13

2

3

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

Present in moderate or greater amounts and of highest quality.

amounts of highest quality

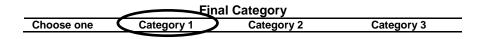
ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: John Gentilesco

Date: 08/13/2024

Affiliation:

Kleinfelder

Address: 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066

Phone Number: 724-772-7072

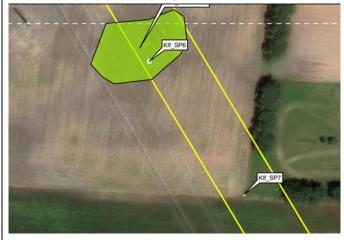
e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland003

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



W S E

Lat/Long or UTM Coordinate 41.37047, -82.728472

USGS Quad Name Kimball, OH

County Erie

Township Perkins

Section and Subsection

Hydrologic Unit Code HUC 410001101

Site Visit 07/30/2024 - 07/31/2024

National Wetland Inventory Map No

Ohio Wetland Inventory Map N/A

Soil Survey GdA: Gilford fine sandy loam, 0 to 1 percent slopes

Delineation report/map Previously provided.

Name of Wetland: KLF_Wetland003

Wetland Size (acres, hectares): 0.199 acres

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



$$W \stackrel{N}{\underset{S}{\longleftrightarrow}} E$$

Comments, Narrative Discussion, Justification of Category Changes:

KLF_Wetland003 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression within an agricultural field. The area was significantly disturbed by agricultural activity due to the routine suppression of native vegetation as a managed plant community.

Final score: 12 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.	es,		
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.	Х		
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.	Х		
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х		
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.	Х		

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland In the watland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland	Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7 YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	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	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	ulameters greater triair 450m (17.7m) ubit:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	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?	Go to Question 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
	Hative species can also be present?	3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	toloran name plant opened minim to regulation communities	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	20 10 34001101111
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	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.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Operation Countries	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
	1	raung	

Table 1. Characteristic plant species.

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

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

Site:		KL	.F_Wetland03	Rater(s):	J. Gentilesco	Date: 8/13/2024
1	1	1	Metric 1. Wetland			<u> </u>
max 6 pts.	subtotal	1	Select one size class and as	sign score.		
			>50 acres (>20.2ha)			
			25 to <50 acres (10.1	to <20.2ha (5 pts)		
			10 to <25 acres (4 to			
			3 to <10 acres (1.2 to			
			0.3 to <3 acres (0.12			
			1 0.1 to <0.3 acres (0.0 <0.1 acres (0.04ha) (0.0 december 1)			
		-	(0.0411a) (0.0411a) (1	υ pt3/		
1	2		•	buffers and surrounding I		
max 14 pts.	subtotal	2a.		Ith. Select only one and assign score		
			_	ge 50m (164ft) or more around wetla		
				erage 25m to <50 (82 to <164ft) arou		
				verage 10m to <25m (32ft to <82ft) a fers average <10m (<32ft) around we		
		2h		d use. Select one or double check an		
		20.		wth or older forest, prairie, savannah		
				years), shrub land, young second gro		
				Residential, fenced pasture, park, co		field. (3)
				rial, open pasture, row cropping, min		
5	7		Metric 3. Hydrolo	gy.		
max 30 pts.	subtotal	Ĭ	C	that and	21	and the state of
		3a.	Sources of Water. Score all thigh pH groundwate		3b. Connectivity. Sci	floodplain (1)
			Other groundwater (stream/lake and other human use (1)
			1 Precipitation (1)	5)		retland/upland (e.g. forest), complex (1)
			Seasonal/Intermitter	nt surface water (3)		parian or upland corridor (1)
			<u> </u>	ter (lake or stream (5)	<u> </u>	tion/saturation. Score one or dbl check.
		3c.		ct only one and assign score.		permanently inundated/saturated (4)
			>0.7 (27.6in) (3)	,		/ Inundated/saturated (3)
			0.4 to 0.7m (15.7 to 2	27.6in) (2)		ly inundated (2)
		36	1 <0.4m (<15.7in) (1)	rologic regime. Score one or double		ly saturated in upper 30cm (12in) (1)
		50.	None or none appare	Time to the second seco	Check all disturbances obse	erved
			Recovered (7)		ditch	point source (nonstormwater)
			Recovering (3)	(4)	tile	filling/grading
			1 Recent or no recover	y (1)	dike	road bed/RR track
					weir stormwater input	dredging X other Active agriculture
					storniwater input	Active agriculture
3	10	1	Metric 4. Habitat	Alteration and Developm	ent.	
max 20 pts.	subtotal	4 a.	Substrate disturbance. Score	e one or double check and average		
			None or none appare	-		
			Recovered (3)			
			Recovering (2)			
			1 Recent or no recover	y (1)		
		4b.	Habitat development. Selec	t only one and assign score.		
			Excellent (7)			
			Very good (6) Good (5)			
			Moderately good (4)			
			Fair (3)			
			Poor to fair (2)			
		4c.	1 Poor (1) Habitat alteration. Score on	e or double check and average.		
			None or none appare		Check all disturbances obse	erved
			Recovered (6)		mowing	shrub/sapling removal
			Recovering (3)	(4)	grazing	herbaceous/aquatic bed removal
ſ		1	1 Recent or no recover	y (1)	clearcutting	sedimentation
	10	1			selective cutting	dredging
çııl	btotal this p	age			woody debris remova	
Sui	o.u. tiiis þ	-6-			toxic pollutants	nutrient enrichment

Site:	KLF_Wetland0	Rater(s):	J. G	entilesco	Date:	8/13/2024
10						
subtotal fire	t page					
	Metric 5.	Special Wetlands.				
- 10		opecial rectaines.				
max 10 pts. subtot	al Check all that apply	and score as indicated.				
	Bog (10	•				
	Fen (10					
		wth forest (10) forested wetland (5)				
		ie coastal/tributary wetland-unrestric	ted hydrology (10)			
		ie coastal/tributary wetland-restricted				
		ain Sand Prairies (Oak Openings) (10)				
		Vet Prairies (10) occurrence state/federal threatened	or and angered species (1	10)		
		ant migratory songbird/water fowl ha		10)		
		ry 1 Wetland. See Question 1 Qualita				
	DA naturio C	Diant communities into				
2 12	ivietric 6.	Plant communities, inter	spersion, microt	opograpny	у.	
max 20 pts. subtot	al 6a. Wetland Vegeta	ation Communities	Vogetation	Community Co	over Scale	
	Score all present us		0			2471 acres) contiguous area
	0 Aquatic	-	1			
	1 Emerge					nall part of wetland's vegetation and is es a significant part but is of low
	0 Shrub			quality.	e quality, or compris	es a significant part but is or low
	0 Forest		2		l either comprises si	gnificant part of a wetland's vegetation
	0 Mudflat				oderate quality or co	mprises a small part and is of high
	0 Open w 0 Other	vater	3	quality.	Leamprises significa	nt part, or more, of a wetland's
		n view) interspersion.	3		and is of high quality	•
	High (5)		_	1 0	0 4,	
		ately High (4)			egetation Quality	
	Modera	• •	low			minance of nonnative or disturbance
	Low (1)	ately Low (2)	mod	tolerant nat	ive species.	
	0 None (0			Native spp a	are dominant compo	nent of the vegetation, although
	6c. Coverage of inv	·				plerant native spp can also be present,
	to Table 1 ORAM lo or deduct points for	ng form for list. Add			diversity moderate rare threatened or	to moderately high, but generally w/o
		ve >75% cover (-5)	high			es, with nonnative spp and/or
		ate 25-75% cover (-3)				absent or virtually absent, and high spp
		5-25% cover (-1)				ays, the presence of rare, threatened, or
		absent <5% cover (0)		endangered	l spp	
	1 Absent 6d. Microtopograp		Mudflat and	d Open Water	Class Quality	
	Score all present us		0		ha (0.247 acres)	
	0 Vegetat	ted hummucks/tussucks	1	Low 0.1 to <	1ha (0.247 to 2.47 a	
		woody debris >15cm (6in)	2		to <4ha (2.47 to 9.8	8 acres)
		g dead >25cm (10in) dbh oian breeding pools	3	ніgn 4ha (9.	.88 acres) or more	
		nun biccumg pools	Microtopog	raphy Cover S	cale	
			0	Absent		

End of Quantitative Rating. Complete Categorization Worksheets.

Present very small amounts or if more common of marginal quality Present in moderate amounts, but not of highest quality or in small

Present in moderate or greater amounts and of highest quality.

amounts of highest quality

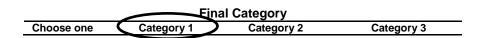
ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: John Gentilesco

Date: 08/13/2024

Affiliation:

Kleinfelder

Address: 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066

Phone Number: 724-772-7072

e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland004

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.





Lat/Long or UTM Coordinate 41.342022, -82.682102	
USGS Quad Name Kimball, OH	
County Erie	
Township Oxford	
Section and Subsection 015	
Hydrologic Unit Code HUC 410001101	
Site Visit 07/30/2024 - 07/31/2024	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map N/A	
Soil Survey GdA: Gilford fine sandy loam, 0 to 1 percent slopes	
Delineation report/map Previously provided.	

Name of Wetland: KLF_Wetland004

Wetland Size (acres, hectares): 0.034 acres

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



Comments, Narrative Discussion, Justification of Category Changes:

KLF_Wetland004 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression within an ag field. The area was significantly disturbed by agricultural activity due to the routine suppression of native vegetation as a managed plant community.

Final score : 11 Category:

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.	Х	
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.	Х	
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.	Х	
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.	Х	

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland In the watland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland	Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7 YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	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	YES	NO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	ulameters greater triair 450m (17.7m) ubit:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	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?	Go to Question 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
	Hative species can also be present?	3 wetland	Go to Question 9e
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	toloran name plant opened minim to regulation communities	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	20 10 34001101111
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	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.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Operation Countries	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
	1	raung	

Table 1. Characteristic plant species.

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

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

3	9	Metric 4. Habitat Alteration and Developin
max 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check and average
		None or none apparent (4)
		Recovered (3)
		Recovering (2)
		1 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)
		1 Poor (1)
		4c. Habitat alteration. Score one or double check and average.
		None or none apparent (9)
		Recovered (6)
		Recovering (3)
		1 Recent or no recovery (1)

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

Site:	KLF_Wetland	Rater(s):	J. Ger	ntilesco	Date:	8/13/2024
	\neg					
9						
subtotal fi	irst page					
- 9	Metric 5	5. Special Wetlands.				
max 10 pts. subto	otal Check all that and	oly and score as indicated.				
	Bog (
	Fen (:	The state of the s				
		rowth forest (10)				
		re forested wetland (5) Erie coastal/tributary wetland-unrestricte	ed hydrology (10)			
		Erie coastal/tributary wetland-unrestricted l				
		Plain Sand Prairies (Oak Openings) (10)	,0/ (-/			
	Relict	: Wet Prairies (10)				
		n occurrence state/federal threatened or)		
		icant migratory songbird/water fowl habigory 1 Wetland. See Question 1 Qualitativ				
2 11	Metric 6	5. Plant communities, inters	persion, microto	pography	•	
nax 20 pts. subto	otal 6a. Wetland Veg	etation Communities.	Vegetation C	ommunity Cov	ver Scale	
	Score all present	using a 0 to 3 scale.	0	Absent or cor	mprises < 0.1ha (0.2	2471 acres) contiguous area
	0 Aqua	tic bed	1	Present and a	either comprises sn	nall part of wetland's vegetation and is
	1 Emer	gent			•	es a significant part but is of low
	0 Shrub)		quality.	<u> </u>	
	0 Fores		2			gnificant part of a wetland's vegetation
	0 Mudf				derate quality or co	omprises a small part and is of high
	0 Open 0 Other		3	quality.	comprises significa-	nt part, or more, of a wetland's
		lan view) interspersion.	3		nd is of high quality	
	High					
		erately High (4)			getation Quality	
		erate (3)	low			minance of nonnative or disturbance
	Low (erately Low (2)	mod	tolerant nativ	e species.	
	0 None	•	mou	Native spp ar	e dominant compo	onent of the vegetation, although
		nvasive plants. Refer				olerant native spp can also be present,
		long form for list. Add				to moderately high, but generally w/o
	or deduct points	_	Link.		are threatened or	
		sive >75% cover (-5) erate 25-75% cover (-3)	high			es, with nonnative spp and/or absent or virtually absent, and high sp
		se 5-25% cover (-1)				ays, the presence of rare, threatened,
		y absent <5% cover (0)		endangered s		
	1 Abser					
	6d. Microtopogra			Open Water C	•	
		using 0 to 3 scale. tated hummucks/tussucks	0 1		a (0.247 acres) Lha (0.247 to 2.47 a	acres)
		se woody debris >15cm (6in)	2		o <4ha (2.47 to 2.47 a	
		ling dead >25cm (10in) dbh	3		8 acres) or more	
	0 Amph	nibian breeding pools				
			Microtopogra 0	Absent	ale	
			1	שאכוול		
			1	Present very	small amounts or i	f more common of marginal quality
			2			out not of highest quality or in small

amounts of highest quality

Present in moderate or greater amounts and of highest quality.

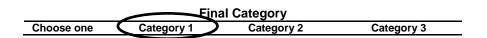
ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

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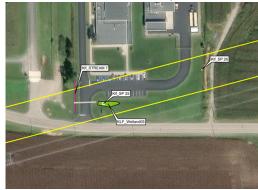
e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland005

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.





Lat/Long or UTM Coordinate 41.333926, -82.642959	
USGS Quad Name Kimball, OH	
County Erie	
Township Milan	
Section and Subsection	
Hydrologic Unit Code HUC 410001101	
Site Visit 07/30/2024 - 07/31/2024	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map N/A	
Soil Survey EcA: Elliot silt loam, 0 to 2 percent slopes	
Delineation report/map Previously provided.	

Name of Wetland: KLF_Wetland005 Wetland Size (acres, hectares): 0.017 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. buidir KIf_SP 26 KIf_STREAM 7 West Mason Road AOI (79.1 ac) Ephemeral Upland Soil Sample Intermittent Wetland Soil Sample Perennial Existing Culvert Wetland Potentially Jurisdictional Ditch Comments, Narrative Discussion, Justification of Category Changes: KLF_Wetland005 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression adjacent to parking lot in a maintained lawn.

Final score: 14	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.	Х	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and humaninduced 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.	Х	
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.	Х	
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.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х	
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.	Х	

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland In the watland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland Go to Question 7	Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	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	YES	MO
	deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	Wetland should be evaluated for possible	Go to Question 9a
	diameters greater triair 450m (17.7m) don:	Category 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	(NO)
	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?	Go to Question 9b	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	YES	NO
	partially hydrologically restricted from Lake Erie due to lakeward or	Wetland should be	Go to Question 9c
	landward dikes or other hydrological controls?	evaluated for possible	
		Category 3 status	
		Go to Question 10	
9c	Are Lake Erie water levels the wetland's primary hydrological influence,	YES	NO
	i.e. the wetland is hydrologically unrestricted (no lakeward or upland		
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant native species can also be present?	Wetland is a Category	Go to Question 9e
	Hative species can also be present?	3 wetland	Go to Question se
		Go to Question 10	
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	NO
	tors and have praint opening manning regulation communities	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	20 10 3000101111
	several inches of the surface, and often with a dominance of the		
	gramineous vegetation listed in Table 1 (woody species may also be	Go to Question 11	
	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.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	0 14 0 33 3	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
		nauriy	1

Table 1. Characteristic plant species.

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

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

0	0		Metric 1. Wetland Area (size).	
max 6 pts.	subtotal	J	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 <0.1 acres (0.04ha) (0 pts)	
3	3	1	Metric 2. Upland buffers and surrounding land use.	
max 14 pts.	subtotal	22	a. Calculate average buffer width. Select only one and assign score. Do not double check.	
		Za.	WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)	
			MEDIUM. Buffers average 25m to <50 (82 to <164ft) around wetland perimeter (4)	
			0 NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)	
			VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (1)	
		2h	b. Intensity of surrounding land use. Select one or double check and average	
		20.	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)	
			3 MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)	
			HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)	
			internal of south model to high posterior of opposition of opposition (2)	
5	8		Metric 3. Hydrology.	
max 30 pts.	subtotal]	a. Sources of Water. Score all that apply 3b. Connectivity. Score all that apply	
		3a.	a. Sources of Water. Score all that apply High pH groundwater (5) 3b. Connectivity. Score all that apply 100 year floodplain (1)	
			Other groundwater (3) Other groundwater (3) Between stream/lake and other human use (1)	
			1 Precipitation (1) Part of wetland/upland (e.g. forest), complex (1)	
			Seasonal/Intermittent surface water (3) Part of riparian or upland corridor (1)	
			Perennial surface water (lake or stream (5) 3d. Duration Inundation/saturation. Score one or dbl check.	
		30	c. Maximum water depth. Select only one and assign score. Semi- to permanently inundated/saturated (4)	
		50.	>0.7 (27.6in) (3) Regularly Inundated/saturated (3)	
			0.4 to 0.7m (15.7 to 27.6in) (2) 2 Seasonally inundated (2)	
			1 < 0.4m (<15.7in) (1) Seasonally saturated in upper 30cm (12in) (1)	
		3e.	e. Modifications to natural hydrologic regime. Score one or double check and average.	
			None or none apparent (12) Recovered (7) Check all disturbances observed point source (nonstormwate	.r)
			Recovering (3) tile filling/grading	')
			1 Recent or no recovery (1) dike road bed/RR track	
			weir dredging	
			X stormwater input other	
3	11		Metric 4. Habitat Alteration and Development.	

3	11	·
x 20 pts.	subtotal	4a. Substrate disturbance. Score one or double check and average
		None or none apparent (4)
		Recovered (3)
		Recovering (2)
		1 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)
		2 Poor to fair (2)
		Poor (1)
		4c. Habitat alteration. Score one or double check and average.

40. 1	4c. Habitat diteration. Score one or double check and average.					
	None or none apparent (9)					
		Recovered (6)				
		Recovering (3)				
	1	Recent or no recovery (1)				

	None or none apparent (9)	Check all disturbances observed				
	Recovered (6)	Х	mowing		shrub/sapling removal	
	Recovering (3)		grazing		herbaceous/aquatic bed removal	
	1 Recent or no recovery (1)		clearcutting		sedimentation	
11			selective cutting		dredging	
11			woody debris removal		farming	
tal this page			toxic pollutants		nutrient enrichment	

ORAM v. 5.0 Field Form Quantitative Rating KLF_Wetland05 Rater(s): J. Gentilesco 8/13/2024 Site: Date: 11 Metric 5. Special Wetlands. 11 Check all that apply and score as indicated. Bog (10) Fen (10) Old growth forest (10) Mature forested wetland (5) Lake Erie coastal/tributary wetland-unrestricted hydrology (10) Lake Erie coastal/tributary wetland-restricted hydrology (5) Lake Plain Sand Prairies (Oak Openings) (10) Relict Wet Prairies (10) Known occurrence state/federal threatened or endangered species (10) Significant migratory songbird/water fowl habitat or usage (10) Category 1 Wetland. See Question 1 Qualitative Rating (-10) Metric 6. Plant communities, interspersion, microtopography. 14 **Vegetation Community Cover Scale** 6a. Wetland Vegetation Communities. Score all present using a 0 to 3 scale. Absent or comprises < 0.1ha (0.2471 acres) contiguous area 0 Aquatic bed resent and either comprises small part of wetland's vegetation and is 1 Emergent of moderate quality, or comprises a significant part but is of low 0 Shrub guality. Present and either comprises significant part of a wetland's vegetation 0 Forest 2 0 Mudflats and is of moderate quality or comprises a small part and is of high 0 Open water quality. 0 Other 3 Present and comprises significant part, or more, of a wetland's egetation and is of high quality Horizontal (plan view) interspersion. High (5) Moderately High (4) Narrative Description of Vegetation Quality Low spp diversity and/or predominance of nonnative or disturbance Moderate (3) Moderately Low (2) tolerant native species. 1 Low (1) mod Native spp are dominant component of the vegetation, although None (0) 6c. Coverage of invasive plants. Refer nonnative and/or disturbance tolerant native spp can also be present, to Table 1 ORAM long form for list. Add and species diversity moderate to moderately high, but generally w/o or deduct points for coverage. presence of rare threatened or endangered spp Extensive >75% cover (-5) high A predominance of native species, with nonnative spp and/or Moderate 25-75% cover (-3) disturbance tolerant native spp absent or virtually absent, and high spp Sparse 5-25% cover (-1) diversity and often, but not always, the presence of rare, threatened, or Nearly absent <5% cover (0) endangered spp 1 Absent (1) 6d. Microtopography. **Mudflat and Open Water Class Quality** Score all present using 0 to 3 scale. Absent < 0.1ha (0.247 acres) 0 Vegetated hummucks/tussucks Low 0.1 to <1ha (0.247 to 2.47 acres) 0 Coarse woody debris >15cm (6in) Moderate 1 to <4ha (2.47 to 9.88 acres 0 Standing dead >25cm (10in) dbh 3 High 4ha (9.88 acres) or more 0 Amphibian breeding pools **Microtopography Cover Scale**

2

3

resent very small amounts or if more common of marginal quality

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

Present in moderate or greater amounts and of highest quality.

amounts of highest quality

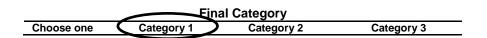
ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size		0
J. J	Metric 2. Buffers and surrounding land use		3
	Metric 3. Hydrology		5
	Metric 4. Habitat		3
	Metric 5. Special Wetland Communities		0
	Metric 6. Plant communities, interspersion, microtopography		3
	TOTAL SCORE 14		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: John Gentilesco

Date: 08/13/2024

Affiliation:

Kleinfelder

Address: 51 Dutilh Road, Suite 240 Cranberry Township, PA 16066

Phone Number: 724-772-7072

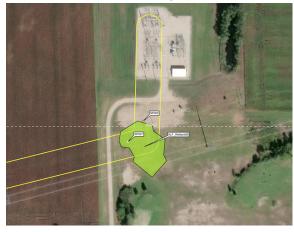
e-mail address: JGentilesco@kleinfelder.com

Name of Wetland: KLF_Wetland006

Vegetation Communit(ies): Palustrine Emergent

HGM Class(es): DEPRESS

Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.





Lat/Long or UTM Coordinate 41.335289, -82.636397	
USGS Quad Name Kimball, OH	
County Erie	
Township Milan	
Section and Subsection	
Hydrologic Unit Code HUC 410001101	
Site Visit 07/30/2024 - 07/31/2024	
National Wetland Inventory Map No	
Ohio Wetland Inventory Map N/A	
Soil Survey UdB: Udorthents, loamy, 0 to 6 percent slopes	
Delineation report/map Previously provided.	

Name of Wetland: KLF_Wetland006 Wetland Size (acres, hectares): 0.328 acres Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. AOI (79.1 ac) Ephemeral Upland Soil Sample Intermittent Wetland Soil Sample Perennial Existing Culvert Wetland Potentially Jurisdictional Ditch Comments, Narrative Discussion, Justification of Category Changes:

KLF_Wetland006 is a Palustrine Emergent (PEM) wetland located within an herbaceous depression adjacent to parking lot and substation.

Final score : 21 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.	Х	
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.	Х	
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.	Х	
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.	Х	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	Х	
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.	Х	

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	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	has had critical habitat proposed (65 FR 41812 July 6, 2000). Threatened or Endangered Species. Is the wetland known to contain	YES	NO
_	an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	Wetland is a Category 3 wetland.	Go to Question 3
2	Decumented High Quality Watland to the wetland on record in	Go to Question 3 YES	
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	Wetland is a Category 3 wetland Go to Question 4	Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland	YES	NO
	contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	Wetland is a Category 3 wetland	Go to Question 5
		Go to Question 5	
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by Phalaris arundinacea, Lythrum salicaria, or Phragmites australis, or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no	YES	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%?	Wetland is a Category 3 wetland	Go to Question 7
<u>7</u>	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that	Go to Question 7 YES	(NO)
-	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%?	Wetland is a Category 3 wetland Go to Question 8a	Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the	YES	NO
	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?	Wetland is a Category 3 wetland. Go to Question 8b	Go to Question 8b

		T	
8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of	YES	MO
	deciduous trees with large diameters at breast height (dbh), generally	Wetland should be	Go to Question 9a
	diameters greater than 45cm (17.7in) dbh?	evaluated for possible Category 3 status.	
		Calegory 3 status.	
		Go to Question 9a	
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at	YES	NO
	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?	Go to Question 9b	Go to Question 10
9b	Does the wetland's hydrology result from measures designed to	YES	NO)
	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?	Wetland should be evaluated for possible	Go to Question 9c
	landward dikes of other hydrological controls?	Category 3 status	
		Go to Question 10	410
9с	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland	YES	MO
	border alterations), or the wetland can be characterized as an	Go to Question 9d	Go to Question 10
	"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.		
9d	Does the wetland have a predominance of native species within its	YES	(NO)
	vegetation communities, although non-native or disturbance tolerant		
	native species can also be present?	Wetland is a Category	Go to Question 9e
		3 wetland	
		Go to Question 10	
9е	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES	(NO)
	tolerant halive plant species within its vegetation communities?	Wetland should be	Go to Question 10
		evaluated for possible	
		Category 3 status	
		Go to Question 10	
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in	YES	NO
	Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy	Wetland is a Category	Go to Question 11
	substrate with interspersed organic matter, a water table often within	3 wetland.	30 10 900311011 11
	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	Go to Question 11	
	Natural Areas and Preserves can provide assistance in confirming this		
	type of wetland and its quality.		
11	Relict Wet Prairies. Is the wetland a relict wet prairie community	YES	NO
	dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union	Wetland should be	Complete
	Counties), Sandusky Plains (Wyandot, Crawford, and Marion	evaluated for possible	Quantitative
	Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties),	Category 3 status	Rating
	and portions of western Ohio Counties (e.g. Darke, Mercer, Miami,	Complete Cuantitatina	
	Montgomery, Van Wert etc.).	Complete Quantitative Rating	
			l .

Table 1. Characteristic plant species.

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

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

2 2	Metric 1. Wetland Area (size).	
max 6 pts. subtotal	Select one size class and assign score. >50 acres (>20.2ha) (6 pts) 25 to <50 acres (10.1 to <20.2ha (5 pts) 10 to <25 acres (4 to <10.1ha) (4 pts) 3 to <10 acres (1.2 to <4ha) (3 pts) 2 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)	
2 4	Metric 2. Upland buffers and surrounding	land use.
	2a. Calculate average buffer width. Select only one and assign score WIDE. Buffers average 50m (164ft) or more around wetl MEDIUM. Buffers average 25m to <50 (82 to <164ft) aro 1 NARROW. Buffers average 10m to <25m (32ft to <82ft) a VERY NARROW. Buffers average <10m (<32ft) around we 2b. Intensity of surrounding land use. Select one or double check an VERY LOW. 2nd growth or older forest, prairie, savannah LOW. Old field (>10 years), shrub land, young second grown of the second process of the s	and perimeter (7) und wetland perimeter (4) around wetland perimeter (1) etland perimeter (0) ud average u, wildlife area, etc. (7) owth forest. (5) onservation tillage, new fallow field. (3)
8 12	Metric 3. Hydrology.	inig, construction. (1)
	3a. Sources of Water. Score all that apply High pH groundwater (5) Other groundwater (3) 1 Precipitation (1) 3 Seasonal/Intermittent surface water (3) Perennial surface water (lake or stream (5) 3c. Maximum water depth. Select only one and assign score. >0.7 (27.6in) (3) 0.4 to 0.7m (15.7 to 27.6in) (2) 1 <0.4m (<15.7in) (1) 3e. Modifications to natural hydrologic regime. Score one or double None or none apparent (12) Recovered (7) Recovering (3) 1 Recent or no recovery (1)	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) 3d. Duration Inundation/saturation. Score one or dbl check. Semi- to permanently inundated/saturated (4) Regularly Inundated/saturated (3) 2 Seasonally inundated (2) Seasonally saturated in upper 30cm (12in) (1) check and average. Check all disturbances observed ditch point source (nonstormwater) tile dike point source (nonstormwater) filling/grading road bed/RR track dredging x stormwater input other other
4 16	Metric 4. Habitat Alteration and Developm	nent.
	4a. Substrate disturbance. Score one or double check and average None or none apparent (4)	Check all disturbances observed mowing grazing grazing clearcutting Check all disturbances observed shrub/sapling removal herbaceous/aquatic bed removal sedimentation
16 subtotal this pag	ge	selective cutting dredging woody debris removal farming toxic pollutants nutrient enrichment

ite:	KLF_V	Vetland05	Rater(s):	J. Ge	entilesco	Date:	8/13/2024
16	6						
subtotal f							
	. м	etric 5 Sne	cial Wetlands.				
- 16	6	etric 3. Spec	lai vvetiailas.				
nax 10 pts. subt	total Check all	that apply and sc	ore as indicated.				
		Bog (10)					
		Fen (10) Old growth for	est (10)				
		Mature foreste					
			al/tributary wetland-unrestrict	ed hydrology (10)			
			al/tributary wetland-restricted	hydrology (5)			
			d Prairies (Oak Openings) (10)				
		Relict Wet Prai	ries (10) ince state/federal threatened o	r endangered species (1	0)		
			ratory songbird/water fowl hab		-,		
		Category 1 We	tland. See Question 1 Qualitat	ive Rating (-10)			
	. м	etric 6. Plan	t communities, inter	spersion, microto	opography	<i>i</i> .	
5 2:	1			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	- P - B P ,	, -	
nax 20 pts. subt	total 6a. Wetl	land Vegetation Co	ommunities.	Vegetation (Community Co	over Scale	
	Score all	present using a 0	to 3 scale.	0	Absent or co	omprises <0.1ha (0.2	471 acres) contiguous area
		0 Aquatic bed		1	Present and	either comprises sn	nall part of wetland's vegetation and is
		1 Emergent			of moderate	quality, or compris	es a significant part but is of low
		0 Shrub			quality.		
	_	0 Forest		2			gnificant part of a wetland's vegetation
		0 Mudflats 0 Open water			guality.	derate quality or co	mprises a small part and is of high
		0 Other		3		comprises significar	nt part, or more, of a wetland's
	6b. Hori	zontal (plan view)	interspersion.		vegetation a	ind is of high quality	•
		High (5)					
		Moderately Hig Moderate (3)	gh (4)	Narrative De		egetation Quality	minance of nonnative or disturbance
		2 Moderately Lo	w (2)	IOW	tolerant nat		minance of normative of disturbance
		Low (1)	(=)	mod	torerunenae	ive species.	
		None (0)					nent of the vegetation, although
		rage of invasive p					plerant native spp can also be present,
		1 ORAM long form t points for covera				rare threatened or	to moderately high, but generally w/o
	or deduc	Extensive >75%	-	high			es, with nonnative spp and/or
		Moderate 25-7					absent or virtually absent, and high sp
		Sparse 5-25% o					ays, the presence of rare, threatened, o
	_	Nearly absent	<5% cover (0)		endangered	spp	
	6d Micr	1 Absent (1) otopography.		Mudflat and	Open Water	Class Quality	
		present using 0 to	3 scale.	0		ha (0.247 acres)	
		0 Vegetated hun		1		1ha (0.247 to 2.47 a	cres)
			debris >15cm (6in)	2	_	to <4ha (2.47 to 9.8	8 acres)
	-	0 Standing dead 1 Amphibian bre	>25cm (10in) dbh	3	High 4ha (9.	88 acres) or more	
	<u>L</u>	T Willhimpian pie	cuilg pools	Microtopog	raphy Cover So	cale	
				0	Absent		
				1			
				2			f more common of marginal quality out not of highest quality or in small
				<u> </u>	Lieselli III II	iouerate afficult(S, E	out not of highest quality of ill Sifiall

21

End of Quantitative Rating. Complete Categorization Worksheets.

amounts of highest quality

Present in moderate or greater amounts and of highest quality.

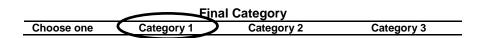
ORAM Summary Worksheet

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

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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



End of Ohio Rapid Assessment Method for Wetlands.

ATTACHMENT D

OHIO EPA HEADWATER HABITAT EVALUATION INDEX (HHEI) FORMS & OHIO EPA QUALITATIVE HABITAT EVALUATION INDEX (QHEI) FORMS



Primary Headwater Habitat Evaluation Form

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

SITE	E NAME/LOCATION	ON Avery Hayes Rebui	ld						
		SITE NUMBER	R KLF_Stream01	_	RIVER BASIN			DRAII	NAGE AREA (mi²)
LEN	GTH OF STREAM	1 REACH (ft.)	LAT	. <u>41.37</u>	72587	LONG <u>-82.730016</u>	RIVE	R CODE	RIVER MILE
DAT	E 8/12/2024	SCORER	J. Gentilesco		COMMENTS	Ephemeral			
	NOT	E: Complete All Items	On This Form - R	efer to	"Field Evalua	tion Manual for Ohio's PHV	VH Streams"	for Instructions	3
_	REAM CHANNEI	D NONE MATID	AL CHANNEL	□ RE	COVERED	RECOVERING RECENT	OR NO RECOVI	ERY	
1. SUBSTRATE (Estimate percent of every type of substrate present. Check two predominant substrate boxes (May of 20) Add to the large form of the substrate present (May of 20) Final protein substrate boxes									
lτ	(Max of 32). Add YPE	d total number of signific	cant substrate type: PERCENT		l (Max of 8). Fir YPE	al metric score is sum of box		RCENT	Metric
		ABS [16 pts]	0%	7		pts]	70%		Points
		R (>256 mm) [16 pts]	0%		_	PACK/WOODY DEBRIS [3 pt	ts] 0%		
		K [16 pts]	0%			ETRITUS [3 pts]	0%		Substrate
	_	(65-256 mm) [12 pts]	10%		_	or HARDPAN [3 pts]	0%		Max = 40
	_	(2-64 mm) [9 pts]	20%		□ MUCK		0%		
	□ SAND (<	2 mm) [6 pts]			AIXIII	CIAL [3 pts]	0%		
		of Percentages of Bldr oulder, Cobble, Bedrock	(A) 10%		Substra Percen	tage Check 1			9 A+B
sco		ST PREDOMINANT SU			6 TOTAL	NUMBER OF SUBSTRATE	TYPES	3	
2.	Maximum Pool	Depth (Measure the r	naximum pool dei	oth wit	hin the 61 met	er (200 ft) evaluation reach	at the time of	evaluation.	Pool Depth
		ols from road culverts o			Check ONLY or				Max = 30
	>30 centimeters	[20 pts]			> 5 cm - 10 c	n [15 pts]			
	>22.5 - 30 cm [3	30 pts]			< 5 cm [5 pts]				
	>10 - 22.5 cm [2	25 pts]		V	NO WATER (OR MOIST CHANNEL [0 pts]			0
	COMMENTS					MAXIMUM POOL DEPTH (centimeters)	0	
						•			
3.	BANK FULL W	IDTH (Measured as the	e average of 3-4 m	easur	ements)	(Check ONLY one box	x):		Bankfull Width
	> 4.0 meters)>	13') [30 pts]			> 1.0 m - 1.5	m (>3' 3" - 4' 8") [15 pts]			Max = 30
	> 3.0 m - 4.0 m	(>9' 7" - 13') [25 pts]		V	<u><</u> 1.0 m (<=3'	3") [5 pts]			ļ
	> 1.5 m - 3.0 m	(>9' 7" - 4' 8") [20 pts]							
	COMMENTS					AVERAGE BANKFULL WIL	DTH (meters)	0.6	5
						•			
		This information r	nust also be comp	oleted					
	RIPARIAN ZON	- IE AND FLOODPLAIN	QUALITY *	NOT	E: River Left (L	and Right ® as looking dowr	nstream	*	
	R	IPARIAN WIDTH	FLO	ODPLA	AIN QUALITY				
L	R (Per Bank	,	L	R	` .	inant per Bank)	L R		
	☐ Wide >10				Mature Fores			Conservation	-
_ ☑	☐ Moderate☑ Narrow <		_			est, Shrub or Old Field ark, New Field	 7	Urban or Indu	
	□ None	0111			Fenced Pastu			Mining or Cor	•
	COMMENTS							9	
	FI OW REGIME	: (At Time of Evaluation) (Check ONLY	one bo	x).				
	Stream Flowing	(All Anno Gr Evandarion)	, (eneak e/v27		Λ).	☐ Moist Channel, isolate	ed pools, no flo	ow (Intermitent)	
	•	with isolated pools (Inte	erstitial)			☑ Dry channel, no water	-	,	
	COMMENTS		,			•	,		
	SINI IOSITY (NI	ımber of bends per 61 r	n (200 ft) of charge	al) (C	hack ONI V on	e pox).			
	□ None	amber of belies her of t		٠١, (٥	TICON CIVET UI	e box). □ 2.0		□ 3.0	
	 ✓ 0.5 		□ 1.5			□ 2.5		□ >3	
CTC		ECTIMATE	-						
SIR	EAM GRADIENT Flat (0.5 ft/100 f		Flat to Moderate		✓ Modera	ate (2 ft/100 ft)	☐ Moderate	to Severe 「	☐ Severe (10 ft/100 ft)
	1 101 (0.0 10 100 1	-,	i lat to Moderate		- MOUGIA	(2 14 100 11)	woodcrate	Jovoio i	_ 33,0,0 (10 10 10 10)
						DUWU Form Bogo 1			

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ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): ☐ Yes ☑ No QHEI Score _____(If yes, Attach Completed QHEI Form) QHEI PERFORMED? -DOWNSTREAM DESIGNATED USE(S) WWH Name: Slope Creek **√** Distance from Evaluated Stream 0.07 miles CWH Name: Distance from Evaluated Stream Distance from Evaluated Stream EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION NRCS Soil Map Page: NRCS Soil Map Stream Order USGS Quadrangle Name: Lake Erie County Sandusky County Township / City: Perkins Township **MISCELLANEOUS** N Date of last precipitation 7/31/2024 Quantity Base Flow Conditions? (Y/N): Photograph Information N Canopy (% open): 20% Elevated Turbidity? (Y/N): N (Note lab sample no. or id. And attach results) Lab Number: Were samples collected for water chemistry? (Y/N): Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (μmhos/com) Is the sampling reach representative of the stream (Y/N) Y If not, please explain: Additional comments/description of pollution impacts: **BIOTIC EVALUATION** Performed? (Y/N): Y (If yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N Fish Observed? (Y/N) Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N Comments Regarding Biology:

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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





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

SITI	= NAMF	E/LOCATION Avery Hayes -138 k	V-Reconductor						
0111	_ 147 (IVIL	SITE NUMBER		02	RIVE	R BASIN		DRAINA	AGE AREA (mi²)
LEN	GTH OI		L				<u>-</u>		RIVER MILE
DAT	E 8/15/2		J. Gentilesco			MMENTS Intermittent			
	-	NOTE: Complete All Items	On This Form	- Refer	to "Fie	ld Evaluation Manual for Ohio's PH	WH Streams" for	Instructions	
		CHANNEL CATIONS: NONE /NATURA	L CHANNEL	□ F	RECOVER	RED RECOVERING RECENT	Γ OR NO RECOVERY		
1.						. Check two predominant substrate bo			HHEI
Т	(Max YPE	of 32). Add total number of signific	ant substrate ty PERCENT	-	nd (IMax TYPE	of 8). Final metric score is sum of box	xes A & B. PERC	ENT	Metric
		BLDR SLABS [16 pts]	0%	V		SILT [3 pts]	40%		Points
		BOULDER (>256 mm) [16 pts]	5%			LEAF PACK/WOODY DEBRIS [3 p			
		BEDROCK [16 pts] COBBLE (65-256 mm) [12 pts]	<u>0%</u> 15%			FINE DETRITUS [3 pts] CLAY or HARDPAN [3 pts]	<u>0%</u> 0%	—	Substrate Max = 40
		GRAVEL (2-64 mm) [9 pts]	5%			MUCK [0 pts]	5%	_	Wax - 40
	V	SAND (<2 mm) [6 pts]	30%			ARTIFICIAL [3 pts]	0%		
		Total of Percentages of Bldr	20%	A)		Substrate Percentage Check 1			12
		Slabs, Boulder, Cobble, Bedrock							A + B
SCO	RE OF	TWO MOST PREDOMINANT SUI	BSTRATE TYP	ES	6	TOTAL NUMBER OF SUBSTRATE	TYPES	6	
2.		mum Pool Depth (<i>Measure the m</i> I plunge pools from road culverts o				ne 61 meter (200 ft) evaluation reach ONLY one box):	at the time of eva	uation.	Pool Depth Max = 30
V	>30 c	centimeters [20 pts]			> 5	cm - 10 cm [15 pts]			
		5 - 30 cm [30 pts]				cm [5 pts]			
	>10 -	22.5 cm [25 pts]			NO	WATER OR MOIST CHANNEL [0 pts		—	20
	COMN	MENTS				MAXIMUM POOL DEPTH	(centimeters)	30	
3.	BANI	K FULL WIDTH (Measured as the	average of 3-4	4 meası	ıremen	ts) (Check ONLY one bo	x):	_	Bankfull Width
	> 4.0	meters)> 13') [30 pts]				0 m - 1.5 m (>3' 3" - 4' 8") [15 pts]			Max = 30
		m - 4.0 m (>9' 7" - 13') [25 pts]			<u><</u> 1.0	0 m (<=3' 3") [5 pts]			
V	> 1.5	m - 3.0 m (>9' 7" - 4' 8") [20 pts]							
	COM	MENTS				AVERAGE BANKFULL WI	DTH (meters)	7.62	20
		This information m	ust also be co	mplete	d				
	RIPA	RIAN ZONE AND FLOODPLAIN (er Left (L) and Right ® as looking dow	nstream/	*	
		RIPARIAN WIDTH			LAIN Q	UALITY			
L	R ☑	(Per Bank)		L F		st predominant per Bank)	L R	2 -	91
		Wide >10m Moderate 5-10m		 7 7		ure Forest, Wetland eature Forest, Shrub or Old Field		Conservation T Jrban or Indust	-
		Narrow <5m				idential, Park, New Field		Open Pasture, l	
		None	G	7 7	Fend	ced Pasture		Mining or Const	truction
	COMN	MENTS							
		N REGIME (At Time of Evaluation) Im Flowing	(Check ONL	Y one b	oox):	☑ Moist Channel, isolat	end pools no flow (Intermitent)	
	Subsi	urface flow with isolated pools (Inte MENTS	rstitial)			□ Dry channel, no wate	·	memment	
	SINU	OSITY (Number of bends per 61 m	n (200 ft) of cha	nnel) ((Check	ONLY one box):			
	V	None) ₁	•		□ 2.0		□ 3.0	
		0.5	□ 1.	.5		□ 2.5		□ >3	
STR ☑	_	RADIENT ESTIMATE 0.5 ft/100 ft)	Flat to Modera	ate	V	Moderate (2 ft/100 ft)	□ Moderate to S	Severe 🗆	Severe (10 ft/100 ft)
Octob	er 24, 200	02 Revision				PHWH Form Page - 1			

QHEI PERFORMED? DOWNSTREAM DE		□ _{Yes} ⊡ ¡E(S)	No (QHEI Score	(If yes, Attach Completed	QHEI Form)
□ WWH Name:					Distance from Evaluated S	Stream
CWH Name:					Distance from Evaluated S	Stream
EWH Name:					Distance from Evaluated S	Stream
MAPPING: ATTAC	H COPIES OF I	MAPS, INCLU	JDING THE E	ENTIRE WATERSHED AREA.	CLEARLY MARK THE SI	TE LOCATION
USGS Quadrangle Name	: Kimball			NRCS Soil Map Page:	NRCS Soil	Map Stream Order
County Erie County				Township / City:	Oxford Township	
MISCELLANEOUS						
Base Flow Conditions? (Y/N):	N	Date of last p	orecipitation _	7/31/2024	Quantity	<u></u>
Photograph Information						
Elevated Turbidity? (Y/N):	N		Canopy (% o	pen): <u>85%</u>	_	
Were samples collected for water chem	istry? (Y/N):	N	(Note lab	sample no. or id. And attach	results) Lab Number:	: <u> </u>
Field Measures: Temp (°C)	Dissolved Ox	ygen (mg/l)	pH (S.U.)	Conductivity	(μmhos/com)
ls the sampling reach representative of	the stream (Y/N)	Υ	If not, please explain:		
Additional comments/description of pollu	ıtion impacts:	Significa	nt warm up in	temperature causing substant	ial snow melt.	
BIOTIC EVALUATION	ON					
Performed? (Y/N): Y	_(If yes, Record a			ections optional. NOTE: all vouche ets from the Primary Headwater H		n the site
= 1 0 0 0 0 0	N	Voucher? (Y	′/N) <u>N</u>	Salamanders Observed	? (Y/N) <u>N</u>	Voucher? (Y/N) N
Fish Observed? (Y/N)						

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This $\underline{\text{must}}$ be completed):

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





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

SITE NA	ME/LOCATION	Avery Hayes -138 k			DIV/E	D DACIN		-	PRAINAGE AREA (m.:2)
ENGTH	OF STREAM F	SITE NUMBER				R BASIN			PRAINAGE AREA (mi²)
		, ,		LAT. <u>41.3</u>		LONG <u>-82.690475</u>		RIVER CODE	RIVER MILE
DATE <u>8/1</u>		_SCORER	J. Gentilesco			MMENTS Ephemeral			
		: Complete All Items	On This Form	ı - Refer t	o "Field	d Evaluation Manual for Ohio's P	PHWH Str	eams" for Instruct	tions
	M CHANNEL FICATIONS:	☑ NONE /NATURA	AL CHANNEL	□R	ECOVERI	ED □ RECOVERING □ RECE	ENT OR NO	RECOVERY	
	ax of 32). Add t			ypes foun		Check two predominant substrate of 8). Final metric score is sum of b		B. PERCENT	HHEI Metric
		BS [16 pts]	0%	<u> </u>	<u></u>	SILT [3 pts]		70%	Points
		(>256 mm) [16 pts]	0%			LEAF PACK/WOODY DEBRIS [3	3 pts]	0%	
		, , , , , , , , , , , , , , , , , , , ,	0%			FINE DETRITUS [3 pts]		0%	Substrate
	COBBLE (6	65-256 mm) [12 pts]	0%			CLAY or HARDPAN [3 pts]		0%	Max = 40
	GRAVEL (2	2-64 mm) [9 pts]	5%			MUCK [0 pts]		0%	
	SAND (<2 r	mm) [6 pts]	25%			ARTIFICIAL [3 pts]		0%	
				A)		Substrate			9
		Percentages of Bldr lder, Cobble, Bedrock	0%			Percentage Check 1			A + B
SCORE C		PREDOMINANT SU		PES	6	TOTAL NUMBER OF SUBSTRA	TE TYPE	S 3	
2. M a	ximum Pool D	epth (<i>Measure the n</i>	naximum pool	depth wi	thin th	e 61 meter (200 ft) evaluation rea	ach at the t	ime of evaluation.	Pool Depth
Avo	oid plunge pool	s from road culverts o	•	pipes) (Check (ONLY one box):			Max = 30
	centimeters [2	• •				m - 10 cm [15 pts]			
_	2.5 - 30 cm [30 0 - 22.5 cm [25	· -				m [5 pts] VATER OR MOIST CHANNEL [0 p	ntel		
× 10	0 - 22.0 GHI [20	ptoj			INO V	VATER OR WOOT GHANNEL TO P	ρισμ		30
COI	MMENTS					MAXIMUM POOL DEPT	TH (centim	neters) 30	
3. BA	NK FULL WID	TH (Measured as the	average of 3-	-4 measu	rement	s) (Check ONLY one I	box):		Bankfull Width
□ > 4	.0 meters)> 13	3') [30 pts]		V	> 1.0	m - 1.5 m (>3' 3" - 4' 8") [15 pts]			Max = 30
		9' 7" - 13') [25 pts]				m (<=3' 3") [5 pts]			
□ > 1	.5 m - 3.0 m (>	9' 7" - 4' 8") [20 pts]							
COL	MMENTO					AVERAGE BANKFULL \	WIDTH (n	neters)	15
COI	MMENTS							1.2	
		This information <u>n</u>	nust also be co	ompleted					
RIF	PARIAN ZONE	AND FLOODPLAIN	QUALITY	* NO1	E: Rive	er Left (L) and Right ® as looking do	lownstrear	n *	
		ARIAN WIDTH	_ <u>F</u>	LOODPL				Б	
	,			L R	•	t predominant per Bank) re Forest, Wetland		_	ation Tillage
	Moderate 5					ature Forest, Shrub or Old Field			Industrial
7	Narrow <5n					dential, Park, New Field	V	-	sture, Row Crop
	None					ed Pasture			r Construction
COI	MMENTS								
	OW REGIME (A	At Time of Evaluation)	(Check ON	LY one bo	ox):				
	eam Flowing						olated pool	s, no flow (Intermite	ent)
	bsurface flow w MMENTS	rith isolated pools (Inte	erstitial)			☑ Dry channel, no wa	ater (Ephe	emeral)	
SIN	 NUOSITY (Num	ber of bends per 61 n	n (200 ft) of cha	annel) ((Check (ONLY one box):			
☑	None	, == = =	<u> </u>	1.0		□ 2.0		□ 3.0	0
	0.5		_	1.5		□ 2.5		□ >3	
STREAM	GRADIENT ES	STIMATE							
☑ Fla	t (0.5 ft/100 ft)		Flat to Moder	ate	V	Moderate (2 ft/100 ft)	□ Mo	derate to Severe	☐ Severe (10 ft/100 ft)
Octobor 24	2002 Revision					PHWH Form Page - 1			

QHEI PERFORMED DOWNSTREAM D	· -	□ _{Yes} ☑ SE(S)	No QH	El Score	(If yes, Atta	ch Completed QHEI Form)	
Sherer Ditch		, ,			_Distance fro	om Evaluated Stream	0.1 mil
CWH Name:					Distance fro	om Evaluated Stream	
EWH Name:					Distance fro	om Evaluated Stream	
MAPPING: ATTA	CH COPIES OF	MAPS, INCLUDII	NG THE <u>EN</u>	TIRE WATERSHED AREA.	CLEARLY I	MARK THE SITE LOCATION	N
USGS Quadrangle Nam	e: Kimball			NRCS Soil Map Page:		NRCS Soil Map Stream	Order
County Erie County				Township / City:	Oxford Tow	nship	
MISCELLANEOU	S						
Base Flow Conditions? (Y/N):	N	Date of last prec	ipitation <u>7/3</u>	1/2024	Quantity	/	
Photograph Information							
Elevated Turbidity? (Y/N):	N	Car	пору (% оре	n): <u>100%</u>	_		
Were samples collected for water cher	mistry? (Y/N):	N	(Note lab sa	ample no. or id. And attach i	results)	Lab Number:	
Field Measures: Temp (°0	C)	Dissolved Oxyge	n (mg/l)	pH (S.U.)		Conductivity (µmhos/com)	
Is the sampling reach representative o	f the stream (Y/N	1)	Υ	If not, please explain:			
Additional comments/description of pol	llution impacts:						
	ION						
BIOTIC EVALUAT							
Performed? (Y/N): Y	(If yes, Record			ons optional. NOTE: all vouche from the Primary Headwater H	•		
Performed? (Y/N): Y	(If yes, Record ID number. Incl	ude appropriate field	d data sheets	•	abitat Assessn		(Y/N) <u>N</u>
	(If yes, Record ID number. Incl	Voucher? (Y/N)	d data sheets	from the Primary Headwater Ha	abitat Assessn	nent Manual)	

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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





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

SIT	E NAME/	LOCATION	Avery Hayes -138 I												
. –	0711.05	OTDEAN	SITE NUMBE	R KLF_Strear		•		R BASIN						GE AREA (mi²)_	
LEN	GIHOF	STREAM F	REACH (ft.)		_ LAT.	41.33	3947	LONG <u>-82.643256</u>		RI۱	VER C	ODE		RIVER MILE _	
DAT	E <u>8/15/20</u>)24	SCORER	J. Gentileso	00	•	CON	MENTS Ephemeral							
		NOTE:	Complete All Items	On This For	m - Re	fer to	"Fiel	d Evaluation Manual for Ohio's I	PHWH S	Streams	" for l	nstructio	ns		
	TREAM C	HANNEL ATIONS:	☑ NONE /NATUR	AL CHANNEL		□ RE	COVER	ED □ RECOVERING □ REC	CENT OR I	NO RECC	VERY				
1.								Check two predominant substrate of 8). Final metric score is sum of		A & B.				HHE	
	YPE	,	<u> </u>	PERCENT		Y	PE				PERC	ENT		Metr	
		BLDR SLA		0%	_	<u> </u>		SILT [3 pts]			0%			Poin	ts
			(>256 mm) [16 pts]	0%	_			LEAF PACK/WOODY DEBRIS [[3 pts]		%				
		BEDROCK	[16 pts] 5-256 mm) [12 pts]	0%	_			FINE DETRITUS [3 pts] CLAY or HARDPAN [3 pts]		_	% %			Substra	
		·	:-64 mm) [9 pts]	5%	_			MUCK [0 pts]		_	% %			Max =	40
	`	SAND (<2 r	, <u> </u>	25%	_			ARTIFICIAL [3 pts]			%				
	-	\	/ L · 1 J		(A)			Substrate						9	
			Percentages of Bldr Ider, Cobble, Bedroc	0% k	()			Percentage Check 1					- '	A + E	ì.
scc			PREDOMINANT SU		YPES		6	TOTAL NUMBER OF SUBSTRA	ATE TYF	PES	Γ	3	7	, , , , , , , , , , , , , , , , , , ,	
2.	Maxim	um Pool D	epth (Measure the I	maximum po	ol depi			e 61 meter (200 ft) evaluation rea	ach at th	e time c	of eval	uation.	4	Pool De	nth
			s from road culverts	•	•			ONLY one box):						Max =	•
		ntimeters [2	· -					m - 10 cm [15 pts]							
		· 30 cm [30 2.5 cm [25	· -			□ ☑		m [5 pts] VATER OR MOIST CHANNEL [0	pts]					0	
										_	. г		٦ľ	<u> </u>	
	СОММЕ	ENTS						MAXIMUM POOL DEPT	TH (cent	timeters	s)	30			
													-1		
3.	BANK	FULL WID	TH (Measured as th	e average of	3-4 me	easure	ement	s) (Check ONLY one	box):					Bankfull \	Vidth
		neters)> 13	, - · -					m - 1.5 m (>3' 3" - 4' 8") [15 pts]						Max =	30
		· ·	9' 7" - 13') [25 pts]			✓	<u><</u> 1.0	m (<=3' 3") [5 pts]							
	> 1.5 m	n - 3.0 m (>	9' 7" - 4' 8") [20 pts]												
	СОММЕ	ENTS						AVERAGE BANKFULL	. WIDTH	(meter	s)	1.2	ווך	5	
			This information <u>r</u>	<u>must</u> also be	compl	eted									
	RIPAR		AND FLOODPLAIN	QUALITY				er Left (L) and Right ® as looking o	downstre	eam	•	*			
L	R (RIP/ (Per Bank)	ARIAN WIDTH	_	FLOC	DPLA R		JALITY t predominant per Bank)		ı	R				
		Wide >10m					•	re Forest, Wetland			_	Conservati	on Till	lage	
	_ I	Moderate 5	-10m					ature Forest, Shrub or Old Field			_	Jrban or In		_	
V	☑ I	Narrow <5n	า				Resid	dential, Park, New Field		I	☑ (Dpen Pastı	ure, R	Row Crop	
		None					Fenc	ed Pasture			¬ ,	lining or C	onstr	ruction	
	COMME	ENTS													
_		•	At Time of Evaluation) (Check O	NLY o	ne box	k):								
		n Flowing						☐ Moist Channel, iso	-		•	Intermitent	t)		
	Subsur COMME		ith isolated pools (Int	erstitial)				☑ Dry channel, no w	vater (Ep	hemera	al)				
	SINUO	SITY (Num	ber of bends per 61	m (200 ft) of o	hannel) (C	heck (DNLY one box):							
	_	None	F 5. 51.		1.0	, (3	•	□ 2.0				□ 3.0			
	_	0.5			1.5			□ 2.5				□ >3			
STR	EAM GR	ADIENT ES	STIMATE												
V	Flat (0.	5 ft/100 ft)		Flat to Mod	erate		V	Moderate (2 ft/100 ft)		Moderat	te to S	evere		Severe (10 ft/10	0 ft)
Octob	er 24 2002	Povision						PHWH Form Page - 1							

QHEI PERFORMED DOWNSTREAM D		□ Yes	☑ No	QHEI Score	(If yes, Attach Completed QHEI Form)	
		` '			Distance from Evaluated Stream	<u>0.1 n</u>
CWH Name:						
EWH Name:					Distance from Evaluated Stream	
MAPPING: ATTAC	H COPIES OF	MAPS, INC	LUDING TH	E ENTIRE WATERSHED ARE/	A. CLEARLY MARK THE SITE LOCATIO	N
USGS Quadrangle Nam	e: Kimball			NRCS Soil Map Pag	e: NRCS Soil Map Stream	Order
County Erie County				Township / Cit	y: Oxford Township	
MISCELLANEOUS	3					
Base Flow Conditions? (Y/N):	N	Date of la	st precipitatic	on 7/31/2024	Quantity	
Photograph Information			' '		<u> </u>	
•	N		Canany)/ ananh 1000/		
Elevated Turbidity? (Y/N):				% open): <u>100%</u>	_	
Were samples collected for water cher	• , ,			lab sample no. or id. And attach	·	
Field Measures: Temp (°C)	Dissolved	Oxygen (mg/	⁽¹⁾ pH (S.U	J.)Conductivity (μmhos/com)	
Is the sampling reach representative of	the stream (Y/	N)	Y	If not, please explain	n:	
Additional comments/description of pol	lution impacts:					
BIOTIC EVALUAT	<u>ION</u>					
	(If ves. Record				ner samples must be labeled with the site Habitat Assessment Manual)	
Performed? (Y/N): Y		slude appropr	iale lielu uala s	shooto nom the rinnary ricadwater		
Performed? (Y/N): Y Fish Observed? (Y/N)	ID number. Inc			Salamanders Observe	·	(Y/N) N

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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





October 24, 2002 Revision

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

SIT	E NAMI	E/LOCATION Avery Hayes -138	κV-Reconductor						
		SITE NUMBE	R KLF_Pipecree	ek	RIVE	R BASIN	DRAIN	JAGE AREA (mi²)	
LEN	GTH O	F STREAM REACH (ft.)	[AT. <u>41.</u>	366381			RIVER MILE	
DAT	E <u>8/15/</u>	2024 SCORER	J. Gentilesco		CON	MMENTS Ephemeral			
		NOTE: Complete All Items	On This Form	- Refer	to "Fiel	d Evaluation Manual for Ohio's PHWH	Streams" for Instructions		
		CHANNEL CATIONS:	al Channel		RECOVER	ED □ RECOVERING □ RECENT OR	NO RECOVERY		
1.						Check two predominant substrate boxes		HHEI	
т	(Max YPE	of 32). Add total number of significant	cant substrate ty		nd (Max TYPE	of 8). Final metric score is sum of boxes	PERCENT	Metric	
	<u> </u>	BLDR SLABS [16 pts]	0%	<u> </u>		SILT [3 pts]	50%	Points	
		BOULDER (>256 mm) [16 pts]	0%			LEAF PACK/WOODY DEBRIS [3 pts]	0%		
		BEDROCK [16 pts]	0%			FINE DETRITUS [3 pts]	0%	Substrate	
		COBBLE (65-256 mm) [12 pts]	15%			CLAY or HARDPAN [3 pts]	0%	Max = 40	
	\checkmark	GRAVEL (2-64 mm) [9 pts]	25%			MUCK [0 pts]	0%		
		SAND (<2 mm) [6 pts]	10%			ARTIFICIAL [3 pts]	0%		
				A)		Substrate		10	
		Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedroc	15% k			Percentage Check 1		A+B	
SCO	RE OF	TWO MOST PREDOMINANT SU		es —		TOTAL NUMBER OF SUBSTRATE TY	PES PES	ATB	
300	INL OF	TWO MOST PREDOMINANT SC	DOTRAIL TIP		6	TOTAL NOMBLE OF SOBSTRATE IT	4		
2.	Maxi	mum Pool Depth (Measure the I	naximum pool	depth w	ithin th	e 61 meter (200 ft) evaluation reach at t	he time of evaluation.	Pool Depth	
	Avoid	d plunge pools from road culverts	or storm water p	ipes)	(Check	ONLY one box):		Max = 30	
V	>30 c	centimeters [20 pts]			> 5 c	cm - 10 cm [15 pts]			
	>22.5	5 - 30 cm [30 pts]			< 5 c	cm [5 pts]			
	>10 -	22.5 cm [25 pts]			NO \	WATER OR MOIST CHANNEL [0 pts]		20	
	COMMENTS MAXIMUM POOL DEPTH (centimeters) 60								
•	DANI	V FILL MIDTH (Management on the		4		(Observe ONLY area base)			
3.		K FULL WIDTH (Measured as th	e average of 3-			·		Bankfull Width	
] [meters)> 13') [30 pts]				0 m - 1.5 m (>3' 3" - 4' 8") [15 pts]		Max = 30	
_ [m - 4.0 m (>9' 7" - 13') [25 pts]			<u><</u> 1.0) m (<=3' 3") [5 pts]			
	> 1.5	m - 3.0 m (>9' 7" - 4' 8") [20 pts]							
	COM	MENTS				AVERAGE BANKFULL WIDTH	H (meters) 7.62	30	
	001111						7.02		
		This information	must also be co	mplete	d				
	RIPA	RIAN ZONE AND FLOODPLAIN	QUALITY	k NO	TE: Rive	er Left (L) and Right ® as looking downstr	ream \star		
		RIPARIAN WIDTH	F	LOODP	LAIN QU	JALITY			
L	R	(Per Bank)		L F	R (Mos	t predominant per Bank)	L R		
\Box	☑	Wide >10m			Matu	ıre Forest, Wetland	□ □ Conservation	•	
		Moderate 5-10m		<u> </u>		ature Forest, Shrub or Old Field	Urban or Indu		
		Narrow <5m				dential, Park, New Field	□ □ Open Pasture	·	
		None	'	J	Fend	ed Pasture	□ □ Mining or Con	struction	
	COM	MENTS							
	FLOV	N REGIME (At Time of Evaluation) (Check ONL	Y one b	ox):				
✓	Strea	ım Flowing				$^\square$ Moist Channel, isolated $\mathfrak p$	pools, no flow (Intermitent)		
	Subs	urface flow with isolated pools (Int	erstitial)			$^{\square}$ Dry channel, no water (E	phemeral)		
	COM	MENTS							
	SINU	OSITY (Number of bends per 61	m (200 ft) of cha	nnel)	(Check	ONLY one box):			
	⊘	None	` <u>´</u>	.0	, 2301	□ 2.0	□ 3.0		
		0.5	_	.5 .5		□ 2.5	□ >3		
			,	-		2.0	. •		
		RADIENT ESTIMATE		-4-		Madagata (0.0)400.00	Madagata ta C	1 0 (40 5/400 5)	
V	⊦lat (0.5 ft/100 ft)	Flat to Modera	ate	✓	Moderate (2 ft/100 ft) □	Moderate to Severe	Severe (10 ft/100 ft)	

PHWH Form Page - 1

Y Voucher? (Y/N) N Salamanders Observed? (Y/N)

N ____Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N

N Voucher? (Y/N) N

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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



Fish Observed? (Y/N)

Frogs or Tadpoles Observed? (Y/N)

Comments Regarding Biology:



October 24, 2002 Revision

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

SIT	E NAME	E/LOCATION Avery Hayes -138 k	V-Reconductor							
			KLF_ShererDito	<u>hL</u>	RIVE	R BASIN	_	DRAINA	GE AREA (mi ²)	
LEN	GTH O	F STREAM REACH (ft.)	LA	T. <u>41.3</u>	45099	LONG <u>-82.692383</u>	RIVEF	R CODE	RIVER MILE	
DAT	E <u>8/15/</u>	2024 SCORER	J. Gentilesco		COM	MENTS <u>Perennial</u>				
		NOTE: Complete All Items	On This Form -	Refer to	"Field	l Evaluation Manual for Ohio's PHWH	Streams" fo	or Instructions		
		CHANNEL CATIONS: NONE /NATURA	L CHANNEL	□ RE	COVERE	D □ RECOVERING □ RECENT OR	R NO RECOVER	RΥ		
1.						Check two predominant substrate boxes			HHEI	_
т	(Max YPE	of 32). Add total number of signific	ant substrate type PERCENT		d (Max YPE	of 8). Final metric score is sum of boxes		RCENT	Metric	
		BLDR SLABS [16 pts]	0%	$\overline{\mathbf{Z}}$		SILT [3 pts]	50%		Points	
		BOULDER (>256 mm) [16 pts]	0%			LEAF PACK/WOODY DEBRIS [3 pts]	0%			
		BEDROCK [16 pts]	0%			FINE DETRITUS [3 pts]	0%		Substrate	
		COBBLE (65-256 mm) [12 pts]	0%			CLAY or HARDPAN [3 pts]	0%		Max = 40	
		GRAVEL (2-64 mm) [9 pts]	15%			MUCK [0 pts]	5%			
	V	SAND (<2 mm) [6 pts]	30%			ARTIFICIAL [3 pts]	0%			
		Total of Percentages of Bldr	(A) 0%			Substrate Percentage Check 1			10	
		Slabs, Boulder, Cobble, Bedrock							A + B	
SCO	RE OF	TWO MOST PREDOMINANT SU	BSTRATE TYPES	5	6	TOTAL NUMBER OF SUBSTRATE TY	/PES	4		
2.	Maxi	mum Pool Depth (<i>Measure the m</i>	naximum pool de	pth wit	thin the	e 61 meter (200 ft) evaluation reach at t	the time of e	valuation.	Pool Depth	_
	Avoic	I plunge pools from road culverts o	•	es) (C	Check C	DNLY one box):			Max = 30	
		centimeters [20 pts]				m - 10 cm [15 pts]				\neg
		5 - 30 cm [30 pts] 22.5 cm [25 pts]				m [5 pts] /ATER OR MOIST CHANNEL [0 pts]			00	
	×10 -	22.3 GH [23 pts]			NO V	VATER OR MOIST CHANNEL [0 pts]			30	_
	COMMENTS MAXIMUM POOL DEPTH (centimeters) 30									
3.	BANI	K FULL WIDTH (Measured as the	average of 3-4 r	neasur	ements	(Check ONLY one box):		_	Bankfull Width	_
	> 4.0	meters)> 13') [30 pts]			> 1.0	m - 1.5 m (>3' 3" - 4' 8") [15 pts]			Max = 30	
	> 3.0	m - 4.0 m (>9' 7" - 13') [25 pts]			<u><</u> 1.0	m (<=3' 3") [5 pts]				_
V	> 1.5	m - 3.0 m (>9' 7" - 4' 8") [20 pts]								
	COM	MENTS				AVERAGE BANKFULL WIDTI	H (meters)	1.8	20	
		This information <u>m</u>	ust also be com	pleted						_
	RIPA	RIAN ZONE AND FLOODPLAIN (QUALITY *	NOT	E: Rive	r Left (L) and Right ® as looking downst	ream	*		
		RIPARIAN WIDTH		ODPL						
	R	(Per Bank)	L	R	•	: predominant per Bank) re Forest, Wetland	L R	Consomistion Ti	llaga	
		Wide >10m Moderate 5-10m				ture Forest, Shrub or Old Field		Conservation Ti Urban or Indust	-	
V	V	Narrow <5m				lential, Park, New Field	V V	Open Pasture, f		
		None				ed Pasture		Mining or Const	•	
	COM	MENTS			1 0110	od i dotalo		Willing of Corlos	i dollon	
	FLOV	N REGIME (At Time of Evaluation)	(Check ONLY	one bo	x):					
	Strea	m Flowing				Moist Channel, isolated	pools, no flo	w (Intermitent)		
	Subs	urface flow with isolated pools (Inte	rstitial)			$^{\square}$ Dry channel, no water (E	Ephemeral)			
	COM	MENTS								
		OSITY (Number of bends per 61 n	` <u>´</u>	nel) (C	Check C	, –		Г		
		None	□ 1.0 □ 1.5			□ 2.0		□ 3.0		
		0.5	□ 1.5			□ 2.5		□ >3		
STR ☑		RADIENT ESTIMATE 0.5 ft/100 ft)	Flat to Moderate)	V	Moderate (2 ft/100 ft) □	Moderate to	o Severe	Severe (10 ft/100 ft)	

PHWH Form Page - 1

N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N

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



Frogs or Tadpoles Observed? (Y/N)

Comments Regarding Biology:



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

SITE	E NAME	E/LOCATION Avery Hayes -138	kV-Reconducto	r					
			ER KLF_ShererI	DitchL	RIVE	R BASIN	_	DRAIN	IAGE AREA (mi²)
LEN	GTH OI	F STREAM REACH (ft.)		LAT. <u>41</u>	.345099	LONG <u>-82.692383</u>	RIVER	R CODE	RIVER MILE
DAT	E <u>8/15/</u> 2	2024 SCORER	J. Gentilesco	<u> </u>	COM	MMENTS Perennial			
			s On This Forn	n - Refei	r to "Fiel	d Evaluation Manual for Ohio's PHW	'H Streams" fo	or Instructions	
		CHANNEL CATIONS: ☑ NONE /NATU	RAL CHANNEL		RECOVER	ED □ RECOVERING □ RECENT (OR NO RECOVER	RY	
1.						Check two predominant substrate boxe			HHEI
Т	(Max YPE	of 32). Add total number of signi	ficant substrate t	types fol	ind (Max TYPE	of 8). Final metric score is sum of boxe		RCENT	Metric
		BLDR SLABS [16 pts]	0%	V		SILT [3 pts]	50%		Points
		BOULDER (>256 mm) [16 pts]	0%			LEAF PACK/WOODY DEBRIS [3 pts	[5] <u>0%</u>		
		BEDROCK [16 pts]	0%			FINE DETRITUS [3 pts]	0%		Substrate
		COBBLE (65-256 mm) [12 pts]				CLAY or HARDPAN [3 pts]	0%		Max = 40
	☑	GRAVEL (2-64 mm) [9 pts] SAND (<2 mm) [6 pts]	15% 30%			MUCK [0 pts] ARTIFICIAL [3 pts]	5% 0%		
	_	SAND (<2 mm) [0 pts]		(A)		Substrate	070		10
		Total of Percentages of Bldr	0%	(A)		Percentage Check 1			10
		Slabs, Boulder, Cobble, Bedroo							A + B
sco	RE OF	TWO MOST PREDOMINANT S	SUBSTRATE TY	PES	6	TOTAL NUMBER OF SUBSTRATE 1	TYPES	4	
2.	Maxi	mum Pool Depth (Measure the	maximum poo	l depth		e 61 meter (200 ft) evaluation reach a	t the time of e	valuation.	Pool Depth
	Avoid	d plunge pools from road culverts	or storm water	pipes)	(Check	ONLY one box):	_		Max = 30
	>30 c	centimeters [20 pts]				m - 10 cm [15 pts]			
V		5 - 30 cm [30 pts]			100	m [5 pts]			
	>10 -	· 22.5 cm [25 pts]			NO /	VATER OR MOIST CHANNEL [0 pts]	_		30
	COM	MENTO				MAXIMUM POOL DEPTH (c	entimeters)	20	
	COMIN	MENTS					,	30	
	DANI	IZ ELILL MÜBTLI (M		4		(0)			
3.		K FULL WIDTH (Measured as t	he average of 3			, ,):		Bankfull Width
		meters)> 13') [30 pts]				m - 1.5 m (>3' 3" - 4' 8") [15 pts]			Max = 30
v		m - 4.0 m (>9' 7" - 13') [25 pts] m - 3.0 m (>9' 7" - 4' 8") [20 pts]		_	<u> </u>	m (<=3' 3") [5 pts]			
	- 1.0	/iii - 3.0 iii (>9 / - 4 0) [20 pts]							
	COM	MENTS				AVERAGE BANKFULL WID	TH (meters)	1.8	20
		This information	must also be c	omplete	ed				
	RIPA	RIAN ZONE AND FLOODPLAIN	N QUALITY	* NO	OTE: Rive	er Left (L) and Right ® as looking downs	stream	*	
	_	RIPARIAN WIDTH			PLAIN QU				
L	R □	(Per Bank) Wide >10m				t predominant per Bank) re Forest, Wetland	L R	Concorrection	Tillogo
		Moderate 5-10m			_	re Forest, welland ature Forest, Shrub or Old Field		Conservation Urban or Indu	-
v	V	Narrow <5m				dential, Park, New Field	V	Open Pasture	
		None				ed Pasture		Mining or Con	
	COMN	MENTS			1 0110	ou i dotalo		willing or con	ou doubli
	EL OV	ALDEOINE (ALTimo of Francischio	(Ola a ala OA	// \/	I\.				
		W REGIME (<i>At Time of Evaluatio</i> am Flowing	nn) (Check O∧	ILY one	pox):	☑ Moist Channel, isolated	d naala na flav	u (Intermitent)	
		urface flow with isolated pools (Ir	nterstitial)			Dry channel, no water	=	w (milemileni)	
		MENTS	noroniarj			bry charmer, no water	(Epricincial)		
	GIF	IOCITY (Number of boards are of	m (200 ft) -f · !	oppol\	(Charle)	OM V one have			
	SINU	IOSITY (Number of bends per 61	<u> </u>		(Crieck (· _		□ 30	
		None 0.5	_	1.0 1.5		□ 2.0 □ 2.5		□ _{3.0}	
			_	1.0		۷.5		~0	
_	EAM G	RADIENT ESTIMATE							_
171		O E #/400 #\	LI-+ + - W 4 '	rat-					Cover (40 £/400 ft)
✓		0.5 ft/100 ft)	Flat to Mode	rate	✓	Moderate (2 ft/100 ft) □	Moderate to	o Severe L	Severe (10 ft/100 ft)
✓		0.5 ft/100 ft)	Flat to Mode	rate		Moderate (2 ft/100 ft) □	Moderate to	Severe L	J Severe (10 ft/100 ft)

QHEI PERFORMED DOWNSTREAM D			HEI Score	(If yes, Attach Completed QHEI Form)	
☑ WWH Name: Sherer Ditch				Distance from Evaluated Stream	0 miles
CWH Name:				Distance from Evaluated Stream	
EWH Name:				Distance from Evaluated Stream	
MAPPING: ATTAC	CH COPIES OF MAPS	3, INCLUDING THE <u>E</u>	NTIRE WATERSHED AREA.	CLEARLY MARK THE SITE LOCATION	
USGS Quadrangle Name	e: Kimball		NRCS Soil Map Page:	NRCS Soil Map Stream Orde	er
County Erie County			Township / City:	Oxford Township	
MISCELLANEOUS	3				
Base Flow Conditions? (Y/N):		of last precipitation 7	/31/2024	Quantity	
Photograph Information		· · —			
-	NI.	Conony (9) or	nan): 1000/		
Elevated Turbidity? (Y/N):	N		pen): <u>100%</u>		
Were samples collected for water cher	_		sample no. or id. And attach r		
Field Measures: Temp (°C	Disso	olved Oxygen (mg/l)	pH (S.U.)	Conductivity (μmhos/com)	
Is the sampling reach representative of	the stream (Y/N)	Y	If not, please explain:		
	lution impacts:				
Additional comments/description of pol	_				
Additional comments/description of pol					
Additional comments/description of pol	<u>ION</u>				
	(If yes, Record all obs		ctions optional. NOTE: all vouche ts from the Primary Headwater Ha	r samples must be labeled with the site abitat Assessment Manual)	
BIOTIC EVALUAT Performed? (Y/N): Y	(If yes, Record all obs ID number. Include ap	opropriate field data shee	•	abitat Assessment Manual)	N) <u>N</u>
BIOTIC EVALUAT	(If yes, Record all obs ID number. Include ap	opropriate field data shee	ts from the Primary Headwater Ha	abitat Assessment Manual)	1

DRAWING AND NARRATIVE DESCRIPTION OF STREAM REACH (This <u>must</u> be completed):

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



Primary Headwater Habitat Evaluation Form

54



October 24, 2002 Revision

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

SITE	E NAME	E/LOCATION Avery Hayes -138	kV-Reconductor						
		SITE NUMBE	R KLF_ZornBeu	utalDi	RIVE	R BASIN	DRAIN	AGE AREA (mi ²)	
LENG	STH OI	F STREAM REACH (ft.)	[_AT. <u>41.</u> :	334545			RIVER MILE	
DATI	E <u>8/15/</u> 2	2024 SCORER	J. Gentilesco		CON	MMENTS Perennial			
		NOTE: Complete All Item	s On This Form	- Refer	to "Fiel	d Evaluation Manual for Ohio's PHWH	Streams" for Instructions		
		CHANNEL CATIONS: NONE /NATU	ral Channel	□ F	RECOVERI	ED □ RECOVERING □ RECENT OR	NO RECOVERY		
1.						Check two predominant substrate boxes	A & D	HHEI	
T'	(Max YPE	of 32). Add total number of signi	PERCENT		nd (Max TYPE	of 8). Final metric score is sum of boxes	PERCENT	Metric	
		BLDR SLABS [16 pts]	0%	V		SILT [3 pts]	50%	Points	
		BOULDER (>256 mm) [16 pts]	0%			LEAF PACK/WOODY DEBRIS [3 pts]	0%		
		BEDROCK [16 pts]	0%			FINE DETRITUS [3 pts]	0%	Substrate	
		COBBLE (65-256 mm) [12 pts]	0%			CLAY or HARDPAN [3 pts]	0%	Max = 40	
		GRAVEL (2-64 mm) [9 pts]	20%			MUCK [0 pts]	0%		
	✓	SAND (<2 mm) [6 pts]	30%			ARTIFICIAL [3 pts]	0%		
		Total of Percentages of Bldr	0%	A)		Substrate Percentage Check 1		9	
900	DE OE	Slabs, Boulder, Cobble, Bedroo TWO MOST PREDOMINANT S		DEC		TOTAL NUMBER OF SUBSTRATE TY	DEC	A + B	
					6		3		
2.		mum Pool Depth (<i>Measure the</i> d plunge pools from road culverts	•	-		e 61 meter (200 ft) evaluation reach at t ONLY one box):	he time of evaluation.	Pool Depth Max = 30	
V	>30 c	centimeters [20 pts]			> 5 c	cm - 10 cm [15 pts]			
	>22.5	5 - 30 cm [30 pts]			< 5 c	cm [5 pts]			
	>10 -	22.5 cm [25 pts]			NO V	WATER OR MOIST CHANNEL [0 pts]		20	
2	COMMENTS MAXIMUM POOL DEPTH (centimeters) 50 BANK FULL WIDTH (Measured as the average of 3-4 measurements) (Check ONLY one box): Bankfull Width								
3.		·	ie average of 3-					Bankfull Width	
		meters)> 13') [30 pts] m - 4.0 m (>9' 7" - 13') [25 pts]) m - 1.5 m (>3' 3" - 4' 8") [15 pts]		Max = 30	
] [m - 3.0 m (>9' 7" - 4' 8") [20 pts]			<u> </u>) m (<=3' 3") [5 pts]			
	- 1.0	III - 3.0 III (>9 7 - 4 6) [20 pts]							
	COM	MENTS				AVERAGE BANKFULL WIDTH	I (meters)	25	
		This information	must also be co	ompleted	d				
	RIPA	RIAN ZONE AND FLOODPLAIN	QUALITY	★ NO	TE: Rive	er Left (L) and Right ® as looking downstr	ream 🗶		
		RIPARIAN WIDTH	F	LOODPI	LAIN QU	JALITY			
L	R	(Per Bank)		L R	•	st predominant per Bank)	L R		
		Wide >10m				ire Forest, Wetland	□ □ Conservation □ □ Urban or Indus	•	
		Moderate 5-10m				ature Forest, Shrub or Old Field			
		Narrow <5m				dential, Park, New Field eed Pasture	Open i asture,	•	
		None MENTS			renc	ed Pasture	☐ ☐ Mining or Cons	Struction	
		N REGIME (At Time of Evaluatio	n) (Check ONL	Y one b	ox):				
	Strea	ım Flowing				✓ Moist Channel, isolated p	pools, no flow (Intermitent)		
	Subs	urface flow with isolated pools (Ir	terstitial)			□ Dry channel, no water (E	phemeral)		
	COMN	MENTS							
		OSITY (Number of bends per 61	m (200 ft) of cha	annel) (Check (ONLY one box):			
		None	_	.0		2.0	□ 3.0		
	V	0.5	□ 1	.5		□ 2.5	□ >3		
STRI ☑		RADIENT ESTIMATE 0.5 ft/100 ft) □	Flat to Moder	ate		Moderate (2 ft/100 ft) □	Moderate to Severe □	Severe (10 ft/100 ft)	

PHWH Form Page - 1

ADDITIONAL STREAM INFORMATION (This Information Must Also be Completed): ☑ Yes □ No QHEI Score _____(If yes, Attach Completed QHEI Form) QHEI PERFORMED? -**DOWNSTREAM DESIGNATED USE(S)** WWH Name: Zorn Beutal Ditch ✓ Distance from Evaluated Stream 0 miles Distance from Evaluated Stream CWH Name: Distance from Evaluated Stream EWH Name: MAPPING: ATTACH COPIES OF MAPS, INCLUDING THE ENTIRE WATERSHED AREA. CLEARLY MARK THE SITE LOCATION NRCS Soil Map Page: NRCS Soil Map Stream Order USGS Quadrangle Name: Kimball County Erie County Township / City: Oxford Township **MISCELLANEOUS** Base Flow Conditions? (Y/N): N Date of last precipitation 7/31/2024 Quantity Photograph Information Canopy (% open): 100% Elevated Turbidity? (Y/N): N (Note lab sample no. or id. And attach results) Lab Number: Were samples collected for water chemistry? (Y/N): Temp (°C) _____ Dissolved Oxygen (mg/l) ____ pH (S.U.) ____ Conductivity (μmhos/com) Field Measures: Is the sampling reach representative of the stream (Y/N) Y If not, please explain: Additional comments/description of pollution impacts: **BIOTIC EVALUATION** (If yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site Performed? (Y/N): Y ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual) Fish Observed? (Y/N) N Voucher? (Y/N) N N Voucher? (Y/N) N Salamanders Observed? (Y/N)

N ____Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) Y Voucher? (Y/N) N

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



Frogs or Tadpoles Observed? (Y/N)

Comments Regarding Biology:



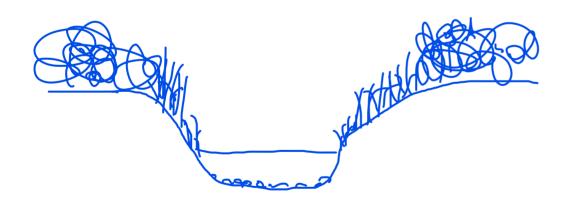
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location:	KLF_Pipe Creek		RM: Date: 8 20 24
		_Scorers Full Name & Affiliation:	Thomas Malecki/Kleinfelder, Inc.
River Code:	_ <i>STORET #:</i>		9 /8 2.725101 Office verified location
estima	ONLYTwo substrate TYPE BOXI Which was not a constraint of the con	PES POOL RIFFLE ORIGIN	ONE (Or 2 & average) QUALITY HEAVY [-2] SILT NORMAL [0]
GRAVEL [7] SAND [6] BEDROCK [5] NUMBER OF BEST T	☐ ☐ ☐ SILT [2] ☐ ☐ ARTIFICIA ☐ (Score nate ☐ YPES: ☐ 4 or more [2] Sludge ☐ 3 or less [0]	HARDPAN [0] SANDSTONE [0] Ural substrates; ignore RIP/RAP [0] e from point-sources LACUSTURINE [0] SHALE [-1] COAL FINES [-2]	FREE [1] DESTENSIVE [-2] MODERATE [-1] NORMAL [0] NONE [1]
quality; 3-Highest quality in	quality; 2-Moderate amounts, be moderate or greater amounts (except developed rootwad in deep of the moderate amounts). [1]		of highest check ONE (<i>Or 2 & average</i>) pools. EXTENSIVE >75% [11] MODERATE 25-75% [7] TES [1] SPARSE 5-<25% [3]
SINUOSITY DEV HIGH [4] MODERATE [3] G	CELLENT [7] X NONE [6] OD [5] RECOVER	ELIZATION STABILITY HIGH [3] MODERATE [2]	
	R [3] RECOVERI	ING [3]	Channel Maximum 20
4] BANK EROSION A River right looking downstrea EROSION INDICATE [3] INDICATE [2] INDICATE [1]		Ck ONE in each category for EACH BANK (O FLOOD PLAIN QUALI FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD FENCED PASTURE [1] OPEN PASTURE, ROWCROP [0]	TY CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] [1] MINING / CONSTRUCTION [0] Indicate predominant land use(s)
Comments			past 100m riparian. <i>Riparian</i> Maximum 10
5] POOL / GLIDE AM. MAXIMUM DEPTH Check ONE (ONLY!) > 1m [6] 0.7-<1m [4] 0.4-<0.7m [2] 0.2-<0.4m [1] <0.2m [0]	CHANNEL WIDTH CHECK ONE (Or 2 & average POOL WIDTH > RIFFLE WIDT POOL WIDTH = RIFFLE WIDT POOL WIDTH < RIFFLE WIDT	CURRENT VELOCITY ge) Check ALL that apply I'H [2] TORRENTIAL [-1] SLOW [1] I'H [1] VERY FAST [1] INTERSTIT	Primary Contact Secondary Contact (circle one and comment on back) TENT [-2] Pool/
Comments		·	Maximum 12
of riffle-obligate : RIFFLE DEPTH ☐ BEST AREAS > 10cm [2] ☐ BEST AREAS 5-10cm [1] ☐ BEST AREAS < 5cm	Decies: Ch RUN DEPTH I □ MAXIMUM > 50cm [2] □ S ☑ MAXIMUM < 50cm [1]	nust be large enough to support neck ONE (Or 2 & average). RIFFLE / RUN SUBSTRATE RIFI STABLE (e.g., Cobble, Boulder) [2] MOD. STABLE (e.g., Large Gravel) [1] UNSTABLE (e.g., Fine Gravel, Sand) [0]	FLE / RUN EMBEDDEDNESS NONE [2] LOW [1] MODERATE [0] Riffle
[metric=0] Comments			EXTENSIVE [-1] Run Maximum 8
6] GRADIENT (DRAINAGE AREA	ft/mi) VERY LOW - LOW [MODERATE [6-10] mi2) HIGH - VERY HIGH	701 002.	%GLIDE: Gradient 2 %RIFFLE: 15 Maximum 10

	ED REACH ALL that apply	Comment RE: Reach consistency/	Is reach typical of steam?, Recreation	n/Observed - Inferred, Other	r/Sampling observations, Concerns, Acce	ess directions, etc.
METHOD BOAT WADE L. LINE OTHER DISTANCE	STAGE 1st -sample pass- 2nd HIGH UP NORMAL LOW DRY					
□ 0.5 Km □ 0.2 Km □ 0.15 Km □ 0.12 Km □ 0THER □ OTHER	CLARITY 1stsample pass 2nc < 20 cm	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED	Circle some & COMMENT	E] /SSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE	FI MEASUREMENTS \overline{x} width \overline{x} depth max. depth \overline{x} bankfull width bankfull \overline{x} depth
CANOP	· · · · · · · · · · · · · · · · · · ·	☐ NUISANCE ODOR	RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED		FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30%	CJ RECRI	EATION AREA DEPTH POOL: □>100ft2□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Stream Drawing:





Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location: Sherer Ditch Lower Region	RM: _	<i>Date:</i> 8 20 24
Scorers Full Name & A	Affiliation:	
River Code: = = STORET #: Lat./ Long.:	41.345099 /8_2	692383 Office verified location □
1] SUBSTRATE Check ONLY Two substrate TYPE BOXES; estimate % or note every type present	Check ONE (Or 2 &	average)
BEST TYPES POOL RIFFLE OTHER TYPES POOL RIFFLE OF	RIGIN	QUALITY
□ □ BLDR /SLABS [10] □ □ HARDPAN [4] □ □ LIMES □ □ BOULDER [9] □ □ DETRITUS [3] □ □ TILLS	STONE [1]	☐ HEAVY [-2] ☑ MODERATE [-1] Substrate
COBBLE [8] MUCK [2] WETL	ANDS [0]	NORMAL [0]
□ □ GRAVEL [7] □ □ SILT [2] □ □ HARD □ □ SAND [6] □ □ ARTIFICIAL [0] □ □ SAND	PAN [0] STONE [0]	FREE [1] 6
□ □ BEDROCK [5] (Score natural substrates: ignore □ RIP/R)	AP [0]	MODERATE [-1] Maximum
I I 3 or loss [0]	STURINE [0]	\bigcirc NORMAL [0] \bigcirc 20 \bigcirc NONE [1]
	FINES [-2]	
2] ///STREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if	more common of margin	al AMOUNT
quality; 2-Moderate amounts, but not of highest quality or in sn quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep	nall amounts of highest	Check ONE (Or 2 & average)
diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-define	ed, functional pools.	EXTENSIVE >75% [11]
OOLS > 70011 [2] OABOWS,	BACKWATERS [1] MACROPHYTES [1]	MODERATE 25-75% [7]SPARSE 5-<25% [3]
O SHALLOWS (IN SLOW WATER) [1] O BOULDERS [1] O LOGS OR N	WOODY DEBRIS [1]	NEARLY ABSENT <5% [1]
Comments		Cover Maximum 3
		20
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)		
SINUOSITY DEVELOPMENT CHANNELIZATION STA HIGH [4] EXCELLENT [7] NONE [6] HIGH	BILITY	
	DERATE [2]	
□ LOW [2] □ FAIR [3] □ RECOVERING [3] □ LOW ☑ NONE [1] □ POOR [1] □ RECENT OR NO RECOVERY [1]	W [1]	Channel
Comments		Maximum 15
		20
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EAC River right looking downstream RIPARIAN WIDTH FLOOD PLA		(& average)
EROSION WIDE > 50m [4] FOREST, SWAMP [3]	L R	CONSERVATION TILLAGE [1]
☑ NONE / LITTLE [3]	LD [2]	URBAN OR INDUSTRIAL [0]
☐ ☐ MODERATE [2] ☐ ☐ NARROW 5-10m [2] ☐ ☐ RESIDENTIAL, PARK,☐ ☐ HEAVY / SEVERE [1] ☐ ☐ VERY NARROW < 5m [1] ☐ ☐ FENCED PASTURE [1]		MINING / CONSTRUCTION [0] e predominant land use(s)
□ □ NONE [0] □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □ □		00m riparian. Riparian
Comments		Maximum 10
5] POOL / GLIDE AND RIFFLE / RUN QUALITY		
MAXIMUM DEPTH CHANNEL WIDTH CURRENT V		Recreation Potential
Check ONE (ONLY!) Check ONE (Or 2 & average) Check ALL the pool width > nm [6] □ pool width > nm [7] □ torrential [-1] □ torrential [-1] □		Primary Contact Secondary Contact
□ 0.7-<1m [4] □ POOL WIDTH = RIFFLE WIDTH [1] □ VERY FAST [1] □	INTERSTITIAL [-1]	(circle one and comment on back)
	INTERMITTENT [-2] EDDIES [1]	Pool/
□ < 0.2m [0] Indicate for reach -	pools and riffles.	Current Maximum 3
		12
Indicate for functional riffles; Best areas must be large enough to of riffle-obligate species: Check ONE (Or 2 & average).	support a popula	tion ☐ NO RIFFLE [metric=0]
RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRA		N EMBEDDEDNESS
 □ BEST AREAS > 10cm [2] □ MAXIMUM > 50cm [2] □ STABLE (e.g., Cobble, Boulde □ MAXIMUM < 50cm [1] □ MOD. STABLE (e.g., Large Grand) 	er) [2]	ONE [2]
☐ BEST AREAS < 5cm ☐ UNSTABLE (e.g., Fine Gravel, \$	Sand) [0]	OW [1] ODERATE [0] Riffle
[metric=0] Comments		XTENSIVE [-1] Run 3
6] GRADIENT (ft/mi) 🛛 VERY LOW - LOW [2-4]	~~~	8
DRAINAGE AREA MODERATE [6-10]	\Rightarrow	<u> </u>
(mi2) HIGH - VERY HIGH [10-6] %RUN:	(100)%RIFFLE	:() Maximum 10

A] SAMPLED REACH Check ALL that apply		Comment RE: Reach consistency/	Is reach typical of steam?, Recreation	n/Observed - Inferred, Other	r/Sampling observations, Concerns, Acc	ess directions, etc.
METHOD	STAGE					
☐ BOAT ☐ WADE ☐ L. LINE ☐ OTHER	1st -sample pass- 2nd HIGH UP NORMAL LOW					
DISTANCE	LOW □ DRY □					
☐ 0.5 Km ☐ 0.2 Km	CLARITY	B] AESTHETICS	D] MAINTENANCE	Circle some & COMMENT	E] ISSUES	F] MEASUREMENT.
	1stsample pass 2nd	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED		WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE	x width x depth max. depth x bankfull width bankfull x depth
CANOP	EN g 2nd cm	TRASH / LITTER NUISANCE ODOR	RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED		FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30% ☐ <10%- CLO	C] RECRI	EAT/ON AREA DEPTH POOL: □>100ft2□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Stream Drawing:



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location: Sherer Ditch Upper Region	_ <i>RM:</i> _	<i>Date:</i> 8 20 24
Scorers Full Name & Affiliation.	,	
River Code:=STORET #:(NAD 83 - decimal °) =	/8	Office verified location
BEST TYPES POOL RIFFLE OTHER TYPES POOL RIFFLE ORIGIN	ONE (<i>Or 2 &</i>	QUALITY
□ BLDR /SLABS [10] □ HARDPAN [4] □ LIMESTONE [1] □ BOULDER [9] □ DETRITUS [3] □ TILLS [1] □ COBBLE [8] □ MUCK [2] □ WETLANDS [0] □ GRAVEL [7] □ SILT [2] □ HARDPAN [0] □ SAND [6] □ ARTIFICIAL [0] □ SANDSTONE [0] □ BEDROCK [5] (Score natural substrates; ignore altural substrates; ignore control of the point-sources) □ RIP/RAP [0] NUMBER OF BEST TYPES: □ 4 or more [2] sludge from point-sources) □ LACUSTURINE [0] □ SHALE [-1] □ COAL FINES [-2]	SILT SIDEON	☐ HEAVY [-2] ☐ MODERATE [-1] ☐ NORMAL [0] ☐ FREE [1] ☐ EXTENSIVE [-2] ☐ MODERATE [-1] ☐ NORMAL [0] ☐ NONE [1]
2] ///STREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more community quality; 2-Moderate amounts, but not of highest quality or in small amounts quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water diameter log that is stable, well developed rootwad in deep / fast water, or deep, well-defined, functiona 0 UNDERCUT BANKS [1] 0 OXBOWS, BACKWATI ROOTWADS [1] 0 OXBOWS, BACKWATI ROOTWADS [1] 0 AQUATIC MACROPHY DESCRIPTION [1] 0 BOULDERS [1] 0 LOGS OR WOODY DESCRIPTION [1] 1 ROOTWATS [1] 0 LOGS OR WOODY DESCRIPTION [1] 1 Comments	s of highest r, large I pools. [ERS [1] ['TES [1] [AMOUNT Check ONE (Or 2 & average) EXTENSIVE >75% [11] MODERATE 25-75% [7] SPARSE 5-<25% [3] NEARLY ABSENT <5% [1] Cover Maximum 20 3
3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)		
SINUOSITY DEVELOPMENT CHANNELIZATION STABILITY HIGH [4] EXCELLENT [7] NONE [6] HIGH [3]		
☐ MODERATE [3] ☐ GOOD [5] ☐ RECOVERED [4] ☐ MODERATE [2] ☐ LOW [2] ☐ FAIR [3] ☐ RECOVERING [3] ☐ LOW [1] ☐ RECENT OR NO RECOVERY [1] ☐ Comments		Channel Maximum 20
4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (C	or 2 per bank	k & average)
RIPARIAN WIDTH EROSION WIDE > 50m [4] NONE / LITTLE [3] NARROW 5-10m [2] HEAVY / SEVERE [1] NONE [0] RIPARIAN WIDTH FLOOD PLAIN QUAL R FOREST, SWAMP [3] SHRUB OR OLD FIELD [2] RESIDENTIAL, PARK, NEW FIELD PENCED PASTURE [1] NONE [0] Comments		CONSERVATION TILLAGE [1] URBAN OR INDUSTRIAL [0] MINING / CONSTRUCTION [0] e predominant land use(s) 00m riparian. Riparian Maximum 10
5] POOL / GLIDE AND RIFFLE / RUN QUALITY		
MAXIMUM DEPTH CHANNEL WIDTH CURRENT VELOCITY Check ONE (ONLY!) Check ONE (Or 2 & average) Check ALL that apply □ > 1m [6] □ POOL WIDTH > RIFFLE WIDTH [2] □ TORRENTIAL [-1] ☑ SLOW [1] □ 0.4-<0.7m [2]	TIAL [-1] TENT [-2] 1]	Recreation Potential Primary Contact Secondary Contact (circle one and comment on back) Pool/ Current Maximum 3
	a nonula	12 tion
Indicate for functional riffles; Best areas must be large enough to support of riffle-obligate species: Check ONE (Or 2 & average). Check ONE (Or 2 & average). RIFFLE DEPTH RUN DEPTH RIFFLE / RUN SUBSTRATE RIF BEST AREAS > 10cm [2] MAXIMUM > 50cm [2] □ STABLE (e.g., Cobble, Boulder) [2] MAXIMUM < 50cm [1] □ MOD. STABLE (e.g., Large Gravel) [1] BEST AREAS < 5cm [metric=0] Comments	FLE / RU	NEMBEDDEDNESS ONE [2] OW [1] IODERATE [0] Maximum NO RIFFLE [metric=0] Riffle Run Maximum 8
6] GRADIENT (ft/mi) VERY LOW - LOW [2-4] %POOL: DRAINAGE AREA	%GLIDE	<u> </u>

A] SAMPLED REACH Check ALL that apply		Comment RE: Reach consistency/	Is reach typical of steam?, Recreation	n/Observed - Inferred, Other	r/Sampling observations, Concerns, Acc	ess directions, etc.
METHOD	STAGE					
☐ BOAT ☐ WADE ☐ L. LINE ☐ OTHER	1st -sample pass- 2nd HIGH UP NORMAL LOW					
DISTANCE	LOW □ DRY □					
☐ 0.5 Km ☐ 0.2 Km	CLARITY	B] AESTHETICS	D] MAINTENANCE	Circle some & COMMENT	E] ISSUES	F] MEASUREMENT.
	1stsample pass 2nd	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED		WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE	x width x depth max. depth x bankfull width bankfull x depth
CANOP	EN g 2nd cm	TRASH / LITTER NUISANCE ODOR	RELOCATED / CUTOFFS MOVING-BEDLOAD-STABLE ARMOURED / SLUMPS ISLANDS / SCOURED		FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30% ☐ <10%- CLO	C] RECRI	EAT/ON AREA DEPTH POOL: □>100ft2□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Stream Drawing:



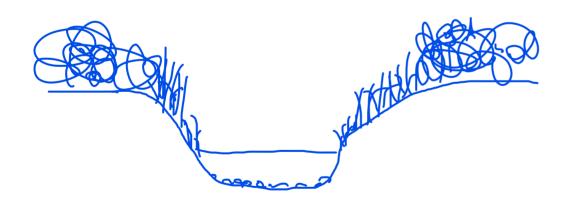
Qualitative Habitat Evaluation Index and Use Assessment Field Sheet



Stream & Location:	Zorn Beutal Ditch	RM:	<i>Date:</i>	8 / 20 / 24
	Scorers Full Name & Affiliation:			
River Code: =	= <i>STORET #:</i> (NAD 83 - decimal °) _ 41 . 33457	4_ /8_2	2 . 6 <u>39736</u>	<i>Office verified</i> □ <i>location</i> □
1] SUBSTRATE Chec	ck ONLY Two substrate TYPE BOXES; nate % or note every type present Check C	NE (Or 2	& average)	
BEST TYPES	POOL RIFFLE OTHER TYPES POOL RIFFLE ORIGIN		ĞÜALI	ITY
BLDR /SLABS [10]	LIMESTONE [1]		☐ HEAVY [-: ☑ MODERA	•
☐ ☐ BOULDER [9] ☐ ☐ COBBLE [8]		SILT		
GRAVEL [7]			FREE [1]	6
 □	(Score natural substrates: ignore RIP/RAP [0]	&DDEO,	MODERA	TE [-1]
NUMBER OF BEST	TYPES: 4 or more [2] sludge from point-sources) LACUSTURINE [0]	Ē	` [®] S□ NORMAL	[0] 20
Comments	☐ 3 or less [0] ☐ SHALE [-1] ☐ COAL FINES [-2]		□ NONE [1]	
				
-	[7] Indicate presence 0 to 3: 0 -Absent; 1 -Very small amounts or if more commo quality; 2 -Moderate amounts, but not of highest quality or in small amounts	of highest		
quality; 3-Highest quality diameter log that is stable	in moderate or greater amounts (e.g., very large boulders in deep or fast water e, well developed rootwad in deep / fast water, or deep, well-defined, functional	, large pools.	Check ONE (O	
UNDERCUT BANK	(S [1] $\frac{0}{}$ POOLS > 70cm [2] $\frac{0}{}$ OXBOWS, BACKWATE	RS [1]	MODERATE	25-75% [7]
OVERHANGING V SHALLOWS (IN SI			☐ SPARSE 5-< ☐ NEARLY ABS	25% [3] SENT <5% [1]
ROOTMATS [1]	7,1, <u>0</u> 200222110[1]			Cover
Comments			/	Maximum 5
31 CHANNEL MORP	HOLOGY Check ONE in each category (Or 2 & average)			
-	VELOPMENT CHANNELIZATION STABILITY			
	EXCELLENT [7] NONE [6] HIGH [3]			
	GOOD [5]			
NONE [1] □	POOR [1] RECENT OR NO RECOVERY [1]		,	Channel 15
Comments			ı	Maximum 15
4] BANK EROSION	AND RIPARIAN ZONE Check ONE in each category for EACH BANK (O	r 2 per bar	nk & average)	
River right looking downstre	R KII AKIAN WIDTI	I R		
EROSION NONE / LITTLE [3]	☐ ☐ WIDE > 50m [4] ☐ ☐ FOREST, SWAMP [3] ☐ ☐ MODERATE 10-50m [3] ☐ ☐ SHRUB OR OLD FIELD [2]		CONSERVATION URBAN OR IND	
☐ ☐ MODERATE [2]	□ □ NARROW 5-10m [2] □ □ RESIDENTIAL, PARK, NEW FIELD			
☐ ☐ HEAVY / SEVERE [1]		ate predominant la 100m riparian.	
Comments	El El OI ENTACIONE, NOWENOI [0]	pasi		Riparian Maximum 4
				10
5] POOL / GLIDE A/	ND RIFFLE / RUN QUALITY I CHANNEL WIDTH CURRENT VELOCITY		Recreation	Potential
Check ONE (ONLY!)	Check ONE (Or 2 & average) Check ALL that apply		Primary	l I I
□ > 1m [6] □ 0.7-<1m [4]	☐ POOL WIDTH > RIFFLE WIDTH [2] ☐ TORRENTIAL [-1] ☐ SLOW [1] ☐ POOL WIDTH = RIFFLE WIDTH [1] ☐ VERY FAST [1] ☐ INTERSTIT	FIAL F 41	Secondar	
☐ 0.7-<1111 [4] ☐ 0.4-<0.7m [2]	☑ POOL WIDTH = RIFFLE WIDTH [1] ☐ VERY FAST [1] ☐ INTERSTITE ☐ POOL WIDTH < RIFFLE WIDTH [0] ☐ FAST [1] ☐ INTERMIT		(circle one and co	mment on back)
◯ 0.2-<0.4m [1]	☐ MODERATE [1] ☐ EDDIES [1 Indicate for reach - pools and rit			Pool/
□ < 0.2m [0] Comments	mulcate for reach - pools and m	nes.	I	Current Maximum
Indicate for fund	ctional riffles; Best areas must be large enough to support	a nonul	ation	12
of riffle-obligate		a popul	□NO F	RIFFLE [metric=0]
RIFFLE DEPTH			JN EMBEDDE	DNESS
■ BEST AREAS > 10cm [2 ■ BEST AREAS 5-10cm [2			NONE [2] LOW [1]	
☐ BEST AREAS < 5cm	☐ UNSTABLE (e.g., Fine Gravel, Sand) [0]	XI I	MODERATE [0]	Riffle /
[metric=0	vi		EXTENSIVE [-1]	Maximum 8
6] GRADIENT	ft/mi) \(\sqrt{VERY LOW - LOW [2-4]} \) \(\sqrt{POOL:} \(\sqrt{25} \)	%GLID	F.C	
DRAINAGE AREA	MODERATE [6-10]	%GLID RIFFL%		Gradient 2 Maximum 2

AJ SAMPLED REACH Check ALL that apply		Comment RE: Reach consistency/ Is reach typical of steam?, Recreation/Observed - Inferred, Other/ Sampling observations, Concerns, Access directions, etc.				
METHOD BOAT WADE L. LINE OTHER DISTANCE	STAGE 1st -sample pass- 2nd HIGH UP NORMAL LOW DRY					
□ 0.5 Km □ 0.2 Km □ 0.15 Km □ 0.12 Km □ 0THER □ OTHER	CLARITY 1stsample pass 2nc < 20 cm	☐ INVASIVE MACROPHYTES ☐ EXCESS TURBIDITY ☐ DISCOLORATION ☐ FOAM / SCUM	DJ MAINTENANCE PUBLIC / PRIVATE / BOTH / NA ACTIVE / HISTORIC / BOTH / NA YOUNG-SUCCESSION-OLD SPRAY / SNAG / REMOVED MODIFIED / DIPPED OUT / NA LEVEED / ONE SIDED	Circle some & COMMENT	E] /SSUES WWTP / CSO / NPDES / INDUSTRY HARDENED / URBAN / DIRT&GRIME CONTAMINATED / LANDFILL BMPs-CONSTRUCTION-SEDIMENT LOGGING / IRRIGATION / COOLING BANK / EROSION / SURFACE	FI MEASUREMENTS \overline{x} width \overline{x} depth max. depth \overline{x} bankfull width bankfull \overline{x} depth
CANOP	o- OPEN & cm	☐ NUISANCE ODOR	TRASH / LITTER RELOCATED / CUTOFFS NUISANCE ODOR MOVING-BEDLOAD-STABLE SLUDGE DEPOSITS ARMOURED / SLUMPS ISLANDS / SCOURED		FALSE BANK / MANURE / LAGOON WASH H ₂ 0 / TILE / H ₂ 0 TABLE ACID / MINE / QUARRY / FLOW NATURAL / WETLAND / STAGNANT	W/D ratio bankfull max. depth floodprone x ² width entrench. ratio
☐ 10%-<30%	CJ RECRI	EATION AREA DEPTH POOL: □>100ft2□>3ft	IMPOUNDED / DESICCATED FLOOD CONTROL / DRAINAGE		PARK / GOLF / LAWN / HOME ATMOSPHERE / DATA PAUCITY	Legacy Tree:

Stream Drawing:



ATTACHMENT E

PHOTOS OF POTENTIALLY JURISDICTIONAL AQUATIC RESOURCES & DATA POINTS



Photo 01 KLF_SP002_Wetland001 N



Photo 02 KLF_SP002_Wetland001 S



Photo 03 KLF_SP002_Wetland001 E



Photo 04 KLF_SP002_Wetland001 W



Photo 05 KLF_SP002_Wetland001 Soil



Photo 06 KLF_SP003_Wetland002 N



Photo 07 KLF_SP003_Wetland002 S



Photo 08 KLF_SP003_Wetland002 E



Photo 09 KLF_SP003_Wetland002 W



Photo 10 KLF_SP006_Wetland003 N



Photo 11 KLF_SP006_Wetland003 S



Photo 12 KLF_SP006_Wetland003 E



Photo 13 KLF_SP006_Wetland003 W



Photo 14 KLF_SP020_Wetland004 Soil



Photo 15 KLF_SP020_Wetland004 N



Photo 16 KLF_SP020_Wetland004 S



Photo 17 KLF_SP020_Wetland004 E



Photo 18 KLF_SP020_Wetland004 W



Photo 19 KLF_SP020_Wetland004 Soil



Photo 20 KLF_SP025_Wetland005 N



Photo 21 KLF_SP025_Wetland005 S



Photo 22 KLF_SP025_Wetland005 E



Photo 23 KLF_SP025_Wetland005 W



Photo 24 KLF_SP025_Wetland005 Soil



Photo 25 KLF_SP027_Wetland006 N



Photo 26 KLF_SP027_Wetland006 S



Photo 27 KLF_SP027_Wetland006 E



Photo 28 KLF_SP027_Wetland006 W



Photo 29 KLF_SP027_Wetland006 Soil



Photo 30 KLF_Stream001 U



Photo 31 KLF_Stream001 D



Photo 32 KLF_Stream001 X



Photo 33 KLF_Stream002 U



Photo 34 KLF_Stream002 D



Photo 35 KLF_Stream002 X



Photo 36 KLF_Stream003 U



Photo 37 KLF_Stream003 D



Photo 38 KLF_Stream003 X



Photo 39 KLF_Stream004 U



Photo 40 KLF_Stream004 D



Photo 41 KLF_Stream004 X



Photo 42 KLF_Pipe Creek U



Photo 43 KLF_Pipe Creek D



Photo 44 KLF_Pipe Creek X



Photo 45 KLF_Sherer Ditch UR U



Photo 46 KLF_Sherer Ditch UR D



Photo 47 KLF_Sherer Ditch UR X



Photo 48 KLF_Sherer Ditch LR U



Photo 49 KLF_Sherer Ditch LR D



Photo 50 KLF_Sherer Ditch LR X



Photo 51 KLF_Zorn Beutal Ditch U



Photo 52 KLF_Zorn Beutal Ditch D



Photo 53 KLF_Zorn Beutal Ditch X



Photo 54 KLF_Ditch001 U



Photo 55 KLF_Ditch001 D



Photo 56 KLF_Ditch001 X



Photo 57 KLF_SP001 Upland N



Photo 58 KLF_SP001 Upland S



Photo 59 KLF_SP004 Upland N



Photo 60 KLF_SP004 Upland S



Photo 61 KLF_SP005 Upland N



Photo 62 KLF_SP005 Upland S



Photo 63 KLF_SP007 Upland N



Photo 64 KLF_SP007 Upland S



Photo 65 KLF_SP008 Upland N



Photo 66 KLF_SP008 Upland S



Photo 67 KLF_SP009 Upland N



Photo 68 KLF_SP009 Upland S



Photo 69 KLF_SP010 Upland N



Photo 70 KLF_SP010 Upland S



Photo 71 KLF_SP011 Upland N



Photo 72 KLF_SP011 Upland S



Photo 73 KLF_SP012 Upland N



Photo 74 KLF_SP012 Upland S



Photo 75 KLF_SP013 Upland N



Photo 76 KLF_SP013 Upland S



Photo 77 KLF_SP014 Upland N



Photo 78 KLF_SP014 Upland S



Photo 79 KLF_SP015 Upland N



Photo 80 KLF_SP015 Upland S



Photo 81 KLF_SP016 Upland N



Photo 82 KLF_SP016 Upland S



Photo 83 KLF_SP017 Upland N



Photo 84 KLF_SP017 Upland S



Photo 85 KLF_SP018 Upland N



Photo 86 KLF_SP018 Upland S



Photo 87 KLF_SP019 Upland N



Photo 88 KLF_SP019 Upland S



Photo 89 KLF_SP021 Upland N



Photo 90 KLF_SP021 Upland S



Photo 91 KLF_SP022 Upland N



Photo 92 KLF_SP022 Upland S



Photo 93 KLF_SP023 Upland N



Photo 94 KLF_SP023 Upland S



Photo 95 KLF_SP024 Upland N



Photo 96 KLF_SP024 Upland S



Photo 97 KLF_SP026 Upland N



Photo 98 KLF_SP026 Upland S



Photo 99 KLF_SP029 Upland N



Photo 100 KLF_SP029 Upland S



Photo 101 KLF_SP030 Upland N



Photo 102 KLF_SP030 Upland S



Photo 103 KLF_SP032 Upland N



Photo 104 KLF_SP032 Upland S



Photo 105 KLF_SP033 Upland N



Photo 106 KLF_SP033 Upland S



Photo 107 KLF_SP034 Upland N



Photo 108 KLF_SP034 Upland S



Photo 109 KLF_SP035 Upland N



Photo 110 KLF_SP035 Upland S



Photo 111 KLF_SP036 Upland N



Photo 112 KLF_SP036 Upland S



Photo 113 KLF_SP037 Upland N



Photo 114 KLF_SP037 Upland S



Photo 115 KLF_SP038 Upland N



Photo 116 KLF_SP038 Upland S



Photo 117 KLF_SP039 Upland N



Photo 118 KLF_SP039 Upland S



Photo 119 KLF_SP040 Upland N



Photo 120 KLF_SP040 Upland S



Photo 121 KLF_SP041 Upland N



Photo 122 KLF_SP041 Upland S



Photo 123 KLF_SP042 Upland N



Photo 124 KLF_SP042 Upland S



Photo 125 KLF_SP043 Upland N



Photo 126 KLF_SP043 Upland S



Photo 127 KLF_SP044 Upland N



Photo 128 KLF_SP044 Upland S



Photo 129 KLF_SP045 Upland N



Photo 130 KLF_SP045 Upland S



Photo 131 KLF_SP0462 Upland N



Photo 132 KLF_SP046 Upland S



Photo 133 KLF_SP047 Upland N



Photo 134 KLF_SP047 Upland S



Photo 135 KLF_SP048 Upland N



Photo 136 KLF_SP048 Upland S



Photo 137 KLF_SP049 Upland N



Photo 138 KLF_SP049 Upland S



Photo 139 KLF_SP0502 Upland N



Photo 140 KLF_SP050 Upland S



Photo 141 KLF_Culvert001 Outlet



Photo 142 KLF_Culvert001 Inlet



Photo 143 KLF_Culvert2 Outlet



Photo 144 KLF_Culvert2 Inlet