Construction Notice for the Tasjan 138 kV Tie Lines Project

An AEP Company

PUCO Case No. 25-1190-EL-BNR

Submitted to:
The Ohio Power Siting Board
Pursuant to Ohio Administrative Code
Section 4906-6-05

Submitted by:
Ohio Power Company

January 5, 2026

CONSTRUCTION NOTICE

Ohio Power Company

Tasjan 138 kV Tie Lines Project

4906-6-05 Accelerated Application Requirements

Ohio Power Company (the "Company") provides the following information to the Ohio Power Siting Board ("OPSB") in accordance with the accelerated application requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-05(B) General Information

B(1) Project Description

The name of the project and applicant's reference number, names and reference number(s) of resulting circuits, a brief description of the project, and why the project meets the requirements for a Construction Notice.

The Company is proposing the Tasjan 138 kV Tie Lines Project (the "Project) in the City of New Albany Ohio, Licking County, Ohio. The Project consists of constructing two 138 kV tie-lines, totaling 0.2 mile, between the proposed Tasjan Station (filed in OPSB Case No. 25-1155-EL-BLN) and the customer's non-jurisdictional distribution stepdown station (Chinstrap). The location of the Project is shown on **Maps 1 and 2** in **Appendix A**.

The Project meets the requirements for a Construction Notice ("CN") as defined by Items 1(d)(i) of Appendix A to Ohio Administrative Code Section 4906-1-01, *Application Requirement Matrix for Electric Power Transmission Lines*:

> *(1) New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:*
>
> > *(d) Line(s) primarily needed to attract or meet the requirements of a specific customer or customers as follows:*
> >
> > > *(i) The line is completely on property owned by the specific customer or the applicant.*

The Project has been assigned Case No. 25-1190-EL-BNR.

B(2) Statement of Need

If the proposed Construction Notice project is an electric power transmission line or gas or natural gas transmission line, a statement explaining the need for the proposed facility.

A customer has requested 138 kV service to serve their facility in New Albany Ohio, which requires 54 MW of initial load, with growth up to 150 MW of peak demand. To meet the customer's need, the Company will be required to cut into the existing Innovation – Green Chapel 138 kV line and construct approximately 0.6 miles of new double-circuit 138 kV line (see Case No. 25-1155-EL-BLN). In order to serve the customer, the Company will also be required to construct the Tasjan Station (see Case No. 25-1153-EL-BLN) and two 138 kV tie lines to serve the customer-owned station on the site, which are the subject of this application.

Failure to move forward with the proposed Project will result in the Company's inability to serve the customer's load expectations, thereby jeopardizing the customer's plans in the area (potentially 150 MW peak).

The need for the customer driven supplemental project was presented and reviewed with stakeholders during the March 17, 2023 PJM SRRTEP meeting. The solution was presented and reviewed with stakeholders during the May 9, 2023 PJM TEAC meeting. The project was subsequently assigned PJM identifier s3442.13. This Project was included in the Company's 2025 Long Term Forecast Report, and is located on pages 73, 74, & 104 (Table FE-T9, Specifications of Planned Transmission Lines), see **Appendix B**.

B(3) Project Location

The applicant shall provide the location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the Project area.

The location of the Project in relation to existing transmission lines and substations is shown on **Map 1**, in **Appendix A**. **Map 2**, in **Appendix A**, identifies the Project components on a 2023 aerial photograph.

B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The Project is located on property owned by the customer. Based on the customer's proposed development and existing facilities in the area, including the proposed Tasjan Station location, the proposed location of the tie lines is the most suitable location for the Project. Other alternatives would require impacting neighboring properties, as opposed to remaining entirely on the customer's property. The Project is located on undeveloped, vacant land and will not impact any delineated wetlands or streams. The location of the Project minimizes impacts to the community and the environment, while taking into account the engineering and construction needs of the customer. The Project also represents the most suitable location and most appropriate solution for meeting the Company's and customers' needs.

B(5) Public Information Program

The applicant shall describe its public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

The Company maintains a website (http://aeptransmission.com/ohio/) on which an electronic copy of this CN is available. An electronic copy of the CN will be served to the public library in each political subdivision affected by this Project. The Company also retains land agents who will discuss project timelines, construction and restoration activities with affected owners and tenants.

B(6) Construction Schedule

The applicant shall provide an anticipated construction schedule and proposed in-service date of the project.

Construction of the Project is planned to begin in September 2026 with an anticipated in-service date of February 2027.

B(7) Area Map

The applicant shall provide a map of at least 1:24,000 scale clearly depicting the facility with clearly marked streets, roads, and highways, and an aerial image.

Map 1, in **Appendix A**, identifies the location of the Project area on a United States Geological Survey 1:24,000 Jersey quadrangle map. **Appendix A**, **Map 2** is a 2023 aerial map of the Project area.

B(8) Property Agreements

The applicant shall provide a list of properties for which the applicant has obtained easements, options, and/or land use agreements necessary to construct and operate the facility and a list of the additional properties for which such agreements have not been obtained.

The proposed Project is entirely located on one property, Parcel Number 095-112074-00.000, which is owned by the customer. Easements have not yet acquired for the Project. The easement form exhibit provided in **Appendix C** represents the minimum rights the Company would require in order to construct, operate, and maintain these facilities.

B(9) Technical Features

The applicant shall describe the following information regarding the technical features of the project:

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The Tasjan – Chinstrap 138 kV Tie Line No. 1 is estimated to include the following:

Voltage:	138kV
Conductors:	Single Circuit, 1033.5 kcmil 54/7 ACSR Curlew
Static Wire:	Two (2) 7#8 Alumoweld
Insulators:	Polymer
ROW Width:	80 feet
Structure Type(s):	One (1) 1-pole steel dead-end with direct embed foundations
	One (1) 1-pole steel tangent structure with direct embed foundations

The Tasjan – Chinstrap 138 kV Tie Line No. 2 is estimated to include the following:

Voltage:	138kV
Conductors:	Single Circuit, 1033.5 kcmil 54/7 ACSR Curlew
Static Wire:	Two (2) 7#8 Alumoweld
Insulators:	Polymer
ROW Width:	80 feet
Structure Type(s):	One (1) 1-pole steel dead-end with direct embed foundations
	One (1) 1-pole steel tangent structure with direct embed foundations

B(9)(b) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

B(9)(b)(i) Calculated Electric and Magnetic Field Strength Levels

i) Calculated Electric and Magnetic Field Levels

Not applicable. No occupied residences or institutions are located within 100 feet of the Project.

B(9)(b)(ii) Design Alternatives

A discussion of the applicant's consideration of design alternatives with respect to electric and magnetic fields and their strength levels, including alternate conductor configuration and phasing, tower height, corridor location, and right-of-way width.

Not applicable. No occupied residences or institutions are located within 100 feet of the Project.

B(9)(b)(ii)(c) Project Cost

The estimated capital cost of the project.

The capital costs estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $2.2 million using a Class 4 estimate. Forty percent (40%) of the costs for the Tasjan – Chinstrap 138 kV Tie Line No. 1 construction will be recovered through reimbursement from the customer. The remaining sixty percent (60%) of the costs for the Tasjan – Chinstrap 138 kV Tie Line No. 1 will be recovered in the Ohio Power Company's FERC formula rate (Attachment H-20 to the PJM OATT)

and allocated to the AEP Zone pursuant to the PJM OATT. One-hundred percent (100%) of the costs for the Tasjan – Chinstrap 138 kV Tie Line No. 2 construction will be recovered through reimbursement from the customer.

B(10) Social and Economic Impacts

The applicant shall describe the social and ecological impacts of the project:

B(10)(a) Operating Characteristics

Provide a brief, general description of land use within the vicinity of the proposed project, including a list of municipalities, townships, and counties affected.

The Project is located in the city of New Albany and Jersey Township, Licking County, Ohio. Land use in the Project area is predominantly agricultural vacant land or industrial land, as classified by the Licking County Auditor. The Project is located within an area of New Albany that is currently undergoing industrial development. No schools, parks, places of worship, cemeteries, wildlife management areas, or nature preserve lands were identified in proximity to the Project.

B(10)(b) Agricultural Land Information

Provide the acreage and a general description of all agricultural land, and separately all agricultural district land, existing at least sixty days prior to submission of the application within the potential disturbance area of the project.

No agricultural easements designated by the Ohio Department of Agriculture (ODA) are located in the Project Area. No properties registered as agricultural district land are located in the Project area based on email coordination with the Licking County Auditor's Office on November 24, 2025. No portions of the Project area have been historically used as agricultural land.

B(10)(c) Archaeological and Cultural Resources

Provide a description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

The Company's consultant completed a literature review, visual inspection, Phase I Archaeological and Phase I History/Architectural surveys and coordinated with the State Historic Preservation Office ("SHPO"). The Company's consultant recommended that the Project will have no adverse effect on historic properties and no further cultural resource work would be necessary. In their December 11, 2025 response, SHPO concurred with the consultant's recommendation (see **Appendix D**).

B(10)(d) Local, State, and Federal Agency Correspondence

Provide a list of the local, state, and federal governmental agencies known to have requirements that must be met in connection with the construction of the project, and a list

of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

A summary of anticipated permits and authorizations for the Project is provided in **Table 1**, below. There are no other known local, state, or federal requirements that must be met prior to commencement of the Project.

Table 1 – Anticipated Permits

Permit/Authorization/Coordination	Agency	Date
Storm Water Pollution Prevention Plan	Ohio Environmental Protection Agency	Expected March 2026
	Licking County	
Notice Criteria	Federal Aviation Administration	Coordination in progress
Archaeology/Architectural	Ohio Historic Preservation Office (SHPO)	Consultation completed 12/11/25
Threatened and Endangered Species	United States Fish and Wildlife Service	Consultation completed 8/23/23
Threatened and Endangered Species	Ohio Department of Natural Resources	Consultation completed 9/13/23

B(10)(e) Threatened, Endangered, and Rare Species

Provide a description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

Coordination letters were submitted to the United State Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) Ohio Natural Heritage Program (ONHP) and Division of Wildlife (DOW), seeking an environmental review of the Project for potential impacts to state and/or federally protected species. ODNR and USFWS provided responses on September 13, 2023, and August 23, 2023, respectively. Copies of the agencies' responses are presented in **Appendix D.**

Table 7, in **Appendix E** lists the federal and state threatened or endangered species in the Project area.

Based on the nature of the proposed Project activities and habitat characteristics of the surrounding vicinity, construction impacts to protected species are not anticipated.

B(10)(f) Areas of Ecological Concern

Provide a description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries) that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.

In September 2023 and May 2024, the Company's consultant conducted wetland and stream delineation surveys for an approximately 79.4-acre survey area encompassing the Project (see **Appendix E**). One pond and one wetland were identified within the Project area. No other areas of ecological concern were identified within the Project area.

The Project area was included in Clean Water Act 404/401 permitting efforts by others related. As a result of a jurisdictional determination by the Army Corps of Engineers, an OEPA isolated wetland permit for the removal of ten isolated wetlands and removal of four isolated ponds. On February 13, 2024, the permit was issued by OEPA - DSW401238616W. The subject permit is inclusive of the location of the proposed Project, and all resources were accounted for.

Based on a review of the Protected Areas Database of the United States as well as the Conservation Easement Database, there are no state or national parks, forests, wildlife areas or mapped conservation easements in the vicinity of the Project.

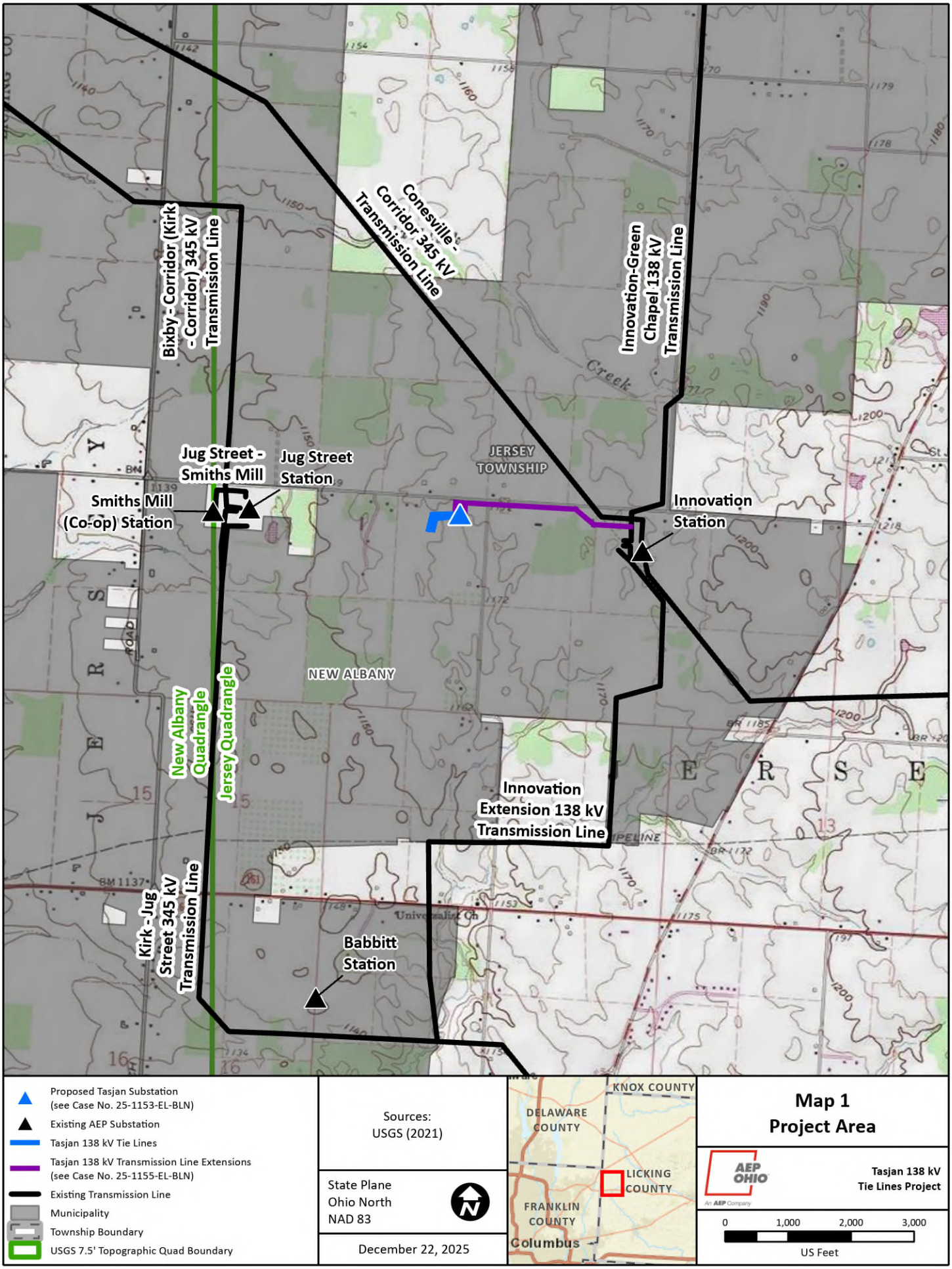
The FEMA Flood Insurance Rate Map (map number 39089C0280J) was reviewed to check for the presence of floodplains/flood hazard areas within the Project area. No mapped FEMA floodplains are located in the Project area.

B(10)(g) Unusual Conditions

Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of the Company's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps


Bixby - Corridor (Kirk - Corridor) 345 kV Transmission Line
Conesville - Corridor 345 kV Transmission Line
Innovation-Green Chapel 138 kV Transmission Line
Jug Street - Smiths Mill
Jug Street Station
Smiths Mill (Co-op) Station
JERSEY TOWNSHIP
Innovation Station
NEW ALBANY
New Albany Quadrangle
Jersey Quadrangle
Innovation Extension 138 kV Transmission Line
Kirk - Jug Street 345 kV Transmission Line
Babbitt Station
Proposed Tasjan Substation (see Case No. 25-1153-EL-BLN)
Existing AEP Substation
Tasjan 138 kV Tie Lines
Tasjan 138 kV Transmission Line Extensions (see Case No. 25-1155-EL-BLN)
Existing Transmission Line
Municipality
Township Boundary
USGS 7.5' Topographic Quad Boundary
Sources: USGS (2021)
State Plane Ohio North NAD 83
December 22, 2025
KNOX COUNTY
DELAWARE COUNTY
LICKING COUNTY
FRANKLIN COUNTY
Columbus
Map 1
Project Area
AEP OHIO
An AEP Company
Tasjan 138 kV Tie Lines Project
0
1,000
2,000
3,000
US Feet



Proposed Tasjan Substation (see Case No. 25-1153-EL-BLN)
Tasjan 138 kV Tie Lines
Tasjan 138 kV Transmission Line Extensions (see Case No. 25-1155-EL-BLN)
Existing Transmission Line
Project 100ft ROW
Project Route Corridor
Proposed Tasjan Station Fenceline
Parcel Boundary

Sources:
Google (2024)

State Plane
Ohio North
NAD 83

December 22, 2025



Map 2
Aerial Map

AEP OHIO
An AEP Company

Tasjan 138 kV Tie Lines Project

0 400 800
US Feet

Appendix B PJM Slides and LTFR

AEP Transmission Zone M-3 Process
New Albany , OH

Need Number: AEP-2023-OH044

Process Stage: Solutions Meeting 5/9/2023

Proposed Solution (continued):

The following work is all direct connect facilities to physically connect demand to the grid.

- **Tasjan 138 kV:** Cut into the Innovation – Green Chapel 138 kV circuit #1 and extend ~ 0.75 miles of new double circuit line, utilizing 2-bundled ACSS Curlew 1033.5 (54/7) conductor, SE rating 1123 MVA, to the greenfield Tasjan station with (4) 80 kA, 4000 A breakers laid out 4-CB ring bus. Construct (2) 138 kV tie lines to the customers dead end structures ~0.05 miles utilizing ACSR Drake 795 (26/7) conductor SE 360 MVA. Cost: **$18.95 M**

AEP Transmission Zone M-3 Process
Penguin NBY-5A

Need Number: AEP-2023-OH052

Process Stage: Solutions Meeting 5/9/2023

Previously Presented: Needs Meeting 4/21/2023

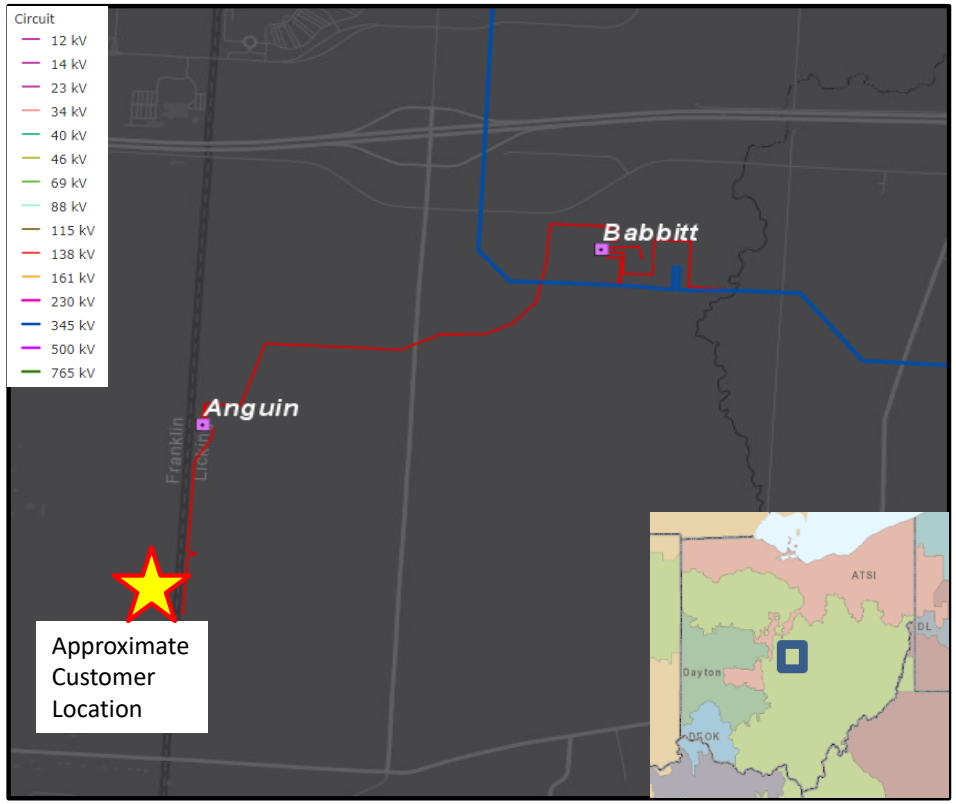
Project Driver: Customer Service

Specific Assumption Reference:

AEP Connection Requirements for the AEP Transmission System (AEP Assumptions Slide 12)

Problem Statement:

- An existing customer served out of AEP's Anguin Station in New Albany, OH, has requested an additional service for a new bulk load addition of 100 MW. This will bring the total load for the customers site to 450 MW with an ultimate capacity of up to 720 MW.
- Customer requested in-service date of 3/31/2024.



1	**LINE NAME AND NUMBER:**	Tasjan - DBT 138 kV #1 (s3442.13 TP2023025)
2	**POINTS OF ORIGIN AND TERMINATION**	Tasjan - DBT INTERMEDIATE STATIONS - N/A
3	**RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS**	~0.1 / 100 ft / 1 circuit
4	**VOLTAGE: DESIGN / OPERATE**	138 kV / 138 kV
5	**APPLICATION FOR CERTIFICATE:**	2025
6	**CONSTRUCTION:**	2026
7	**CAPITAL INVESTMENT:**	$0.06 M
8	**PLANNED SUBSTATION:**	Tasjan
9	**SUPPORTING STRUCTURES:**	Steel
10	**PARTICIPATION WITH OTHER UTILITIES**	N/A
11	**PURPOSE OF THE PLANNED TRANSMISSION LINE**	New 138 kV extension to serve customer
12	**CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION**	Unable to provide requested service to customer
13	**MISCELLANEOUS:**	
1	**LINE NAME AND NUMBER:**	Tasjan - DBT 138 kV #2 (s3442.13 TP2023025)
2	**POINTS OF ORIGIN AND TERMINATION**	Tasjan - DBT INTERMEDIATE STATIONS - N/A
3	**RIGHTS-OF-WAY: LENGTH / WIDTH / CIRCUITS**	~0.1 / 100 ft / 1 circuit
4	**VOLTAGE: DESIGN / OPERATE**	138 kV / 138 kV
5	**APPLICATION FOR CERTIFICATE:**	2025
6	**CONSTRUCTION:**	2026
7	**CAPITAL INVESTMENT:**	$0.06 M
8	**PLANNED SUBSTATION:**	Tasjan
9	**SUPPORTING STRUCTURES:**	Steel
10	**PARTICIPATION WITH OTHER UTILITIES**	N/A
11	**PURPOSE OF THE PLANNED TRANSMISSION LINE**	New 138 kV extension to serve customer
12	**CONSEQUENCES OF LINE CONSTRUCTION DEFERMENT OR TERMINATION**	Unable to provide requested service to customer
13	**MISCELLANEOUS:**	

Appendix C Form Easement

Line Name:

Line No.: **Easement No.:**

EASEMENT AND RIGHT OF WAY

On this ___ day of_____, 2025, in consideration of Ten and NO/100 Dollars ($10.00), and other valuable consideration, the receipt and sufficiency of which is hereby acknowledged, and the covenants hereinafter set forth, **LANDOWNER**, whose address is MAILING ADDRESS, ("Grantor"), whether one or more persons, hereby grants, sells, conveys, and warrants to **AEP Ohio Transmission Company, Inc.**, a(n) Ohio corporation, a unit of American Electric Power, whose principal business address is 1 Riverside Plaza, Columbus, Ohio 43215, (“AEP”) and its successors, assigns, lessees and tenants a permanent easement and right of way ("Easement"), for electric transmission, distribution, and communication lines and appurtenant equipment and fixtures, being, in, on, over, under, through and across the following described lands of the Grantor, situated in the State of Ohio, County, Township, Quarter section, Section, Township No., Range No., Tax Parcel Number.

Grantor claims title by, OR ___, Page ___, recorded on _____; in the County Recorder's Office.

Auditor/Key/Tax Number:

The Easement Area is more fully described and depicted on Exhibit "A", a copy of which is attached hereto and made a part hereof ("Easement Area").

GRANTOR FURTHER GRANTS AEP THE FOLLOWING RIGHTS:

The right, now or in the future, to construct, reconstruct, operate, maintain, alter, improve, extend, inspect and patrol (by ground or air), protect, repair, remove, replace, upgrade and relocate within the Easement Area, poles, towers, and structures, made of wood, metal, concrete or other materials, and crossarms, guys, anchors, grounding systems, and all other appurtenant equipment and fixtures, and to string conductors, wires and cables; together with the right to add to said facilities from time to time, and the right to do anything necessary, useful or convenient for the enjoyment of the Easement herein granted.

The right, in AEP's discretion, now or in the future, to cut down, trim, remove, and otherwise control, using herbicides or tree growth regulators or other means, any and all trees, overhanging branches, vegetation or brush situated within the Easement Area. AEP shall also have the right to cut down, trim or remove trees situated on lands of Grantor which adjoin the Easement Area when in the opinion of AEP those trees may endanger the safety of, or interfere with the construction, operation or maintenance of AEP's facilities or ingress or egress to, from or along the Easement Area.

The right of unobstructed ingress and egress, at any and all times, over, across and along and upon the Easement Area, and across the adjoining lands of Grantor as may be necessary for access to and from the Easement Area for the above referenced purposes.

THIS GRANT IS SUBJECT TO THE FOLLOWING CONDITIONS:

The Grantor reserves the right to cultivate annual crops, pasture, construct fences (provided gates are installed that adequately provide AEP the access rights conveyed herein) and roads or otherwise use the lands encumbered by this Easement in any way not inconsistent with the rights herein granted. In no event, however, shall Grantor, its heirs, successors, and assigns plant or cultivate any trees or place, construct, install, erect or permit any temporary or permanent building, structure, improvement or obstruction including but not limited to, storage tanks, billboards, signs, sheds, dumpsters, light poles, water impoundments, above ground irrigation systems, swimming pools or wells, or permit any alteration of the ground elevation, over, or within the Easement Area. AEP may, at Grantor's cost, remove any structure or obstruction if placed within the Easement Area, and may re-grade any alterations of the ground elevation within the Easement Area.

AEP agrees to repair or pay the Grantor for actual damages sustained by Grantor to crops, fences, gates, irrigation and drainage systems, drives, or lawns that are permitted herein, when such damages arise out of AEP's exercise of the rights herein granted.

The failure of AEP to exercise any of the rights granted herein, or the removal of any facilities from the Easement, shall not be deemed to constitute an abandonment or waiver of the rights granted herein.

This instrument contains the complete agreement, expressed or implied between the parties herein and shall inure to the benefit of and be binding on their respective successors, assigns, heirs, executors, administrators, lessees, tenants, and licensees.

This Easement may be executed in counterparts, each of which shall be deemed an original, but all of which, taken together, shall constitute one and the same instrument.

Any remaining space on this page left intentionally blank. See next page for signatures.

IN WITNESS WHEREOF, the Grantor has executed this Easement effective the day, month and year first above written.

GRANTOR

_____
LANDOWNER

State of §
§
County of §

The foregoing instrument was acknowledged before me this _____ day of _____, 2025, by LANDOWNER.

_____
Notary Public
Print Name: _____
My Commission Expires:_____

This instrument prepared by Thomas G. St. Pierre, Associate General Counsel - Real Estate, American Electric Power Service Corporation, 1 Riverside Plaza, Columbus, OH 43215 for and on behalf of AEP Ohio Transmission Company, Inc., a unit of American Electric Power.

When recorded return to: American Electric Power - Transmission Right of Way, 8600 Smiths Mill Road, New Albany, OH 43054.

Appendix D Agency Coordination Letters

In reply, refer to
2023-LIC-59222

December 11, 2025

Ryan J. Weller
Weller & Associates, Inc.
1395 West Fifth Avenue
Columbus, Ohio 43212
rweller@wellercrm.com

RE: Tasjan 138kV Extension and Green Chapel – Innovation Cut-in Project, Plain Township, Licking County, Ohio

Dear Mr. Weller:

This letter is in response to the correspondence received on December 8, 2025, regarding the proposed Tasjan 138kV Extension and Green Chapel – Innovation Cut-in Project located in Plain Township, Licking County, Ohio. We appreciate the opportunity to comment on this project. The comments of the Ohio State Historic Preservation Office (SHPO) are made pursuant to Section 149.53 of the Ohio Revised Code and the Ohio Power Siting Board (OPSB) rules for siting this project (OAC 4906-4 & 4906-5). The comments of the Ohio SHPO are also submitted in accordance with the provisions of Section 106 of the National Historic Preservation Act of 1966, as amended (54 U.S.C. 306108 [36 CFR 800]).

The following comments pertain to the *Cultural Resource Management Review Letter for the Tasjan 138kV Extension and Green Chapel-Innovation Cut-in Project in the Plain Township, Licking County, Ohio* by Ryan J. Weller (Weller & Associates, Inc. 2025). This project addressed a proposed 3,088-foot transmission line extension that will connect with Tasjan Station. Per the submission, much of the project corridor, as well as architectural resources in the Area of Potential Effect (APE) have been previously addressed (Weller and McIntosh 2023; Weller 2023). The remainder of the project corridor has been extensively disturbed by development on surrounding properties. Our office agrees that no additional archaeological survey is recommended for the proposed project.

Based on the information provided, our office continues to agree the project, as proposed, will have no effect on historic properties. No further coordination with this office is necessary, unless the project changes or unless new or additional archaeological resources are discovered during the implementation of this project. In such a situation, this office should be contacted. If you have any questions, please contact me by e-mail at cgullett@ohiohistory.org. Thank you for your cooperation.

Sincerely,

Catherine Gullett, Project Reviews Coordinator - Archaeology
Resource Protection and Review
State Historic Preservation Office

RPR Serial No: 1112024

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 13, 2023

Anna Findish
AECOM
707 Grant Street
Pittsburgh, Pennsylvania 15219

Re: 23-0961; Tasjan Station & Tasjan-DBT Tie Lines 138kV--#1 & #2

Project: The proposed project involves the construction of a new 138 kilovolt (kV) substation, and the installation of approximately 0.1-miles of new 138kV transmission line connecting the proposed Tasjan Station and customer station.

Location: The proposed project is located in Jersey Township, Licking County, Ohio.

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

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

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally 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 the 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 $\geq$ 20 if possible.

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

The project is within the range the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

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

Mike Pettegrew
Environmental Services Administrator

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

August 23, 2023

Project Code: 2023-0117441

Dear Ms. Anna Findish:

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

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

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

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

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

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

Sincerely,



Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

Appendix E Ecological Reports

TASJAN EXTENSION 138 KV AND GREEN CHAPEL - INNOVATION 138 KV REMOVAL PROJECT

LICKING COUNTY, OHIO

ECOLOGICAL REPORT

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Prepared by:

525 Vine Street, Suite 1900
Cincinnati, Ohio 45202

Project #s: 60714556, 60714558

March 2025

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APPENDIX B	AECOM USACE Wetland Determination Data Forms / OEPA Wetland ORAM Forms / Delineated Features Photographs
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1.0 INTRODUCTION

American Electric Power, Ohio Transmission Company (AEP Ohio Transco) is proposing the removal of approximately 0.3-miles of the Green Chapel-Innovation 138 kilovolt (kV) transmission line followed by the installation of approximately 0.63-miles of greenfield double circuit 138 kV transmission line between the proposed Tasjan Station to structure 2A on the existing Green Chapel-Innovation 138 kV transmission line as part of the Tasjan Extension 138 kV and Green Chapel – Innovation 138 kV Removal (Project). The Project is in Licking County, Ohio (OH). The Project Survey Area associated with this Ecological Report is located within Jersey, OH United States Geological Survey (USGS) 7.5-minute topographical quadrangle as displayed on the Project Topographic Overview (**Figure 1**).

Due to active construction activities by others within the Project Survey Area, multiple approved USACE Jurisdictional Determinations (JDs), and Section 401 authorizations for wetland fills are present within this Project Survey Area. A copy of the JDs and Section 401 approvals by others are provided within **Appendix A,** and the location of these areas are shown on **Figures 2** and **3.** A summary table is provided below that illustrates Section 401 authorized fills for the features that intersect the boundary of the Project Survey Area **(Table 1)**. All wetlands identified within Tasjan Extention Project Survey Area are authorized for fills under the Section 401 permit submitted by others. Based on current site assessment completed by AECOM portions of W-HLA-001 has been affected within the AECOM's Project Study Area.

TABLE 1 – SECTION 401 PREVIOUSLY AUTHORIZED FILLS WITHIN PROJECT SURVEY AREA

Feature Name associated with OEPA Permits	AECOM Feature Name	Habitat Type	Isolated	Jurisdiction Determination Approval No.	OEPA Authorization No. (Approval Date)	OEPA Approved Acreage of Disturbance	Remaining Wetland Acreage	Acreage of Wetland within Project Survey Area
Wetland F	EMHT Wetland F	PFO	Yes	2022-38-SCR	DSW401227824W (February 4, 2022)	No Impact	**0***	0
Wetland H	EMHT Wetland H&J W-HLA-001	PFO	Yes	LRH-2022-38-SCR (Recent) LRH-2015-384-MUS (2015)	DSW401227824W (February 4, 2022)	No Impact	**0.43****	**0.16****
Wetland J				LRH-2015-384-MUS	DSW401154756 & DSW401154841 (September 22, 2016)	4.49		
Pond 1	EMHT Pond 1	N/A	NA	LRH-2023-268-SCR	DSW401238616W (February 13, 2024)	0.32	0	0.32***
						Total	**0.43**	**0.48**

*****Within the limit-of-disturbance associated with the previous Section 401 permit (DSW401154756 & DSW401154841), Wetland F was not displayed as being present. Under a more recent Section 401 permit (DSW401227824W), Wetland F was identified as being avoided. Construction activities associated with Section 401 permits DSW401154756 & DSW401154841 have commenced and the site assessment completed by AECOM verified that wetland is not present within the Project Study Area and removal was associated by other activities prior to AEP.

******Wetland H represented within Section 401 permit DSW401227824W was identified as not being impacted by Project activities; however, the earlier permitted activities (DSW401154756 & DSW401154841) identify this wetland as Wetland J that is proposed for removal of 4.49 acres of forested wetland habitat with 0.43-acres of forested habitat to remain. Based on current site assessment completed by AECOM, this wetland complex (EMHT Wetland H&J / W-HLA-001) no longer exists as a forested wetland and the portion of wetland intended to remain, 0.43-acres, has reduced in size from activities completed by others.

***Pond 1 is proposed for complete removal under Section 401 authorization by others. Current site assessment confirmed that the feature still exists.

The purpose of the field survey was to assess the presence of wetlands and possible “waters of the United States” (WOTUS) that occur within the proposed Project area. Secondarily, land uses were also recorded to classify and characterize potential habitat for threatened and endangered species. This report will be used to assist AEP Ohio Transco’s efforts to identify potential WOTUS as well as threatened and endangered species habitat present within the proposed Project area to avoid or minimize impacts during construction activities.

2.0 METHODOLOGY

The field survey was completed for a 100-foot-wide corridor along the proposed transmission line and transmission line to be removed, totaling approximately 11.0 acres of Project Survey Area. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS), National Wetlands Inventory (NWI) data, USGS National Hydrography Dataset (NHD), Federal Emergency Management Agency (FEMA) 100-year floodplain data, and USGS 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland areas and/or streams.

Field survey activities included recording the physical boundaries of observed water features using sub-meter capable EOS Arrow Global Positioning System (GPS) units in conjunction with the ArcGIS Field Maps application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System (GIS) software, where the data was reviewed, edited for accuracy, and compiled in a format suitable for transfer and use by AEP Ohio Transco. Water features were delineated and assessed based upon the appropriate procedures detailed below. Land uses observed within the Project Survey Area were assigned a general classification based upon the principal land characteristics and vegetative cover of the location.

2.1 WETLAND DELINEATION

The Project Survey Area was evaluated according to the procedures outlined in the United States Army Corps of Engineers (USACE) *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory, 1987) and *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0)* (USACE, 2010).

During field survey activities AECOM utilized the routine on-site delineation method described in the 1987 manual and supplement that consisted of a pedestrian site reconnaissance, including identifying the vegetative communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. If a wetland was identified, AECOM completed a USACE Wetland Determination Data Form (USACE Data Form) within each unique wetland habitat to serve as a representative of the wetland hydrology, vegetative community, and soil characteristics. Adjacent to each wetland complex, AECOM completed an additional USACE Data Form as a representative of the upland community.

2.1.1 WETLAND CLASSIFICATION

Wetlands identified in the field were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin *et al.*, 1979). The unique wetland habitats were classified as palustrine emergent (PEM), palustrine forested (PFO), palustrine unconsolidated bottom (PUB), palustrine scrub-shrub (PSS), or other classifications for some wetlands. Multiple Cowardin classifications may be present where more than one classification's vegetation is dominant (vegetation type covers 30 percent or more of the substrate). Where multiple Cowardin classifications are present, the Cowardin classification of the plants that constitute the uppermost layer of vegetation having 30% or greater coverage is used for the classification.

2.1.2 WETLAND ASSESSMENT

Each delineated wetland was assessed following the Ohio Environmental Protection Agency (OEPA) *Ohio Rapid Assessment Method for Wetlands v. 5.0* (ORAM) (Mack, 2001). Wetland assessments utilized the 10-page ORAM form, providing a final Category rating for each wetland.

2.2 STREAM ASSESSMENT

Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high-water mark (OHWM). The USACE defines the OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005).

2.2.1 OEPA PRIMARY HEADWATER HABITAT ASSESSMENT

Stream assessments were conducted using the methods described in the OEPA's *Methods for Assessing Habitat in Flowing Waters*: *Using OEPA's Qualitative Habitat Evaluation Index (QHEI)* (Rankin, 2006) and in the OEPA's *Field Methods for Evaluating Primary Headwater Streams in Ohio* (OEPA, 2020). Streams associated with watershed area less than or equal to 1.0 square mile (259 hectares), and a maximum depth of water pools equal to or less than 15.75 inches were evaluated utilizing the Headwater Habitat Evaluation Index (HHEI) methodology and all other streams assessed using the QHEI methodology. Flow regime (ephemeral, intermittent, perennial) was determined by the appropriate stream assessment score per OEPA manuals (OEPA, 2020) and by AECOM's professional opinion.

Streams assessed in the Project Survey Area were reviewed for existing OEPA Aquatic Life Use Designations per OEPA's Water Quality Standards (OAC Chapter 3745-1). Those without an existing use designation were assigned a provisional aquatic life use designation based upon habitat assessment results (Rankin, 1989; OEPA, 2020).

2.2.2 OEPA 401 WATER QUALITY CERTIFICATION FOR NATIONWIDE PERMIT ELIGIBILITY

The OEPA has designated each watershed in the state based on whether it may be ineligible for coverage under the OEPA's 401 Water Quality Certification (WQC) for Nationwide Permits (OEPA, 2017). Mapping provided by the OEPA illustrates the eligibility of streams in the area to fall under a Nationwide Permit for 401 certification or if an individual state WQC needs to be applied for. Impacts to streams within each watershed would then have eligibility for 401 WQC determined by the watershed category. The three categories are defined as:

Eligible: Streams within the watershed are eligible for coverage under the OEPA's water quality certification for the Nationwide Permits if all other general and regional special terms and conditions are met.

Ineligible: Projects affecting high quality streams and undesignated streams draining directly to high quality streams, as represented in the map, must undergo an individual 401 Water Quality Certification review process.

Possibly Eligible: Additional field screening procedures are required for streams in the watershed to determine appropriate eligibility. Projects affecting undesignated streams within those HUC12 watersheds that do not directly but eventually drain into high quality waters, might be eligible for coverage under the OEPA's 401 Water Quality Certification for Nationwide Permits depending on the results of a field screening assessment. The procedures for determining individual stream eligibility in this scenario are specified in Appendix D "Stream Eligibility Determination Process" of the OEPA Ohio State Water Quality Certification of the 2017 Nationwide Permit Reauthorization.

2.2.3 UPLAND DRAINAGE FEATURES

An upland drainage feature (UDF) is a non-jurisdictional drainage that does not meet the criteria of either a jurisdictional stream or a wetland. A UDF generally lacks an OHWM (USACE, 2005) and are equivalent to a swale or an erosional feature as described by the USACE: "generally shallow features in the landscape that may convey water across upland areas during and following storm events. Swales usually occur on nearly flat slopes and typically have grass or other low-lying vegetation throughout the swale" (USACE, 2005).

A roadside ditch may also be documented as a UDF if it meets the "not potentially jurisdictional" characterization as described in the Office of Environmental Services *Roadway Ditch Characterization Flowchart* (Ohio Department of Transportation, 2014). This would include a ditch that originates entirely within the roadway right-of-way, has a seasonal flow regime, was not constructed to drain a wetland, and does not have hydrophytic vegetation extending more than an insignificant amount beyond its original configuration.

In addition, UDF's (including swales, ditches, and other erosional features) are generally not WOTUS except in certain circumstances, such as relocated streams.

2.3 RARE, THREATENED, AND ENDANGERED SPECIES

AECOM conducted a threatened and endangered species review and general field habitat surveys within the Project Survey Area. AECOM submitted requests to the Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section and the USFWS Ohio Ecological Services Field Office soliciting comments on the proposed Project. Agency-identified species of concern and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of assessing potential impacts to threatened and endangered species. Land uses within the Project Survey Area were assigned a general classification based upon the principal land characteristics and vegetative cover as observed during the field surveys.

AECOM conducted a desktop assessment of the Project Survey Area and a quarter-mile buffer around it to identify potentially occurring winter bat hibernaculum that may be present near the Project which is in **Appendix C**. This assessment was conducted by reviewing data on mining activity and karst geology from the ODNR Division of Mineral Resources and USGS websites.

3.0 RESULTS

AECOM ecologists walked the Project Survey Area to conduct the wetland delineation, stream assessment and habitat survey during multiple field events (Initial Visits: September 19 and 22, 2023, and May 20, 2024; Additional Visit: December 20, 2024). During the initial site visits, AECOM did not identify any streams. AECOM revised the boundary of one previously delineated EMHT Wetland H/J to W-HLA-001 and confirmed the absence of a second wetland (EMHT Wetland F) due to construction. Additionally, one pond (EMHT Pond 1) was verified as still existing, even though it was permitted for removal. Based on the second investigation, completed by AECOM portions of W-HLA-001 have been affected by construction associated with Tasjan Extension. A summary of EMHT features can be found in **Table 1**. The EMHT representative data forms and photographs of the delineated features in the Project Survey Area are provided as **Appendix A**. AECOM data forms and photographs of the identified wetlands are provided in **Appendix B**. Additionally, current photographs of the identified pond are provided as **Appendix D**.

.

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, four soil map units are mapped within the Project Survey Area (USDA NRCS, 2023a and 2023b). Of these, two were identified as hydric soil, and two were identified as containing hydric inclusions. Soils indicated as hydric inclusions are not predominately hydric soils and hydric soils are more likely to be found in topographic settings. **Table 2** below provides a detailed overview of all soil series and soil map units present within the Project Survey Area. Soil map units located in the Project Survey Area and vicinity are shown on **Figure 2**.

TABLE 2 - SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE PROJECT SURVEY AREA

Soil Series	Map Unit Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Bennington	BeB	Bennington silt loam, 2 to 6 percent slopes	Ground Moraines, End Moraines	Yes*	Condit 3% Pewamo 3%
Centerburg	Cen1B1	Centerburg silt loam, 2 to 6 percent slopes	Ground Moraines, End Moraines	No*	Condit 4%, Marengo 3%
Centerburg	Cen1C2	Centerburg silt loam 6 to 12 percent slopes, eroded	End moraines, ground moraines	No*	Condit 4%
Condit	Cn	Condit silt loam, 0 to 1 percent slopes	Ground Moraines, End Moraines	Yes	Condit 90%
Pewamo	Pe	Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes	Drainageways, Depressions	Yes	Pewamo 85%

NA = Not Applicable or Not Available; * = Hydric inclusion present

3.1.2 NATIONAL WETLANDS INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Project Survey Area contains one Palustrine, Unconsolidated Bottom, Intermittently Exposed, Excavated (PUBGx) wetland. The feature was field verified as EMHT Pond 1. The locations of the NWI mapped wetlands in the Project vicinity are shown on **Figure 2**. Photographs of EMHT Pond 1 are included in **Appendix D**.

3.1.3 DELINEATED WETLANDS

Two previously delineated EMHT wetlands (EMHT Wetland H/J and EMHT Wetland F) were within the Project Survey Area. During the field survey, AECOM revised the boundary of EMHT Wetland H/J with new boundary as W-HLA-001 and confirmed the wetland no longer meets conditions to be considered a forested wetland. As for EMHT Wetland F, AECOM identified that the wetland is no longer present due to active construction activities. The current USACE Data Form, ORAM data forms, and photographs of these

delineated features are provided in **Appendix B**, as well as the previous photographs and data forms from EMHT delineations are provided within **Appendix A**. Details for the delineated wetlands in the Project Survey Area is provided in **Table 3**. Delineated EMHT wetlands that are within the vicinity of the Project Survey Area are shown on **Figures 2 and 3**, but only features within the Project Survey Area are included within this report and assessment.

TABLE 3 – SUMMARY OF DELINEATED WETLANDS WITHIN THE PROJECT SURVEY AREA

Wetland ID	Location		Isolated	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-HLA-001 / EMHT Wetland H&J	40.095488	-82.738867	Yes	PEM	0.16	10*	1	3	None	None	N/A	0	0
EMHT Pond 1	40.095632	-82.736356	-	POND	0.32	-	-	Tasjan (Green)	None	None	N/A	0	0
				Total:	**0.48**							**0**	**0**

*The Oram score associated with W-HLA-001 represents the condition of the wetland observed at time of survey and does not represent the score or category assessed as EMHT Wetland H&J.
**EMHT Wetland F was removed due to construction activity. Additionally, no ORAM was included in documents accessible to AECOM at the time of this report.

3.2 STREAM DELINEATION

During the field survey, AECOM did not identify any streams within the Project Survey Area.

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs within Headwaters Blacklick Creek Watershed (HUC-12 050600011503) that is designated as 401 WQC Possibly Eligible. OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**.

3.3 FEMA 100 YEAR FLOODPLAINS

No FEMA regulated floodways, or 100-year floodplains are located within the Project Survey Area (FEMA, 2007).

3.4 PONDS

During the field survey, AECOM confirmed the presence of one previously delineated pond (EMHT Pond 1) and current photographs of the feature are provided in **Appendix D.** Previous photographs from EMHT delineations are provided within **Appendix A.** Delineated EMHT features that are within the vicinity of the Project Survey Area are shown on **Figures 2 and 3** but only features within the Project Survey Area are included within this report and assessment. A summary of the delineated features is provided in **Table 3**.

3.5 UPLAND DRAINAGE FEATURES

During the field survey, AECOM did not identify any UDFs within the Project Survey Area.

3.6 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. As described in **Table 4** below, the Project Survey Area contains landscaped, streams/wetlands habitats, urban, and woodlands. Habitat descriptions applicable to the Project are provided below. Vegetative communities are depicted visually on aerial photography in **Figure 5**. Representative photographs of the vegetative communities in the Project Survey Area are provided as **Appendix E**.

TABLE 4 - VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage Within the Project Survey Area
Landscaped	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project Survey Area and adjacent areas are frequently mowed grasses and forbs.	1.9	17.3%
Streams/Wetlands	Streams and wetlands were observed either within or beyond the survey area for the Project.	0.09	0.1%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	8.9	81.0%
Woodlands	Woodlands (floodplain, upland, successional-mixed, etc) are present along the Project Survey Area. Woody species dominating these areas included Green ash (*Fraxinus pennsylvanica*), and Bur oak (*Quercus macrocarpa*).	0.09	0.1%
	Totals:	**11.0**	**100%**

3.7 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

Initial coordination letters seeking an environmental review for the Project for potential impacts to threatened and endangered species to the United States Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) were sent on August 17, 2023. Responses were received from the USFWS on August 23, 2023, and from the ODNR on September 13, 2023. Response letters from the USFWS and the ODNR for the Project are included as **Appendix F**.

Regarding state and federal listed threatened and endangered species that may occur within the Project vicinity, a total of three species were identified by the USFWS and six species were identified by the ODNR. Based on the review of these species and the habitat identified within the Project area, it is not anticipated that the Project would adversely affect any of the species or their habitats identified within **Table 5**.

Table 5 provides a list of species of concern identified by the agencies as potentially occurring within the vicinity of the Project. Photographs of the habitat within the Project Area are provided as **Appendix E**.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Mammals							
Indiana Bat (*Myotis sodalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project Survey Area, the existing predominantly urban land use lacks the presence of forested habitat or suitable bat roosting trees. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. However, one surface mine operation was identified within the Project area, which does not provide suitable hibernacula for the species. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Northern Long-eared Bat (*Myotis septentrionalis*)	Endangered	Endangered	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project Survey Area, the existing predominantly urban land use lacks the presence of forested habitat or suitable bat roosting trees. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. However, one surface mine operation was identified within the Project area, which does not provide suitable hibernacula for the species. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Additionally, the ODNR indicated that there is a known presence of this species within the Project area and summer surveys would not constitute a presence or absence of this species. Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. Additional summer surveys would not constitute presence/absence within the Project area for the northern long-eared bat. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Little brown bat (*Myotis lucifugus*)	Endangered	NA	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project Survey Area, the existing predominantly urban land use lacks the presence of forested habitat or suitable bat roosting trees. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. However, one surface mine operation was identified within the Project area, which does not provide suitable hibernacula for the species. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.

TABLE 5
ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT SURVEY AREA

Common Name (Scientific Name)	State Status	Federal Status	Typical Habitat	Habitat Observed	Avoidance Dates	Agency Comments	Potential Impacts
Tricolored bat (*Perimyotis subflavus*)	Endangered	Proposed	Summer habitat During spring/summer, this bat species roosts in trees behind loose, exfoliating bark, in crevices and cavities, or in leaves. Hibernaculum(a) During winter, this species hibernates in humid mines, caves, and occasionally man-made structures.	Summer habitat Within the Project Survey Area, the existing predominantly urban land use lacks the presence of forested habitat or suitable bat roosting trees. Hibernaculum(a) No mine openings and/or known caves are located within 0.25 miles of Project area and USFWS did not identify known hibernacula within 5-miles of the Project. However, one surface mine operation was identified within the Project area, which does not provide suitable hibernacula for the species. Field evaluations did not identify any potential hibernaculum(a) within the Project area (2024 Joint Guidance)*.	April 1 – September 30	Summer habitat ODNR and USFWS recommends adherence to Avoidance Dates for Tree Clearing Activities (April 1 – September 30). Hibernaculum(a) The ODNR DOW recommends a desktop habitat assessment to be conducted to identify potential hibernacula within 0.25 miles of the Project area. If habitat assessment finds potential hibernaculum within 0.25 miles, a revised seasonal tree clearing restriction (March 15 to November 15) is recommended (2024 Joint Guidance)*. If absence or no tree cutting or subsurface impacts are proposed, the Project is not likely to impact this species.	Summer habitat Potential summer roosting habitat is present within the Project area and seasonal tree clearing, between October 1 and March 31, is recommended. Hibernaculum(a) No impacts to winter hibernacula were identified due to absence of caves, mines, or portals within 0.25-miles of the Project.
Fish							
Lake chubsucker (*Erimyzon sucetta*)	Threatened	None	Perennial Streams	No lakes, swamps, or streams were identified in the Project Survey Area.	In-Water Work March 15 – June 30	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 this or other aquatic species.	No
Birds							
Northern harrier (*Circus hudsonius*)	Endangered	None	This species hunts over grasslands and nests can be found in large marshes and grasslands.	Based on field reviews, the Project area does not contain old field/grassland; area has recent and currently on-going development (urban land).	April 15 to July 31	Habitat should be avoided during the bird's nesting period between April 15 through July 31. If habitat will not be impacted, this Project will not likely impact species.	No

*2024 Joint Guidance – Refers to the 2024 ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing, a copy of the guidance is provided within **Appendix G of** this report.

Protected Species Agency Summary

Based on general observations during the ecological survey, forested clearing is anticipated to be limited due to the active construction by others within the Project area. If tree clearing were to become part of the Project scope of work, the ODNR and the USFWS recommends implementations of seasonal tree clearing between October 1 and March 31 to avoid adverse effects to Indiana bat, northern long-eared bat, little brown bat, and tricolored bat. ODNR confirmed a known presence in the vicinity of the Project area for the Northern long-eared bat. If trees must be cut during the summer months, the ODNR recommends that a mist net survey could be completed for the Indiana bat, little brown bat, and the tricolored bat between June 1 and August 15. However, additional summer surveys would not constitute presence/absence within the Project Survey Area for the northern long-eared bat, Indiana bat or tricolored bat. If summer tree clearing is needed, additional coordination would be completed with ODNR and the USFWS.

AECOM completed a desktop review for potential hibernaculum in accordance with the 2024 Ohio ODNR DOW and USFWS Joint Guidance for Bat Surveys and Tree Clearing within 0.25-mile of the Project survey (**Appendix G**). No caves, mines, and/or karst features were identified within a 0.25-miles radius of the Project Area that are anticipated to provide suitable hibernacula for cave-dwelling bats. As per ODNR and USFWS guidance, further coordination regarding potential hibernaculum is only necessary if the habitat assessment find potential habitat within 0.25-mile of the Project Survey Area. Therefore, no further coordination was necessary with either the ODNR and/or USFWS regarding the listed bat species. Results of the desktop habitat assessment have been included within **Appendix C**.

No impacts are anticipated for the Lake Chubsucker as no in-water work is proposed as part of the Project and species habitat is not present. Additionally, the potential for nesting habitat for the Northern Harrier was absent based on field/desktop review of the Project Survey Area. The Project Survey Area is primarily comprised of landscaped area, woodlands, and old field. The old field vegetative community present is immediately bordered and surrounded by residential areas, woodlands, and urban development, thus creating fragmented, isolated patches, which does not support Northern Harrier nesting. Additionally, the Project area is proposed for future development by others and will be absent of all vegetation at the time of construction. Therefore, no further coordination regarding Northern Harrier is warranted for the Project.

4.0 SUMMARY

AECOM completed two sperate ecological assessments of the Project Area. The first visits (September 19, 2023, and May 20, 2024) concluded that construction activities permitted by others intersect the Project Survey Area. Of the previous features identified from the permits by others, Wetland H/J was verified at a reduced extent as well as changed from forested to non-forested and identified by AECOM as W-HLA-001. Wetland F was confirmed as being removed by others and not present at time of survey. Lastly, one pond (EMHT Pond 1) was verified as being present but permitted to be filled by future development activities.

During the second visit (December 20, 2024) portions of W-HLA-001 were impacted due to construction. See Table 1 for more details regarding activities completed by others within the Project Survey Area.

Of the six state and/or federal listed threatened or endangered species within range of the Project Survey Area, no habitat for any of the listed species were identified within the Project Survey Area. Therefore, no further coordination regarding the listed species is warranted.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

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Blacklick

Creek

Jersey

New Albany

JERSEY TOWNSHIP

LICKING COUNTY

ROAD

40.097656
-82.72437

40.095903
-82.736311

40.095876
-82.735757

40.094649
-82.726806



Legend

- Tasjan Extension 138kV Transmission Line
- Green Chapel-Innovation 138kV Removal
- Project Survey
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

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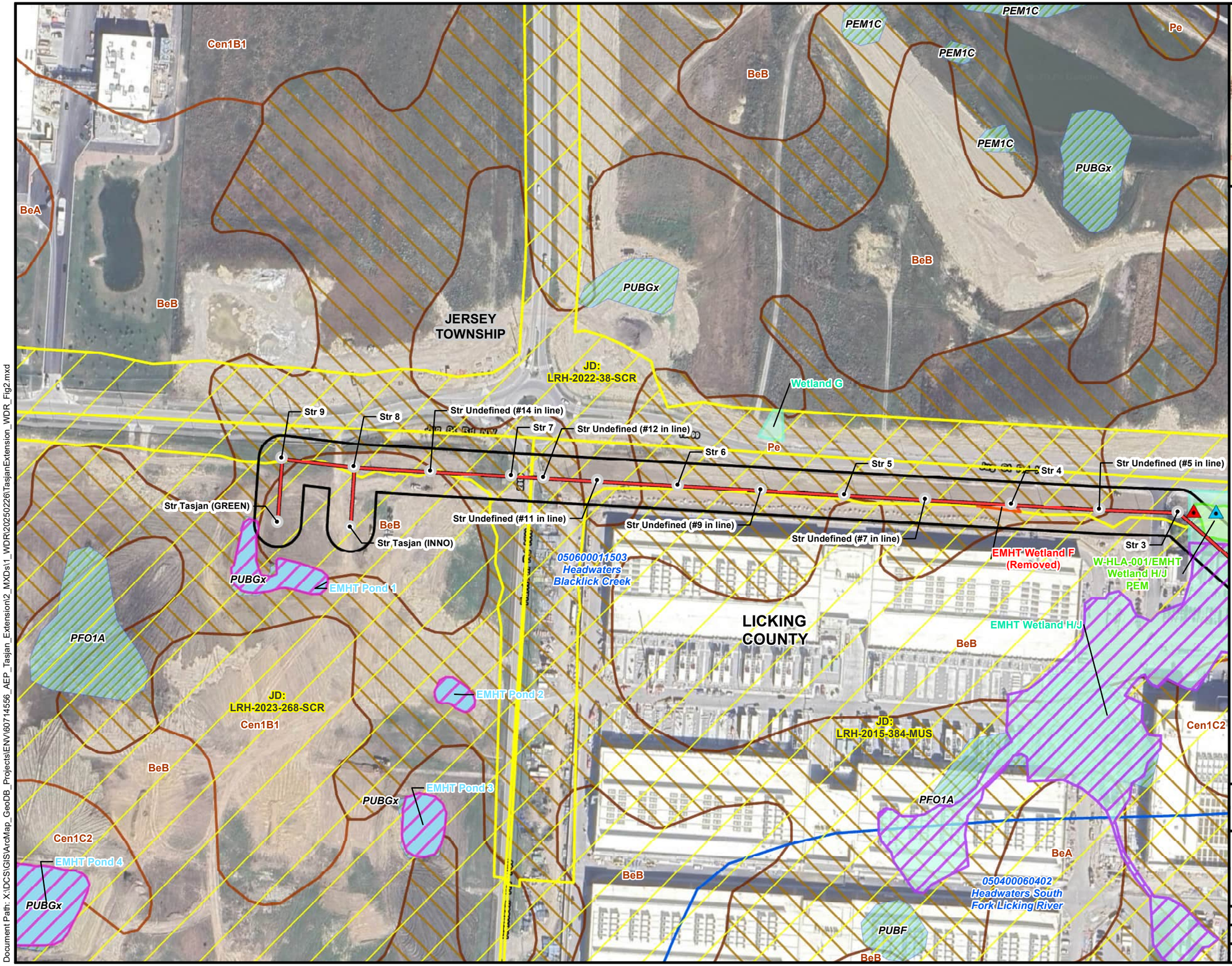
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 1
PROJECT OVERVIEW

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Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Tasjan Extension 138 kV
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Section 401 Authorized Wetland Fill (DSW401238616W)
- Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BeB: Bennington silt loam, 2 to 6 percent slopes

Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

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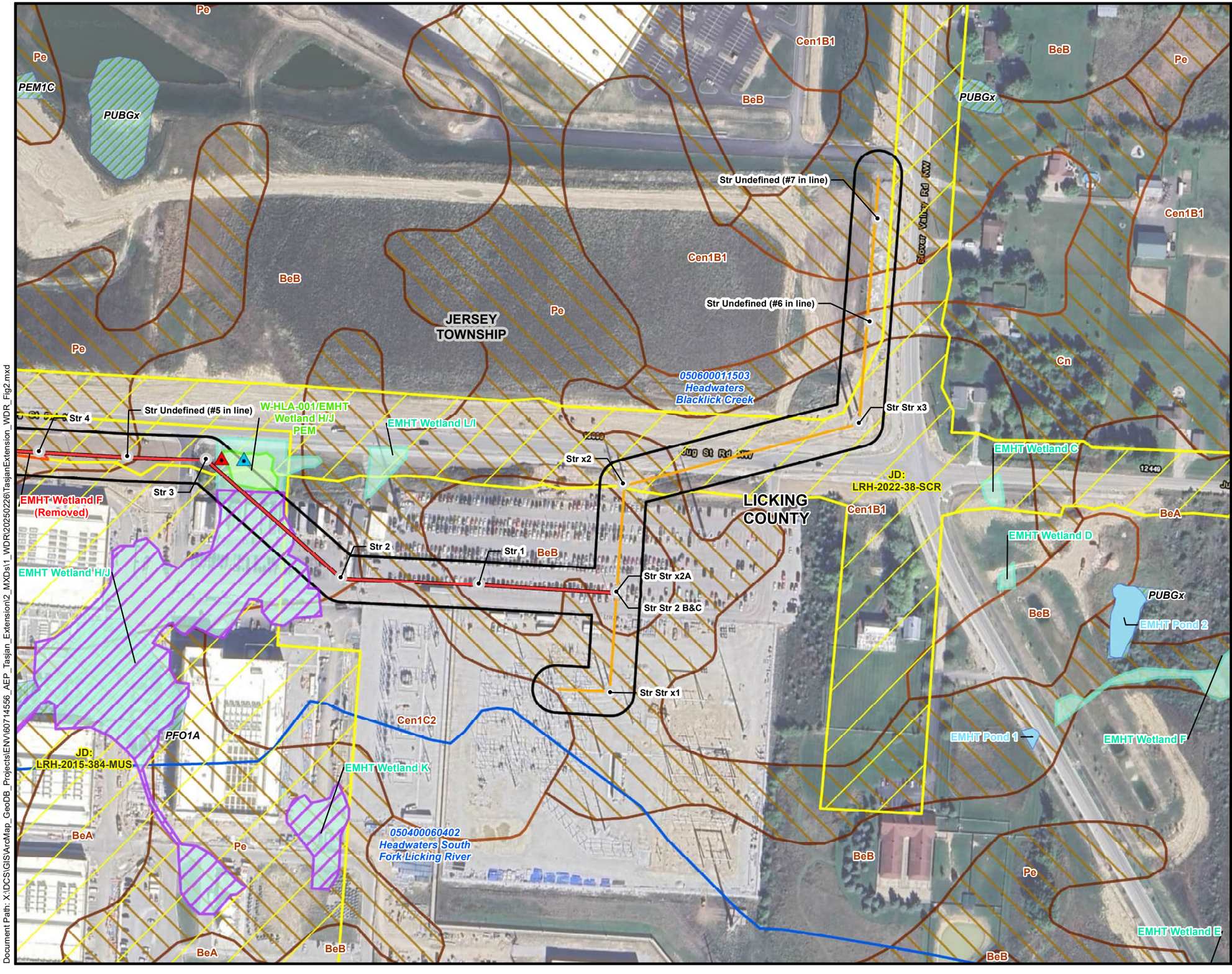
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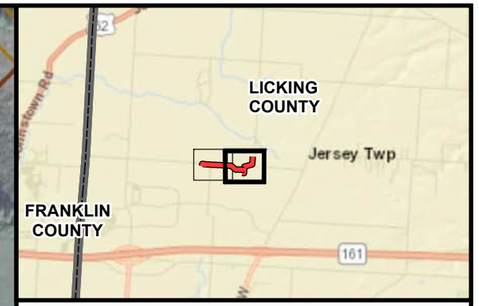
Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 2
SHEET 1 OF 2
SOIL MAP AND NATIONAL WETLANDS INVENTORY MAP

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Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BeB: Bennington silt loam, 2 to 6 percent slopes

Cen1B1 Centerburg silt loam, 2 to 6 percent slopes

Cn: Condit silt loam, 0 to 1 percent slopes

Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

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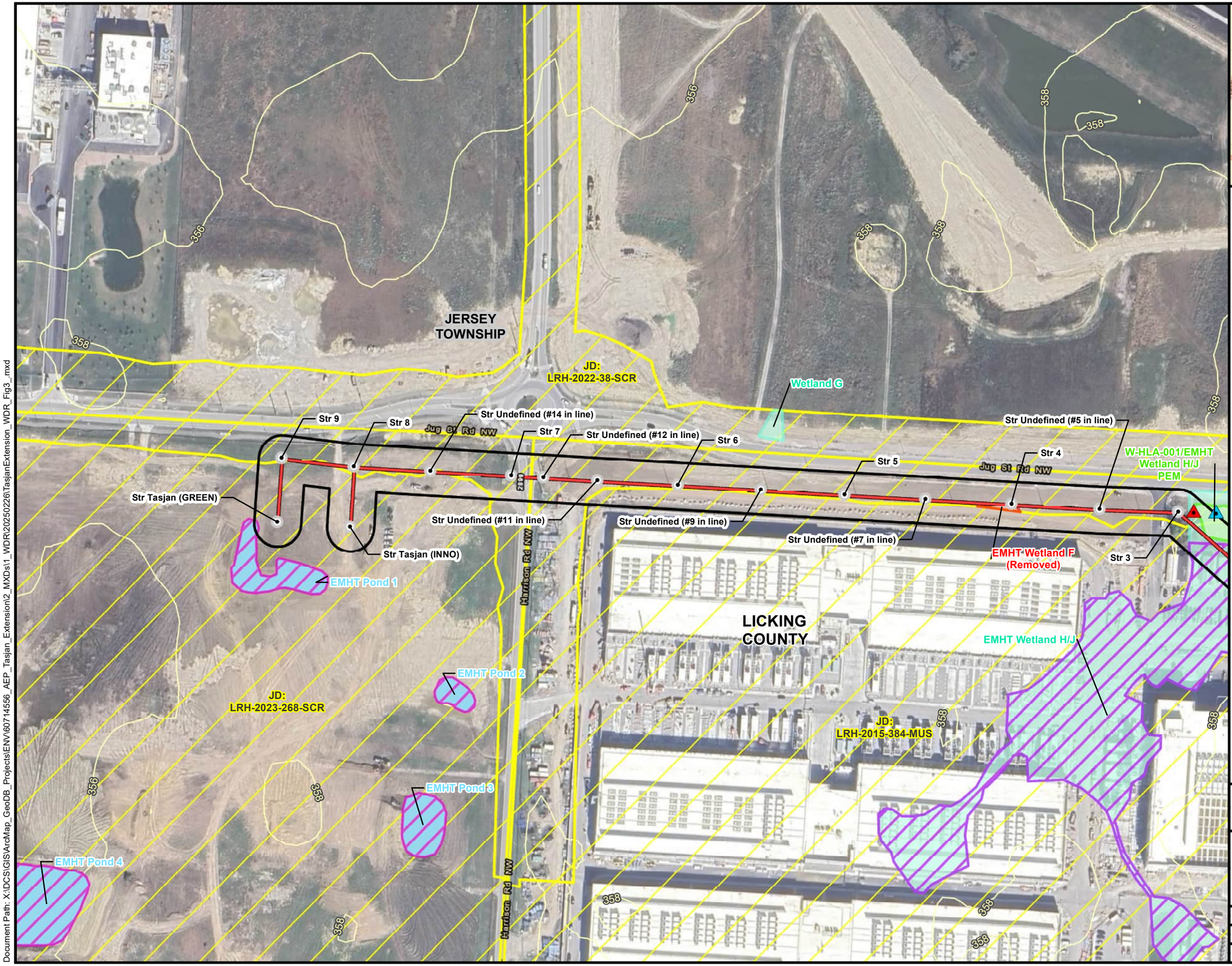
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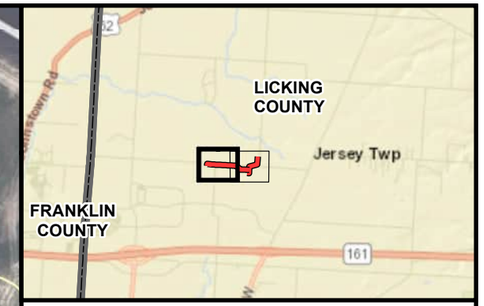
Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 2
SHEET 2 OF 2
SOIL MAP AND NATIONAL WETLANDS INVENTORY MAP

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Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Tasjan Extension 138 kV
- Contours (2ft)
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Section 401 Authorized Wetland Fill (DSW401238616W)
- Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland

N

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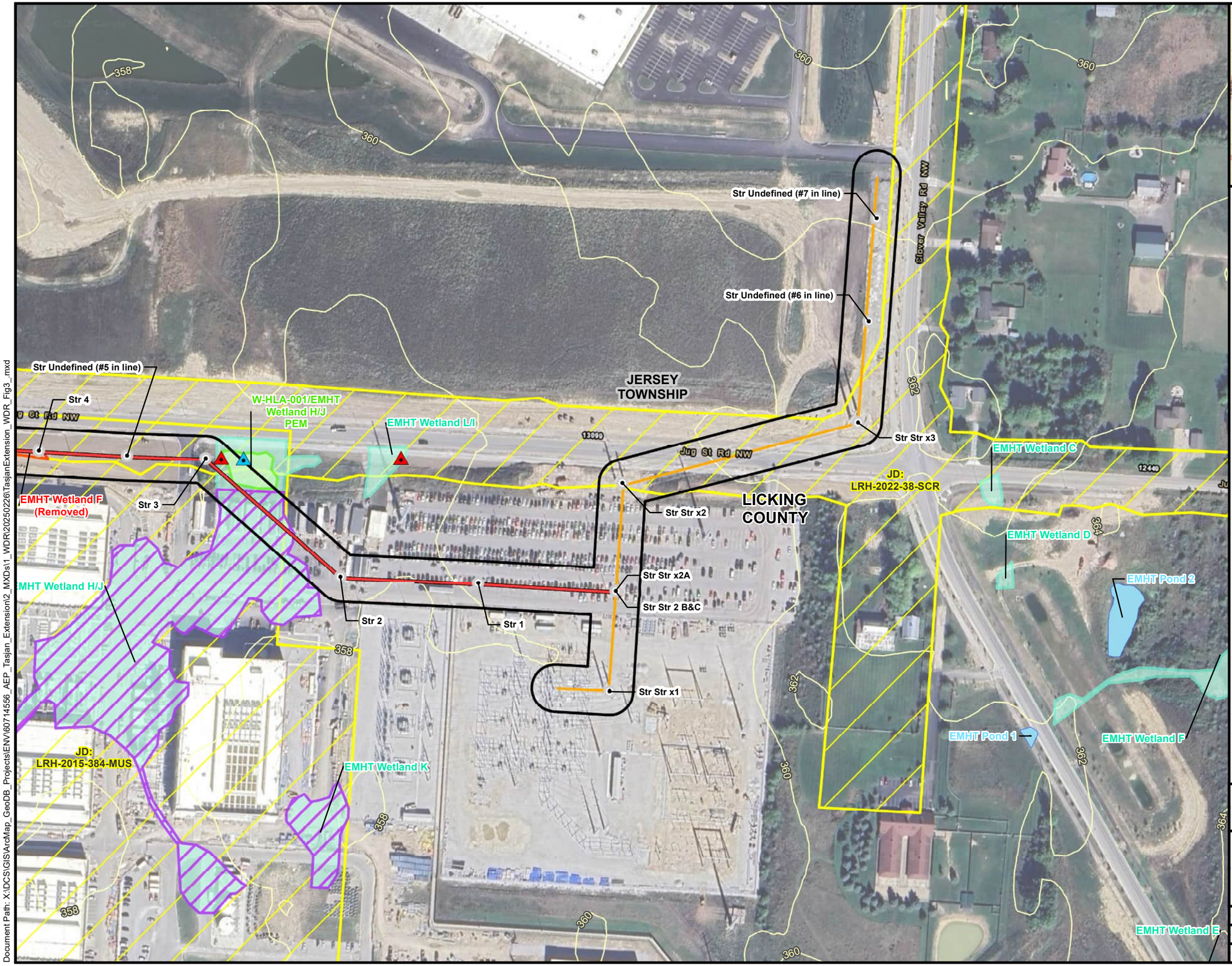
AMERICAN ELECTRIC POWER

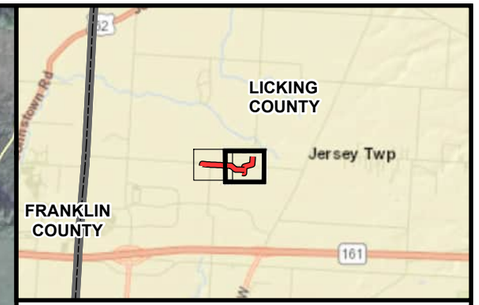
Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 3
SHEET 1 OF 2
STREAMS AND WETLAND
ASSESEMENT MAP

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Legend

- Structure Location
- Wetland Data Point
- Upland Data Point
- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- Contours (2ft)
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland

N

0 100 200 400

Feet

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 3
SHEET 2 OF 2
STREAMS AND WETLAND ASSESMENT MAP

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Blacklick Creek

Duncan Run

OEPA EPA 401
Eligible
Headwaters Raccoon Creek
050400060301

OEPA EPA 401
Eligible
Duncan Run
0506000011307

OEPA EPA 401
Eligible
Headwaters Raccoon Creek
050400060301

OEPA EPA 401
Possibly Eligible
Headwaters Blacklick Creek
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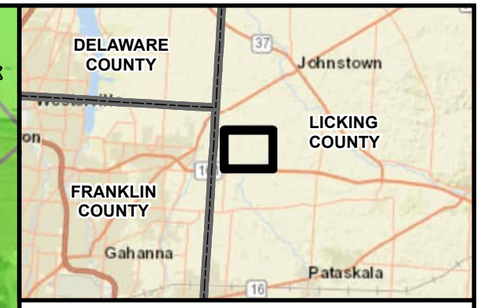
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OEPA EPA 401
Eligible
Headwaters South Fork Licking River
0504000060402

South Fork Licking River



Legend

- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- NHD Stream (USGS)
- Project Survey Area

OEPA Eligibility:

- Eligible
- Possibly Eligible

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Feet

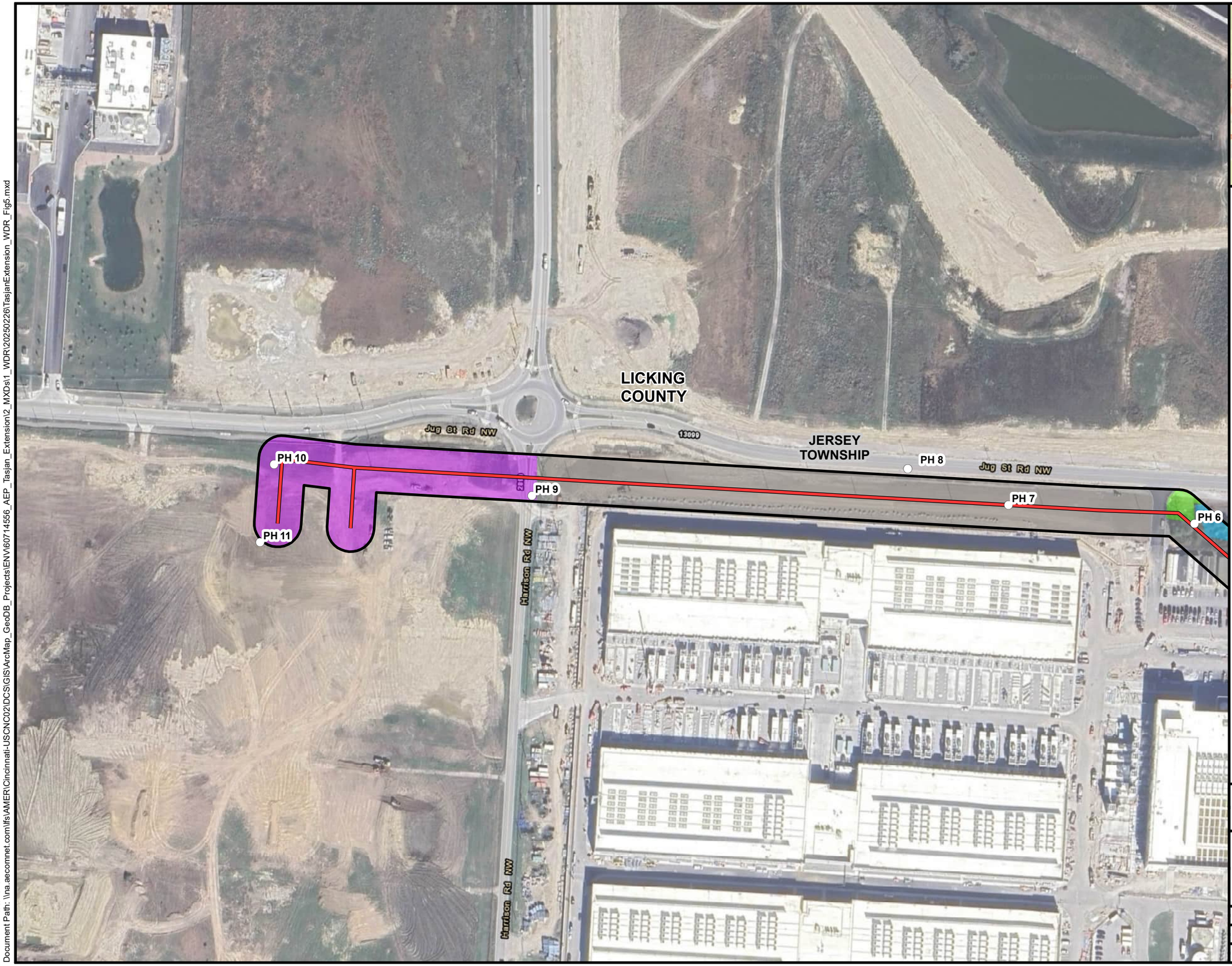
AMERICAN ELECTRIC POWER

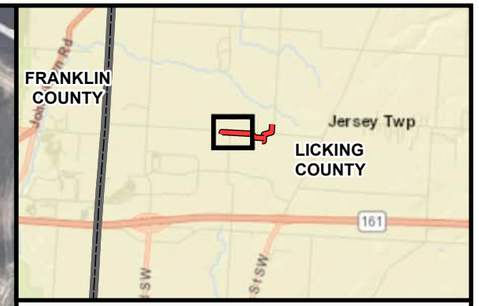
Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 4
STREAM ELIGIBILTY MAP

DATE: 2/26/2025	1 INCH = 1,000 FEET
CREATED BY: GIB	CHECKED BY: JH
JOB NO.: 60714556/60714558	AECOM

Date Saved: 2/26/2025
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Legend

- Photograph Location
- Tasjan Extension 138 kV
- Project Survey Area

Vegetative Community Type

- Landscaped
- Streams/Wetlands
- Urban
- Woodlands

N

0 100 200 400

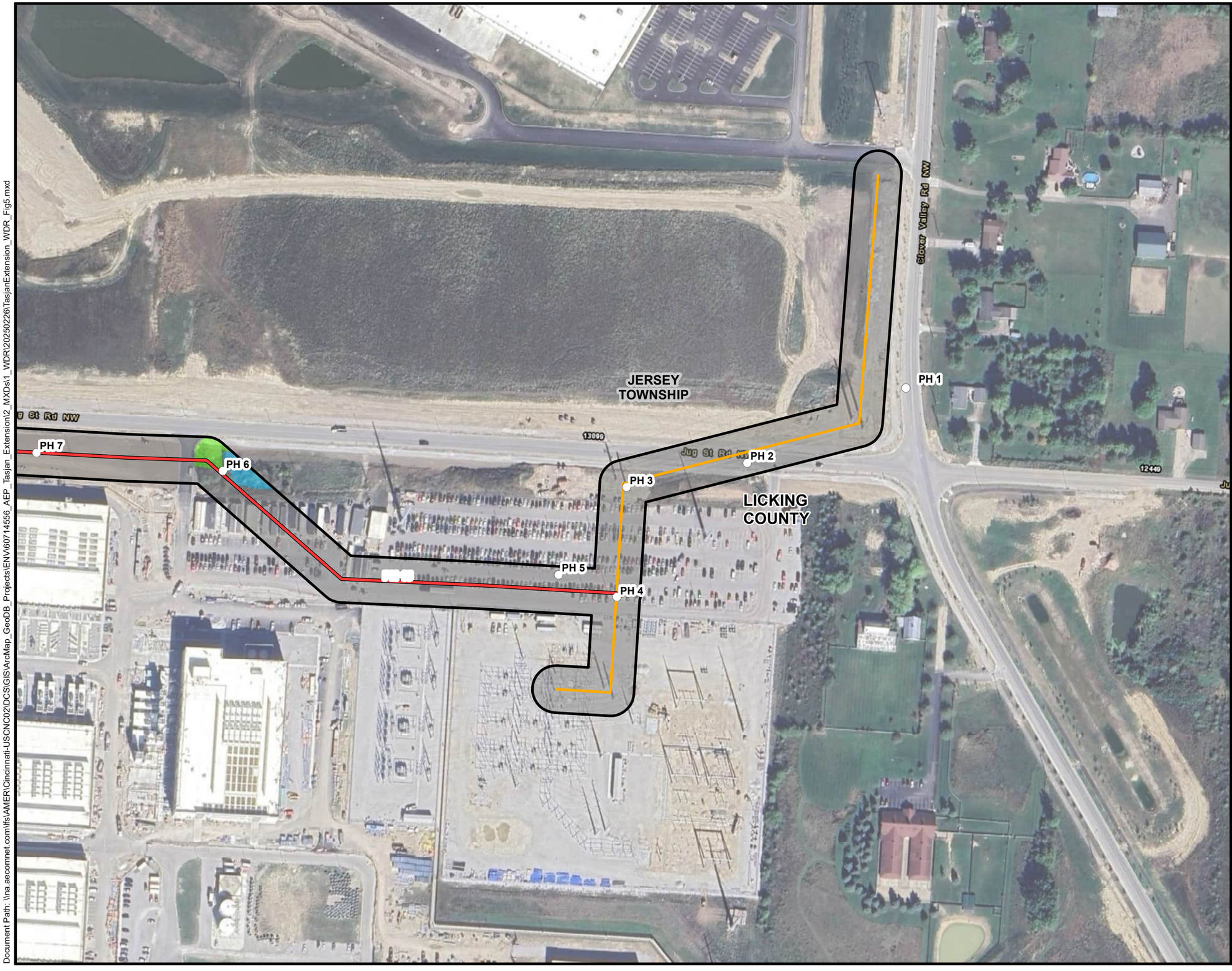
Feet

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 5
SHEET 1 OF 2
VEGETATIVE COMMUNITIES ASSESSMENT MAP

DATE: 3/5/2025	1 INCH = 200 FEET
CREATED BY: GIB	CHECKED BY: JH
JOB NO.: 60714556/60714558	AECOM

Date Saved: 3/5/2025
Document Path: \\na.aecomnet.com\lfs\AMER\Cincinnati-USCNC02\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60714556_AEP_Tasjan_Extension\2_MXDs\1_WDR\20250226\TasjanExtension_WDR_Fig5.mxd





Legend

- Photograph Location
- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- Project Survey Area

Vegetative Community Type

- Streams/Wetlands
- Urban
- Woodlands

N

0 100 200 400

Feet

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 5
SHEET 2 OF 2
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

DATE: 3/5/2025	1 INCH = 200 FEET
CREATED BY: GIB	CHECKED BY: JH
JOB NO.: 60714556/60714558	AECOM

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APPENDIX A

UNITED STATES ARMY CORPS OF ENGINEERS (USACE) JURISDICTIONAL DETERMINATIONS (LRH-2023-268-SCR, LRH-2022-38-SCR, and LRH-2015-384-MUS)

AND

EMHT DATA FORMS AND PHOTOGRAPHS

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701-2018

February 3, 2022

Regulatory Division
North Branch
LRH-2022-38-SCR

APPROVED & PRELIMINARY JURISDICTIONAL DETERMINATIONS

Mr. Ryan Ohly
City of New Albany
99 West Main Street
New Albany, Ohio 43054

Dear Mr. Ohly:

I refer to the *Jug Street Improvements Project, Investigation of Waters of the United States, The City of New Albany, dated 6 January 2022* submitted on your behalf by EMH&T, Inc. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources and an approved JD for the potential non-jurisdictional aquatic resources on the approximate 78.01-acre site. The property is located along Jug Street from west of Beech Road to Mink Street in Jersey Township, Licking County, Ohio at approximately 40.0963 latitude, -82.7343 longitude. Your JD request was previously assigned the following file number: LRH-2022-38-SCR. Please reference this number on all future correspondence related to this project.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over, or under a navigable water.

Preliminary Jurisdictional Determination

Based upon a review of the submitted report, this office has determined 315 linear feet of two (2) streams (Haines Ditch and Stream 1) and 0.07 acre of two (2) wetlands (Wetlands K and L) are located within the approximate 78.01-acre site and may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). As indicated in the guidance, this Preliminary JD is non-binding and cannot be appealed (33 CFR 331.2), and only provides a written indication that waters of the United States, including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find two copies of the Preliminary JD. If you agree with the findings of this Preliminary JD and understand your options regarding the same, please sign and date one (1) copy of the Preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to the following address:

United States Army Corps of Engineers
Huntington District
Attn: North Branch
502 Eighth Street
Huntington, West Virginia 25701

Approved Jurisdictional Determination

Our December 2, 2008 headquarters guidance entitled *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* was followed in the final verification of Clean Water Act jurisdiction. Based on a review of the information dated January 6, 2022, and other information available to us, Wetlands A-J are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. These wetlands would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Therefore, these wetlands are not jurisdictional waters of the United States. However, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state permit requirements.

In accordance with the June 5, 2007 Joint Memorandum between the United States Environmental Protection Agency (USEPA) and the Corps and the January 28, 2008 Corps Memorandum regarding coordination on jurisdictional determinations, this isolated wetland determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on December 2, 2021 and December 13, 2021, respectively.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. This letter contains an approved JD for the subject site within the approved JD boundary. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer
United States Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10-714
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. **It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter**.

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter is being provided to your agent, Mr. Eric Nagy of EMH&T, Inc. If you have any questions concerning the above, please contact James Reenan of the North Branch at 816-389-3832, by mail at the above address, or by email at james.s.reenan@usace.army.mil.

Sincerely,

Teresa Spagna
Chief, North Branch

Enclosures(s)

cc (via email):

Mr. Eric Nagy, EMH&T, Inc.

DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701-2018

October 17, 2023

Regulatory Division
North Branch
LRH-2023-268-SCR

APPROVED JURISDICTIONAL DETERMINATION

Greg Baltz
DBT Data, LLC
400 7th Street, SE
Washington, D.C. 20003

Dear Greg Baltz:

I refer to the *Jug Street and Harrison Road Properties- Investigation of Waters of the United States* (report) dated March 17, 2023, and submitted on your behalf by EMH&T. You have requested an approved jurisdictional determination (JD) for the aquatic resources located within an 85-acre property. The JD review area is located southwest of the intersection between Jug Street and Harrison Road in Jersey Township, Licking County, Ohio (40.09071 latitude, -82.738499 longitude). Your request has been assigned the following file number: LRH-2023-268-SCR. Please reference this file number on all future correspondence related to this JD request.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR Part 328 and 33 CFR Part 329. Section 404 of the Clean Water Act (Section 404) requires a DA permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over or under a navigable water.

The features addressed in this approved JD were evaluated consistent with the definition of "waters of the United States" found in the pre-2015 regulatory regime and consistent with the Supreme Court's decision in *Sackett v. EPA.* Additionally, to the extent applicable, our December 2, 2008 headquarters guidance entitled *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* was followed in the final verification of Section 404 jurisdiction. Based on a review of the information provided and other information available to us, 6.54 acres of seven (7) wetlands (Wetlands A-J) and 1.63 acres of five (5) ponds (Ponds 1-5) are located within the JD review area (Enclosure 1).

Wetland A (0.47 acre), Wetland B (3.62 acres), Wetland C (0.34 acre), Wetland D (0.17 acre), Wetland E (1.37 acre), Wetland F (0.08 acre), Wetland G (0.05 acre), Wetland H (0.11 acre), Wetland I (0.10 acre), and Wetland J (0.23 acre) are surrounded by uplands and do not exhibit an unbroken surface connection or a continuous surface water connection to a water identified in paragraph (a)(1) through (a)(6) of the pre-2015 regulations. Pond 1 (0.32 acre),

Pond 2 (0.10 acre), Pond 3 (0.24 acre), Pond 4 (0.81 acre), and Pond 5 (0.16 acre) are physically isolated and do not exhibit a surface water connection to the downstream tributary. In addition to being hydrologically isolated, Ponds 1-5 do not appear to support interstate or foreign commerce interests, nor do they contain any rare or endangered species. Wetlands A-J and Ponds 1-5 are not jurisdictional waters of the United States; however, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state permit requirements.

In accordance with the September 27, 2023 Joint Memorandum between the United States Environmental Protection Agency (USEPA) and the Corps regarding coordination on jurisdictional determinations, local level coordination was completed with the USEPA Region 5 with coordination completed on October 6, 2023.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR Part 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form (Enclosure 2). If you request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer
United States Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10780
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR § 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. Should you decide to submit an RFA form, it must be received at the above address by December 15, 2023. **It is not necessary to submit an RFA form to the Division Office if you do not object to the determination in this letter.**

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter will be provided to your agent, Eric Nagy, with EMH&T. If you have any questions concerning the above information, please contact Katie Samples of the North Branch at 304-399-6933, by mail at the above address or by email at katie.e.samples@usace.army.mil.

Sincerely,

Teresa D. Spagna
Chief, North Branch

Enclosures

cc:

Jeffrey Boyles, Ohio Environmental Protection Agency (email)
Eric Nagy, EMH&T (email)

LRH 2015-384-MUS

Published Dec. 29, 2015

TO WHOM IT MAY CONCERN: The following application has been submitted for a Department of the Army Permit (DA) under the provisions of Section 404 of the Clean Water Act. This notice serves as the United States Army Corps of Engineers' (Corps) request to the Ohio Environmental Protection Agency (OEPA) to act on the Section 401 Water Quality Certification for the following application.

APPLICANT: MBJ Holdings, LLC

8000 Walton Parkway Suite 120

New Albany, Ohio 43054

LOCATION: As depicted on the attached *Figure 1: Newton Site* (Sheet 1 of 4), the proposed project would be located in an unnamed tributary to the South Fork of the Licking River and its adjacent wetlands located east of Harrison Road in the City of New Albany, Licking County, Ohio (40.091889° N, -82.730589° W).

PROJECT HISTORY: A "Waters of the United States" delineation for the original 150 acre parcel was verified by the Corps via a letter dated August 3, 2015. Three subsequent addenda to the delineation were completed that expanded the total project area to 288 acres. Table 1 attached to this notice lists the jurisdictional status of the identified aquatic resources.

DESCRIPTION OF PROPOSED WORK: The applicant proposes to discharge approximately 5,403 cubic yards of dredged and fill material into 3.16 acres of wetlands and 2,812 linear feet of ephemeral, intermittent and perennial streams in order to construct a 288 acre office/warehouse development, known as the Harrison Road East site (see Table 1). The proposed development would include 20 office and warehouse buildings encompassing approximately 2.4 million square feet of office/warehouse space along with interior roadways, parking, stormwater facilities, and infrastructure. Plans of the work are attached to this notice (Sheets 1-4).

ALTERNATIVE ANALYSIS: A total of 3.16 acres of wetlands and 2,812 linear feet of streams would be impacted as a result of proposed commercial development. The project does not require access or proximity to or siting within the wetlands to fulfill its basic purpose and is considered a non-water dependent activity. The Section 404(b)(1) Guidelines state that for non-water dependent activities in special aquatic sites, practicable alternatives that do not involve wetlands are presumed to be available, unless clearly demonstrated otherwise. The applicant is required to provide an alternative analysis that must overcome that presumption prior to receiving authorization for the discharge of dredged and/or fill material into the wetlands. The applicant has submitted the required alternatives analysis. A complete copy of the applicant's alternatives analysis can be reviewed by appointment at the above address. No permit will be issued until our review of the alternatives analysis clearly shows that upland alternatives are not available to achieve the project purpose.

AVOIDANCE AND MINIMIZATION: In evaluating a project area containing waters of the United States, consideration must be given to avoiding impacts on these sites. If waters of the United States cannot be avoided, then impacts must be minimized. Approximately 7,980 linear feet streams and 12.67 acres of wetlands subject to Section 404 Clean Water Act regulation exist within the project limits. According to the applicant, alternative plans were considered. Avoidance and minimization efforts were incorporated into the proposal to reduce the footprint of the overall project. The proposed project has been designed to completely avoid impacts to the remaining 9.51 acres of wetlands (75%) and 5,168 linear feet of streams (65%) within the project area. The applicant would be required to obtain stormwater permits and to implement stormwater protection plans as needed for site construction following the requirements of the National Pollutant Discharge Elimination System (NPDES) program. Based on the application, the applicant has applied for the required NPDES permit from the OEPA.

COMPENSATORY MITIGATION PLAN: To compensate for the discharge of dredged and/or fill material into 3.16 acres of wetland, the applicant proposes to purchase 7.2 acres of wetland mitigation credits from a federally approved wetland mitigation bank and to preserve 9.51 acres of wetlands on-site. To compensate for the discharge of dredged and/or fill material into 2,812 linear feet of perennial, intermittent and ephemeral streams, the applicant proposes to preserve 4,937 linear feet of perennial, intermittent and ephemeral streams on-site and 1,887 linear feet of perennial stream off-site.

WATER QUALITY CERTIFICATION: A Section 401 Water Quality Certification is required for this project. It is the applicant's responsibility to obtain certification from the OEPA. Based on the DA application, the applicant has applied for the required Section 401 Water Quality Certification from the OEPA.

HISTORIC AND CULTURAL RESOURCES: The National Register of Historic Places (NRHP) has been consulted and it has been determined there are no properties currently listed on the NRHP which would be indirectly or directly affected by the proposed work. The proposed project would have

no effect on historic properties listed on, eligible or potentially eligible for inclusion on the NRHP. A copy of this public notice will be furnished to Ohio State Historic Preservation Office for their review. Comments concerning archaeological sensitivity of the project area should be based on collected data.

THREATENED AND ENDANGERED SPECIES: The project is located within the known or historic range of the following federally-protected species: endangered Indiana bat (*Myotis sodalis*) and threatened northern long-eared bat (*Myotis septentrionalis*). The Corps has consulted the most recently available information, and based on the proposed implementation of the seasonal tree clearing restrictions, the project may affect, but is not likely to adversely affect either the Indiana bat or the northern long-eared bat. Based on this information, the proposed project is not likely to adversely affect the continued existence of any endangered species or threatened species, or result in the destruction or adverse modification of habitat of such species which has been determined to be critical. This Public Notice serves as a request to the United States Fish and Wildlife Service for any additional information they may have on whether any listed or proposed to be listed endangered or threatened species may be present in the area which would be affected by the activity, pursuant to Section 7(c) of the Endangered Species Act of 1972 (as amended).

PUBLIC INTEREST REVIEW AND CUMULATIVE EFFECTS: This application will be reviewed in accordance with 33 CFR 320-332, the Regulatory Program of the Corps, and other pertinent laws, regulations, and executive orders. Our evaluation will also follow the guidelines published by the United States Environmental Protection Agency pursuant to Section 404(b)(1) of the Clean Water Act (40 CFR part 230). The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity on the public interest. That decision will reflect the national concern for both protection and utilization of important resources. The benefit which reasonably may be expected to accrue from the proposal must be balanced against its reasonably foreseeable detriments. All factors that may be relevant to the proposal will be considered, including the cumulative effects thereof; among those factors are conservation, economics, aesthetics, general environmental concerns, wetlands, historic properties, fish and wildlife values, flood hazards, floodplain values, land use, navigation, shoreline erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs, considerations of property ownership and, in general, the needs and welfare of the people.

SOLICITATION OF COMMENTS: The Corps is soliciting comments from the public, Federal, state and local agencies and officials, Indian Tribes and other interested parties in order to consider and evaluate the impacts of this proposed activity. For accuracy and completeness of the administrative record, all data in support of or in opposition to the proposed work should be submitted in writing setting forth sufficient detail to furnish a clear understanding of the reasons for support or opposition. Any person may request, in writing, within the comment period specified in the notice, that a public hearing be held to consider the application. Requests for public hearings shall state, with particularity, the reasons for holding a public hearing. Any comments received will be considered by the Corps to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Written statements received in this office on or before the expiration date of this Public Notice will become a part of the record and will be considered in the final determination. A permit will be granted unless its issuance is found to be contrary to the public interest.

CLOSE OF COMMENT PERIOD: All comments pertaining to this Public Notice must reach this office on or before the close of the comment period listed on page one of this Public Notice.

If no comments are received by that date, it will be considered that there are no objections. Comments and requests for additional information should be submitted to:

United States Army Corps of Engineers

ATTN: CELRH-RD-N

Public Notice No. LRH-2015-385-MUS-Unnamed Tributary South Fork Licking River

502 Eighth Street

Huntington, West Virginia 25701-2070.

Please note names and addresses of those who submit comments in response to this Public Notice become part of our administrative record and, as such, are available to the public under provisions of the Freedom of Information Act. Thank you for your interest in our nation's water resources. If you have any questions concerning this Public Notice, please contact Ms. Lee A. Robinette of the North Branch at 304-399-5210.

Table 1. Proposed Discharges of Dredged and/or Fill material into Waters of the

United States at the 288 acre Development Site					
Wetland/ Stream Name	**ORAM/ HHEI Category Habitat**	**Linear feet/Acreage of Aquatic Resource**	**Proposed Impacts (linear feet/acres)**	**Proposed Preserved Stream/Wetlands Onsite (Linear feet/acres)**	**Activity**
Wetland A	Category 2/ Forested	2.73	0	2.73	--
Wetland B	Category 2/ Forested	0.54	0.54	0	Grade establishment for primary entrance and
Wetland C	Category 2/ Forested	2.55	2.55	0	Grade establishment for primary entrance, parking lots and stormwa
Wetland G	Category1-2/ Forested	0.03	0.03	0	Grade establishment for internal roadway and Building
Wetland I	Category 3/ Forested	6.77	0	6.77	--
Wetland J	Category 2/ Forested	4.92*	-	-	--
Wetland L	Category 1/ Emergent	0.13*	-	-	--
Wetland M	Category 1/ Emergent	0.05	0.04	0.01	Grade establishment for Building 20 parking lot and
Total Wetlands:	--	12.67	3.16	9.51	--
Stream 1	LRW/Intermittent	1,551	631	920	Grade establishment for associated parking and p
Stream 2	LRW/Ephemeral	665	0	665	--
Stream 3	LRW/Ephemeral	766	635	0	Grade establishment to access multiple offic
Stream 4	LRW/Ephemeral	385	385	0	Grade establishment for associated pa
Stream 5	WWH/Perennial	3,429	222	3,207	Installation of a culvert for the primary ro
Stream 6	LRW/Ephemeral	607	556	0	Grade establishment for office buildings and ass
Stream 7	LRW/Ephemeral	432	383	0	Grade establishment for office buildings and ass
Stream 8	LRW/Ephemeral	145	0	145	--
Total Streams:	--	7,980	2,812	4,937	--

*The draft determination is that Wetlands J & L are isolated. Their acreage is not included in the totals.

Related Story: **2015-384-MUS Drawings** /Portals/38/docs/regulatory/publicnotices/2015-384-MUS Drawings.pdf?ver=Kuyrk4SJzkiQYKyorCU2Ag%3d%3d

February 4, 2022

Re: Jug Street Improvements Project
Permit - Intermediate
Application and Support
401 Wetlands
Licking County
DSW401227824W

General Isolated Wetland Permit Application (Level One)

Division of Surface Water

(For impacts of ½ acre or less to Category 1 and 2 isolated wetlands)

Section 1: Applicant and Consultant/Agent Information		
	Applicant	**Consultant/Agent**
Company/Agency Name:	The City of New Albany	EMH&T
Address:	99 W. Main Street, New Albany, OH 43054	5500 New Albany Road, Columbus, OH 43054
Contact Name/Title:	Ryan Ohly/City Engineer	Eric Nagy/Sr. Envir. Scientist
Contact Phone:	(614) 939-2247	(614) 775-4518
Alternate Phone:		(614) 403-4326
Contact FAX:		
Contact Email:	rohly@newalbanyohio.org	enagy@emht.com
Technical Contact:		
Technical Phone:		
Technical Email:		

Section 2: Project Information

A. Project Name: Jug Street Improvements Project

B. Has Pre-Application Coordination occurred? ☐ Yes ☒ No

401 Pre-application Reviewer: **Date of 401 Pre-application Meeting:**

C. Brief Project Description: The purpose of the Jug Street Improvement Project is to widen, improve, and relocate utilities along Jug Street between the intersection with Beech Road to the west and the intersection with Harrison Road to the east in the City of New Albany and Jersey Township, Licking County, Ohio. The project corridor is currently composed of a two-lane, unimproved roadway that is lined by developed sites, fallow and active agricultural fields, residential estate lots, and a woodlot. The roadway currently drains to a roadside ditch network that is prone to flooding low areas of the road during heavy or prolonged rainfall. The roadway is being improved as an interior commercial roadway that will provide connection to a future business park. The improved portion of Jug Street will include two (2) travel lanes, a curb and gutter system, and a new roundabout at the intersection with Harrison Road. A shared use path will be installed along the roadway. The roadway improvements being proposed are necessary to handle the expected increase in traffic as the surrounding land develops into commercial warehouses and industrial factories, which will all provide economic benefits to the local community.

The 0.274 acre of isolated wetlands proposed to be impacted by the project are low quality features that have limited function for improving water quality, as they are completely disconnected from any streams. Exhibit 5 shows the proposed development plan and the proposed isolated wetland impacts. It was not practical to avoid the portions of Wetland A, Wetland B, Wetland C, Wetland D, Wetland E, and Wetland G within the footprint of the roadway project. Additionally, it is likely that the project will include a couple other minor isolated wetland impacts on a neighboring private development site in order to build a stormwater ditch and/or a stormwater basin. The developer is in the final stages of obtaining an Isolated Wetland Permit from Ohio EPA for their proposed wetland impacts.

D. Construction Start Date: 04/01/2022 **End Date:** 08/01/2022

E. Is any portion of the activity complete now? ☐ Yes ☒ No

Is this an "After-The-Fact" permit application? ☐ Yes ☒ No

Description of completed activities and its impact on the waters of the state.:

F. Coordinates LATITUDE: 40.096731 **LONGITUDE:** -82.744527

G. Project Address: Jug Street, New Albany, OH 43054

Location Description:

ZIP Code(s): 43054, 43001

County(ies):	**Township(s):**
Licking	Jersey
H. 8 or 12 Digit HUC Number:	**I. Watershed Name:**

050600011503	Headwaters Blacklick Creek

J. U.S. Army Corps of Engineers District: Huntington

K. Proposed Impacts to Isolated Wetlands:

☐ Beach Nourishment	☐ Blasting	☐ Breakwater	☐ Bulkhead
☐ Bridge/Culvert	☐ Dam	☐ Dredge	☒ Fill
☐ Groin/Jetty	☐ Levees/Berms	☐ Mine Through	☐ Revetment
☐ Bank Stabilization	☐ Stream Channelization	☐ Stream Relocation	☐ Water Body Crossing
☐ Weirs	☐ Other		

L. Other water related permits issued or required include:

☐ Individual 404 Permit

☐ Individual 401 WQC

☐ Nationwide Permit

☐ Section 9 Permit

☐ Section 10 Permit

☒ NPDES Permit **Permit Type:** General **Will be Submitted on:** 03/15/2022

☐ Permit to Install

☐ Regional General Permit

☐ ODNR Permit

☐ Oil & Gas Storm Water General Permit

M. Are there other aquatic resources on the project site?

☐ Perennial Streams ☐ Intermittent Streams ☐ Ephemeral Streams ☐ Non-Isolated Wetlands ☐ Lakes/Ponds

Section 3: Fees

Are you exempt from fees?		☐ Yes	☒ No (If YES, leave fee section blank)
Is this an After the Fact (ATF) application?		☐ Yes	☒ No
If YES, double the fees. Maximum fees of $10,000			
Application Fee =			$200.00
Review Fees			
Wetland Acres Impacted	0.28 x $500.00 =		$200.00
	Total Review Fees =		$0.00
	Total Fees ($200 Application Fee + Total Review Fees) =		$400.00
	Due at the time of application submittal =		$400.00

PLEASE MAKE FEE CHECK PAYABLE TO: "TREASURER, STATE OF OHIO"

Section 4: Submitted Documentation

Check all documents/items that have been submitted.

☒ Proposed Project Mapping

Upload File(s): Exhibit 3A - Soils.pdf, Exhibit 5 - Conceptual Development Plan.pdf, Exhibit 3B - Soils.pdf, Exhibit 4 - Delineation Map.pdf, Exhibit 1 - Location Map.pdf, Exhibit 2 - USGS.pdf

☒ Wetland Delineation Report

Upload File(s): Jug Street Improvements Project_Delineation Report.pdf

☒ Wetland categorization (including 10-page ORAM sheets)

Upload File(s): Wetland E - ORAM.pdf, Wetland D - ORAM.pdf, Wetland C - ORAM.pdf, Wetland A - ORAM.pdf, Wetland G - ORAM.pdf, Wetland B - ORAM.pdf

☒ Site Photographs

Upload File(s): 8_Photographs.pdf

☒ US Army Corps of Engineers Jurisdictional Determination

Upload File(s): 2022-38-SCR JDLtr.pdf

☒ Proposed Mitigation Plan

Upload File(s): Proposed Mitigation Plan.pdf

Section 5: Applicant and Agent Signature

Application is hereby made for an Isolated Wetland Permit. I certify that the information provided on this form and all attachments related to this project are true and accurate to the best of my knowledge.

Applicant Name:	**Title:**
MICHAEL Barker	Engineer
Signature:	**Date:**
Electronically submitted by newalbany	Electronically submitted on 02/04/2022

Application for an Isolated Wetland Permit - Proposed Wetland Impacts and Mitigation

Division of Surface Water

401 Water Quality Certification and Isolated Wetland Permitting Unit

Section 1: Wetlands Onsite and Proposed Impacts

Wetland ID	ORAM Score	Category	Cat. Verified by Ohio EPA?	Ohio EPA Reviewer who Verified	Size (Acres)			Proposed Impacts (Acres)		
					Forest	None	Total	Forest	None	Total
Wetland B	14.0	1	No		0.00	0.06	0.06	0.00	0.06	0.06
Wetland C	13.0	1	No		0.00	0.06	0.06	0.00	0.06	0.06
Wetland A	13.0	1	No		0.00	0.09	0.09	0.00	0.09	0.09
Wetland D	25.0	1	No		0.00	0.03	0.03	0.00	0.03	0.03
Wetland E	19.0	1	No		0.00	0.01	0.01	0.00	0.01	0.01
Wetland G	29.0	1	No		0.03	0.00	0.03	0.03	0.00	0.03
Wetland Acreage Totals					0.03	0.25	0.28	0.03	0.25	0.28
Totals: Category 1 Wetlands					0.03	0.25	0.28	0.03	0.25	0.28
Totals: Category 2 Wetlands					0.00	0.00	0.00	0.00	0.00	0.00
Totals: Category 3 Wetlands					0.00	0.00	0.00	0.00	0.00	0.00

Section 2: Proposed Wetland Mitigation (Check All That Apply) Preferred Alternative

☒ **Wetland Mitigation Bank**

Mitigation Bank: Little Scioto (Phase II) **Other Mitigation Bank:**

Number of Forested Credits: 0.6 **Type of Credits (if applicable):**

Number of Non-Forested Credits: **Type of Credits (if applicable):**

☒ **Proof of Reservation?**

Upload File(s): City of New Albany Jug Street Improvements.pdf

☐ **In-Lieu Fee Program** **ILF Sponsor:** **Other ILF Sponsor:**

Number of Wetland Credits:

☐ **Proof of Reservation?**

☐ **On-Site Permittee-Responsible Mitigation**

☐ **Restoration/Creation** **Type of Wetland:** **Acres:**

☐ **Preservation** **Type of Wetland:** **Acres:**

☐ **Enhancement** **Type of Wetland:** **Acres:**

☐ **Other**

Other Description:

- ☐ **Off-Site Permittee-Responsible Mitigation**
- ☐ **Restoration/Creation** **Type of Wetland:** **Acres:**
- ☐ **Preservation** **Type of Wetland:** **Acres:**
- ☐ **Enhancement** **Type of Wetland:** **Acres:**
- ☐ **Other**

Other Description:

General Isolated Wetland Permit Application (Level One)

Division of Surface Water

(For impacts of ½ acre or less to Category 1 and 2 isolated wetlands)

Section 1: Applicant and Consultant/Agent Information		
	Applicant	**Consultant/Agent**
Company/Agency Name:	The City of New Albany	EMH&T
Address:	99 W. Main Street, New Albany, OH 43054	5500 New Albany Road, Columbus, OH 43054
Contact Name/Title:	Ryan Ohly/City Engineer	Eric Nagy/Sr. Envir. Scientist
Contact Phone:	(614) 939-2247	(614) 775-4518
Alternate Phone:		(614) 403-4326
Contact FAX:		
Contact Email:	rohly@newalbanyohio.org	enagy@emht.com
Technical Contact:		
Technical Phone:		
Technical Email:		

Section 2: Project Information

A. Project Name: Jug Street Improvements Project

B. Has Pre-Application Coordination occurred? ☐ Yes ☒ No

401 Pre-application Reviewer: **Date of 401 Pre-application Meeting:**

C. Brief Project Description: The purpose of the Jug Street Improvement Project is to widen, improve, and relocate utilities along Jug Street between the intersection with Beech Road to the west and the intersection with Harrison Road to the east in the City of New Albany and Jersey Township, Licking County, Ohio. The project corridor is currently composed of a two-lane, unimproved roadway that is lined by developed sites, fallow and active agricultural fields, residential estate lots, and a woodlot. The roadway currently drains to a roadside ditch network that is prone to flooding low areas of the road during heavy or prolonged rainfall. The roadway is being improved as an interior commercial roadway that will provide connection to a future business park. The improved portion of Jug Street will include two (2) travel lanes, a curb and gutter system, and a new roundabout at the intersection with Harrison Road. A shared use path will be installed along the roadway. The roadway improvements being proposed are necessary to handle the expected increase in traffic as the surrounding land develops into commercial warehouses and industrial factories, which will all provide economic benefits to the local community.

The 0.274 acre of isolated wetlands proposed to be impacted by the project are low quality features that have limited function for improving water quality, as they are completely disconnected from any streams. Exhibit 5 shows the proposed development plan and the proposed isolated wetland impacts. It was not practical to avoid the portions of Wetland A, Wetland B, Wetland C, Wetland D, Wetland E, and Wetland G within the footprint of the roadway project. Additionally, it is likely that the project will include a couple other minor isolated wetland impacts on a neighboring private development site in order to build a stormwater ditch and/or a stormwater basin. The developer is in the final stages of obtaining an Isolated Wetland Permit from Ohio EPA for their proposed wetland impacts.

D. Construction Start Date: 04/01/2022 **End Date:** 08/01/2022

E. Is any portion of the activity complete now? ☐ Yes ☒ No

Is this an "After-The-Fact" permit application? ☐ Yes ☒ No

Description of completed activities and its impact on the waters of the state.:

F. Coordinates LATITUDE: 40.096731 **LONGITUDE:** -82.744527

G. Project Address: Jug Street, New Albany, OH 43054

Location Description:

ZIP Code(s): 43054, 43001

County(ies):	**Township(s):**
Licking	Jersey
H. 8 or 12 Digit HUC Number:	**I. Watershed Name:**

050600011503	Headwaters Blacklick Creek

J. U.S. Army Corps of Engineers District: Huntington

K. Proposed Impacts to Isolated Wetlands:

☐ Beach Nourishment	☐ Blasting	☐ Breakwater	☐ Bulkhead
☐ Bridge/Culvert	☐ Dam	☐ Dredge	☒ Fill
☐ Groin/Jetty	☐ Levees/Berms	☐ Mine Through	☐ Revetment
☐ Bank Stabilization	☐ Stream Channelization	☐ Stream Relocation	☐ Water Body Crossing
☐ Weirs	☐ Other		

L. Other water related permits issued or required include:

☐ Individual 404 Permit

☐ Individual 401 WQC

☐ Nationwide Permit

☐ Section 9 Permit

☐ Section 10 Permit

☒ NPDES Permit **Permit Type:** General **Will be Submitted on:** 03/15/2022

☐ Permit to Install

☐ Regional General Permit

☐ ODNR Permit

☐ Oil & Gas Storm Water General Permit

M. Are there other aquatic resources on the project site?

☐ Perennial Streams ☐ Intermittent Streams ☐ Ephemeral Streams ☐ Non-Isolated Wetlands ☐ Lakes/Ponds

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Are you exempt from fees?		☐ Yes	☒ No (If YES, leave fee section blank)
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Signature:	**Date:**
Electronically submitted by newalbany	Electronically submitted on 02/04/2022

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Division of Surface Water

401 Water Quality Certification and Isolated Wetland Permitting Unit

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Wetland D	25.0	1	No		0.00	0.03	0.03	0.00	0.03	0.03
Wetland E	19.0	1	No		0.00	0.01	0.01	0.00	0.01	0.01
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Number of Wetland Credits:

☐ **Proof of Reservation?**

☐ **On-Site Permittee-Responsible Mitigation**

☐ **Restoration/Creation** **Type of Wetland:** **Acres:**

☐ **Preservation** **Type of Wetland:** **Acres:**

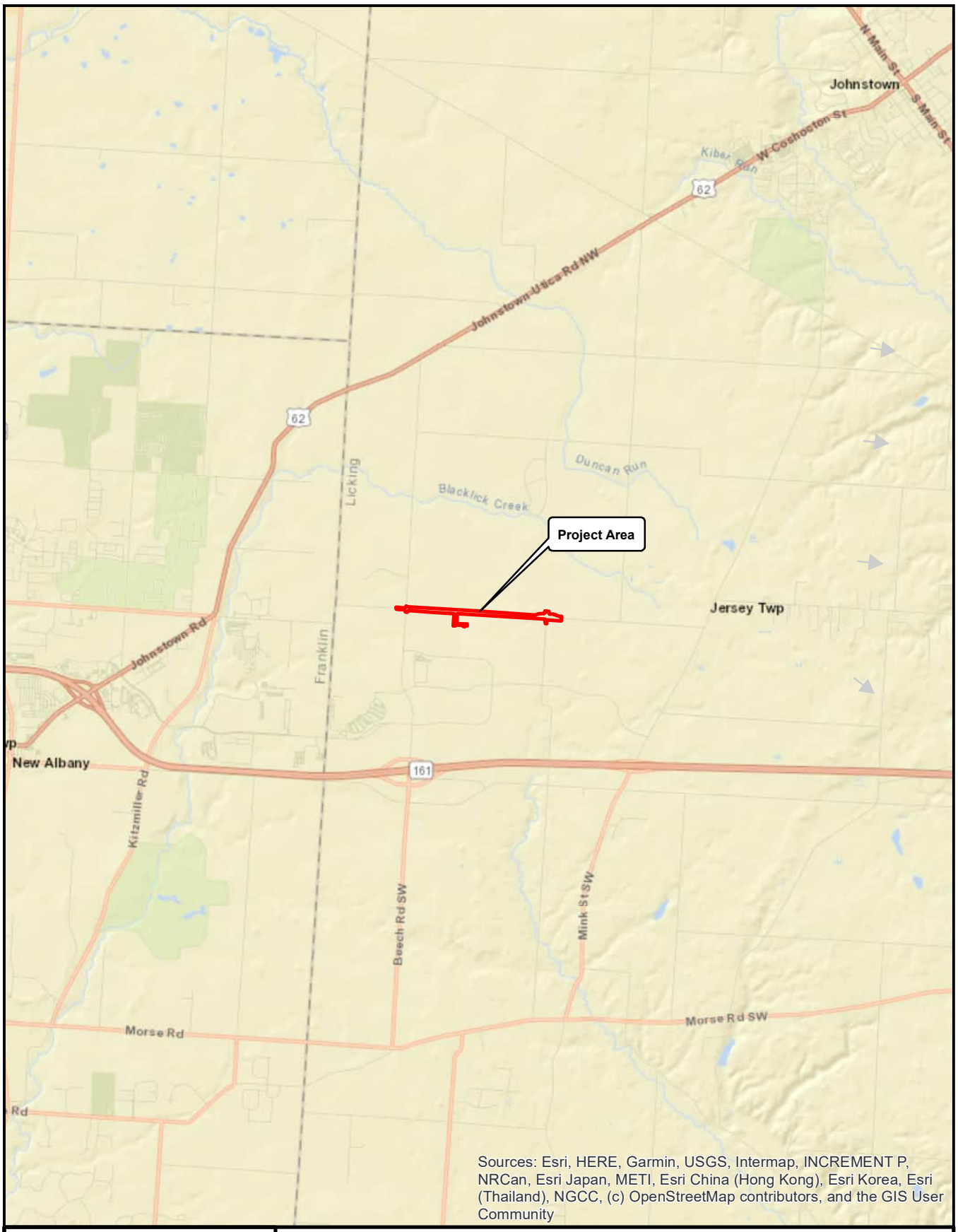
☐ **Enhancement** **Type of Wetland:** **Acres:**

☐ **Other**

Other Description:

- ☐ **Off-Site Permittee-Responsible Mitigation**
- ☐ **Restoration/Creation** **Type of Wetland:** **Acres:**
- ☐ **Preservation** **Type of Wetland:** **Acres:**
- ☐ **Enhancement** **Type of Wetland:** **Acres:**
- ☐ **Other**

Other Description:



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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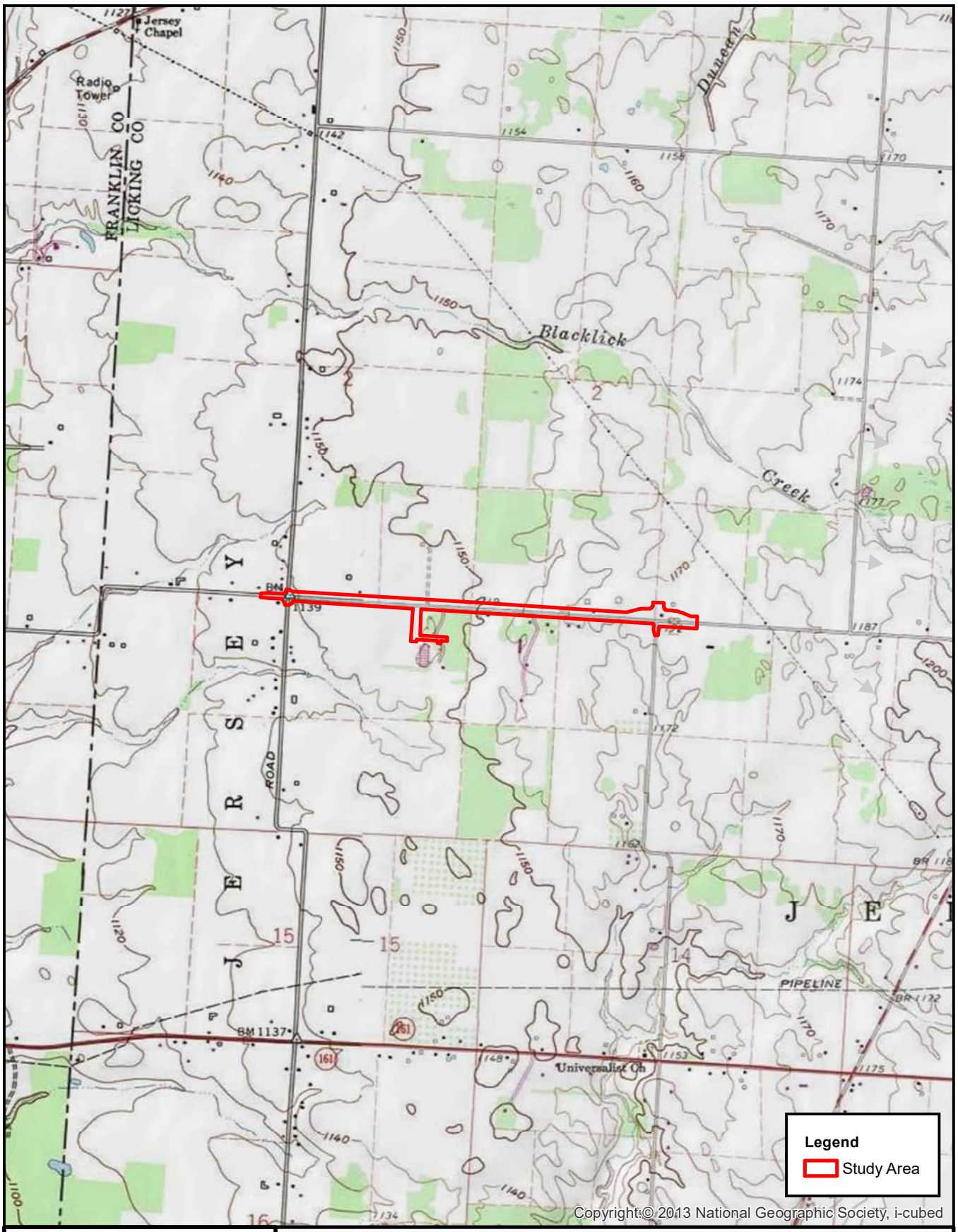
Jug Street Improvements Project
Location Map
Exhibit 1

SCALE: 1" = 1 mile

0 0.5 1 2 Miles

N

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Path: J:\20211116\GIS\Exhibit 2 - USGS.mxd

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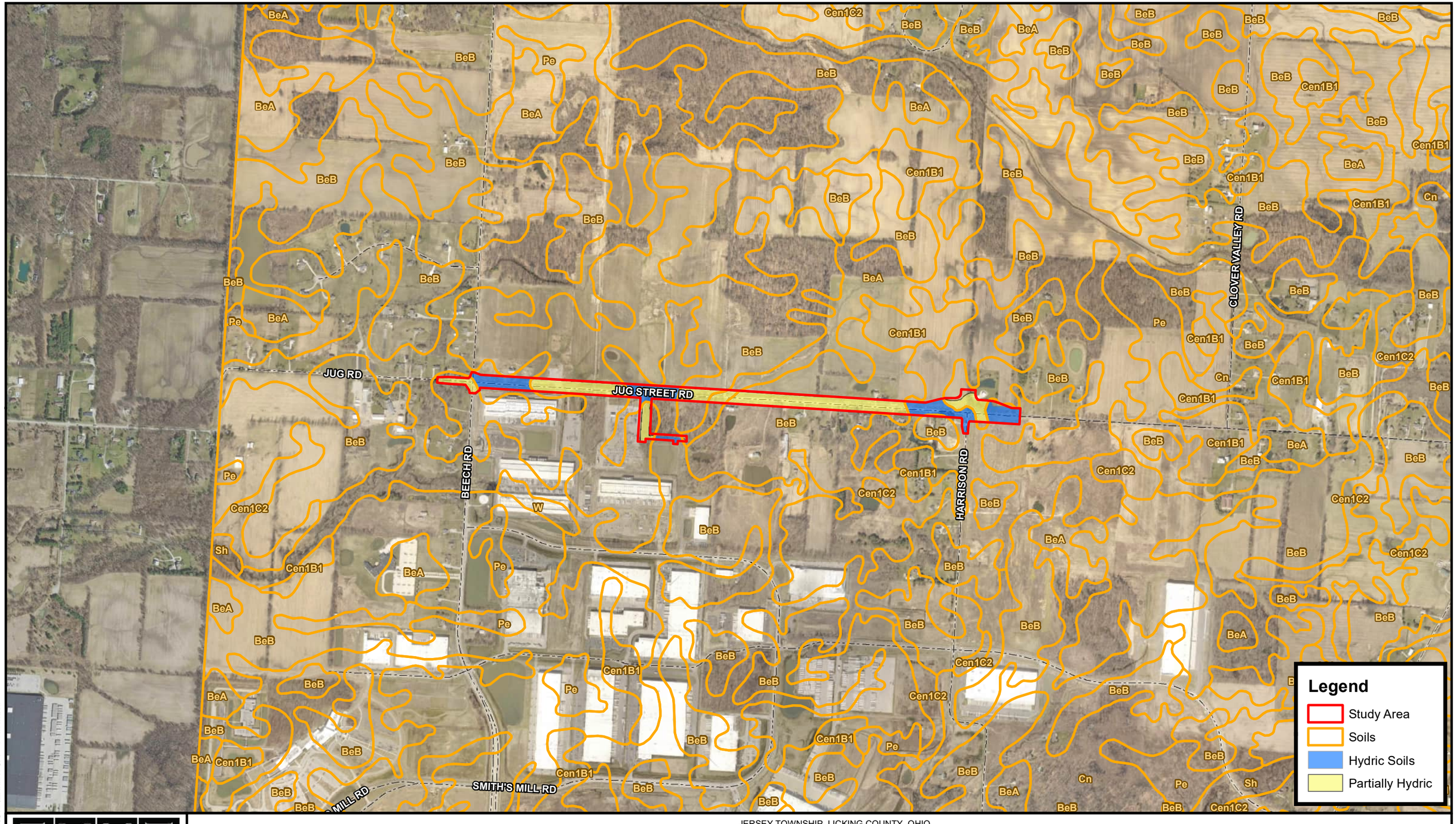
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Jug Street Improvements Project
USGS Topographic Map
Exhibit 2

SCALE: 1" = 2,000'

0 1,000 2,000 4,000 Feet

Source: USGS - New Albany Quadrangle (1983) & USGS - Jersey Quadrangle (1975)



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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

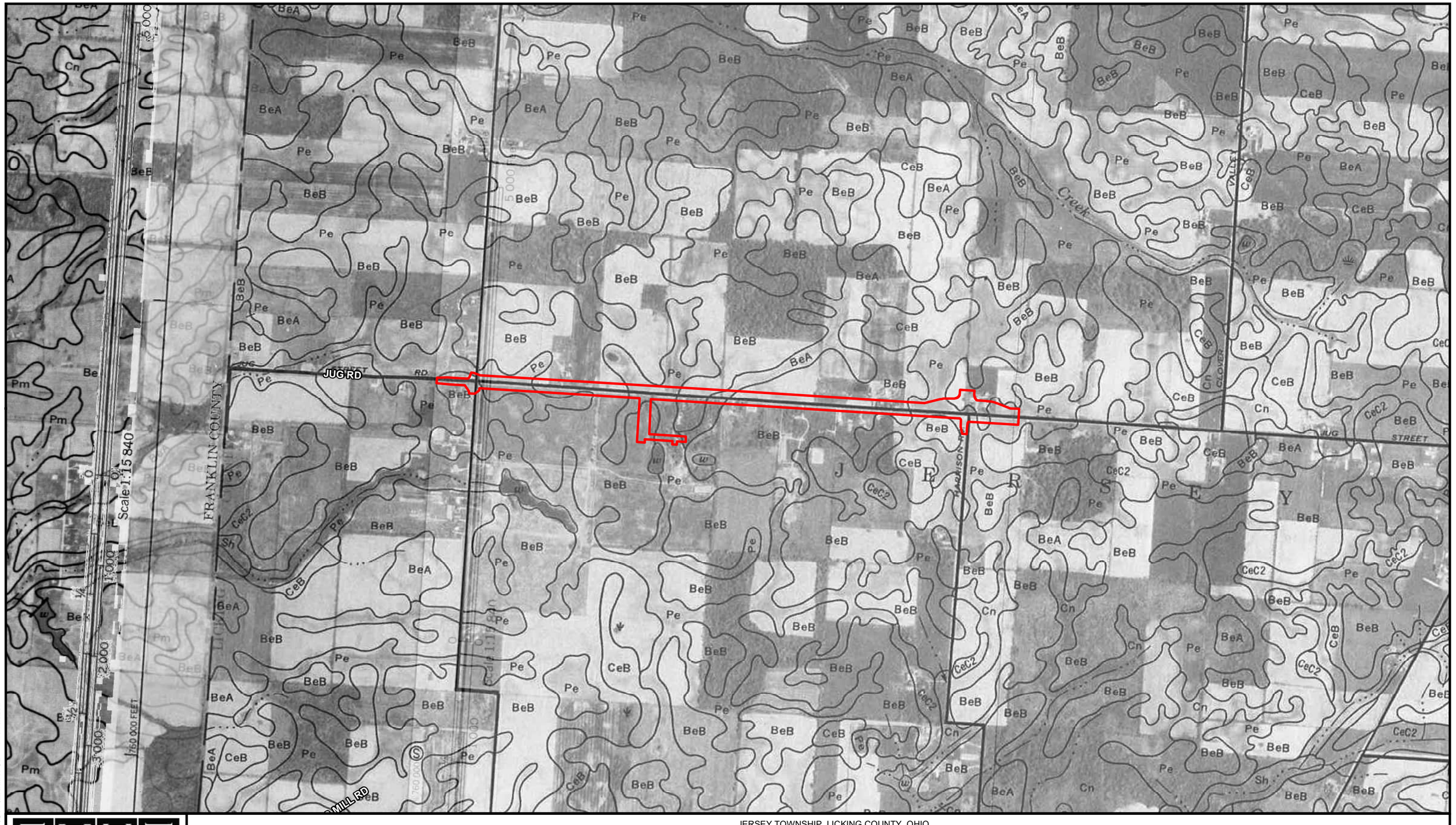
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Jug Street Improvements Project
Soil Survey of Licking County
Exhibit 3A

N

Source: Soils - NRCS, 2021; Aerial - Licking County, 2021

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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

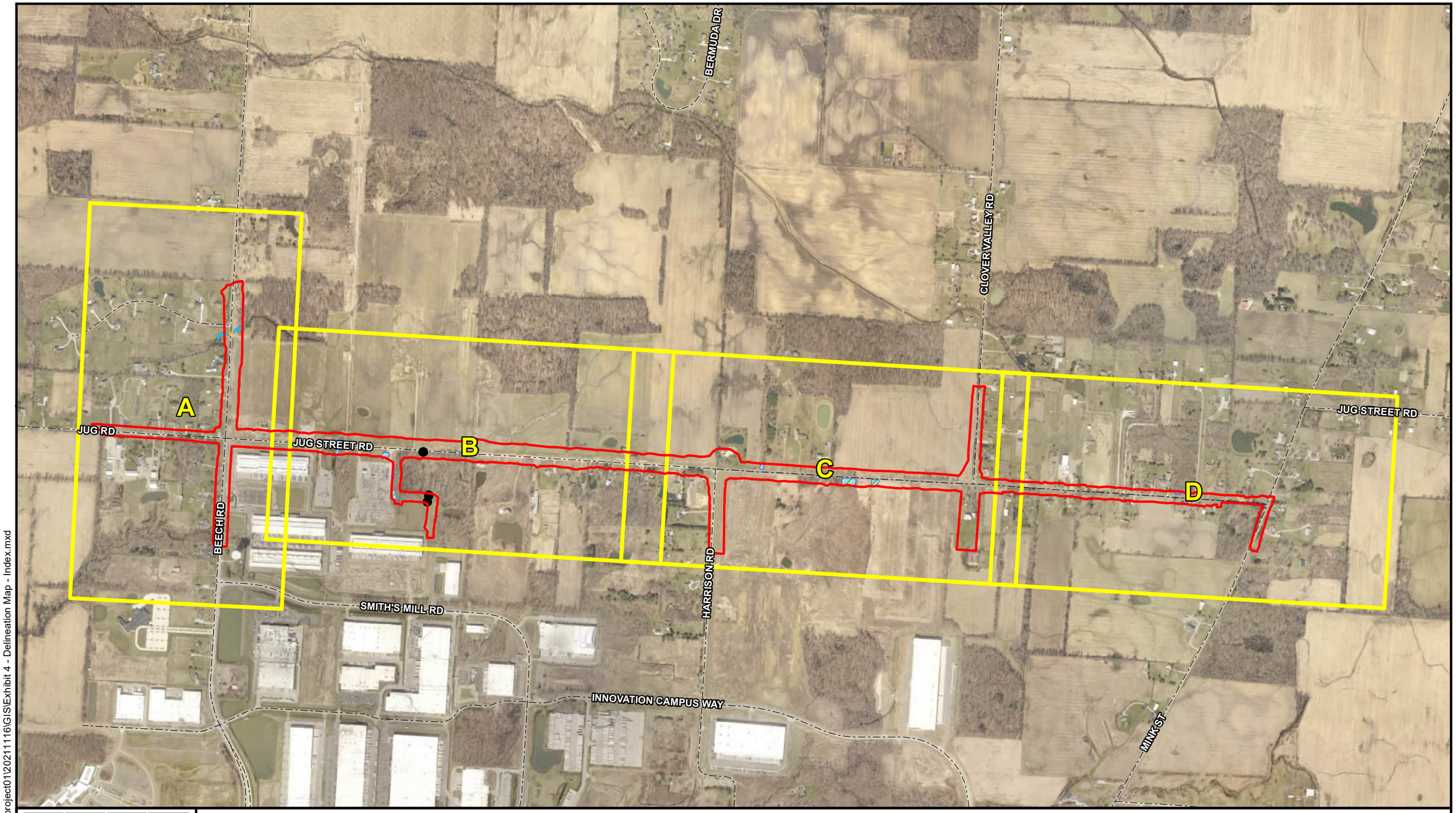
JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Soils Map
Exhibit 3B

N

Source: Soils - USDA, 1992

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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

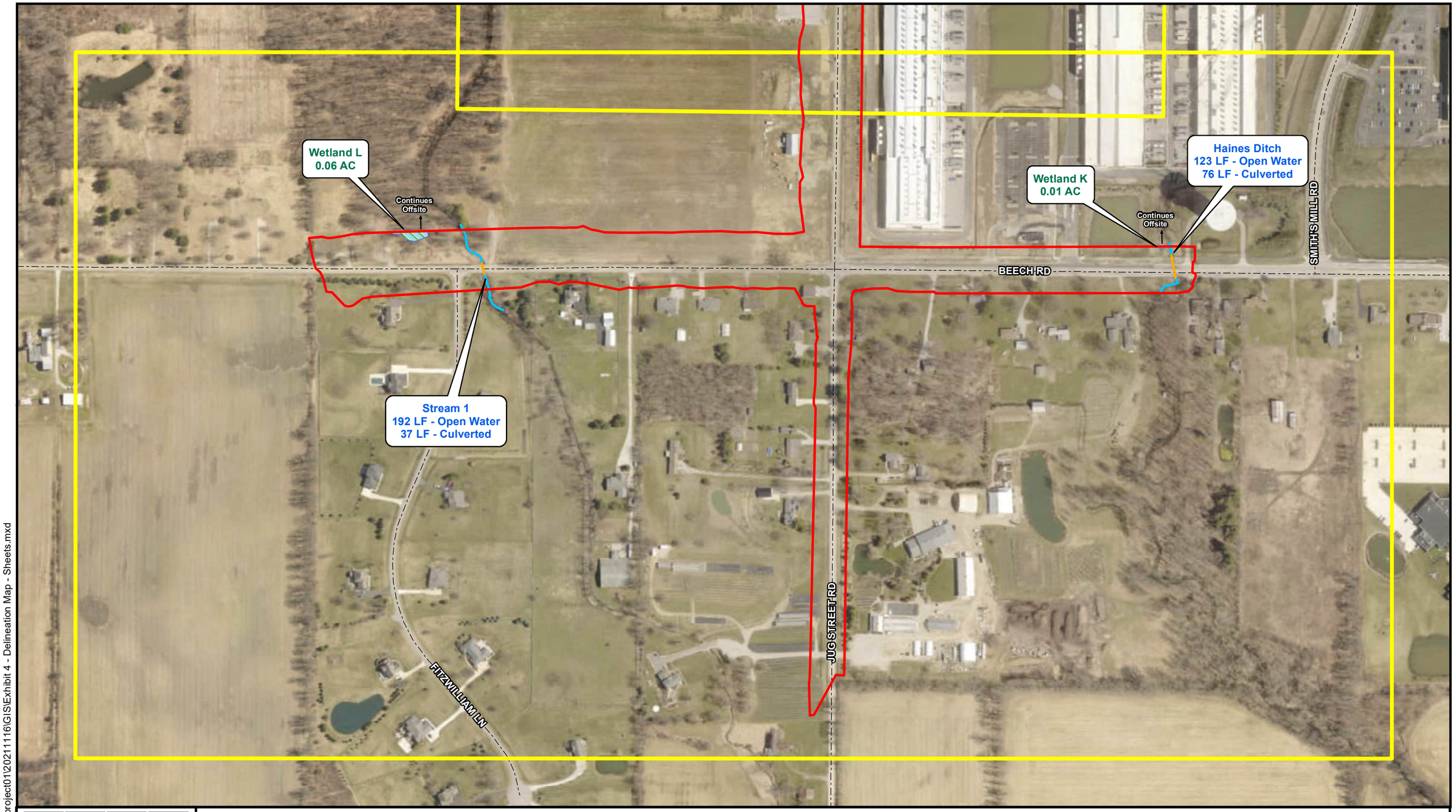
JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4 - Index

N

Aerial - Licking County, 2021

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SCALE: 1" = 1,000'

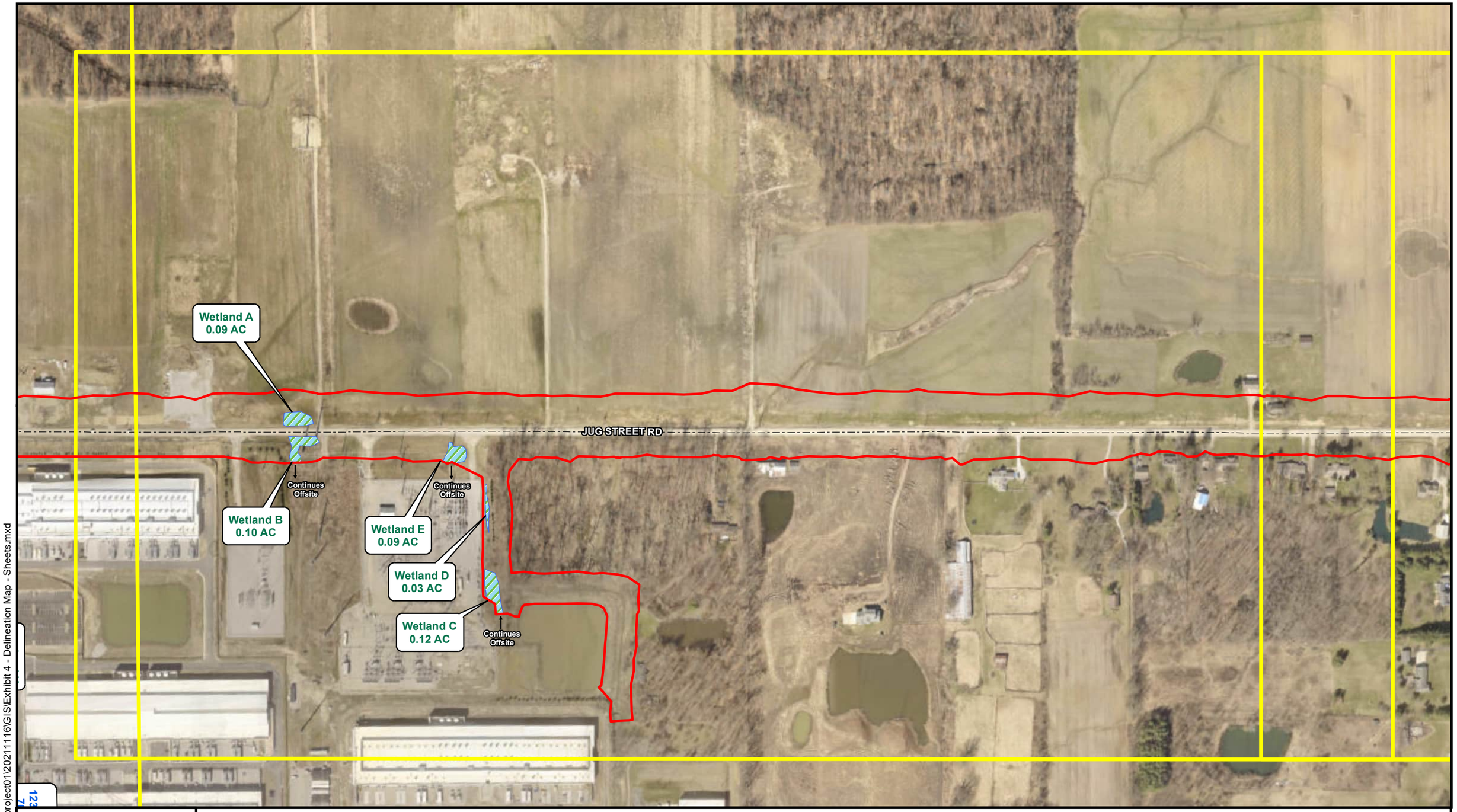
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JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4A

Aerial - Licking County, 2021

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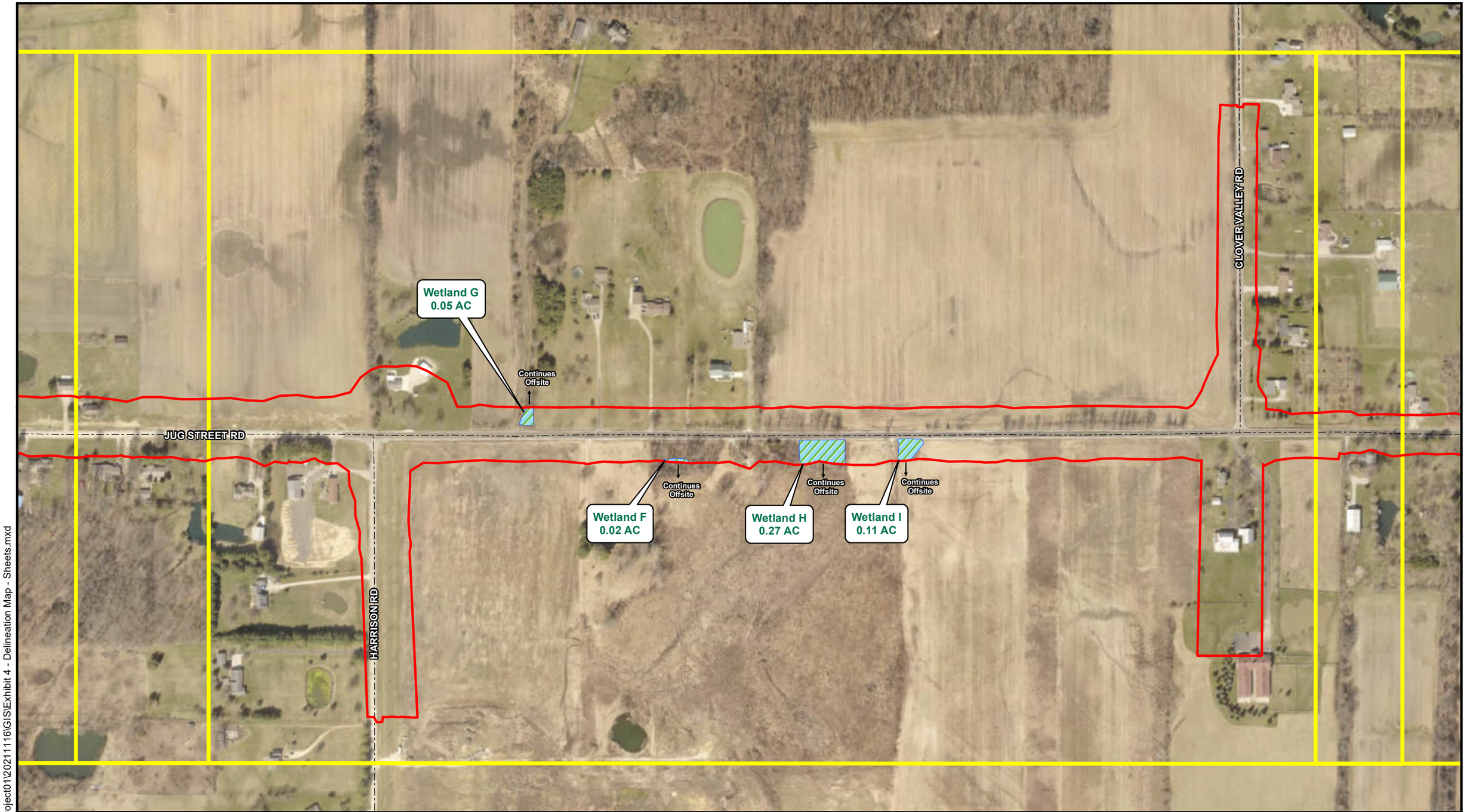
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0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4B

Aerial - Licking County, 2021



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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4C

Aerial - Licking County, 2021



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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4D

Aerial - Licking County, 2021

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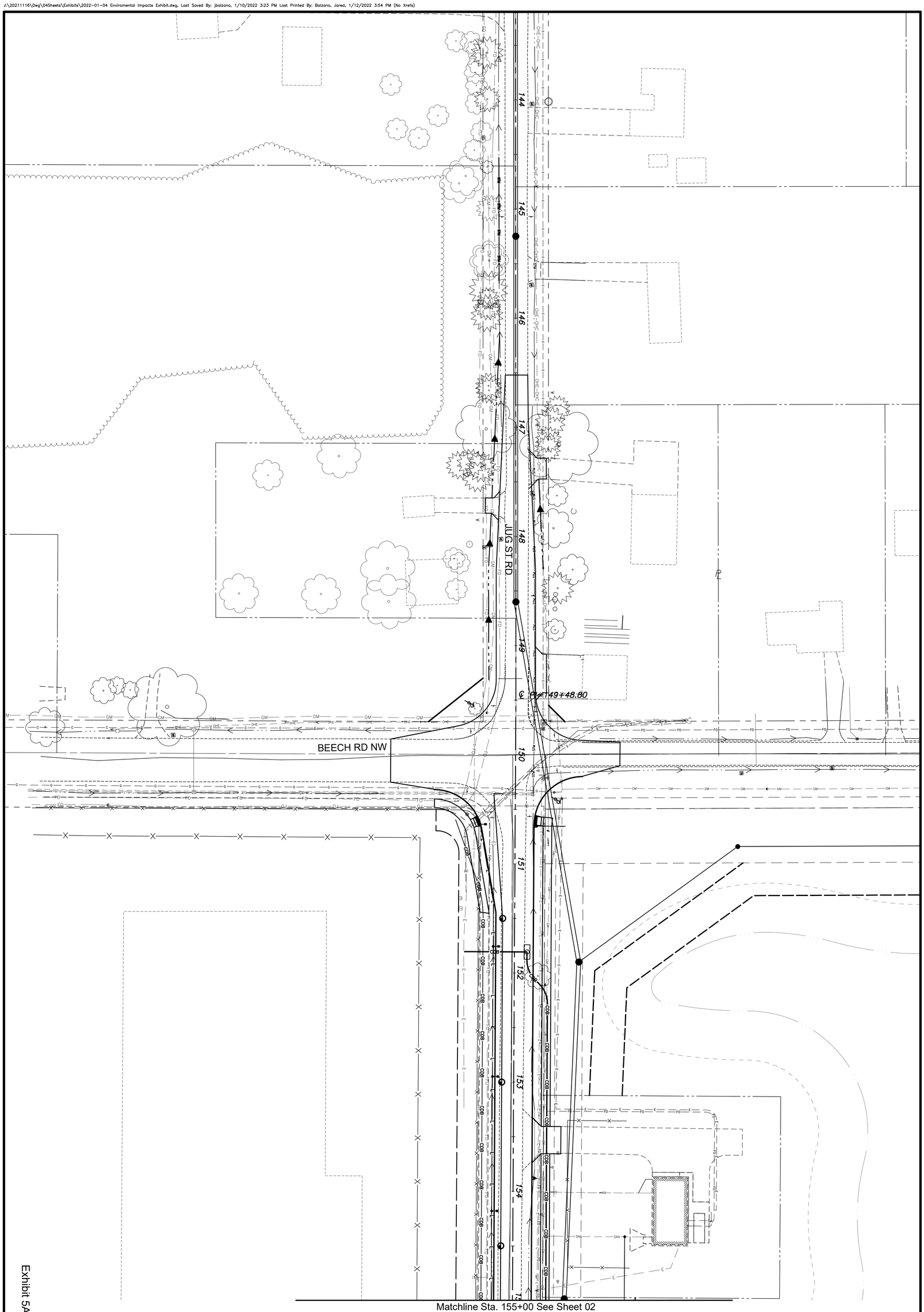


Exhibit 5A

Matchline Sta. 155+00 See Sheet 02

01 / 07	**JUG STREET ROAD IMPROVEMENTS**	**ENVIRONMENTAL IMPACTS EXHIBIT**	CALCULATED *JJB* / CHECKED *EN*	GRAPHIC SCALE 0 20 40 80 — 1 inch = 40 feet

Matchline Sta. 155+00 See Sheet 01

Matchline Sta. 166+50 See Sheet 03

JUG ST RD

Wetland A
(0.09 Ac Impacted)

Wetland B
(0.06 Ac Impacted)

CONTINUES
OFFSITE

Exhibit 5B

Legend

Wetland Impacts

Existing Wetland

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

02
07

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Matchline Sta. 166+50 See Sheet 02

Matchline Sta. 176+00 See Sheet 04

JUG ST RD

Wetland E
(0.004 AC Impacted)

CONTINUES
OFFSITE

Wetland D
(0.03 Ac Impacted)

Wetland C
(0.06 Ac Impacted)

CONTINUES
OFFSITE

Legend

Wetland Impacts

Existing Wetland

Exhibit 5C

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

03
07

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Exhibit 5D

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

04
07

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GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

Exhibit 5E

05
07

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GRAPHIC SCALE
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CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

06
07

Exhibit 5F

Matchline Sta. 197+00 See Sheet 05

Matchline Sta. 208+50 See Sheet 07

JUG ST RD

HARRISON RD NW

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Exhibit 5G

GRAPHIC SCALE
0 20 40 80
1 inch = 40 feet

CALCULATED JJB
CHECKED EN

ENVIRONMENTAL IMPACTS EXHIBIT

JUG STREET RD IMPROVEMENTS

07
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DEPARTMENT OF THE ARMY
U.S. ARMY CORPS OF ENGINEERS, HUNTINGTON DISTRICT
502 8TH STREET
HUNTINGTON, WV 25701-2018

February 3, 2022

Regulatory Division
North Branch
LRH-2022-38-SCR

APPROVED & PRELIMINARY JURISDICTIONAL DETERMINATIONS

Mr. Ryan Ohly
City of New Albany
99 West Main Street
New Albany, Ohio 43054

Dear Mr. Ohly:

I refer to the *Jug Street Improvements Project, Investigation of Waters of the United States, The City of New Albany, dated 6 January 2022* submitted on your behalf by EMH&T, Inc. You have requested a preliminary jurisdictional determination (JD) for the potential jurisdictional aquatic resources and an approved JD for the potential non-jurisdictional aquatic resources on the approximate 78.01-acre site. The property is located along Jug Street from west of Beech Road to Mink Street in Jersey Township, Licking County, Ohio at approximately 40.0963 latitude, -82.7343 longitude. Your JD request was previously assigned the following file number: LRH-2022-38-SCR. Please reference this number on all future correspondence related to this project.

The United States Army Corps of Engineers' (Corps) authority to regulate waters of the United States is based on the definitions and limits of jurisdiction contained in 33 CFR 328 and 33 CFR 329. Section 404 of the Clean Water Act (Section 404) requires a Department of the Army (DA) permit be obtained prior to discharging dredged and/or fill material into waters of the United States, including wetlands. Section 10 of the Rivers and Harbors Act of 1899 (Section 10) requires a DA permit be obtained for any work in, on, over, or under a navigable water.

Preliminary Jurisdictional Determination

Based upon a review of the submitted report, this office has determined 315 linear feet of two (2) streams (Haines Ditch and Stream 1) and 0.07 acre of two (2) wetlands (Wetlands K and L) are located within the approximate 78.01-acre site and may be waters of the United States in accordance with the Regulatory Guidance Letter for JDs issued by the Corps on October 31, 2016 (Regulatory Guidance Letter No. 16-01). As indicated in the guidance, this Preliminary JD is non-binding and cannot be appealed (33 CFR 331.2), and only provides a written indication that waters of the United States, including wetlands, may be present on-site.

You have declined to exercise the option to obtain an approved JD in this instance and at this time for the above aquatic resources. However, for the purposes of the determination of impacts, compensatory mitigation, and other resource protection measures for activities that require authorization from this office, the above aquatic resources will be evaluated as if they are waters of the United States.

Enclosed please find two copies of the Preliminary JD. If you agree with the findings of this Preliminary JD and understand your options regarding the same, please sign and date one (1) copy of the Preliminary JD form and return it to this office within 30 days of receipt of this letter. You should submit the signed copy to the following address:

United States Army Corps of Engineers
Huntington District
Attn: North Branch
502 Eighth Street
Huntington, West Virginia 25701

Approved Jurisdictional Determination

Our December 2, 2008 headquarters guidance entitled *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States & Carabell v. United States* was followed in the final verification of Clean Water Act jurisdiction. Based on a review of the information dated January 6, 2022, and other information available to us, Wetlands A-J are surrounded by uplands and do not exhibit a distinct surface water connection to a water of the United States. These wetlands would not support interstate or foreign commerce interests, nor do they contain any rare, threatened, or endangered species. Therefore, these wetlands are not jurisdictional waters of the United States. However, you should contact the Ohio Environmental Protection Agency, Division of Surface Water, at (614) 664-2001 to determine state permit requirements.

In accordance with the June 5, 2007 Joint Memorandum between the United States Environmental Protection Agency (USEPA) and the Corps and the January 28, 2008 Corps Memorandum regarding coordination on jurisdictional determinations, this isolated wetland determination was coordinated with the USEPA Region 5 and the Corps Headquarters, with coordination completed on December 2, 2021 and December 13, 2021, respectively.

This jurisdictional verification is valid for a period of five (5) years from the date of this letter unless new information warrants revision of the delineation prior to the expiration date. This letter contains an approved JD for the subject site within the approved JD boundary. If you object to this determination, you may request an administrative appeal under Corps regulations at 33 CFR 331. Enclosed you will find a Notification of Appeal Process (NAP) fact sheet and Request for Appeal (RFA) form. If you request to appeal this determination you must submit a completed RFA form to the Great Lakes and Ohio River Division Office at the following address:

Appeal Review Officer
United States Army Corps of Engineers
Great Lakes and Ohio River Division
550 Main Street, Room 10-714
Cincinnati, Ohio 45202-3222
Phone: (513) 684-2699
Fax: (513) 684-2460

In order for an RFA to be accepted by the Corps, the Corps must determine that it is complete, that it meets the criteria for appeal under 33 CFR 331.5, and that it has been received by the Division Office within 60 days of the date of the NAP. **It is not necessary to submit an RFA form to the Division office if you do not object to the determination in this letter**.

This determination has been conducted to identify the limits of the Corps' Section 404 jurisdiction for the particular site identified in this request. This determination may not be valid for the wetland conservation provisions of the Food Security Act of 1985. If you or your tenant are United States Department of Agriculture (USDA) program participants, or anticipate participation in USDA programs, you should request a certified wetland determination from the local office of the Natural Resources Conservation Service prior to starting work.

A copy of this letter is being provided to your agent, Mr. Eric Nagy of EMH&T, Inc. If you have any questions concerning the above, please contact James Reenan of the North Branch at 816-389-3832, by mail at the above address, or by email at james.s.reenan@usace.army.mil.

Sincerely,

Teresa Spagna
Chief, North Branch

Enclosures(s)

cc (via email):

Mr. Eric Nagy, EMH&T, Inc.



Photograph 1
Wetland A facing north.
(EMH&T, 11/30/2021)



Photograph 2
Wetland A facing east.
(EMH&T, 11/30/2021)



Photograph 3
Wetland A facing south.
(EMH&T, 11/30/2021)



Photograph 4
Wetland A facing west.
(EMH&T, 11/30/2021)



Photograph 5
Wetland B facing north.
(EMH&T, 11/30/2021)



Photograph 6
Wetland B facing east.
(EMH&T, 11/30/2021)



Photograph 7
Wetland B facing south.
(EMH&T, 11/30/2021)



Photograph 8
Wetland B facing west.
(EMH&T, 11/30/2021)



Photograph 9
Wetland C facing north.
(EMH&T, 11/30/2021)



Photograph 10
Wetland C facing east.
(EMH&T, 11/30/2021)



Photograph 11
Wetland C facing south.
(EMH&T, 11/30/2021)



Photograph 12
Wetland C facing west.
(EMH&T, 11/30/2021)



Photograph 13
Wetland D facing north.
(EMH&T, 11/30/2021)



Photograph 14
Wetland D facing east.
(EMH&T, 11/30/2021)



Photograph 15
Wetland D facing south.
(EMH&T, 11/30/2021)



Photograph 16
Wetland D facing west.
(EMH&T, 11/30/2021)



Photograph 17
Wetland E facing north.
(EMH&T, 12/1/2021)



Photograph 18
Wetland E facing east.
(EMH&T, 12/1/2021)



Photograph 19
Wetland E facing south.
(EMH&T, 12/1/2021)



Photograph 20
Wetland E facing west.
(EMH&T, 12/1/2021)



Photograph 25
Wetland G facing north.
(EMH&T, 12/3/2021)



Photograph 26
Wetland G facing east.
(EMH&T, 12/3/2021)



Photograph 27
Wetland G facing south.
(EMH&T, 12/3/2021)



Photograph 28
Wetland G facing west.
(EMH&T, 12/3/2021)

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 12/1/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland A
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.097202°, -82.749429°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	12/1/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland A	
Wetland Size (acres, hectares):	0.09 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 13	**Category:** 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/1/2021

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (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)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

3 (max 14 pts.) | 3 (subtotal)

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

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

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

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

Metric 3. Hydrology.

5 (max 30 pts.) | 8 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3 (max 20 pts.) | 11 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

11 (subtotal this page)

last revised 1 February 2001 jjm

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/1/2021

11
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 11 (subtotal)

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

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

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

13 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	0
	Metric 2. Buffers and surrounding land use	3	3
	Metric 3. Hydrology	5	8
	Metric 4. Habitat	3	11
	Metric 5. Special Wetland Communities	0	11
	Metric 6. Plant communities, interspersion, microtopography	2	13
	TOTAL SCORE	13	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 11/30/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland B
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.096933°, -82.749465°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	11/30/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland B	
Wetland Size (acres, hectares):	0.25 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 13.5 **Category:**	1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

Metric 1. Wetland Area (size).

1	1
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)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

2	3
max 14 pts.	subtotal

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

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

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

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

Metric 3. Hydrology.

5	8
max 30 pts.	subtotal

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.5	11.5
max 20 pts.	subtotal

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

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

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

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

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

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

Check all disturbances observed

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

11.5
subtotal this page

last revised 1 February 2001 jjm

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

11.5
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 11.5 (subtotal)

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

2 (max 20 pts.) | 13.5 (subtotal)

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

13.5 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	1
	Metric 2. Buffers and surrounding land use	2	3
	Metric 3. Hydrology	5	8
	Metric 4. Habitat	3.5	11.5
	Metric 5. Special Wetland Communities	0	11.5
	Metric 6. Plant communities, interspersion, microtopography	2	13.5
	TOTAL SCORE	13.5	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 11/30/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland C
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.095538°, -82.747207°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	11/30/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland C	
Wetland Size (acres, hectares):	0.2 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 13	**Category:** 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
1	1

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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
2	3

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

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

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

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

Metric 3. Hydrology.

max 30 pts.	subtotal
5	8

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

max 20 pts.	subtotal
8	16

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

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

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

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

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

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

Check all disturbances observed

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

16
subtotal this page

last revised 1 February 2001 jjm

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

16
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 16 subtotal

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

-3 max 20 pts. | 13 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [0] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

Phragmites

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

13 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	1
	Metric 2. Buffers and surrounding land use	2	3
	Metric 3. Hydrology	5	8
	Metric 4. Habitat	8	16
	Metric 5. Special Wetland Communities	0	16
	Metric 6. Plant communities, interspersion, microtopography	-3	13
	TOTAL SCORE	13	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

	Final Category		
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 11/30/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland D
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.096319°, -82.747190°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	11/30/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland D	
Wetland Size (acres, hectares):	0.03 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 25	**Category:** 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

Metric 1. Wetland Area (size).

max 6 pts.	subtotal
0	0

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

max 14 pts.	subtotal
5	5

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

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

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

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

Metric 3. Hydrology.

max 30 pts.	subtotal
7	12

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

max 20 pts.	subtotal
10	22

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

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

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

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

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

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

Check all disturbances observed

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

subtotal this page
22

last revised 1 February 2001 jjm

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 11/30/2021

22
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts.) | 22 (subtotal)

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

3 (max 20 pts.) | 25 (subtotal)

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

Phragmites

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

25 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	0
	Metric 2. Buffers and surrounding land use	5	5
	Metric 3. Hydrology	7	12
	Metric 4. Habitat	10	22
	Metric 5. Special Wetland Communities	0	22
	Metric 6. Plant communities, interspersion, microtopography	3	25
	TOTAL SCORE	25	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 12/1/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland E
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.096757°, -82.747530°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	12/1/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland E	
Wetland Size (acres, hectares):	0.1 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 19	**Category:** 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/1/2021

Metric 1. Wetland Area (size).

1	1
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)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1	2
max 14 pts.	subtotal

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

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

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

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

Metric 3. Hydrology.

6	8
max 30 pts.	subtotal

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

10	18
max 20 pts.	subtotal

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

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

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

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

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

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

Check all disturbances observed

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

18
subtotal this page

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/1/2021

18
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 18 subtotal

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

1 max 20 pts. | 19 subtotal

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

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

Typha angustifolia

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

19 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	1
	Metric 2. Buffers and surrounding land use	1	2
	Metric 3. Hydrology	6	8
	Metric 4. Habitat	10	18
	Metric 5. Special Wetland Communities	0	18
	Metric 6. Plant communities, interspersion, microtopography	1	19
	TOTAL SCORE	19	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Version 5.0	**Ohio Rapid Assessment Method for Wetlands 10 Page Form for Wetland Categorization**	
	Background Information Scoring Boundary Worksheet Narrative Rating Field Form Quantitative Rating ORAM Summary Worksheet Wetland Categorization Worksheet	Ohio EPA, Division of Surface Water Final: February 1, 2001

Instructions

The investigator is *STRONGLY URGED* to read the Manual for Using the Ohio Rapid Assessment Method for Wetlands for further elaboration and discussion of the questions below prior to using the rating forms.

The Narrative Rating is designed to categorize a wetland or to provide alerts to the Rater based on the presence or possible presence of threatened or endangered species. The presence or proximity of such species is often an indicator of the quality and lack of disturbance of the wetland being evaluated. In addition, it is designed to categorize certain wetlands as very low quality (Category 1) or very high quality (Category 3) regardless of the wetland's score on the Quantitative Rating. In addition, the Narrative Rating also alerts the investigator that a particular wetland *may* be a Category 3 wetland, again, regardless of the wetland's score on the Quantitative Rating.

It is *VERY IMPORTANT* to properly and thoroughly answer each of the questions in the ORAM in order to properly categorize a wetland. To *properly* answer all the questions, the boundaries of the wetland being assessed must be correctly identified. Refer to Scoring Boundary worksheet and the User's Manual for a discussion of how to determine the "scoring boundaries." In some instances, the scoring boundaries may differ from the "jurisdictional boundaries."

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories. The most recent version of this document is posted on Ohio EPA's Division of Surface Water web page at: http://www.epa.ohio.gov/dsw/wetlands/WetlandEcologySection.aspx

Background Information

Name: Eric Nagy
Date: 12/1/2021
Affiliation: EMH&T
Address: 5500 New Albany Road, Columbus, Ohio 43054
Phone Number: (614) 775-4518
e-mail address: enagy@emht.com
Name of Wetland: Wetland E
Vegetation Communit(ies): Emergent
HGM Class(es): PEM
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See Exhibit 4 (Delineation Map).

Lat/Long or UTM Coordinate	40.096435°, -82.732556°
USGS Quad Name	Jersey, Ohio Quad
County	Licking
Township	Jersey
Section and Subsection	
Hydrologic Unit Code	05060001-15-03
Site Visit	12/3/2021
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	--
Soil Survey	Web Soil Survey
Delineation report/map	EMH&T, January 2022

Name of Wetland: Wetland E	
Wetland Size (acres, hectares):	0.1 acre

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

See Exhibit 4 (Delineation Map).

Comments, Narrative Discussion, Justification of Category Changes:

NA

Final score : 29	**Category:** 1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

ORAM v. 5.0 Field Form Quantitative Rating

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/3/2021

1	1
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

3	4
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

6	10
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

16	26
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

26
subtotal this page

last revised 1 February 2001 jjm

Site: Jug Street Improvements Project	**Rater(s):** Eric Nagy, EMH&T	**Date:** 12/3/2021

26
subtotal first page

0 (max 10 pts.) | 26 (subtotal)

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3 (max 20 pts.) | 29 (subtotal)

Metric 6. Plant communities, interspersion, microtopography.

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

- [ ] Aquatic bed
- [0] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

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

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

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

29 Category 1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES 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	1
	Metric 2. Buffers and surrounding land use	3	4
	Metric 3. Hydrology	6	10
	Metric 4. Habitat	16	26
	Metric 5. Special Wetland Communities	0	26
	Metric 6. Plant communities, interspersion, microtopography	3	29
	TOTAL SCORE	29	Category based on score breakpoints Category 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category			
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

6.0 PROPOSED MITIGATION PLAN

In order to proceed with the proposed development plan, authorization for the fill of 0.274 acre of isolated wetlands is requested. Following ORC 6111.023(E)(2), wetland mitigation at a wetland mitigation bank with a service area that includes the location of the proposed filling of the isolated wetland (Primary Service Area) is preferred over in-lieu fee and/or other types of mitigation. The subject property is located in the Headwaters Blacklick Creek subbasin (HUC: 05060001-15-03) within the Upper Scioto River Watershed. Because the wetlands that are proposed to be impacted are Category 1, the service area in this instance in the entire USACE Huntington District boundary within the State of Ohio. Based on the mitigation ratios described in Ohio Revised Code (ORC) 6111.027, mitigation must be provided at a 2:1 ratio for Category 1 impacts. Accordingly, 0.6 acre of forested wetland credit are proposed to be purchased from Wetland Resource Center's Little Scioto Mitigation Bank located within the Upper Scioto River watershed. A copy of the signed mitigation agreement is provided.

WETLANDS MITIGATION AGREEMENT
Wetlands Resource Center
Little Scioto Wetlands Mitigation Bank

This agreement between Wetlands Resource Center LLC (WRC), an Ohio Limited Liability Company, and the City of New Albany (Client) conveys from WRC to Client, acres of wetland credits pursuant to Section 404 of the Clean Water Act, 33 U.S.C. § 1344 and/or Ohio Revised Code Chapter 6111. This agreement is made this 18th day of January, 2022.

Obligations of WRC

WRC has applied to, and received, approval from the United States Army Corps of Engineers (Corps) and Mitigation Banking Review Team (MBRT) to preserve, restore and enhance wetland ecosystems at its Little Scioto Wetlands Mitigation Bank Phase II, located in Marion County, Ohio. WRC will at its cost design, build and maintain wetland habitat in accordance with the Final Mitigation Plan as approved by the Corps and MBRT. All risks financial, regulatory and otherwise associated with the Little Scioto Mitigation Bank Phase II are the responsibility of WRC.

WRC will supply the Corps with the annual monitoring reports for five (5) years and provide confirmation that wetlands restoration, enhancement, and/or preservation was completed on behalf of Client.

WRC will convey to Client credits for acres of wetland category habitat as defined by the Ohio Environmental Protection Agency (OEPA) Ohio Wetland Water Quality Standards to satisfy Client mitigation requirements outlined by the Corps and OEPA.

Obligations of Client

Client is required under Section 404 of the Clean Water Act and/or Ohio Revised Code Chapter 6111 to mitigate wetland impacts at its Jug Street Improvements Project development site located in Licking County, Ohio.

Client will provide copies of the granted Section 404 permit from Corps and the granted Section 401 Water Quality Certification from OEPA (if needed) and/or granted isolated wetland permit from OEPA to WRC upon receipt to demonstrate regulatory approval of the Little Scioto Mitigation Bank Phase II to meet wetland mitigation requirements on the Jug Street Improvements Project development site.

In order to determine the quality of wetland being impacted by Client, Client will conduct a wetland assessment using the Ohio Wetland Rapid Assessment Method (OWRAM) or other approved method as per requirements of the OEPA. Client will provide copies of data forms sheets to WRC with signed agreement for all wetland impacts. Copies of the OWRAM are available from the Ohio Environmental Protection Agency.

Client must purchase credits in one-tenth (0.1) acre increments and WRC reserves the right to apply Client's payment to enhancement, restoration or preservation of wetlands or upland buffer. The Client agrees to purchase credits as listed below:

Credit Purchase Table

Impacted Wetland Category	**Acres Impacted** *Completed by Client*	**Mitigation Ratio**	**Credits Required** (round to next tenth) *completed by Client*	**Credit Category** *completed by WRC*
1		x 1.5		
2 non-forested		x 2.0		
2 forested		x 2.5		
3 non-forested		x 2.5		
3 forested		x 3.0		
1 Isolated	0.274	x 2.0	0.60	
2 Isolated, non-forested		x 2.0		
2 Isolated, forested		x 2.5		
3 Isolated, non-forested		x 2.5		
3 Isolated, forested		x 3.0		

Client agrees to pay $6,500 per one-tenth acre credit. A breakdown of the credit costs is indicated below.

Option 1 Credit Cost Table

Credits	**Credit Price**	**Total**
Number of credits purchased (one-tenth increments): 0.60 acre	$6,500/ one-tenth acre	$39,000
10% due at the signing of this Agreement 90% due after permit is received	**Total**	**$39,000**

Option 2 Credit Cost Table

Credits	**Credit Price**	**Total**
Number of credits purchased (one-tenth increments):____	$6,500/ one-tenth acre	
100% payment upon signing of this agreement	Cash Discount 10%	
	Total	

Mitigation Credit Payment

WRC offers two payment options for purchase of credits at the Little Scioto Mitigation Bank Phase II. Please circle option choice.

Option 1 Client may elect to pay 10% of the purchase price upon signing this agreement, with the remaining 90% due within (30) days of receipt of the Section 404 permit from the Corps and/or isolated wetland permit from the OEPA. The 10% payment that is made by the selection of Option One is non-refundable should the client not fulfill the terms of this Agreement.

Option 2 Client may elect to pay for 100% of the purchase price upon signing this agreement, and take a 10% cash discount. This Option must be selected prior to issuance of any OEPA or USACE permits.

In consideration of utilizing mitigation credits from WRC's Little Scioto mitigation bank, Client agrees to pay WRC $39,000 for credits purchased as outlined above.

Wetlands Resource Center

By: Cal Miller

Print: Cal Miller

Date: 2/2/22

Client

By: Joseph Stefanov

Print: Ryan Ohly, Engineering Manager JOE STEFANOV; CITY MANAGER

Date: 1/20/22

Company Name: The City of New Albany

Address: 99 W Main Street

New Albany, Ohio 43054

Phone: 614-855-3913

Telecopy:

FOR WRC USE ONLY:
Mitigation Bank Phase: I _____ II _____ Forested _____ Non-forested _____.
Deposit
Check number:_____ Amount Paid:_____ Balance due:_____
Balance
Check number:_____ Amount Paid:_____

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5500 New Albany Rd., Columbus, OH 43054
p. 614.775.4500
f. 614.775.4800
info@emht.com
20211116

Jug Street Improvements Project

Investigation of Waters of the United States

The City of New Albany

January 6, 2021

EMH&T

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EXHIBITS
- Exhibit 1: Location Map
- Exhibit 2: USGS Topographic Map
- Exhibit 3A: Web Soil Survey Map
- Exhibit 3B: Historic Soils Map
- Exhibit 4: Delineation Map

PHOTOGRAPHS

1.0 INTRODUCTION

A routine delineation of Waters of the United States, including wetlands, was conducted by EMH&T for the approximately 78.01-acre Jug Street Improvements Project Corridor located along Jug Street from west of Beech Road to Mink Street in Jersey Township, Licking County, Ohio (Exhibit 1). This study was performed at the request of and is for the exclusive use of The City of New Albany.

The project corridor consists of active agricultural fields, fallow agricultural fields, mowed lawns, woodlots, forested fencerows, maintained right-of-way, wetland areas and stream corridors. The approximate center coordinates of the project corridor are 40.096356°, -82.734397°. The project corridor is located in the Headwaters Blacklick Creek watershed assessment unit [hydrologic unit code (HUC): 0506000115O3]. The project corridor is regulated by the U.S. Army Corps of Engineers (USACE) Huntington District.

An EMH&T environmental scientist conducted a series of field investigations of the project corridor in November and December 2021. Potential surface water features were identified for confirmation by the USACE. The location and extent of the identified surface water features are summarized in the following sections. The boundaries identified by EMH&T are potential, as only the USACE has the final authority to determine whether a wetland or water is jurisdictional.

2.0 LITERATURE REVIEW

A review was made of available topographic maps, soils maps, floodplain maps, and wetland inventory maps. This information helped determine topography and soil types present on the project corridor. It also identified any previously mapped wetlands and whether any portions of the project corridor were located within mapped floodways.

2.1 Topographic Features

As shown on Exhibit 2, the elevation of the project corridor is mapped between 1,130 feet and 1,220 feet above sea level (National Geodetic Vertical Datum) according to the United States Geological Survey (USGS) *7.5'* Series *New Albany, Ohio* quadrangle (USGS, 1983) and the United States Geological Survey (USGS) *7.5'* Series *Jersey, Ohio* quadrangle (USGS, 1975). Two (2) streams are mapped flowing from east to west through the western portion of the project corridor along Beech Road. The mapped streams corresponded to the location of Haines Ditch and Stream 1, which were observed during the field investigation. No other drainageways, marsh symbols, or open water ponds are mapped for the project corridor.

2.2 Mapped Soils

According to the *Web Soil Survey* for Licking County, Ohio [Natural Resources Conservation Service (NRCS), 2019], six (6) soil types are mapped for the project corridor (Exhibit 3A). The mapped soils are listed in Table 1 along with their hydric status. According to the *Soil Survey of Licking County, Ohio* (USDA, 1992), one drainageway is mapped flowing from east to west through the southwestern portion of the project corridor (Exhibit 3B). The mapped stream corresponded to the location of Haines Ditch, which was observed during the field investigation. No other drainageways, marsh symbols or open water ponds were mapped for the project corridor.

A hydric soil is *a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part* (USDA-NRCS, 2018). As shown on Exhibit 3A, the project corridor contains hydric soils and non-hydric soils with hydric inclusions. "Hydric soils" means that the entire map unit is rated as hydric. "Non-hydric soils with hydric inclusions" indicates non-hydric soils containing hydric inclusions, as indicated in Table 1.

TABLE 1. Hydric Status of Onsite Soils

Mapped Soil Unit	Hydric Status	Hydric Inclusions (%)	Location of Hydric Inclusions
Bennington silt loam on 0 to 2 percent slopes (BeA)	Non-hydric with hydric inclusions	Condit (5%); Pewamo (3%)	Drainageways, depressions
Bennington silt loam on 2 to 6 percent slopes (BeB)	Non-hydric with hydric inclusions	Condit (3%); Pewamo (3%)	Drainageways, depressions
Centerburg silt loam, 2 to 6 percent slopes (Cen1B1)	Non-hydric with hydric inclusions	Condit (4%); Marengo (3%)	Drainageways, depressions
Centerburg silt loam, 6 to 12 percent slopes, eroded (Cen1C2)	Non-hydric with hydric inclusions	Condit (4%)	Drainageways, depressions
Condit silt loam, 0 to 1 percent slopes (Cn)	Hydric	--	--
Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes (Pe)	Hydric	--	--

2.3 Hydrologic Conditions

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) was reviewed for the project corridor (FEMA, 2015). The entire project corridor lies in Zone X (unshaded), outside of the 500-year floodplain.

The United States Fish and Wildlife Service's (USFWS) National Wetland Inventory (NWI) map was reviewed for the project corridor (USFWS, 2019). One (1) Riverine, Intermittent, Streambed, Seasonally Flooded (R4SBC) feature was mapped in the southeastern portion of the project corridor. This NWI feature corresponded to the location of Haines Ditch, which was observed during the field investigation. No other NWI features were mapped within the project corridor.

3.0 DELINEATION INVESTIGATION RESULTS

An EMH&T environmental scientist conducted a field investigation on November 30, 2021; December 1, 2021; December 3, 2021; and December 17, 2021 to identify the location, extent, and quality of surface water features within the project corridor. The investigative methodology employed is summarized in Appendix A.

As shown on Exhibit 4, portions of two (2) potentially jurisdictional wetlands, two (2) potentially jurisdictional streams, and ten (10) potentially non-jurisdictional (isolated) wetlands were identified

for confirmation by the USACE. Table 2 lists the extent of the surface water features identified and Table 3 summarizes the jurisdictional classification of each surface water feature, as further described below. The USACE wetland and upland data forms are provided in Appendix B. Photographs of the surface water features are included in the Photographs section.

TABLE 2
Extent of Onsite Surface Water Features

Feature ID	Classification	Potentially Jurisdictional			Potentially Non-Jurisdictional		
		Wetland (ac)	Stream (lf)	Open Water (ac)	Isolated Wetland (ac)	Ditch/ Swale (lf)	Open Water (ac)
Wetland A	Emergent	--	--	--	0.09	--	--
Wetland B	Emergent	--	--	--	0.10*	--	--
Wetland C	Emergent	--	--	--	0.12*	--	--
Wetland D	Emergent	--	--	--	0.03	--	--
Wetland E	Emergent	--	--	--	0.09*	--	--
Wetland F	Forested	--	--	--	0.02*	--	--
Wetland G	Forested	--	--	--	0.05*	--	--
Wetland H	Forested	--	--	--	0.27*	--	--
Wetland I	Emergent	--	--	--	0.11*	--	--
Wetland J	Forested	--	--	--	0.02	--	--
Wetland K	Emergent	0.01*	--	--	--	--	--
Wetland L	Forested	0.06*	--	--	--	--	--
Haines Ditch	Perennial	--	123 Open Channel*; 76 Culverted	--	--	--	--
Stream 1	Intermittent	--	192 Open Channel*; 37 Culverted	--	--	--	--
Total	**--**	**0.07**	**315 Open Channel; 113 Culverted**	**--**	**0.90**	**--**	**--**

*feature continues off-site

TABLE 3
Jurisdictional Classification of Onsite Surface Water Features

Feature ID	Streams			Wetlands				Ponds		Ditch/ Swale
	TNW	RPW	Non-RPW	(A)	(B)	(C)	(D)	Jurisdictional	Isolated	
Wetland A	--	--	--	--	--	--	X	--	--	--
Wetland B	--	--	--	--	--	--	X	--	--	--
Wetland C	--	--	--	--	--	--	X	--	--	--
Wetland D	--	--	--	--	--	--	X	--	--	--
Wetland E	--	--	--	--	--	--	X	--	--	--
Wetland F	--	--	--	--	--	--	X	--	--	--
Wetland G	--	--	--	--	--	--	X	--	--	--
Wetland H	--	--	--	--	--	--	X	--	--	--
Wetland I	--	--	--	--	--	--	X	--	--	--
Wetland J	--	--	--	--	--	--	X	--	--	--
Wetland K	--	--	--	--	X	--	--	--	--	--
Wetland L	--	--	--	--	--	X	--	--	--	--
Haines Ditch	--	X	--	--	--	--	--	--	--	--
Stream 1	--	X	--	--	--	--	--	--	--	--

TNW: Traditional Navigable Water
RPW: Relatively Permanent Waters (non-navigable tributaries that flow year-round or at least seasonally [3 months])
Non-RPW: Non-Relatively Permanent Waters (non-navigable tributaries without at least seasonal flow [3 months])
Wetlands:
(A) Abutting or adjacent to a TNW
(B) Abutting a RPW
(C) Located adjacent to a RPW or Non-RPW
(D) Isolated

3.1 Potentially Jurisdictional Features

Federal jurisdiction over various classes of water resources under the Clean Water Act is currently described in regulations (40 CFR 230.3) and USACE guidance (USEPA/USACE, 2008) following the U.S. Supreme Court Decision *Rapanos v. United States*. Among the classes of water resources subject to federal jurisdiction are traditional navigable waters (TNWs); wetlands adjacent to TNWs; non-navigable tributaries of TNWs that are relatively permanent (i.e., typically flow year-round or have continuous flow at least seasonally); and wetlands that directly abut such relatively permanent tributaries.

Further, federal jurisdiction also covers non-relatively permanent waters (non-navigable tributaries that do not typically flow year round or have continuous flow at least seasonally [3 months]), wetlands adjacent to non-relatively permanent waters and wetlands adjacent to but not directly abutting relatively permanent waters when a fact-specific analysis determines these waters have a "significant nexus" with a traditional navigable water. A significant nexus determination must be done in order to prove a non-relatively permanent water has more than an insubstantial or speculative effect on the chemical, physical and/or biological integrity of a downstream traditional navigable water.

Based on this understanding, the following waters identified within the project corridor are potentially jurisdictional. However, the definition of Waters of the United States is subject to change, pending ongoing litigation and rule making.

Two jurisdictional streams were observed flowing through the project corridor. Haines Ditch is a perennial stream that flows west to east in the southwestern portion of the project corridor along Beech Road. This stream passes beneath Beech Road via an existing culvert and continues to flow east through the project corridor. Stream 1 is an intermittent stream that flows west to east in the northwestern portion of the project corridor along Beech Road. This stream passes beneath Beech Road via an existing culvert and continues to flow east through the project corridor. The streams are jurisdictional Waters of the U.S. since they both have a defined channel and a continuous bed and bank. Two (2) potentially jurisdictional wetlands were also observed in the project corridor. Wetland K and Wetland L are both located in depressions within the project corridor. Wetland K directly abuts Haines Ditch. Wetland L is located adjacent to Stream 1. These two (2) wetlands would be considered jurisdictional as they all have a direct connection to a jurisdictional stream.

A portion of Haines Ditch and Wetland K within the project corridor were previously delineated in 2019 during the preparation of a Nationwide Permit #12 application for the North of Jug Street Waterline Project. Haines Ditch was considered a perennial stream and the wetland was considered a jurisdictional wetland. Wetland K was previously named Wetland B under the previous permitting action. Impacts to Wetland K/Wetland B within the project corridor were authorized by a USACE Nationwide Permit #12 dated January 28, 2020 (LRH-2019-899-SCR-Haines Ditch). The temporary impacts to Wetland K/Wetland B for this development did occur in 2020.

A portion of Stream 1 and Wetland L within the project corridor were previously verified by a USACE Pre-Jurisdictional Determination (PJD) dated April 1, 2019 for the North of Jug Street Properties. Stream 1 was previously considered an intermittent stream. Wetland L was previously considered a jurisdictional wetland. Stream 1 was previously named Stream 3 under the 2019 PJD. Wetland L was previously named Wetland XX under the 2019 PJD. Impacts to Wetland L/Wetland XX within the project corridor were authorized by a USACE Individual Section 404 Permit dated December 19, 2021 (LRH-2018-686-SCR-UNT to Blacklick Creek) and by an Ohio Environmental Protection Agency (Ohio EPA) Water Quality Certification (WQC) dated October 16, 2019 (Ohio EPA ID: 196304). Impacts to Wetland L/Wetland XX for this development project have not occurred.

3.2 Potential Non-Jurisdictional Features

Ten (10) potentially isolated wetlands are located within the project corridor. Wetland A, Wetland B, Wetland C, Wetland D, Wetland E, Wetland F, Wetland G, Wetland H, Wetland I, and Wetland J are located in closed depressions on the landscape. These wetlands are potentially non-jurisdictional as they are located within closed depressions, with no observable connection to any other jurisdictional surface water.

Portions of Wetland H and Wetland I within the project corridor were previously verified by a USACE Approved Jurisdictional Determination (AJD) dated February 17, 2016 for the Newton Family Farm. The two (2) wetlands were previously considered non-jurisdictional (isolated) wetlands. Wetland H was previously named Wetland J under the 2016 AJD. Wetland I was previously named Wetland L under the 2016 AJD. The portions of these wetlands within the project corridor were avoided under the permit application submittals for that property, which included an Ohio Environmental Protection Agency (Ohio EPA) Water Quality Certification (WQC) and Level 3 Isolated Wetlands Permit dated September 22, 2016 (Ohio EPA ID: 154756 and 154841). Impacts to the two (2) wetlands for this development project, outside of the current project corridor, have been completed.

4.0 REGULATORY JURISDICTION

Impacts to Waters of the United States (WOTUS), including jurisdictional streams and wetlands, are regulated by the USACE and the U.S. Environmental Protection Agency (USEPA) through Section 404 of the Clean Water Act (33 U.S.C. 1344). Prior to federal authorization for impacts to streams or wetlands, certification must also be obtained from the Ohio EPA as defined in Section 401 of the Clean Water Act (33 U.S.C. 1341). Accordingly, no filling may occur in the potentially jurisdictional wetlands described in this document without appropriate permits and authorization from the USACE and Ohio EPA.

The Ohio EPA regulates discharges of fill to isolated wetlands in the State of Ohio as provided in Sections 6111.021 through 6111.029 of the Ohio Revised Code. Accordingly, no filling may occur in isolated wetlands without an appropriate Isolated Wetland Permit from the state. Additionally, confirmation of non-jurisdictional status must first be obtained through an Approved Jurisdictional Determination by the USACE.

5.0 CONCLUSIONS

A routine delineation of Waters of the United States, including streams and wetlands, was conducted and a report was prepared by EMH&T for the Jug Street Improvements Project Corridor. The approximately 78.01-acre project corridor is located along Jug Street from west of Beech Road to Mink Street in Jersey Township, Licking County, Ohio. This study was performed at the request of and is for the exclusive use of The City of New Albany.

The results of the delineation identified portions of two (2) potentially jurisdictional streams, two (2) potentially jurisdictional wetlands, and ten (10) potentially non-jurisdictional (isolated) wetlands within the project corridor. The boundaries and jurisdictional status of these surface water features that were identified within the project corridor are potential until verified by the USACE.

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APPENDIX A:

Investigative Methodology

INVESTIGATIVE METHODOLOGY

Wetlands

According to the Federal Register (1980; 1982), wetlands are defined as *Those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas*. Potential wetlands located on non-agricultural lands are identified using the 1987 Wetland Delineation Manual (Environmental Laboratory, 1987) for confirmation by the U.S. Army Corps of Engineers (USACE).

Under normal site conditions, all three (3) indicators of jurisdictional wetlands including the presence of hydrophytic macrophytes, hydric soils and certain hydrologic indicators must be identified to meet the criteria for a jurisdictional wetland (Environmental Laboratory, 1987). As such, identification of potential wetlands requires characterization of plant community types, identification of hydric soils, and hydrologic indicators for each community type.

For all potential wetland areas, dominant species in the tree, sapling, shrub, woody vine, and herb layers are determined, in accordance with the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0* (USACE, 2010). Recorded vegetative data consists of herbs with the greatest percentage of aerial cover within 5' of the plot center. Within a 15' radius of the plot center, saplings and shrubs with the greatest height are recorded. Within a 30' radius of the plot center, trees with the largest relative basal area and woody vines with the greatest number of stems are recorded. Species within each of these layers are listed on data forms in order of dominance.

Dominance is determined for each stratum individually. Dominant species include those that comprise 50 percent of the total dominance measure for a stratum, plus any additional species comprising 20 percent or more of the total dominance measure of a stratum. Hydrophytic vegetation is determined to be present when more than 50 percent of the dominants in a sample area are listed as facultative (FAC), facultative wetland (FACW) or obligate wetland (OBL) plants according to Lichvar (2016).

Where possible, soil data are collected by digging a test pit to a maximum depth of 20" to determine the presence of hydric soil. Soil matrix and mottle colors are identified using a Munsell Soil Color Chart (Macbeth, Revised 1994). Evidence of any hydric soil characteristics and evidence of the presence of wetland hydrology are also recorded.

The boundaries of areas that meet all three (3) wetland criteria are identified and measured in the field. Points at which dominant vegetation species changes from wetland to upland, where soils change from hydric to non-hydric, or where indicators of wetland hydrology are no longer observed are noted. The characteristics of each community type are recorded on dataforms and sample points are chosen to represent both an identified potential wetland and its surrounding upland community. All potential wetlands delineated in the field are marked with flagging and mapped using a Trimble GeoXH GPS unit. The dominant vegetation, soils, and indicators of wetland

hydrology are described on delineation forms. Wetland communities are classified according to the classification scheme of Cowardin et al. (1979).

Wetlands are further classified using the Ohio Rapid Assessment Method (ORAM) Version 5 (OEPA, 2001). The ORAM seeks to determine whether wetlands are rated as Category 1, 2, or 3 based on the State of Ohio Wetland Water Quality Standards. Category 1 wetlands exhibit limited quality, function, or value. Category 2 wetlands exhibit moderate quality, function, or value; this includes wetlands that have been degraded but have reasonable potential for restoration (Modified Category 2). Category 3 wetlands are wetlands of superior quality, function, or value.

Streams

The centerline of the streams are mapped for their entire length found on-site using a Trimble® GPS unit. Ordinary High Water Marks (OHWM), which define the outermost regulatory boundaries of streams and open waters, are flagged and mapped using the GPs unit.

Streams are classified as ephemeral, intermittent, or perennial based on site observations, and are assigned a regulatory classification according to the most recent USACE guidance. Streams are also assessed using the Ohio EPA's Qualitative Habitat Evaluation Index (QHEI) and/or Headwater Habitat Evaluation Metric (HHEI). Assessment locations are placed in representative reaches of the streams within the assessment area.

The QHEI is used for streams with drainage areas greater than one (1) square mile and pools with maximum water depths greater than 15.75 in (40 cm) (Ohio EPA 2006). QHEI scoring is based on substrate types, in-stream cover, channel morphology, riparian quality and bank erosion, pool/glide and riffle/run quality, and gradient. These metrics reflect stream habitat features that are correlated with the potential to attain the aquatic life use designation for Ohio streams.

Streams that do not meet these requirements are assessed using the HHEI (Ohio EPA, 2012). HHEI scoring is based on three (3) parameters that are associated with habitat quality in small headwater streams: substrate type, maximum pool depth and bankfull width. Using the HHEI scoring system, streams may be categorized as Class I, II or III PHWH with Class III representing high quality, cold water streams, Class II representing warm water streams and Class I representing ephemeral (seasonally dry) streams with limited ecological function.

Open Water Habitat

The boundaries of open water systems (ponds and lakes) are delineated either using recent aerial photography or by flagging boundaries in the field and locating them using a GPS unit.

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EMH&T

APPENDIX B

USACE Wetland & Upland Dataforms

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany, Licking | Sampling Date: W-A-1

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: 12/1/2021

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.097223° | Long: -82.749246° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Panicum virgatum*	30	Yes	FAC
2. *Eleocharis obtusa*	20	Yes	OBL
3. *Carex spp.*	20	Yes	FACW
4. *Lysimachia nummularia*	10	No	FACW
5. *Typha latifolia*	20	Yes	OBL
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	40	x 1 =	40
FACW species	30	x 2 =	60
FAC species	30	x 3 =	90
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	100 (A)		190 (B)

Prevalence Index = B/A = 1.90

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: 12/1/2021

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	85	10YR 4/6	15	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 3		
Water Table Present?	Yes X	No ___	Depth (inches): 3		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements City/County: New Albany, Licking Sampling Date: Up-A-1

Applicant/Owner: The City of New Albany State: OH Sampling Point: 12/1/2021

Investigator(s): Eric Nagy, EMH&T Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): level

Slope (%): _____ Lat: 40.097230° Long: -82.749148° Datum: _____

Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: _____

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** **Yes** _____ **No** X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ =Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	_____ =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Setaria faberi*	40	Yes	FACU
2. *Dactylis glomerata*	40	Yes	FACU
3. *Trifolium pratense*	20	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	_____ =Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	80	x 4 =	320
UPL species	20	x 5 =	100
Column Totals:	100 (A)		420 (B)
Prevalence Index = B/A =			4.20

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** _____ **No** X

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

SOIL

Sampling Point: 12/1/2021

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-B-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.096963° | Long: -82.749489° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No
Hydric Soil Present?	Yes X	No
Wetland Hydrology Present?	Yes X	No
Is the Sampled Area within a Wetland?	**Yes** X	**No**

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	30	Yes	OBL
2. *Setaria glauca*	10	No	FAC
3. *Juncus effusus*	3	No	OBL
4. *Polygonum spp.*	2	No	FACW
5. *Carex spp.*	55	Yes	FACW
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	33	x 1 =	33
FACW species	57	x 2 =	114
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	90 (A)		147 (B)

Prevalence Index = B/A = 1.63

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-B-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	90	10YR 3/4	10	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes X No ___ Depth (inches): 1

Water Table Present? Yes X No ___ Depth (inches): 1

Saturation Present? (includes capillary fringe) Yes X No ___ Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-B-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): level

Slope (%): | Lat: 40.096965° | Long: -82.749546° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Festuca spp.*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-B-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	90	10YR 3/4	10	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements City/County: New Albany, Licking Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany State: OH Sampling Point: W-C-1

Investigator(s): Eric Nagy, EMH&T Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave

Slope (%): _____ Lat: 40.095607° Long: -82.747170° Datum: _____

Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Populus deltoides*	5	Yes	FAC
2.			
3.			
4.			
5.			
	5	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Phragmites australis*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	100	x 2 =	200
FAC species	5	x 3 =	15
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	105 (A)		215 (B)

Prevalence Index = B/A = 2.05

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

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

SOIL

Sampling Point: W-C-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 2/1	98	10YR 3/4	2	C	M	Mucky Loam/Clay	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- X Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes ___	No X	Depth (inches): ___
Water Table Present?	Yes X	No ___	Depth (inches): 0
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany, Licking | Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-C-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): level

Slope (%): _____ | Lat: 40.095587° | Long: -82.747067° | Datum: _____

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: _____

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ____ No ____ (If no, explain in Remarks.)

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? Are "Normal Circumstances" present? Yes ____ No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ____	No X	**Is the Sampled Area within a Wetland?** **Yes** ____ **No** X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Solidago canadensis*	60	Yes	FACU
2. *Festuca spp.*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	30	x 2 =	60
FAC species	0	x 3 =	0
FACU species	90	x 4 =	360
UPL species	0	x 5 =	0
Column Totals:	120 (A)		420 (B)
Prevalence Index = B/A =			3.50

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

____ 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** ____ **No** X

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

SOIL

Sampling Point: Up-C-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100			C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-D-8

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.096395° | Long: -82.747173° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Typha latifolia*	70	Yes	OBL
2. *Juncus effusus*	20	Yes	OBL
3. *Leersia oryzoides*	10	No	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-D-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No ___	Depth (inches):	2
Water Table Present?	Yes	X	No ___	Depth (inches):	2
Saturation Present? (includes capillary fringe)	Yes	X	No ___	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 11/30/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-D-8

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): level

Slope (%): | Lat: 40.096396° | Long: -82.747116° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rosa multiflora*	15	Yes	FACU
2.			
3.			
4.			
5.			
	15 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Juniperus virginiana*	35	Yes	FACU
2. *Quercus palustris*	15	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	65 (A)		230 (B)

Prevalence Index = B/A = 3.54

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-D-8

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/1/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-E-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.096833° | Long: -82.747460° | Datum:

Soil Map Unit Name: Pewamo silt loam (Pe) | NWI classification:

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Leersia oryzoides*	60	Yes	OBL
2. *Juncus effusus*	5	No	OBL
3. *Typha angustifolia*	15	No	OBL
4. *Carex spp.*	20	Yes	UPL
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 1.80

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-E-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	80	10YR 4/6	20	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

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HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 6
Water Table Present?	Yes X	No ___	Depth (inches): 6
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements City/County: New Albany/ Licking Sampling Date: 12/1/2021

Applicant/Owner: The City of New Albany State: OH Sampling Point: Up.-E-1

Investigator(s): Eric Nagy Section, Township, Range: T. 2 N., R. 15 W.

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): None

Slope (%): _____ Lat: 40.096779° Long: -82.747390° Datum: _____

Soil Map Unit Name: Pewamo silty clay loam (Pe) NWI classification: NA

Are climatic / hydrologic conditions on the site typical for this time of year? Yes _____ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	_____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Festuca spp.*	70	Yes	FACU
2. *Trifolium pratense*	30	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	_____	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

Sampling Point: Up.-E-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 3/2	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hyrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-F-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.096020° | Long: -82.730848° | Datum:

Soil Map Unit Name: Pewamo silty clay loam | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Acer saccharinum*	70	Yes	FACW
2. *Quercus palustris*	10	No	FACW
3. *Ulmus americana*	20	Yes	FACW
4.			
5.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rosa palustris*	10	Yes	OBL
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Cinna arundinacea*	10	Yes	FACW
2. *Carex spp.*	30	Yes	FACW
3. *Juncus effusus*	10	Yes	OBL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	50	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	20	x 1 =	20
FACW species	140	x 2 =	280
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	160 (A)		300 (B)
Prevalence Index = B/A =			1.88

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-F-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- X Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1
Water Table Present?	Yes X	No ___	Depth (inches): 1
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Trees contained buttressed roots.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-F-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): none

Slope (%): | Lat: 40.096070° | Long: -82.730562° | Datum:

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	50	Yes	FACU
2. *Quercus bicolor*	20	Yes	FACW
3. *Acer saccharinum*	10	No	FACW
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Aster spp.*	60	Yes	FACU
2. *Elymus virginicus*	40	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. *Vitis labrusca*	30	Yes	FACU
2.			
	30	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	70	x 2 =	140
FAC species	0	x 3 =	0
FACU species	140	x 4 =	560
UPL species	0	x 5 =	0
Column Totals:	210 (A)		700 (B)

Prevalence Index = B/A = 3.33

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-F-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	98	10YR 4/6	2	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12-3-2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-G-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): _____ | Lat: 40.096476° | Long: -82.732538° | Datum: _____

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	40	Yes	FACW
2. *Fraxinus pennsylvanica*	10	No	FACW
3. *Crataegus crus-galli*	10	No	FAC
4. *Acer saccharinum*	10	No	FACW
5.			
	70	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Cornus amomum*	10	Yes	FACW
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Elymus virginicus*	20	Yes	FACW
2. *Carex spp.*	70	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. *Vitis labrusca*	10	Yes	FACU
2.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	160	x 2 =	320
FAC species	10	x 3 =	30
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	180 (A)		390 (B)
Prevalence Index = B/A =			2.17

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

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

SOIL

Sampling Point: W-G-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	90	10YR 5/6	10	C	PL	Loamy/Clayey	Prominent redox concentrations
6-12	10YR 3/1	98	10YR 3/4	2	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements City/County: New Albany/ Licking Sampling Date: 12-3-2021

Applicant/Owner: The City of New Albany State: OH Sampling Point: Up-G-2

Investigator(s): Eric Nagy, EMH&T Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): terrace Local relief (concave, convex, none): none

Slope (%): _____ Lat: 40.096472° Long: -82.732406° Datum: _____

Soil Map Unit Name: Bennington silt loam (BeB) NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No X	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No X	
Wetland Hydrology Present?	Yes _____	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	_____	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Trifolium repens*	20	Yes	FACU
2. *Festuca spp.*	70	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	90	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. *Vitis labrusca*	10	Yes	FACU
2.			
	10	=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

_____ 2 - Dominance Test is >50%

_____ 3 - Prevalence Index is ≤3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes _____ No X

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

SOIL

Sampling Point: Up-G-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100					Loamy/Clayey	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-H-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.095905° | Long: -82.729144° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Ulmus americana*	10	No	FACW
2. *Quercus bicolor*	30	Yes	FACW
3. *Crataegus crus-galli*	50	Yes	FAC
4.			
5.			
	90	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Carex spp.*	100	Yes	FACW
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1. *Vitis labrusca*	10	Yes	FACU
2.			
	10	=Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	140	x 2 =	280
FAC species	50	x 3 =	150
FACU species	10	x 4 =	40
UPL species	0	x 5 =	0
Column Totals:	200 (A)		470 (B)

Prevalence Index = B/A = 2.35

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-H-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-H-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): sloping | Local relief (concave, convex, none): convex

Slope (%): | Lat: 40.095902° | Long: -82.729445° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** Yes No X
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Juglans nigra*	30	Yes	FACU
2. *Quercus palustris*	50	Yes	FACW
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Rosa multiflora*	10	Yes	FACU
2.			
3.			
4.			
5.			
	10	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Geum spp.*	30	Yes	FAC
2. *Carex spp.*	10	No	FACW
3. *Rubus allegheniensis*	30	Yes	FACU
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	70	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	60	x 2 =	120
FAC species	30	x 3 =	90
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	160 (A)		490 (B)
Prevalence Index = B/A =			3.06

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes No X

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

SOIL

Sampling Point: Up-H-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-I-1

Investigator(s): ETN | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): ____ | Lat: 40.095950° | Long: -82.728104° | Datum: ____

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Leersia oryzoides*	50	Yes	OBL
2. *Setaria faberi*	50	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	100 (A)		250 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: W-I-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-I-1

Investigator(s): ETN | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.095959° | Long: -82.728218° | Datum:

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Festuca spp.*	100	Yes	FACU
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-I-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/3	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvments | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-J-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.095644° | Long: -82.715774° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Fraxinus pennsylvanica*	60	Yes	FACW
2. *Ulmus americana*	20	Yes	FACW
3. *Quercus palustris*	20	Yes	FACW
4.			
5.			
	100	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Cornus sericea*	50	Yes	FACW
2.			
3.			
4.			
5.			
	50	=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Aster spp.*	20	Yes	FACW
2. *Carex spp.*	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	40	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 6 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	190	x 2 =	380
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	190 (A)		380 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-J-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	80	10YR 4/4	20	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 0.5		
Water Table Present?	Yes X	No ___	Depth (inches): 0.5		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-J-2

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): none

Slope (%): | Lat: 40.095592° | Long: -82.715773° | Datum:

Soil Map Unit Name: Bennington silt loam (BeB) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Festuca spp.*	80	Yes	FACU
2. *Dactylis glomerata*	20	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-J-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 4/1	80	10YR 4/4	20	C	M	Loamy/Clayey	Distinct redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Jug Street Improvements City/County: New Albany/Licking Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany State: OH Sampling Point: W-K-2

Investigator(s): Eric Nagy, EMH&T Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression Local relief (concave, convex, none): concave

Slope (%): _____ Lat: 40.094172° Long: -82.753859° Datum: _____

Soil Map Unit Name: Pewamo silty clay loam (Pe) 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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No _____	**Is the Sampled Area within a Wetland?** **Yes** X **No** _____
Hydric Soil Present?	Yes X	No _____	
Wetland Hydrology Present?	Yes X	No _____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1. *Cornus sericea*	30	Yes	FACW
2.			
3.			
4.			
5.			
	30 =Total Cover		
Herb Stratum (Plot size: 5)			
1. *Polygonum spp.*	40	Yes	FACW
2. *Phalaris arundinacea*	60	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	130	x 2 =	260
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	130 (A)		260 (B)

Prevalence Index = B/A = 2.00

Hydrophytic Vegetation Indicators:

_____ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

_____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** _____

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

SOIL

Sampling Point: W-K-2

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	X	No	___	Depth (inches): 3
Water Table Present?	Yes	X	No	___	Depth (inches): 3
Saturation Present? (includes capillary fringe)	Yes	X	No	___	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-07-24; the proponent agency is CECW-CO-R

OMB Control #: 0710-xxxx, Exp: Pending
Requirement Control Symbol EXEMPT:
(Authority: AR 335-15, paragraph 5-2a)

Project/Site: Jug Street Improvments | City/County: New Albany/Licking | Sampling Date: 12/3/2021
Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-K-2
Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W
Landform (hillside, terrace, etc.): terrace | Local relief (concave, convex, none): none
Slope (%): | Lat: 40.094099° | Long: -82.753843° | Datum:
Soil Map Unit Name: Pewamo silty clay loam (Pe) | 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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area within a Wetland?** **Yes** **No X**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5)			
1. *Solidago canadensis*	30	Yes	FACU
2. *Symphyotrichum novae-angliae*	15	No	FACW
3. *Phalaris arundinacea*	10	No	FACW
4. *Erigeron canadensis*	20	Yes	FACU
5. *Fescue spp.*	25	Yes	FAC
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15)			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	25	x 2 =	50
FAC species	25	x 3 =	75
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	100 (A)		325 (B)

Prevalence Index = B/A = 3.25

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** **No X**

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

SOIL

Sampling Point: Up-K-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/1	95	10YR 5/6	5	C	M	Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

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

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ 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): ___

(includes capillary fringe)

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/Licking | Sampling Date: 12/17/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-L-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.101005° | Long: -82.753110° | Datum:

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** X **No**
Hydric Soil Present?	Yes X	No	
Wetland Hydrology Present?	Yes X	No	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	60	Yes	FACW
2. *Quercus bicolor*	20	Yes	FACW
3.			
4.			
5.			
	80	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Cinna arundinacea*	20	Yes	FACW
2. *Elymus virginicus*	40	Yes	FACW
3. *Aster spp.*	20	Yes	FACW
4. *Dactylis glomerata*	20	Yes	FACU
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 5 (A)

Total Number of Dominant Species Across All Strata: 6 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 83.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	160	x 2 =	320
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	180 (A)		400 (B)
Prevalence Index = B/A =			2.22

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- X 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: W-L-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-8	10YR 4/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations
8-12	10YR 4/1	90	10YR 4/6	10	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: ___

Depth (inches): ___

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- X Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes X	No ___	Depth (inches): 1		
Water Table Present?	Yes X	No ___	Depth (inches): 1		
Saturation Present? (includes capillary fringe)	Yes X	No ___	Depth (inches): 0	**Wetland Hydrology Present?**	**Yes** X **No** ___

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/Licking | Sampling Date: 12/17/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: Up-L-1

Investigator(s): Eric Nagy, EMH&T | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): | Lat: 40.101013° | Long: -82.753358° | Datum:

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area within a Wetland?** **Yes** **No** X
Hydric Soil Present?	Yes	No X	
Wetland Hydrology Present?	Yes	No X	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Quercus palustris*	20	Yes	FACW
2.			
3.			
4.			
5.			
	20	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
		=Total Cover	
Herb Stratum (Plot size: 5')			
1. *Dactylis glomerata*	70	Yes	FACU
2. *Phalaris arundinacea*	30	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100	=Total Cover	
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	50	x 2 =	100
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	0	x 5 =	0
Column Totals:	120 (A)		380 (B)

Prevalence Index = B/A = 3.17

Hydrophytic Vegetation Indicators:

- 1 - Rapid Test for Hydrophytic Vegetation
- X 2 - Dominance Test is >50%
- 3 - Prevalence Index is ≤3.0[1]
- 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
- Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No**

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

SOIL

Sampling Point: Up-L-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? **Yes** ___ **No** X

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

Remarks:

No hydrology observed.

EMH&T

EXHIBITS



Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, (c) OpenStreetMap contributors, and the GIS User Community

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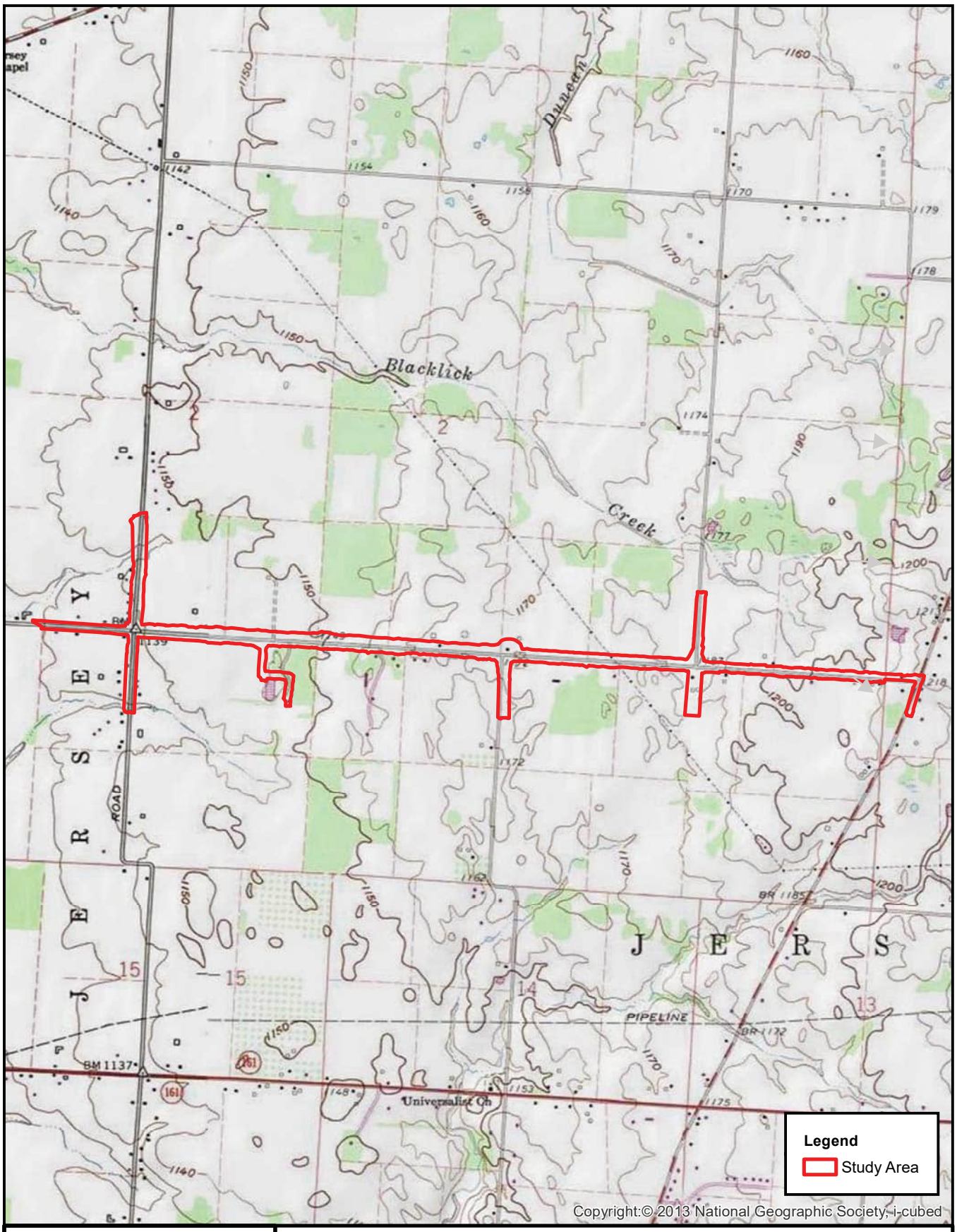
Jug Street Improvements Project
Location Map
Exhibit 1

SCALE: 1" = 1 mile

0 0.5 1 2 Miles

N

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Jug Street Improvements Project
USGS Topographic Map
Exhibit 2

SCALE: 1" = 2,000'

0 1,000 2,000 4,000 Feet

N

Source: USGS - New Albany Quadrangle (1983) & USGS - Jersey Quadrangle (1975)

JUG RD
JUG STREET RD
BEECH RD
HARRISON RD
CLOVER VALLEY RD
SMITH'S MILL RD
MINK ST

Legend

- Study Area
- Soils
- Hydric Soils
- Partially Hydric

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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

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Jug Street Improvements Project
Soil Survey of Licking County
Exhibit 3A

N

Source: Soils - NRCS, 2019; Aerial - Licking County, 2021

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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

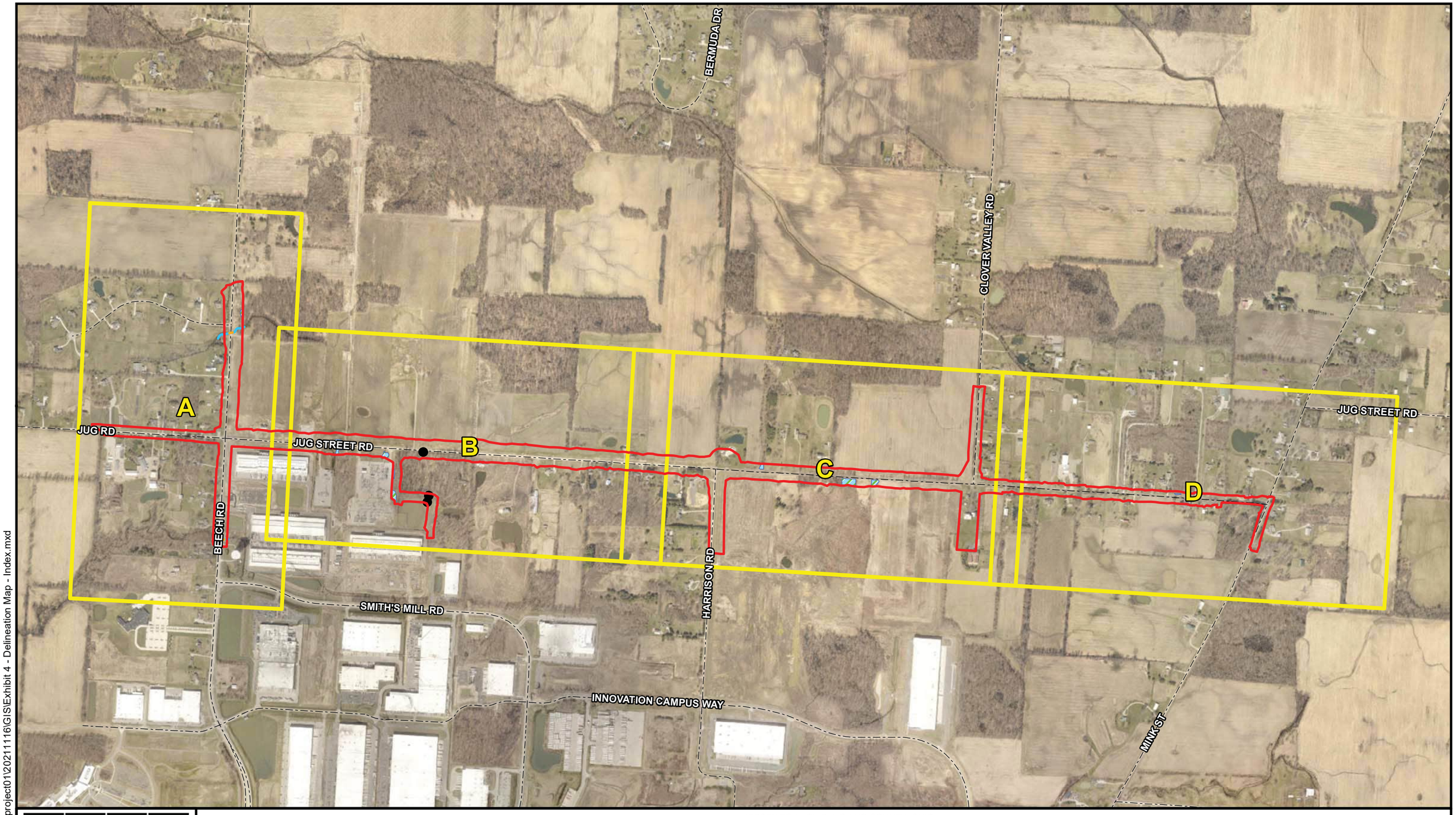
JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Soils Map
Exhibit 3B

N

Source: Soils - USDA, 1992

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SCALE: 1" = 1,000'

0 500 1,000 2,000 Feet

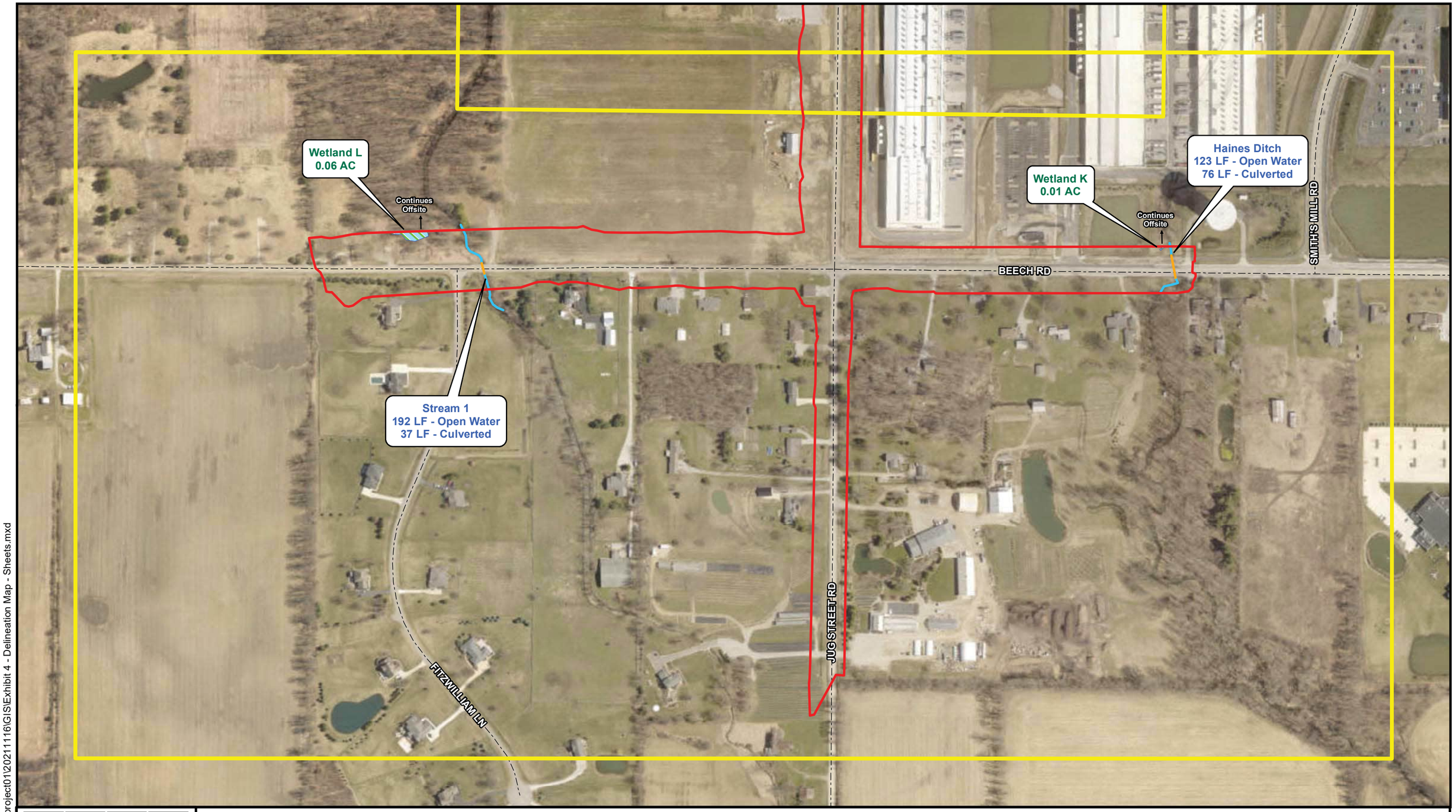
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Jug Street Improvements Project
Delineation Map
Exhibit 4 - Index

N

Aerial - Licking County, 2021

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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4A

Aerial - Licking County, 2021

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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4B

Aerial - Licking County, 2021

Wetland G
0.05 AC

Continues Offsite

CLOVER VALLEY RD

JUG STREET RD

HARRISON RD

Wetland F
0.02 AC

Continues Offsite

Wetland H
0.27 AC

Continues Offsite

Wetland I
0.11 AC

Continues Offsite

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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4C

N

Aerial - Licking County, 2021



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SCALE: 1" = 1,000'

0 160 320 640 Feet

JERSEY TOWNSHIP, LICKING COUNTY, OHIO

Jug Street Improvements Project
Delineation Map
Exhibit 4D

Aerial - Licking County, 2021

EMH&T

PHOTOGRAPHS



Photograph 1
Wetland A facing north.
(EMH&T, 11/30/2021)



Photograph 2
Wetland A facing east.
(EMH&T, 11/30/2021)



Photograph 3
Wetland A facing south.
(EMH&T, 11/30/2021)



Photograph 4
Wetland A facing west.
(EMH&T, 11/30/2021)



Photograph 5
Wetland B facing north.
(EMH&T, 11/30/2021)



Photograph 6
Wetland B facing east.
(EMH&T, 11/30/2021)



Photograph 7
Wetland B facing south.
(EMH&T, 11/30/2021)



Photograph 8
Wetland B facing west.
(EMH&T, 11/30/2021)



Photograph 9
Wetland C facing north.
(EMH&T, 11/30/2021)



Photograph 10
Wetland C facing east.
(EMH&T, 11/30/2021)



Photograph 11
Wetland C facing south.
(EMH&T, 11/30/2021)



Photograph 12
Wetland C facing west.
(EMH&T, 11/30/2021)



Photograph 13
Wetland D facing north.
(EMH&T, 11/30/2021)



Photograph 14
Wetland D facing east.
(EMH&T, 11/30/2021)



Photograph 15
Wetland D facing south.
(EMH&T, 11/30/2021)



Photograph 16
Wetland D facing west.
(EMH&T, 11/30/2021)



Photograph 17
Wetland E facing north.
(EMH&T, 12/1/2021)



Photograph 18
Wetland E facing east.
(EMH&T, 12/1/2021)



Photograph 19
Wetland E facing south.
(EMH&T, 12/1/2021)



Photograph 20
Wetland E facing west.
(EMH&T, 12/1/2021)



Photograph 21
Wetland F facing north.
(EMH&T, 12/13/2021)



Photograph 22
Wetland F facing east.
(EMH&T, 12/13/2021)



Photograph 23
Wetland F facing south.
(EMH&T, 12/13/2021)



Photograph 24
Wetland F facing west.
(EMH&T, 12/13/2021)



Photograph 25
Wetland G facing north.
(EMH&T, 12/3/2021)



Photograph 26
Wetland G facing east.
(EMH&T, 12/3/2021)



Photograph 27
Wetland G facing south.
(EMH&T, 12/3/2021)



Photograph 28
Wetland G facing west.
(EMH&T, 12/3/2021)



Photograph 29
Wetland H facing north.
(EMH&T, 12/1/2021)



Photograph 30
Wetland H facing east.
(EMH&T, 12/1/2021)



Photograph 31
Wetland H facing south.
(EMH&T, 12/1/2021)



Photograph 32
Wetland H facing west.
(EMH&T, 12/1/2021)



Photograph 33
Wetland I facing north.
(EMH&T, 12/1/2021)



Photograph 34
Wetland I facing east.
(EMH&T, 12/1/2021)



Photograph 35
Wetland I facing south.
(EMH&T, 12/1/2021)



Photograph 36
Wetland I facing west.
(EMH&T, 12/1/2021)



Photograph 37
Wetland J facing north.
(EMH&T, 12/3/2021)



Photograph 38
Wetland J facing east.
(EMH&T, 12/3/2021)



Photograph 39
Wetland J facing south.
(EMH&T, 12/3/2021)



Photograph 40
Wetland J facing west.
(EMH&T, 12/3/2021)



Photograph 41
Wetland K facing north.
(EMH&T, 12/17/2021)



Photograph 42
Wetland K facing east.
(EMH&T, 12/17/2021)



Photograph 43
Wetland K facing south.
(EMH&T, 12/17/2021)



Photograph 44
Wetland K facing west.
(EMH&T, 12/17/2021)



Photograph 45
Wetland L facing north.
(EMH&T, 12/17/2021)



Photograph 46
Wetland L facing east
(EMH&T, 12/17/2021)



Photograph 47
Wetland L facing south.
(EMH&T, 12/17/2021)



Photograph 48
Wetland L facing west.
(EMH&T, 12/17/2021)



Photograph 49
Haines Ditch facing east (upstream) from the Beech Road Culvert.
(EMH&T, 12/17/2021)



Photograph 50
Haines Ditch facing west (downstream) from the Beech Road Culvert.
(EMH&T, 12/17/2021)



Photograph 51
Haines Ditch substrate.
(EMH&T, 12/17/2021)



Photograph 52
Stream 1 facing east (upstream).
(EMH&T, 12/3/2021)



Photograph 53
Stream 1 facing west (downstream).
(EMH&T, 12/3/2021)



Photograph 54
Stream 1 substrate.
(EMH&T, 12/3/2021)

Ohio Environmental Protection Agency

John R. Kasich, Governor
Mary Taylor, Lt. Governor
Craig W. Butler, Director

OHIO E.P.A.

SEP 22 2016

ENTERED DIRECTOR'S JOURNAL

Certified Mail

Re: Harrison Road East Development Site
Permit - Intermediate
Approval
401 Wetlands
Licking
DSW401154756 and DSW401154841

September 22, 2016

MBJ Holdings, LLC
8000 Walton Parkway
New Albany, Ohio

Subject: Harrison Road East Development Site
Licking County / Jersey Township / City of New Albany
Grant of a Section 401 Water Quality Certification and Isolated Wetland Permit
Modified Preferred Design Alternative
Corps No. LRH-2015-384-MUS
Ohio EPA ID No. 154756 and 154841

Dear Stakeholders:

I hereby authorize the above referenced project under the following authorities and it is subject to the following modifications and/or conditions:

Section 401 Water Quality Certification
Pursuant to Section 401 of the Federal Water Pollution Control Act, Public Law 95-217, I hereby certify that the above-referenced project will comply with the applicable provisions of Sections 301, 302, 303, 306, and 307 of the Federal Water Pollution Control Act.

Ohio Isolated Wetland Permit
Pursuant to Ohio Revised Code Chapter 6111, I hereby conclude that the above-referenced project will comply with the applicable provisions of Ohio Revised Code Sections 6111.02 through 6111.028.

This authorization is specifically limited to a Section 401 Water Quality Certification and an Ohio Isolated Wetlands Permit (here after referred to as "certification") with respect to water pollution and does not relieve the Certification Holder of further Certifications or

Permits as may be necessary under the law. I have determined that a lowering of water quality in the Licking River Watershed (HUC 05040006) as authorized by this certification is necessary. I have made this determination based upon the consideration of all public comments, if submitted, and the technical, social, and economic considerations concerning this application and its impact on waters of the state.

PART I ON-SITE WATER RESOURCES AND IMPACTS

A. Watershed Setting

The Project is located within the Headwaters South Fork Licking River Watershed (HUC 050400060402). The South Fork Licking River has a designated aquatic life use of warm water habitat in the vicinity of the project area.

B. Project Description

The project will construct a 2.4 million square foot office building and warehouse complex, with associated utilities, roadways, storm water controls, and parking.

C. Impacts

Under the Modified Preferred Design Alternative impacts to waters of the state are as follows:

1. Streams

On-site streams will be impacted by the discharge of fill material to facilitate site development and construction of the office/warehouse development.

Stream ID	Existing Use	Type* E, I, or P	QHEI Score*	Impact Type	Total Length on Site (LF)	Total Length Impacted (LF)	Percent Avoided
Stream 1	N/A	E and I	N/A	Fill/Culvert	1,551	631	59%
Stream 2	N/A	E	N/A	Fill	665	0	100%
Stream 3	N/A	E	N/A	Fill	766	635	17%
Stream 4	N/A	E	N/A	Fill	385	385	0%
Stream 5	WWH	P	68	Culvert	3,429	222	94%
Stream 6	N/A	E	N/A	Fill	607	556	8%
Stream 7	N/A	E	N/A	Fill	432	383	11%
Stream 8	N/A	E	N/A	Fill	145	0	100%
				Totals	7,980	2,812	65%

* As provided by applicant

2. Wetlands

On-site wetlands will be impacted by the discharge of fill material to facilitate site development and construction of the office/warehouse development.

Wetland ID	Isolated or Non-isolated	Forested or Non-Forested	Category	Total Acreage on Site	Total Acreage Impacted	Percent Avoided
Wetland A	Non-isolated	Forested	3	2.73	0	100%
Wetland B	Non-isolated	Forested	2	0.54	0.54	0%
Wetland C	Non-isolated	Forested	2	2.55	2.55	0%
Wetland D	Isolated	Forested	2	0.32	0.32	0%
Wetland E-F	Isolated	Forested	2	0.14	0.14	0%
Wetland G	Non-isolated	Forested	2	0.03	0.03	0%
Wetland H	Isolated	Non-forested	1	0.12	0.12	0%
Wetland I	Non-isolated	Forested	3	6.77	0	100%
Wetland J	Isolated	Forested	2	4.92	4.49	9%
Wetland K	Isolated	Forested	2	0.37	0.37	0%
Wetland L	Isolated	Forested	1	0.13	0	100%
Wetland M	Non-isolated	Non-forested	1	.05	0.04	20%
			Totals	18.67	8.60	54%

PART II TERMS & CONDITIONS

A. This certification shall remain valid and in effect as long as the 404 Permit issued by the U.S. Army Corps of Engineers for this project is in effect.

B. Terms and conditions outlined in this section apply to project and mitigation construction as described in this certification.

C. The Certification Holder shall notify Ohio EPA, in writing, and in accordance with *Part IV (NOTIFICATIONS TO OHIO EPA)* of this certification, upon the start and completion of site development and mitigation construction.

D. A copy of this certification shall remain on-site for the duration of the project and mitigation construction activities.

E. In the event of an inadvertent spill, the Certification Holder must immediately call the Ohio EPA Spill Hotline at 1-800-282-9378, as well as the Ohio EPA Section 401/Stormwater Manager (614-644-2001).

F. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project must be reported within 24 hours of occurrence to Ohio EPA, Division of Surface Water, Section 401/Stormwater Manager (614-644-2001), for further evaluation.

G. Pesticide application(s) for the control of plants and animals shall be applied in accordance with rule 3745-1-01 of the Ohio Administrative Code, and may require a pesticide applicator license from the Ohio Department of Agriculture.

H. Any authorized representative of the director shall be allowed to inspect the authorized activity at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this certification.

I. In the event that there is a conflict between the certification application, including the mitigation plan, and the conditions within this certification, the condition shall prevail unless Ohio EPA agrees, in writing, that the certification application or other provision prevails.

J. The Certification Holder shall provide electronic maps of the development area and the mitigation area to Ohio EPA 401/Stormwater Section within 30 days of the date of this certification. JPEG, TIFF, PDF or BMP files are acceptable. When sending the electronic files, include the Ohio EPA ID Number and the Army Corps of Engineers Number (if applicable). If possible, these electronic maps shall be GIS shape files or Geodatabase files. If this is not possible, the electronic maps shall be in another electronic format readable in GIS (GIF, TIF, etc). The electronic files shall be sent to the following e-mail address: EPA.401Webmail@epa.ohio.gov

If the files are too large to send by e-mail, a disk containing the electronic files shall be mailed to the following address:

Ohio Environmental Protection Agency
Division of Surface Water
Attn: 401/Stormwater Manager
50 West Town Street, Suite 700
PO Box 1049
Columbus, OH 43216-1049

K. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office as follows:

Ohio Environmental Protection Agency
Central District Office
50 W. Town Street, Suite 700
Columbus, Ohio 43215-1049
614-728-3778

Additional information regarding environmental permitting assistance at Ohio EPA can be found at http://www.epa.ohio.gov/dir/permit_assistance.aspx

L. Best Management Practices (BMPs)

1. All water resources and their buffers which are to be avoided, shall be clearly indicated on site drawings demarcated in the field and protected with suitable materials (e.g., silt fencing) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process and removed after completion of construction.

2. All BMPs for storm water management shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources Rainwater and Land Development Manual, unless otherwise required by the National Pollutant Discharge Elimination System (NPDES) general permit for storm water discharges associated with construction activities (construction general permit), if required.

   A copy of the Rainwater and Land Development Manual is available at: http://epa.ohio.gov/Portals/35/storm/technical_assistance/RLD_11-6-14All.pdf.

   A copy of the NPDES construction general permit is available at: http://www.epa.ohio.gov/dsw/permits/GP_ConstructionSiteStormWater.aspx.

3. Straw bales shall not be used as a form of erosion/sediment control.

4. Grass filter strips shall be established adjacent to all avoided/relocated and un-culverted waters of the state, including wetlands and existing buffer areas. Filter strips shall be vegetated with non-invasive species native to Ohio and shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources' Rainwater and Land Development Manual.

5. Temporary fill shall consist of suitable non-erodible material and shall be stabilized to prevent erosion.

6. Materials used for fill or bank protection shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection.

7. Concrete rubble used for fill or bank stabilization shall be in accordance with ODOT specifications; free of exposed re-bar; and, free of all debris, soil and fines.

8. Chemically treated lumber which may include, but is not limited to, chromated copper arsenate and creosote treated lumber shall not be used in structures that come into contact with waters of the state.

9. Trees removed from temporary impact areas to facilitate construction shall be replaced with appropriate tree species native to Ohio.

10. All temporary fill material must be removed to an area that has no waters of the state at the completion of construction activities and the river bottom restored to pre-construction elevations to the maximum extent practicable.

11. Culverts

    a. Stream culverts shall be installed and designed at the streambed slope to allow for the natural movement of aquatic organisms and bedload to form a stable bed inside the culvert.

    b. The culvert base or invert with the substrate shall be installed below the sediment to allow natural channel bottom to develop and to be retained.

    c. The channel bottom substrate shall be similar to and contiguous with the immediate upstream and downstream reaches of the stream. The culvert shall be designed and sized to accommodate bankfull discharge and match the existing depth of flow to facilitate the passage of aquatic organisms.

d. Where culverts are installed for temporary crossings, the bottom elevations of the stream shall be restored as nearly as possible to pre-project conditions.

M. Wildlife Protection

1. No in-water work shall take place during the environmental window from April 15 through June 30, unless specifically approved by the Ohio Department of Natural Resources, Division of Wildlife, in writing, with a copy provided to Ohio EPA prior to undertaking any in-water work during the environmental window.

2. If native mussels and/or mussel beds, not previously identified, are encountered at any time during construction or dredging activities, work must cease immediately and the Ohio Department of Natural Resources' Division of Wildlife must be contacted for further evaluation.

PART III MITIGATION

A. Description of Required Mitigation

1. Stream Mitigation

As compensatory mitigation for impacts to 2,812 linear feet of stream the certification holder shall implement a combination of on-site preservation, and off-site preservation and enhancement.

In accordance with the August 10, 2016 plans submitted by EMH&T, a total of 4,937 linear feet of stream, and 10.47 acres associated buffers on-site will be preserved. Additionally, at the off-site Harrison and Worthington Road Mitigation Site, 1,838 linear feet of stream, and 2.47 acres of associated buffers shall be preserved, and 2.19 acres of stream buffers shall be enhanced in accordance with Exhibit 12 of the Mitigation plan. All stream mitigation areas shall be protected in perpetuity via a conservation easement.

2. Wetland Mitigation

As compensatory mitigation for impacts to 8.60 acres of wetlands listed above, the certification holder shall purchase 13.8 acres of wetland mitigation credits from the Stream + Wetlands In-lieu Fee program. The

certification holder will also preserve in perpetuity 9.5 acres of on-site category 3 wetlands, and approximately 15.92 acres of forested wetland buffers via a conservation easement.

B. Mitigation and Monitoring Plan

As mitigation for impacts described in Part I.C of this certification the Certification Holder shall implement the mitigation plan dated November 17, 2015, and as amended on July 21, 2016, and August 11, 2016 and in accordance with the conditions in this certification.

C. Timing of Mitigation Requirements

1. Stream buffer enhancement shall be completed prior to June 1, 2017. Forested stream buffer enhancement areas shall be monitored for a period of 10 years. If the enhancement area is shown to meet the specified performance criteria for two consecutive monitoring events, then additional monitoring years will not be required.

2. A baseline wetland preservation monitoring shall be conducted prior to initiation of earth disturbing activities on-site. The monitoring period of the wetland preservation areas shall begin once at least 50% of the on-site area to be developed (as shown on Exhibit 2 of the Wetland Drainage Study submitted by EMH&T dated June 2016) is built or under construction, and shall extend for a period of five years.

3. Within 30 days of the date of the 404 Permit issued by the U.S. Army Corps of Engineers, a copy of the fully executed in-lieu fee program agreement with Stream + Wetlands Foundation shall be provided to Ohio EPA. **Impacts to waters of the state shall not occur until the terms of this condition have been met**.

D. Long Term Protection

1. For each of the above described Stream and Wetland preservation areas including buffers, the Certification Holder shall submit to Ohio EPA an acceptable, notarized, recorded, and filed conservation easement. The Conservation Easements shall include, as attachments, a metes and bounds (survey) description of the protected area, survey map, and an aerial photograph showing the boundaries of the protected area and all mitigation areas inside the protected area. The Conservation Easements shall protect, in total, 9.5 acres of category 3 wetlands, 6,775 linear feet of streams, and 31.05 acres of upland buffers.

2. Signs shall be placed within visual distance of one another along the mitigation area boundaries that indicate the area is a protected stream and wetland mitigation project and that mowing, dumping, or any other activity that would result in a

degradation of the streams and wetlands without prior authorization from Ohio EPA is prohibited.

E. Agency Site Visits

For the stream buffer enhancement areas, the Certification Holder shall arrange on-site mitigation meetings with Ohio EPA during the growing season that follows the submittal of the third and fifth year mitigation monitoring reports, and after the seventh and tenth year mitigation monitoring reports if required.

For the wetland preservation areas, the Certification Holder shall arrange on-site mitigation meetings with Ohio EPA during the growing season that follows the submittal of the third and fifth year mitigation monitoring reports.

The purpose of these inspections is to determine if the mitigation project has been established in accordance with the mitigation and monitoring plan approved by Ohio EPA and the terms and conditions of this certification, as well as to determine progress toward compliance with the performance goals for the site. The Certification Holder is responsible for undertaking any modifications identified by Ohio EPA.

F. Reporting

1. Annual Update Reports

A mitigation construction and project update report shall be submitted to Ohio EPA by December 31 of each year following the date of this certification and until mitigation construction is complete and a mitigation monitoring report is ready for submittal. Each update report shall contain, at a minimum, the following information:

a. The status of all of the mitigation required for the project as specified in the application and certification including the filing of the required conservation easement.

b. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed, a drawing shall be provided, which shows the locations and acreage/feet of wetlands/streams that have not yet been filled. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.

c. Mitigation construction start date, completion date, or expected start and completion date;

d. A discussion of the extent to which the mitigation has been completed according to the timelines specified in this certification;

e. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to the Certification Holder, consultant, conservation easement holder, and conservation easement owner.

f. As-built drawings sized 11" by 17" (to scale) of each of the mitigation areas, once construction is complete.

2. Mitigation Monitoring Reports - Streams

a. The mitigation monitoring period for the stream mitigation shall commence in the growing season following completion of the stream buffer enhancement and shall continue through a ten-year monitoring period, except as provided for in the contingency plan.

b. The first mitigation monitoring report shall be submitted to Ohio EPA by December 31, 2018 following the end of the first full growing season following completion of the stream buffer enhancement. Subsequent reports shall be submitted by December 31st of the third, fifth, seventh and tenth monitoring years, as applicable.

c. Mitigation monitoring reports shall be prepared in the format prescribed in the Ohio EPA Monitoring Report Guidelines document available at http://epa.ohio.gov/portals/35/401/401MonitoringReportGuidelines.pdf and include the Monitoring Report Checklist provided at http://epa.ohio.gov/portals/35/401/401MonitoringReportChecklistTable.pdf.

d. Each mitigation report shall contain the **current contact information** for the Certification Holder, agent, conservation easement holder, and conservation easement owner including phone number, e-mail, and mailing addresses.

e. Each mitigation report shall clearly identify the specific monitoring period the report is intended to represent, as well as the calendar year the monitoring occurred. The report shall also provide a summary of current mitigation status, which compares the previous years' monitoring information with the current report including graphs and tables showing trends, etc.

f. Each mitigation report shall include a cover letter. The cover letter shall identify the status of the mitigation project and identify any items needing immediate attention or questions for the regulatory agencies.

g. The first monitoring report shall contain a full copy of the final U.S. Army Corps of Engineers 404 permit for the project.

h. Each mitigation monitoring report shall contain a list of species planted in all mitigation areas.

i. The first year report shall include an as-built planting plan for the stream buffer enhancement.

j. At a minimum, the first, third, and fifth year reports shall contain updated drawings sized 11" by 17" or larger (to scale) of each of the mitigation streams reflecting the current conditions, corrective or other actions that occurred, changes in dominant vegetation, and other pertinent information.

k. Each mitigation monitoring report shall include photographs to be collected as follows:

   i. An adequate number of fixed observation points shall be selected, with no fewer than three fixed observation points per distinct mitigation area, to provide representative overviews of each distinct mitigation area. The use of stakes with unique numbers to designate photo locations is recommended.

   ii. Photographs shall be taken from these points at the same position and angle during the growing season of each monitoring year. The fixed observation points shall be marked on the base map.

   iii. Additional photographs of areas of interest within each distinct mitigation area shall be marked on the base map and provided in each monitoring report.

3. Mitigation Monitoring Reports – Preserved Wetlands

a. The mitigation monitoring period for the wetland preservation areas shall commence once at least 50% of the on-site area to be developed (as shown on Exhibit 2 of the Wetland Drainage Study submitted by EMH&T dated June 2016) is built or under construction, and shall continue through a five-year monitoring period, except as provided for in the contingency plan.

b. Once the 50% threshold has been met, the first mitigation monitoring report shall be submitted to Ohio EPA by December 31 of the first full year thereafter. Subsequent reports shall be submitted by December 31st of each of the monitoring years.

c. Mitigation monitoring reports shall be prepared in the format prescribed in the Ohio EPA Monitoring Report Guidelines document available at http://epa.ohio.gov/portals/35/401/401MonitoringReportGuidelines.pdf and include the Monitoring Report Checklist provided at http://epa.ohio.gov/portals/35/401/401MonitoringReportChecklistTable.pdf.

d. Each monitoring report shall contain the **current contact information** for the Certification Holder, agent, conservation easement holder, and conservation easement owner including phone number, e-mail, and mailing addresses.

e. Each monitoring report shall clearly identify the specific monitoring period the report is intended to represent, as well as the calendar year the monitoring occurred. The report shall also provide a summary of current mitigation status, which compares the previous years' monitoring information with the current report including graphs and tables showing trends, etc.

f. Each monitoring report shall include a cover letter. The cover letter shall identify the status of the mitigation project and identify any items needing immediate attention or questions for the regulatory agencies.

g. The first monitoring report shall contain a full copy of the final U.S. Army Corps of Engineers 404 permit for the project.

h. At a minimum, the first, third, and fifth year annual reports shall contain updated drawings sized 11" by 17" or larger (to scale) of each of the preserved wetlands reflecting the current conditions, corrective or other actions that occurred, changes in dominant vegetation, and other pertinent information.

i. Each annual report shall include photographs to be collected as follows:

    i. An adequate number of fixed observation points shall be selected, with no fewer than three fixed observation points per distinct mitigation area, to provide representative overviews of

each distinct mitigation area. The use of stakes with unique numbers to designate photo locations is recommended.

ii. Photographs shall be taken from these points at the same position and angle during the growing season of each monitoring year. The fixed observation points shall be marked on the base map.

iii. Additional photographs of areas of interest within each distinct mitigation area shall be marked on the base map and provided in each monitoring report.

G. Monitoring Requirements – Preserved Wetlands

1. Site Drawings

a. At a minimum, in the first, third and fifth year annual reports a plan view that provides information on the morphometry of all mitigation wetlands and the location of any water control devices shall be provided.

2. Wetland Delineation

a. A delineation of the wetland preservation area(s) shall be performed during the growing season of the third and fifth year of monitoring. The wetland delineation shall be performed in accordance with the United States Army Corps of Engineers 1987 Wetland Delineation Manual and the applicable Regional Supplement to the Corps of Engineers Wetland Delineation Manual and shall include an assessment of soils, hydrology, and plants according to the manual.

3. Hydrology Monitoring

a. Water level data shall be collected Monthly at a minimum, between April 15th and October 15th, to generally represent the growing season. Ground water levels shall be measured in the absence of inundated conditions.

b. Water Chemistry grab samples shall be collected quarterly at the basin discharge points within the preserved wetlands. The samples should be taken such that the first flush condition is analyzed. Water chemistry analyzed for total suspended solids.

4. Vegetation Monitoring

   a. The wetland preservation areas shall be assessed to obtain a baseline VIBI score according to methods and protocols approved by Ohio EPA (http://www.epa.ohio.gov/portals/35/wetlands/PART4_VIBI_OH_WTLDs.pdf) prior to initiation of earth disturbing activities, and during the growing season of the third and fifth years of the monitoring period.

   b. The location and name of each plant community type within the wetland mitigation area shall be marked on a scaled drawing or scaled aerial photograph (base map) and named. The dominant plant species shall be visually determined in each vegetation layer of each community type, and the scientific names of these species shall be included in the report.

   c. Species, diameter at breast height (dbh), vigor, dominance and stem count data shall be collected and graphed over time for the existing trees within the preserved wetland and upland buffer zone. A total of seven 100 ft x 100 ft sampling plots will be established to monitor trees within the preservation areas.

   d. The preserved wetlands shall be assessed to obtain ORAM scores according to methods and protocols approved by Ohio EPA (http://epa.ohio.gov/Portals/35/401/ORAM%20Manual%205.0.pdf). A baseline ORAM shall be completed prior to construction activities and an ORAM shall be completed during the growing season of the third and fifth years of the monitoring period.

5. Wildlife Monitoring

   An amphibian visual encounter shall be conducted in the preserved wetlands during the spring (March – June) of the third and fifth year of monitoring. A baseline survey shall be completed in the spring season of 2017.

H. Monitoring Requirements – Streams

1. Vegetation Monitoring

   a. The location and extent of invasive plant communities within both the on-site and offsite mitigation buffer areas shall be marked on a scaled drawing or scaled aerial photograph (base map) and named. The relative cover of invasive species shall be calculated and included in the report.

b. A total of three 100 ft x 100 ft sampling plots will be established to monitor the buffer enhancement areas. Species, stem count, and height data shall be collected for the offsite buffer enhancement areas. These data shall be graphed against time to demonstrate that the offsite enhancement area is developing into a functional forested ecosystem.

I. Performance Goals – Preserved Wetlands

At the end of the five-year wetland monitoring period the Certification Holder shall have:

1. Preserved wetlands and their buffers shall be subject to a conservation easement that specifies the activities that are allowed and/or prohibited within the boundaries of the wetland and associated buffers to be preserved. All provisions must protect the long-term health and existing functions of the wetlands and associated buffers.

2. Demonstrated that the preserved wetlands remain 9.5 acres in total size and consist of a forested wetland plant community.

3. Demonstrated that the preserved wetlands have attained a Vegetation IBI score of 63 or higher. If the baseline VIBI score is lower than 63 then that score will be used as the VIBI performance goal.

4. Demonstrated that Wetland A has maintained an ORAM quantitative rating equal to or higher than 65, and that Wetland I has maintained an ORAM quantitative rating equal to or higher than 60.

5. The preserved wetlands and their buffers shall have less than five percent relative cover of all invasive plant species listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf.

6. Demonstrated that the preserved wetlands contain at least 75 percent relative cover of native perennial hydrophytes.

7. Maintained an average 90 feet of native upland buffer, or a total of 15.9 acres as measured from the edge of the wetland with no more than five percent relative coverage of invasive species as listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf.

8. Demonstrated that the discharges into the preserved wetlands shall not exceed 100 mg/L total suspended solids up to a 0.75-inch rainfall event within a 24-hour period.

9. Demonstrated that the amphibian species richness and relative abundance met the baseline conditions.

J. Performance Goals – Streams

Within ten years after completion of the mitigation, the Certification Holder shall have:

1. Preserved a minimum of 10.47 acres of native upland/floodplain buffer at the on-site stream preservation area measured from the top of the bank with no more than five percent relative coverage of invasive species as listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf.

2. Preserved a minimum of 2.47 acres of native upland/floodplain buffer at the offsite stream preservation area measured from the top of the bank with no more than five percent relative coverage of invasive species as listed in Appendix 7 of the Guidelines for Mitigation Banking in Ohio available at http://www.lrb.usace.army.mil/Portals/45/docs/regulatory/MitandMon/guidelineswetlandmitigation-Ohio.pdf.

3. Demonstrated that a minimum of 2.19 acres of forested stream buffers have been established consisting of 400 native, live and healthy (disease and pest free) woody plants greater than 1 meter in height per acre (of which at least 200 are tree species) at the end of the monitoring period in the offsite upland buffer enhancement areas.

K. Contingency Plans

If the off-site stream buffer enhancement area is shown to meet the specified performance criteria for two consecutive monitoring events, then additional stream monitoring will not be required. If the stream enhancement areas are not performing as proposed by the end of the tenth year of monitoring, the monitoring period may be extended and/or the Certification Holder may be required to revise the existing mitigation or seek out new or additional stream mitigation areas.

If the wetland preservation areas are not performing as proposed by the end of the fifth year of monitoring, the monitoring period may be extended and/or the Certification Holder may be required to revise the existing mitigation or seek out new or additional wetland mitigation areas.

Ohio EPA may reduce or increase the number of years for which monitoring is required to be conducted based on the effectiveness of the mitigation.

PART IV NOTIFICATIONS TO OHIO EPA

All notifications, correspondence, and reports regarding this certification shall reference the following information:

Certification Holder Name: MBJ Holdings, LLC
Project Name: Harrison Road East
Ohio EPA ID No.: 154756 and 154841

and shall be sent to:

Ohio Environmental Protection Agency
Division of Surface Water, 401/IWP Unit
Lazarus Government Center
50 West Town Street
P.O. Box 1049
Columbus, Ohio 43216-1049

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to "Ohio Treasurer Josh Mandel," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
77 South High Street, 17th Floor
Columbus, Ohio 43215

Sincerely,

Craig W. Butler
Director

cc: Lee Robinette, Department of the Army, Huntington District, Corps of Engineers
Cory Wilson, Department of the Army, Huntington District, Corps of Engineers
Peter Swenson, U.S. EPA, Region 5
Dan Everson, U.S. Fish & Wildlife Service
John Kessler, ODNR, Office of Real Estate
Dave Snyder, Ohio Historical Preservation Office
Michael See, Ohio EPA, DSW, Section 401/IWP
Jeff DeShon, Ohio EPA, DSW, EAS
Andrea Kilbourne, Ohio EPA, DSW, Mitigation Coordinator
Jeff Bohne, Ohio EPA, DSW, CDO
Vince Messerly, Stream + Wetlands Foundation
Heather Dardinger, EMH&T Inc.

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at http://www.surveymonkey.com/s/ohioepacustomersurvey.

I certify this to be a true and accurate copy of the official documents as filed in the records of the Ohio Environmental Protection Agency.
By: Date: 02/13/2024

February 13, 2024

TRANSMITTED ELECTRONICALLY

Re: Jug Street & Harrison Road Properties
Permit - Intermediate
Approval
401 Wetlands
Licking
DSW401238616W

Greg Baltz
DBT Data, LLC
400 7th Street, SE
Washington, DC 20003
greg@dbtdevelopment.com

Subject: Jug Street & Harrison Road Properties
Licking / New Albany
Grant of an Isolated Wetland Permit
Ohio EPA ID No. 238616W

Dear Stakeholders:

I hereby authorize the above referenced project under the following authorities, and it is subject to the following modifications and/or conditions:

Ohio Isolated Wetland Permit

Pursuant to Ohio Revised Code Chapter 6111, I hereby conclude that the above-referenced project will comply with the applicable provisions of Ohio Revised Code Sections 6111.02 through 6111.028. This authorization is specifically limited to an Ohio Isolated Wetlands Permit (here after referred to as "permit") with respect to water pollution and does not relieve the Permittee of further Certifications or Permits as may be necessary under the law. I have determined that a lowering of water quality in the Licking watershed (HUC 05040006) as authorized by this permit is necessary. I have made this determination based upon the consideration of all public comments, if submitted, and the technical, social, and economic considerations concerning this application and its impact on waters of the state. In accordance with ORC Section 6111.021(C), this permit shall serve as the state's 401 water quality certification to the extent that any of these waters are deemed jurisdictional under the Federal Water Pollution Control Act.

PART I ON-SITE WATER RESOURCES AND IMPACTS

A. Watershed Setting

The watersheds in which this project is located, Headwaters Blacklick Creek (HUC 05060001-15-03) and Headwaters South Fork Licking River (05040006-04-02), have areas of 48.9 square miles and 15.4 square miles, respectively. Blacklick Creek is a warmwater habitat (WWH) stream and primary contact recreation water. The South Fork Licking River is also a WWH stream and primary contact recreation water.

B. Project Description

The proposed project is an artificial intelligence (AI) data center development which would include the construction of three (3) datacenter buildings, a stormwater basin, an entrance drive, a parking lot, and a small substation.

C. Impacts

1. Impacts to isolated wetlands are as follows:

A total of 5.96 acres of isolated wetlands will be filled and graded to accommodate the spatial requirements of the project. The wetlands range in quality from non-forested, category 1 wetlands to forested, category 2 wetlands.

Wetland ID	Isolated or Non-isolated?	Forested or Non-Forested	Category	Total Acreage on Site	Total Acreage Impacted	Percent Avoided
Wetland A	Isolated	Forested	2	0.47	0.47	0%
Wetland B	Isolated	Forested	2	3.62	2.9	0%
		Non-Forested			0.72	
Wetland C	Isolated	Forested	2	0.34	0.34	0%
Wetland D	Isolated	Forested	1	0.17	0.17	0%
Wetland E	Isolated	Forested	2	1.37	0.56	42.3%
		Non-Forested			0.23	
Wetland F	Isolated	Non-Forested	2	0.08	0.08	0%
Wetland G	Isolated	Forested	2	0.05	0.03	0%
		Non-Forested			0.02	
Wetland H	Isolated	Non-Forested	1	0.11	0.11	0

Wetland ID	Isolated or Non-isolated?	Forested or Non-Forested	Category	Total Acreage on Site	Total Acreage Impacted	Percent Avoided
Wetland I	Isolated	Non-Forested	2	0.1	0.1	0
Wetland J	Isolated	Forested	2	0.23	0.23	0
			Totals	**6.54**	**5.96**	**8.9%**

2. Impacts to isolated ponds are as follows:

   A total of 1.47 acres of four (4) isolated ponds will be filled and graded to accommodate the spatial requirements of the project. Pursuant to Section 6111.03(J)(1) of the Ohio Revised Code (ORC), the Director of the Ohio Environmental Protection Agency hereby authorizes the aforementioned impacts, subject to the terms and conditions of this permit.

PART II TERMS & CONDITIONS

A. Terms and conditions outlined in this section apply to project and mitigation construction as described in this permit.

B. This permit shall be valid for a period of 5 years from the date of issuance.

C. The Permittee shall notify Ohio EPA, in writing, and in accordance with *Part IV* (*NOTIFICATIONS TO OHIO EPA*) of this permit, upon the start and completion of site development and mitigation construction.

D. A copy of this permit shall remain on-site for the duration of the project and mitigation construction activities.

E. In the event of an inadvertent spill, the Permittee must immediately call the Ohio EPA Spill Hotline at 1-800-282-9378, as well as the Ohio EPA Section 401 Manager (614-644-2001).

F. Unpermitted impacts to surface water resources and/or their buffers occurring as a result of this project must be reported within 24 hours of occurrence to Ohio EPA, Division of Surface Water, Section 401 Manager (614-644-2001), for further evaluation.

G. Pesticide application(s) for the control of plants and animals shall be applied in accordance with the NPDES General Permit to Discharge Pesticides In, Over or Near Waters of the State available at: https://epa.ohio.gov/static/Portals/35/permits/OHG870002_FINAL_PERMIT.pdf and may require a pesticide applicator license from the Ohio Department of Agriculture.

H. Any authorized representative of the director shall be allowed to inspect the authorized activity at reasonable times to ensure that it is being or has been accomplished in accordance with the terms and conditions of this permit.

I. In the event that there is a conflict between the permit application, including the mitigation plan, and the conditions within this permit, the condition shall prevail unless Ohio EPA agrees, in writing, that the permit application or other provision prevails.

J. The Permittee shall provide electronic maps of the development area to Ohio EPA 401 WQC and Isolated Wetland Permitting Section within 30 days of the date of this permit. When sending the electronic files, include the Ohio EPA ID Number and the Army Corps of Engineers Number (if applicable). If possible, these electronic maps shall be GIS shape files or Geodatabase files. If this is not possible, the electronic maps shall be in another electronic format readable in GIS (GIF, TIF, etc). The electronic files shall be sent to the following e-mail address: EPA.401Webmail@epa.ohio.gov

If the files are too large to send by e-mail (over 25 MB), a disk containing the electronic files shall be mailed to the following address:

Ohio Environmental Protection Agency
Division of Surface Water
Attn: 401 Section Manager
50 West Town Street, Suite 700, PO Box 1049
Columbus, OH 43216-1049

K. This proposal may require other permits from Ohio EPA. For information concerning application procedures, contact the Ohio EPA District Office as follows:

Ohio Environmental Protection Agency
Central District Office
50 W. Town Street, Suite 700
Columbus, Ohio 43215-1049
614-728-3778

Additional information regarding environmental permitting assistance at Ohio EPA can be found at https://epa.ohio.gov/wps/portal/gov/epa/stay-compliant/get-help/permit-assistance

L. Best Management Practices (BMPs)

1. All water resources and their buffers which are to be avoided shall be clearly indicated on site drawings, demarcated in the field and protected with suitable materials (e.g., silt fencing) prior to site disturbance. These materials shall remain in place and be maintained throughout the construction process.

2. All BMPs for stormwater management shall be designed and implemented in accordance with the most current edition of the Ohio Department of Natural Resources Rainwater and Land Development Manual, unless otherwise required by the National Pollutant Discharge Elimination System (NPDES) general permit for stormwater discharges associated with construction activities (construction general permit), if required.

   A copy of the Rainwater and Land Development Manual is available at: https://epa.ohio.gov/wps/portal/gov/epa/divisions-and-offices/surface-water/guides-manuals/rainwater-and-land-development

   A copy of the NPDES construction general permit is available at: https://epa.ohio.gov/static/Portals/35/permits/OHC000005.pdf

3. Straw bales shall not be used as a form of erosion/sediment control.

4. Fill material shall consist of suitable non-erodible material and shall be stabilized to prevent erosion.

5. Materials used for fill shall consist of suitable material free from toxic contaminants in other than trace quantities. Broken asphalt is specifically excluded from use as fill or bank protection.

6. Concrete rubble used for fill shall be in accordance with ODOT specifications; free of exposed re-bar; and, free of all debris, soil and fines.

7. Chemically treated lumber which may include, but is not limited to, chromated copper arsenate (CCA) and creosote treated lumber shall not be used in structures that come into contact with waters of the state.

8. Trees removed from temporary impact areas to facilitate construction shall be replaced with appropriate tree species native to Ohio.

9. The 0.58 acres of Wetland E to be avoided will retain a 50-foot no disturb, natural buffer along the east and west boundaries of the wetland. These buffers will be demarcated during construction with orange construction fencing and permanent signage. Following completion of construction, the orange construction fence will be removed but the permanent signs will remain.

M. Wildlife Protection

1. In the event that an eastern massasauga rattlesnake (*Sistrurus catenatus catenatus*) is encountered during construction of the project, work should immediately cease and the Ohio Department of Natural Resources, Division of Wildlife contacted. Caution should be employed during construction and during the snakes' active season (March 15 - November 15).

PART III MITIGATION

A. Description of Required Mitigation

As mitigation for 5.96 acres of wetland impact including 0.17 acre of forested category 1 wetland, 0.11 acre of non-forested category 1 wetland, 4.53 acres of forested category 2 wetland, and 1.15 acres of non-forested category 2 wetland, the certification holder shall purchase 11.7 forested credits and 2.6 non-forested credits from Whetstone Highlands Mitigation Bank located in Delaware County within the Upper Scioto watershed (HUC 05060001).

B. Timing of Mitigation Requirements

Within 30 days of the date of certification, a copy of the fully executed mitigation bank agreement with Whetstone Highlands Mitigation Bank shall be provided to Ohio EPA. **Impacts to waters of the state shall not occur until the terms of this condition have been met**.

C. Reporting

1. Annual Update Reports

A project construction update report shall be submitted to Ohio EPA by December 31 of each year following the date of this permit and until project construction is complete. Each update report shall contain, at a minimum, the following information:

a. The status of the filling activities at the development site including dates filling was started and completed, or are expected to be started and completed. If filling activities have not been completed, a drawing shall be provided, which shows the locations and acreage/feet of wetlands/streams that have not yet been filled. If filling activities have been completed, then as-built drawings shall be submitted, which show where fill was placed.

b. Current contact information for all responsible parties including phone number, e-mail, and mailing addresses. For the purposes of this condition, responsible parties include, but may not be limited to the Permittee, consultant, and project construction manager.

c. As-built drawings sized 11" by 17" (to scale) of each of the construction areas, once construction is complete.

PART IV NOTIFICATIONS TO OHIO EPA

All notifications, correspondence, and reports regarding this permit shall reference the following information:

Permittee Name:	Greg Baltz, DBT Data, LLC
Project Name:	Jug Street & Harrison Road Properties
Ohio EPA ID No.:	238616W

and shall be sent to:

Ohio Environmental Protection Agency
Division of Surface Water, 401/IWP Unit
Lazarus Government Center
50 West Town Street
P.O. Box 1049
Columbus, Ohio 43216-1049

You are hereby notified that this action of the director is final and may be appealed to the Environmental Review Appeals Commission pursuant to Section 3745.04 of the Ohio Revised Code. The appeal must be in writing and set forth the action complained of and the grounds upon which the appeal is based. The appeal must be filed with the Commission within 30 days after notice of the director's action. The appeal must be accompanied by a filing fee of $70.00, made payable to "Treasurer, State of Ohio," which the Commission, in its discretion, may reduce if by affidavit you demonstrate that payment of the full amount of the fee would cause extreme hardship. Notice of the filing of the appeal shall be filed with the director within three days of filing with the Commission. Ohio EPA requests that a copy of the appeal be served upon the Ohio Attorney General's Office, Environmental Enforcement Section. An appeal may be filed with the Environmental Review Appeals Commission at the following address:

Environmental Review Appeals Commission
30 East Broad Street, 4th Floor
Columbus, Ohio 43215

Sincerely,

Anne M Vogel

Anne M. Vogel
Director

ec: Teresa Spagna, Teresa.D.Spagna@usace.army.mil, Department of the Army,
Huntington, Corps of Engineers
Wes Barnett, wes.barnett@usace.army.mil, Department of the Army,
Huntington District, Corps of Engineers
U.S. EPA, Region 5, R5Wetlands@epa.gov
Patrice Ashfield, Ohio@fws.gov, U.S. Fish & Wildlife Service
Mike Pettegrew, Mike.Pettegrew@dnr.state.oh.us, ODNR, Office of Real Estate
Kristine Koehlinger, section106@ohiohistory.org, Ohio Historical Preservation Office

Rachel Secrest, Rachel.Secrest@epa.ohio.gov, Ohio EPA, DSW, 401/Wetlands Supervisor
Andrew Graves, Andrew.Graves@epa.ohio.gov, Ohio EPA, DSW, 401/Wetlands/Mitigation Section
Andrea Kilbourne, Andrea.Kilbourne@epa.ohio.gov, Ohio EPA, DSW, Mitigation Coordinator
Chloe Welch, Chloe.Welch@epa.ohio.gov, Ohio EPA, CO DSW
Vince Messerly, vmesserly@streamandwetlands.org, Stream + Wetlands Foundation
Eric Nagy, enagy@emht.com, EMH&T, Inc

Attachments: Project Impact Map
Site Location Map (project)

Ohio EPA has developed a customer service survey to get feedback from regulated entities that have contacted Ohio EPA for regulatory assistance, or worked with the Agency to obtain a permit, license or other authorization. Ohio EPA's goal is to provide our customers with the best possible customer service, and your feedback is important to us in meeting this goal. Please take a few minutes to complete this survey and share your experience with us at http://www.surveymonkey.com/s/ohioepacustomersurvey.

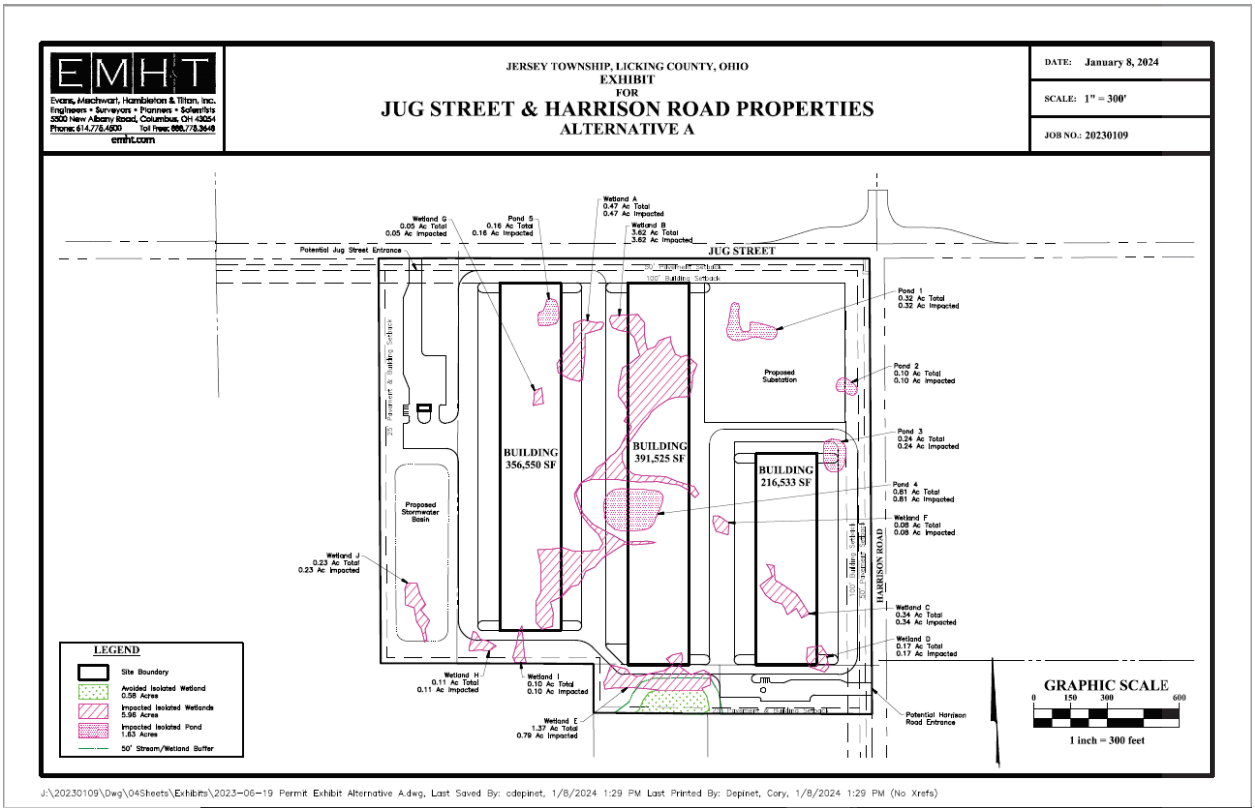


Figure 1: Project Impact Map

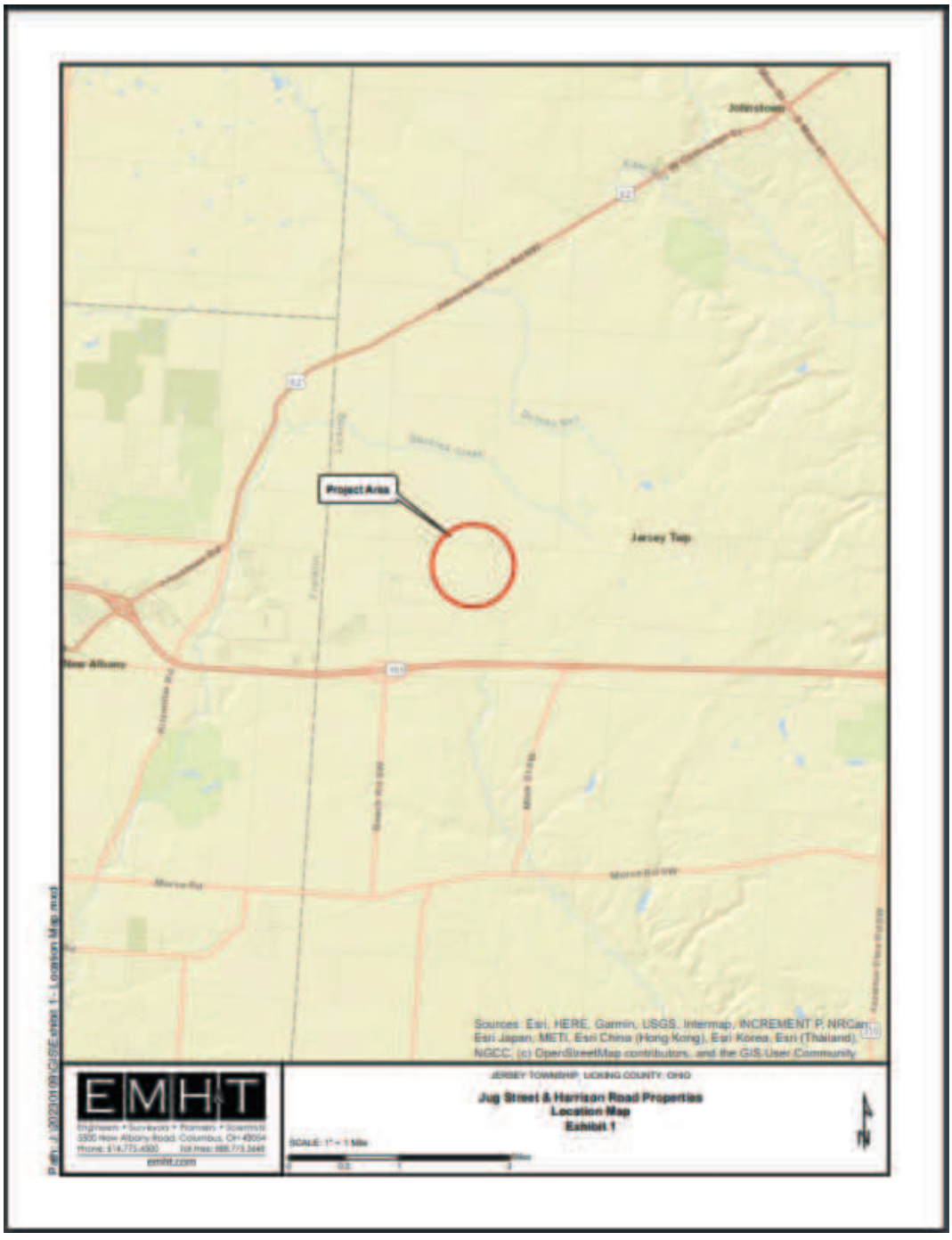


Figure 2: Project Location Map

APPENDIX B

USACE WETLAND DETERMINATION DATA FORMS / OEPA WETLAND ORAM FORMS / DELINEATED FEATURES PHOTOGRAPHS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Tasjan Projects | City/County: Licking | Sampling Date: 19-Sep-23

Applicant/Owner: AEP | State: OH | Sampling Point: **W-HLA-001 / Wetland EMHT H**

Investigator(s): Hannah Apatang, Kevin Streaker | Section, Township, Range: S | T 2N | R 15W

Landform (hillslope, terrace, etc.): Plains | Local relief (concave, convex, none): concave

Slope: 2.0% / 1.1 ° | Lat.: 40.09597 | Long.: -82.72917 | Datum: NAD83

Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes | NWI classification: NA

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☑ , Soil ☑ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ◉ No ○
Hydric Soil Present?	Yes ◉ No ○	
Wetland Hydrology Present?	Yes ◉ No ○	

Remarks:
Data point in PEM wetland just south of Jug Street Road Northwest, in old field habitat. Vegetation and soils disturbed due to mulching and tire rutting. Wetland fully delineated by vegetation and topography.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Fraxinus pennsylvanica	10	☑ 66.7%	FACW
2. Quercus macrocarpa	5	☑ 33.3%	FAC
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	0
	15	= Total Cover	

Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Fraxinus pennsylvanica	10	☑ 100.0%	FACW
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	10	= Total Cover	

Herb Stratum (Plot size: 5' radius)			
1. Echinochloa crusgalli	60	☑ 57.1%	FACU
2. Typha angustifolia	15	☐ 14.3%	OBL
3. Cyperus esculentus	15	☐ 14.3%	FACW
4. Persicaria punctata	10	☐ 9.5%	OBL
5. Peltandra virginica	5	☐ 4.8%	OBL
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	105	= Total Cover	

Woody Vine Stratum (Plot size: 30' radius)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

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

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 75.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	30	x 1 =	30
FACW species	35	x 2 =	70
FAC species	5	x 3 =	15
FACU species	60	x 4 =	240
UPL species	0	x 5 =	0
Column Totals:	130 (A)		355 (B)

Prevalence Index = B/A = 2.731

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☑ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)
Vegetation disturbed due to tree removal. Hydrophytic vegetation indicator is present, as dominance test >50%.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **W-HLA-001**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-5	10YR 2/1	98	10YR 5/6	2	C	M	Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☑ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ◉ No ○

Remarks:

Hydric soil indicator is present at data point.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☑ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☑ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☑ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☑ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ◉ No ○

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

Remarks:

Several primary and secondary hydrology indicators are present.

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Tasjan Projects | City/County: Licking | Sampling Date: 19-Sep-23

Applicant/Owner: AEP | State: OH | Sampling Point: **W-HLA-001-UPL**

Investigator(s): Hannah Apatang, Kevin Streaker | Section, Township, Range: S | T 2N | R 15W

Landform (hillslope, terrace, etc.): plains | Local relief (concave, convex, none): flat

Slope: 0.0% / 0.0 ° | Lat.: 40.09600 | Long.: -82.72937 | Datum: NAD83

Soil Map Unit Name: BeB: Bennington silt loam, 2 to 6 percent slopes | NWI classification: NA

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☑ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ◉ No ○	**Is the Sampled Area within a Wetland?** Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Data point out from Wetland A2, located east of the wetland, along a construction road entrance. Soils significantly disturbed with mulch layer and tire rutting.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1. Ulmus americana	15	☑ 75.0%	FACW
2. Fraxinus pennsylvanica	5	☑ 25.0%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	20	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1. Cornus amomum	2	☐ 50.0%	FACW
2. Fraxinus pennsylvanica	2	☐ 50.0%	FACW
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	4	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Ambrosia trifida	50	☑ 41.7%	FAC
2. Bidens aristosa	30	☑ 25.0%	FACW
3. Trifolium repens	20	☐ 16.7%	FACU
4. Toxicodendron radicans	15	☐ 12.5%	FAC
5. Persicaria pensylvanica	5	☐ 4.2%	FACW
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	120	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1. Vitis aestivalis	5	☑ 100.0%	FACU
2.	0	☐ 0.0%	
	5	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 80.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	59	x 2 =	118
FAC species	65	x 3 =	195
FACU species	25	x 4 =	100
UPL species	0	x 5 =	0
Column Totals:	149 (A)		413 (B)

Prevalence Index = B/A = 2.772

Hydrophytic Vegetation Indicators:

- ☐ **1 - Rapid Test for Hydrophytic Vegetation**
- ☑ **2 - Dominance Test is > 50%**
- ☐ **3 - Prevalence Index is ≤3.0** [1]
- ☐ **4 - Morphological Adaptations** [1] **(Provide supporting data in Remarks or on a separate sheet)**
- ☐ **Problematic Hydrophytic Vegetation** [1] **(Explain)**

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

Hydrophytic Vegetation Present? Yes ◉ No ○

Remarks: (Include photo numbers here or on a separate sheet.)
Hydrophytic vegetation indicators are present.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **W-HLA-001-UPL**

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

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Redox Features Type[1]	Redox Features Loc[2]	Texture	Remarks
0-14	10YR 2/1	100					Loam	

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils [3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ○ No ◉

Remarks:

No hydric soil indicators present at data point. Soils are disturbed due to recent construction activities, as evidence of heavy mulching and tire rutting.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☑ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches): _____

Water Table Present? Yes ○ No ◉ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches): _____

Wetland Hydrology Present? Yes ○ No ◉

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

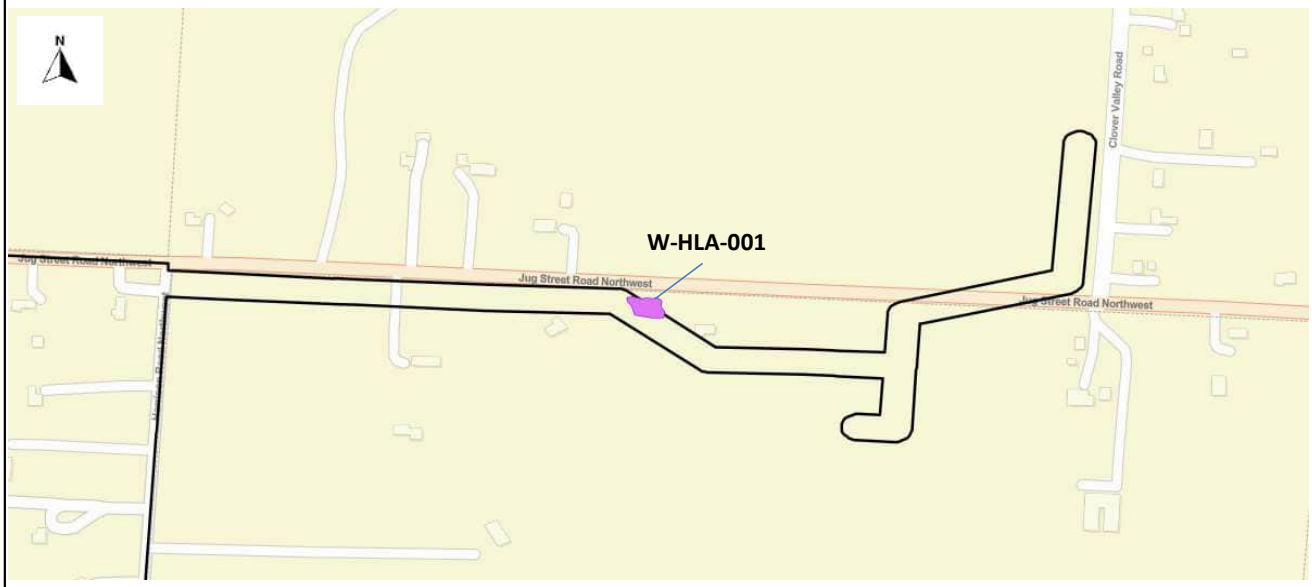
Remarks:

No hydrology indicators present at data point.

Background Information

Name:	**H. Apatang and K. Streaker**
Date:	**9/19/2023**
Affiliation:	**AECOM**
Address:	**525 Vine St., Ste. 1800, Cincinnati, OH 45202**
Phone Number:	**419-308-0980**
e-mail address:	hannah.pharesapatang@aecom.com
Name of Wetland:	**W-HLA-001**
Vegetation Communit(ies):	**PEM**
HGM Class(es):	**DEPRESSIONAL**

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



Lat/Long or UTM Coordinate:	**40.09597, -82.72917**
USGS Quad Name:	**Jersey**
County:	**Licking**
Township:	**New Albany**
Section and Subsection:	**T2N R15W**
Hydrologic Unit Code:	**050600011503 - Headwaters Blacklick Creek**
Site Visit:	**9/19/2023**
National Wetland Inventory Map:	**See Figure 2**
Ohio Wetland Inventory Map:	**N/A**
Soil Survey:	**See Figure 2**
Delineation report/map:	**See Figure 3**

Name of Wetland:	W-HLA-001		
Wetland Size (delineated acres):	0.16	Wetland Size (Estimated total acres):	0.16

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



Comments, Narrative Discussion, Justification of Category Changes:

W-HLA-001 is a small PEM wetland present in the eastern, linear portion of the Project study area. AECOM confirmed that W-HLA-001 (previously delineated by EMHT Wetland H) was converted from forested to a non-forested wetland. The wetland is surrounded by recent construction activites; new TCE to the west and construction trailer to the south. The dominant vegetation within the herb stratum of the wetland consists of Echinochloa crusgalli. Redox dark surface (F6) is the hydric soil indicator present; soils are recently and significantly disturbed by the recent construction activties, as evidence by heavy mulch and tire rutting present. Several primary hydrology indicators were observed, such as water-stained leaves, water marks on trees, and an algal mat. The wetland was fully delineated.

Final score:	10	Category:	1

Wetland ID:	W-HLA-001

Scoring Boundary Worksheet

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

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

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

Wetland ID:	W-HLA-001

Narrative Rating

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

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

Wetland ID:	W-HLA-001

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

Wetland ID:	W-HLA-001

Table 1. Characteristic plant species.

invasive/exotic spp	fen species	bog species	oak 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.

Wetland ID:	W-HLA-001

Site:	Tasjan Projects	Rater(s):	H. Apatang and K. Streaker	Date:	9/19/2023

Field ID:

Wetland A2

Delineated acres:	0.16
Total acres:	0.16

Metric 1. Wetland Area (size).

1.0 (max 6 pts) | 1.0 (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)
- [ ] 0.3 to <3 acres (0.12 to <1.2ha) (2pts)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

1.0 (max 14 pts.) | 2.0 (subtotal)

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

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

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

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

Metric 3. Hydrology.

5.0 (max 30 pts.) | 7.0 (subtotal)

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

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

3b. Connectivity. Score all that apply.

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

3c. Maximum water depth. Select one.

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

3.0 (max 20 pts.) | 10.0 (subtotal)

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

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

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

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

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

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

Check all disturbances observed

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

10.0 (subtotal this page)

ORAM v. 5.0 Field Form Quantitative Rating

Wetland ID:	W-HLA-001

Site:	Tasjan Projects	Rater(s):	H. Apatang and K. Streaker	Date:	9/19/2023

Field ID:

Wetland A2

10.0
subtotal this page

0.0 max 10 pts. | **10.0** subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

0.0 max 20pts. | **10.0** subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [0] Shrub
- [0] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.

Select only one.

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

6c. Coverage of invasive plants. Refer

Table 1 ORAM long form for list. Add or deduct points for coverage

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

10.0 TOTAL (Max 100 pts)

1 Category

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

Wetland ID:	W-HLA-001

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	1		
	Metric 3. Hydrology	5		
	Metric 4. Habitat	3		
	Metric 5. Special Wetland Communities	0		
	Metric 6. Plant communities, interspersion, microtopography	0		
	TOTAL SCORE	10		Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland ID:	W-HLA-001

Wetland Categorization Worksheet

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

Final Category

Choose one	***Category 1**	Category 2	Category 3	

End of Ohio Rapid Assessment Method for Wetlands.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing North



Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing South



Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing West



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing Soils



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing North



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing East



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing West



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PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing South



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing Soil



APPENDIX C

DESKTOP ASSESSMENT FOR WINTER BAT HABITAT

American Electric Power
8600 Smith's Mill Road
New Albany, OH 43054
ajtoohey@ aep.com

August 17, 2023

Attention: Mr. John Kessler
Ohio Department of Natural Resources
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

Transmitted via email: environmentalreviewrequest@dnr.state.oh.us; NHDRequest@dnr.state.oh.us

Reference: Request for Technical Assistance
Tasjan Extension 138kV and Green Chapel-Innovation 138kV Removal
Johnstown, Licking County, Ohio

Mr. Kessler:

AEP Ohio Transmission Company, Inc. (AEP), is formally requesting that the Ohio Department of Natural Resources (ODNR) complete a project review request for the proposed Tasjan Extension 138 kilovolt (kV) and Green Chapel-Innovation 138kV Removal (Project) in Licking County, Ohio (OH). The Tasjan Extension 138kV component consists of the installation of approximately 0.63-miles of greenfield double circuit 138kV transmission line between the proposed Tasjan Station to structure 2A on the existing Green Chapel-Innovation 138kV line. The Green Chapel-Innovation 138kV Removal component consists of the removal of approximately 0.3-miles of the Green Chapel-Innovation 138kV Line, starting at the Green Chapel Station and going north to the #7 in line structure. The Project study area is located in the United States Geological Survey (USGS) Jersey, Ohio 7.5-minute topographical quadrangle as displayed on the Topographic Project Overview Map (Figure 1).

AECOM completed a desktop review of publicly available data to identify underground voids which could be potential hibernation sites for overwintering bats (hibernacula) within 0.25-miles of the Project area. The data sources utilized include USGS topographical maps, aerial photography, and the ODNR's Division of Mineral Resources and Geological Survey Data for Known Mining Activity and Karst Geology/Sinkholes as shown on Figures 1 and 2. Based on the available desktop resources, there are no underground and historic surface mines as well as no karst features located within 0.25-miles of the Project; therefore, potential hibernacula are not anticipated to occur within range of the Project area.

Please provide AECOM with the results of the ODNR's Project review, including results of the ODNR Natural Heritage Database search, see the attached National Heritage Data Request Form, at your earliest convenience. If you have questions or need additional informationregarding the Project, please contact me at the phone number or email below. Thank you for your assistance with this request.

Sincerely,

Brian Miller
Environmental Project Manager
Phone: (412-667-9172)
brian.miller1@aecom.com

Attachments: Figure 1 – Topographic Project Overview
Figure 2 – Aerial Project Overview
Natural Heritage Data Request Form
Electronic Shapefiles (.shp)

Cc: Amy J. Toohey
Environmental Specialist-Consultant
Phone: (614-565-1480)
ajtoohey@aep.com

Undefined (#7 in line)
of the Green Chapel-
Innovation 138 kV Line
40.097653
-82.724366

Existing Structure 2A
of Green Chapel-
Innovation 138 kV Line
40.095313
-82.72636

Proposed Tasjan Station
40.095717
-82.735141

Green Chapel Station
40.094635
-82.726815

LICKING
COUNTY



Legend

- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- Quarter Mile Review Area
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 435 870 1,740
Feet

AMERICAN ELECTRIC POWER

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal

FIGURE 1
TOPOGRAPHIC PROJECT OVERVIEW

DATE: 8/17/2023	1 INCH = 800 FEET
CREATED BY: JML	CHECKED BY: JH
JOB NO.: 60714556	AECOM

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 2.61 miles northwest of the Project Area.

Date Saved: 8/17/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60714556_AEP_Tasjan_Extension\2_MXDs\0_TEI\Tasjan_Ext_ODNRFigure1_Topo_Overview_08162023.mxd





Legend

- Tasjan Extension 138 kV
- Green Chappel-Innovation 138kV Removal
- Quarter Mile Review Area
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

0 435 870 1,740 Feet

AMERICAN ELECTRIC POWER

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal

FIGURE 2
AERIAL PROJECT OVERVIEW

DATE: 8/17/2023	1 INCH = 800 FEET
CREATED BY: JML	CHECKED BY: JH
JOB NO.: 60714556	AECOM

No mining activities, karst features, and/or sink holes are within the extent of the map frame. The closest feature is 2.61 miles north west of the project area.

Date Saved: 8/17/2023
Document Path: X:\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60714556_AEP_Tasjan_Extension\2_MXDs\0_TE\Tasjan_Ext_ODNRFigure2_Aerial_Overview_08162023.mxd

APPENDIX D

POND PHOTOGRAPHS

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
PONDS

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Pond 1 **Date:** September 19, 2023 **Description:** Manmade Pond Facing North	

Pond 1 **Date:** December 20, 2024 **Description:** Landscaped Facing North	

APPENDIX E

HABITAT PHOTOGRAPHIC RECORD

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-1 **Date:** September 19, 2023 **Description:** Urban Facing North	

PH-1 **Date:** December 20, 2024 **Description:** Urban Facing North	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-2 **Date:** September 19, 2023 **Description:** Urban Facing East	

PH-2 **Date:** December 20, 2024 **Description:** Urban Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-3

Date:

September 22, 2023

Description:

Urban

Facing South



PH-3

Date:

December 20, 2024

Description:

Urban

Facing South



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-4 **Date:** September 22, 2023 **Description:** Urban Facing West	

PH-4 **Date:** December 20, 2024 **Description:** Urban	Due to active construction on site, access was not permitted for photo.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-5 **Date:** September 22, 2023 **Description:** Urban Facing North	

PH-5 **Date:** December 20, 2024 **Description:** Urban	Due to active construction on site, access was not permitted for photo.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-06 **Date:** September 22, 2023 **Description:** Woodlands Facing West	

PH-06 **Date:** December 20, 2024 **Description:** Urban	Due to active construction on site, access was not permitted for photo.

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-07 **Date:** September 22, 2023 **Description:** Urban Facing East	

PH-07 **Date:** December 20, 2024 **Description:** Urban Facing East	

AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-08

Date:

September 19, 2023

Description:

Urban

Facing East



PH-08

Date:

December 20, 2024

Description:

Urban

Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-09

Date:

September 19, 2023

Description:

Urban

Facing East



PH-09

Date:

December 20, 2024

Description:

Urban

Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-10

Date:

September 19, 2023

Description:

Urban

Facing East



PH-10

Date:

December 20, 2024

Description:

Urban

Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project	60714556; 60714558

PH-11

Date:

September 19, 2023

Description:

Pond

Facing North



PH-11

Date:

December 20, 2024

Description:

Urban

Facing North



APPENDIX F

USFWS/ODNR RESPONSE LETTERS

Office of Real Estate
Tara Paciorek, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6661
Fax: (614) 267-4764

September 13, 2023

Anna Findish
AECOM
707 Grant Street
Pittsburgh, Pennsylvania 15219

Re: 23-0962; Tasjan Extension 138kV & Green Chapel-Innovation 138kV Removal

Project: The proposed project involves the installation of approximately 0.63-miles of greenfield double circuit 138kV transmission line, and the removal of 0.3 miles of 138kV transmission line.

Location: The proposed project is located in Jersey Township, Licking County, Ohio.

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

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

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

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

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

The project is within the vicinity of records for the northern long-eared bat (*Myotis septentrionalis*), a state endangered and federally 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 the 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.

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

The project is within the range the lake chubsucker (*Erimyzon sucetta*) a state threatened fish. The DOW recommends no in-water work in perennial streams from March 15 through June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

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

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

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

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project.

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

Mike Pettegrew
Environmental Services Administrator

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

August 23, 2023

Project Code: 2023-0117452

Dear Ms. Anna Findish:

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

Federally Threatened and Endangered Species: The endangered Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) occur throughout the State of Ohio. The Indiana bat and northern long-eared bat may be found wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and breed that may also include adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, woodlots, fallow fields, and pastures. Roost trees for both species include live and standing dead trees ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities. These roost trees may be located in forested habitats as well as linear features such as fencerows, riparian forests, and other wooded corridors. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves, rock crevices and abandoned mines.

Federally Proposed Species: On September 14, 2022, the Service proposed to list the tricolored bat (*Perimyotis subflavus*) as endangered under the ESA. The bat faces extinction due to the impacts of white-nose syndrome, a deadly disease affecting cave-dwelling bats across the continent. During spring, summer, and fall, this species roosts primarily among leaf clusters of live or recently dead trees, emerging at dusk to hunt for insects over waterways and forest edges. While white-nose syndrome is by far the most serious threat to the tricolored bat, other threats now have an increased significance due to the dramatic decline in the species' population. These threats include disturbance to bats in roosting, foraging, commuting, and over-wintering habitats. Mortality due to collision with wind turbines, especially during migration, has also been documented across their range. Conservation measures for the Indiana bat and northern long-eared bat will also help to conserve the tricolored bat.

Seasonal Tree Clearing for Federally Listed Bat Species: Should the proposed project site contain trees ≥3 inches dbh, we recommend avoiding tree removal wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥3 inches dbh cannot be avoided, we recommend removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Seasonal clearing is recommended to avoid adverse effects to Indiana bats and northern long-eared bats.

If implementation of this seasonal tree cutting recommendation is not possible, a summer presence/absence survey may be conducted for Indiana bats and northern long-eared bats. If Indiana bats and northern long-eared bats are not detected during the survey, then tree clearing may occur at any time of the year. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Ohio Field Office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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

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

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

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

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

Sincerely,



Keith Lott
Acting Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Eileen Wyza, ODNR-DOW

APPENDIX G

2024 JOINT GUIDANCE

OHIO DIVISION OF WILDLIFE AND U.S. FISH AND WILDLIFE SERVICE (OH-FIELD OFFICE) JOINT GUIDANCE FOR BAT SURVEYS AND TREE CLEARING MAY 2024

This document has been updated with new state guidance for the 2024 field season.

This guidance applies to state recommendations only. Contact the USFWS to determine if federal consultation is also necessary to comply with federal law.

Agency Contacts:

ODNR-DOW Permit Coordinator: Wildlife.Permits@dnr.ohio.gov, (614) 265-6315
ODNR-DOW Bat Survey Coordinator: Eileen Wyza, Eileen.Wyza@dnr.ohio.gov, (614) 265-6764
USFWS OHFO Endangered Species: Angela Boyer, angela_boyer@fws.gov, (614) 416-8993, ext.122

Covid-19 Guidance:

Surveyors should follow all covid protocols put in place by their agency. All surveyors should wear masks when handling bats and anyone exhibiting symptoms of covid-19 should not participate in bat surveys.

Ohio Mist-net Surveys:

This document serves as guidance for bat mist netting activities in Ohio and does not supersede any requirements listed on your permits or facility certificate. All permit conditions must be strictly adhered to for permits to be valid and for renewal of permits beyond the existing year.

Due to the presence of White-nose Syndrome (WNS), mist-netting in Ohio must be conducted between June 1 and August 15 unless stated otherwise in your state permit. The ODNR Division of Wildlife (ODNR-DOW) and U.S. Fish and Wildlife Service (USFWS) Ohio Field Office (OHFO) have determined that delaying netting activities until June 1 will provide additional recovery time for bats affected by WNS. For presence/probable absence surveys, netting will not be accepted outside of the June 1 - August 15 timeframe.

To assess project areas for presence or probable absence of the state and federally listed Indiana bat (*Myotis sodalis*) and northern long-eared bat (*Myotis septentrionalis*) during summer residency, the USFWS developed the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024). This protocol may also be used for the tricolored bat (*Perimyotis subflavus*) which is state endangered and proposed to be federally endangered. **With minor modifications referenced below**, it can also be used in Ohio for the 2024 field season and includes surveying for the state-listed little brown bat (*Myotis lucifugus*).

According to the updated federal range-wide guidelines, presence/probable absence net surveys for northern long-eared bats or federally-proposed tricolored bats shall incorporate either 10 net nights per square 0.5 kilometer (123

acres) of project area, or four net nights per kilometer for linear projects. Presence/probable absence net surveys for Indiana bats shall incorporate six net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. If a project area is eligible for a presence/probable absence survey for both Indiana bats and northern long-eared bats or tricolored bat, following the northern long-eared/tricolored bat level of effort will qualify as a presence/ probable absence survey for the three species. However, if a project area is eligible for a presence/absence survey for the three species, following the Indiana bat level of effort will not qualify the survey for a northern long-eared bat or tricolored bat presence/probable absence survey. Please note that the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) requires that a minimum of two (2) biologists (e.g., one permitted and one technician) must be on-site for every four (4) net-sets being operated. Exceptions to on-site minimum staffing levels may be allowed under extenuating circumstances, provided written justification is included in the proposed survey study plan and subsequently approved by the OHFO and ODNR-DOW.

Due to the reclassification of the northern long-eared bat to federally endangered on March 31, 2023, the northern long-eared bat 4(d) rule has been nullified. There is a new online tool in the USFWS's Information for Planning and Consultation (IPaC) website that allows project proponents to utilize the optional Northern Long-eared Bat Rangewide Determination Key (Dkey). **The Dkey cannot be used to replace consultation with ODNR-DOW.** Project proponents should coordinate directly with the ODNR-DOW for project technical assistance for all federally listed species, including the Indiana bat and northern long-eared bat. **OHFO discourages the use of the Dkey for Ohio projects.** Contacting OHFO directly (ohio@fws.gov) for technical assistance for both the northern long-eared bat and Indiana bat is the more efficient process.

The tricolored bat is listed as endangered by ODNR-DOW and has been officially proposed for federal listing as endangered. The USFWS is scheduled to publish a final rule on the tricolored bat's status by the end of September 2024. Therefore, in addition to coordinating with ODNR-DOW regarding the tricolored bat, we recommend that project proponents also coordinate with the OHFO. The USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) allows presence/absence surveys for the tricolored bat that use the northern long-eared bat level of effort.

Exception for Ohio mist-net surveys: All presence/absence surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the highest minimum net nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Ohio Acoustic Surveys:

Acoustic bat surveys for presence/absence will be accepted by ODNR-DOW for the 2024 season. Surveys should follow guidelines laid out in the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (March 2024) with the following exceptions:

- Ohio survey dates are June 1 – August 15
- After conducting automated analyses using one or more of the currently available 'approved' acoustic bat ID programs[1], qualitative analysis (i.e., manual vetting) of any calls recorded from state-endangered species (*M. sodalis, M. septentrionalis*[2]*, M. lucifugus*[2]*,* and *P. subflavus*[2]) must be completed.
- **All presence/absence acoustic surveys conducted for state listed bat species (Indiana, northern long-eared, little brown, tricolored) should follow the highest minimum acoustic nights set forth in the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.**

[1] https://www.fws.gov/media/indiana-bat-summer-survey-guidance

[2] State listing as endangered effective July 1, 2020

At a minimum, for each detector site/night a program considered presence of state-listed bats likely, review all files (including no IDs) from that site/night. If more than one acoustic bat ID program is used, qualitative analysis must also include a comparison of the results of each program by site and night.

Combined Mist-netting and Acoustic Surveys:
ODNR-DOW will accept the USFWS pilot survey option of combining mist-netting and acoustic surveys for traditional survey sites (e.g., 123-acre area) detailed in Appendix I of the USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines (2024). All presence/absence combined mist-net and acoustic surveys conducted for state listed bat species should follow the highest minimum level of effort set forth by the federal guidance to be considered valid by ODNR-DOW. Any modifications to this position will be communicated at the time of the site authorization approval.

Before Field Season:

- Anyone surveying bats using mist-nets in the state of Ohio must obtain a federal permit as well as a state scientific collection permit. The federal permit should include both the Indiana bat and the northern long-eared bat.
- Your ODNR-DOW permit consists of two documents: a Scientific Collector (Wild Animal) Permit and an endangered species letter signed by the Chief of the Division of Wildlife (in addition to your federal permit). Both ODNR-DOW documents must be obtained prior to field work and kept with you and any sub-permittees during field work.

During Field Season:

- Prior to initiation of field work (a minimum of two weeks in advance), permittees must provide proposed mist netting plans to USFWS and ODNR-DOW in the form of an e-mail letter to the USFWS OHFO and copy to the ODNR-DOW Bat Survey Coordinator. Plans must be reviewed and approved by USFWS OHFO and ODNR-DOW before ANY surveys take place. Study plans must specify objectives, location details, dates of proposed work, and all other relevant details. **Study plans must also include a USFWS Project Code. Project Codes can only be obtained by requesting an official species list through the USFWS's Information for Planning and Consultation (IPaC) website: (https://ipac.ecosphere.fws.gov/).** When handling bats, you must strictly adhere to the current WNS Decontamination Protocol (current version can be found at https://www.whitenosesyndrome.org/topics/decontamination). Clothing, boots, gear, and equipment should all be thoroughly decontaminated between nights, as well as between netting sites.
- Request bat bands at least two weeks in advance of needing them. Bat bands can be obtained by e-mailing the ODNR-DOW Bat Survey Coordinator with how many bands are needed, current permit number, sizes, and a mailing address. Bands will not be issued until your permits are valid. We have three sizes of bands—2.4 mm, 2.9 mm, and 4.2 mm. The 2.4 mm split metal bat ring made of aluminum alloy is suitable for banding tricolored bats. 2.9 mm bands are suitable for Indiana, northern long-eared, and little brown bats. The larger 4.2 mm band is suitable for silver-haired (*Lasionycteris noctivagans*), big brown (*Eptesicus fuscus*), and hoary (*Lasiurus cinereus*) bats. You must band all Indiana, northern long-eared, little brown, and tricolored bats with ODNR-DOW bands; therefore, you should not be in the field without the 2.4 mm and 2.9 mm sized bands.
  NOTE: While ODNR-DOW obtains 2.9 mm bands per new 2024 USFWS guidelines, banding of endangered *Myotis* species should not be done until 2.9 mm bands are received. Please watch for updates from the Wildlife Permits email and request 2.9 mm bands when they become available.
- Only individuals who are named on the ODNR-DOW endangered species letter portion of the permit and on the corresponding federal bat permit may conduct and oversee mist-net surveys. Trained assistants may work on permitted bat activities under the direct and on-site supervision of a named permittee. All bat IDs must be verified by a named permittee. If an Indiana bat, northern long-eared bat, and/or tricolored bat is captured, the permittee shall notify the USFWS and the ODNR-DOW Bat Survey Coordinator referenced

above within 48 hours via email. If a little brown bat is captured, notify the ODNR-DOW Bat Survey Coordinator only within 48 hours via email. Reports of listed bat captures should include specific information such as spatial location of capture, band information, radio-transmitter frequency information, sex, reproductive status, and age of individual.

- For presence/absence surveys, ODNR-DOW requires all female and juvenile state endangered and threatened bat species (Indiana, northern long-eared, little brown, and tricolored bat) be radio-tracked if caught, in accordance with methods outlined in Appendix D of USFWS 2024 Range-wide Indiana Bat Summer Survey Guidelines.

If you are taking any biological samples (tissue, fur, blood, etc.), this must be specifically authorized in your state and federal permits and noted in your survey proposal.

After Field Season:

By March 15, you must submit your final ODNR-DOW report(s) from the previous summer. You are not required to fill out the ODNR-DOW Wildlife Diversity Bat Excel Spreadsheet; instead, please forward your USFWS Midwestern US Spreadsheet (found here: https://www.fws.gov/media/bat-reporting-spreadsheets) to the ODNR-DOW Bat Survey Coordinator and ODNR-DOW Permit Coordinator and include your state permit number along with an electronic copy of the project report. Electronic summaries emailed during the field season are NOT considered as full compliance of this reporting requirement.

Ohio Environmental Review Recommendations for projects involving disturbance near potential/known bat hibernacula (cliffs, caves, mines) or tree cutting:

Step 1: Coordinate with Ohio Division of Wildlife regarding existing records for state-listed endangered bat summer and/or winter occurrence information. Potential hibernacula found during a habitat assessment must address possible suitability for Indiana bats, northern long-eared bats, tricolored bats, and little brown bats.

If project site contains a known bat hibernaculum(a) –

- Both the DOW and USFWS should be contacted for guidance on projects occurring:
  - Within 5 miles of known or potential Indiana bat and/or northern long-eared bat hibernacula.
  - Within 3 miles of known or potential tricolored bat hibernacula
- Only ODNR-DOW should be contacted if a project occurs within 5 miles of known or potential little brown bat hibernacula.

If a project site does not contain known bat hibernaculum(a) –

- Conduct a desktop habitat assessment of the project area. Tools such as the ODNR Mines of Ohio Viewer, Karst Interactive Map, topographic maps, aerial photos, historical records, etc. should be used to determine if there are any potential caves, mines, karst features, rock ledges, or other features that may serve as potential hibernacula.
- If no such features are found, proceed to **Step 2**.
- If potential hibernacula are found during the desktop assessment:
  - Assume bats are using these hibernacula and refrain from clearing trees from March 15 - Nov 15

    OR

  - Conduct a field habitat assessment to determine if a potential hibernaculum(a) is present within the action area. We encourage impacts to ledges and rock outcroppings be avoided. If impacts cannot be avoided, features should be evaluated for potential roosting characteristics such as recesses, overhangs, and crevices.

- **NOTE**: The USFWS Range-wide Indiana Bat Guidelines, Appendix H, contains instructions for completing a habitat assessment for Indiana bat, but can be applied to other bat species.

Step 2: Conduct, a presence/absence survey following current ODNR-DOW guidelines, where applicable.

Step 3: <u>If a state-listed endangered bat is captured or recorded during the survey:</u>

- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within 5 miles of an Indiana bat or little brown bat capture or 3 miles of a northern long-eared bat and/or tricolored bat capture if a roost is not located.
- Recommendation of no summer tree cutting, or limited cutting following guidelines detailed below, within a minimum of 2.5 miles of an Indiana bat or little brown bat roost or 1.5 miles of a northern long-eared bat and/or tricolored bat roost tree if located.
- Recommended tree clearing dates within capture record buffers are October 1 – March 31

<u>If no state-listed endangered bat is captured or recorded during the survey:</u>

- Summer tree cutting may proceed for 5 years before a new survey is needed under state guidance.

<u>Limited summer tree cutting guidance for little brown bats:</u> Limited tree cutting in summer may be permitted after consultation with ODNR-DOW, but clearing trees with the following characteristics should be avoided unless they pose a hazard: dead or live trees of any size with loose, shaggy bark; crevices, holes, or cavities; clusters of dead leaves; live trees of any species with DBH ≥ 20".

FREQUENTLY ASKED QUESTIONS

When does the ODNR-DOW Bat Survey protocol have to be used?

This protocol should be used anytime Indiana bat, northern long-eared bat, little brown bat, or tricolored bat summer presence/probable absence surveys are conducted in the state of Ohio.

How many detector nights are required for presence/probable absence acoustic surveys?

As described in the current USFWS Range-wide Indiana Bat and Northern Long-eared Bat Summer Survey Guidelines:

Level of effort for all state-listed endangered bat species: follow highest minimum detector nights as outlined in the federal guidance for northern long-eared bat and tricolored bat.

Northern Long-eared Bat and Tricolored Bat Level of Effort:
Linear projects: a minimum of 4 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 10 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 10 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 5 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 5 nights each (can sample the same location or move within the site)
- 1 detector for 10 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

Indiana Bat Level of Effort:
Linear projects: a minimum of 2 detector nights per km (0.6 miles) of suitable summer habitat
Non-linear projects: a minimum of 6 detector nights per 123 acres (0.5 km^2) of suitable summer habitat.
At least 2 detector locations per 123 acre "site" shall be sampled until at least 6 detector nights has been completed over the course of at least 2 calendar nights (may be consecutive). For example:

- 3 detectors for 2 nights each (can sample the same location or move within the site)
- 2 detectors for 3 nights each (can sample the same location or move within the site)
- 1 detector for 6 nights (must sample at least 2 locations and move within the site – we recommend evenly distributing LOE among locations)

How many net surveys are required for presence/probable absence?

Level of effort for all state-listed endangered bat species including Indiana bat and northern long-eared bats: Follow highest minimum net nights as outlined in the federal guidance for the northern long-eared bat and tricolored bat.

Net surveys for northern long-eared bat presence/probable absence shall incorporate, at a minimum, either 10 net nights per square 0.5 kilometer (123 acres) of project area, or four net nights per kilometer for linear projects. For linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

Net surveys for Indiana bat presence/probable absence shall incorporate, at a minimum, either six net nights net nights per square 0.5 kilometer (123 acres) of project area, or two net nights per kilometer for linear projects. For

linear projects, there must be at least one net night of survey on two different nights (minimum of two nights). This does not allow for two net nights on a single night for surveys.

How long are the results of the surveys valid for an assessment of an area?

Mist-net or acoustic surveys documenting probable absence of state-listed endangered bats are valid for five years.

When can acoustic or net surveys occur in Ohio?

In Ohio, acoustic or net surveys may only be conducted from June 1 through August 15 unless indicated otherwise in your state permit. Any surveys outside of the June 1 - August 15 timeframe cannot be used in Ohio to assess the presence/probable absence of state-listed bats.

Can a presence/probable absence survey be conducted within a known bat capture/detection buffer?

Surveys generally cannot be used to document presence/probable absence of state-listed endangered bats where presence of the species has already been confirmed by prior surveys.

What if a project is proposing to clear trees between April 1 and September 30 when bats may be present but no bat records exist in the project area?

Any Ohio project that is not within a known bat record buffer, and tree clearing between April 1 and September 31 is being proposed, may have a presence/probable absence survey conducted between June 1 and August 15 following the range-wide guidance. If a presence/probable absence survey is not performed, presence of listed bats is assumed.

Where do I get bands?

If you need bands, email the ODNR-DOW Bat Survey Coordinator at least two weeks in advance with your current ODNR permit number, how many bands in each size (2.4 mm, 2.9 mm, and 4.2 mm) you will need this season, and a current address to ship the bands.

Do I have to band every bat?
No, currently this is optional. However, you are required as per your state permit to band all Indiana, northern long-eared, little brown, and tricolored bats.
NOTE: While ODNR-DOW obtains 2.9 mm bands per new 2024 USFWS guidelines, banding of endangered *Myotis* species should not be done until 2.9 mm bands are received. Please watch for updates from the Wildlife Permits email and request 2.9 mm bands when they become available.

TASJAN EXTENSION 138 KV AND GREEN CHAPEL – INNOVATION 138 KV REMOVAL PROJECT

LICKING COUNTY, OHIO

ADDENDUM #1 ECOLOGICAL REPORT

Prepared for:
American Electric Power Ohio Transmission Company
8600 Smiths Mill Road
New Albany, Ohio 43054

Prepared by:

AECOM
525 Vine Street, Suite 1900
Cincinnati, Ohio 45202

Project #: 60714556, 60714558

March 2025

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1.0 INTRODUCTION

American Electric Power, Ohio Transmission Company (AEP Ohio Transco) is proposing the removal of approximately 0.3-miles of the Green Chapel-Innovation 138 kilovolt (kV) transmission line followed by the installation of approximately 0.63-miles of greenfield double circuit 138 kV transmission line between the proposed Tasjan Station to structure 2A on the existing Green Chapel-Innovation 138 kV transmission line as part of the Tasjan Extension 138 kV and Green Chapel – Innovation 138 kV Removal (Project), which was covered in the March 2025 – Original Ecological Report (AECOM, 2025). Since the March 2025 – Original Ecological Report, the Addendum #1 Ecological Report was completed to capture the following adjustments:

- Additional staging areas and work pads.
- Additional access routes to the Project Survey Area.

This Addendum #1 Ecological Report specifies any features identified within 7.8 acres of additional review areas identified as Addendum #1 Project Survey Area in Licking County, Ohio (OH). The Addendum #1 Project Survey Area associated with this Addendum #1 Ecological Report is located within Jersey, OH United States Geological Survey (USGS) 7.5-minute topographical quadrangles as displayed on the Project Overview (**Figure 1**).

As detailed in the March 2025 – Original Ecological Report, active construction activities by others are occurring or proposed to occur within the Project Survey Area, which are associated with multiple approved USACE Jurisdictional Determinations (JDs) and Section 401 authorizations for wetland fills. Regarding the Addendum #1 Project Survey Areas, the boundaries of these previous referenced authorization overlap the Addendum #1 Project Survey Areas with only one new wetland feature (Wetland L/I) identified from this previous authorization. Copies of these original JDs and Section 401 authorizations are provided within the June 2024 – Original Ecological Report. The location of the new wetland (Wetland L/I) is displayed within **Figures 2** and **3** of this report as well as revision to **Table 1** provided as highlighted text below. Data forms associated with previous permit activities of Wetland L/I have been provided as **Appendix A**.

TABLE 1 – SECTION 401 PREVIOUSLY AUTHORIZED FILLS WITHIN ADDENDUM #1 PROJECT SURVEY AREA

Feature Name associated with OEPA Permits	AECOM Feature Name	Habitat Type	Isolated	Jurisdiction Determination Approval No.	OEPA Authorization No. (Approval Date)	OEPA Approved Acreage of Disturbance	Remaining Wetland Acreage	Acreage of Wetland within Project Survey Area
Wetland F	EMHT Wetland F	PFO	Yes	2022-38-SCR	DSW401227824W (February 4, 2022)	No Impact	**0***	0
Wetland H	EMHT Wetland H&J W-HLA-001	PFO	Yes	LRH-2022-38-SCR (Recent) LRH-2015-384-MUS (2015)	DSW401227824W (February 4, 2022)	No Impact	**0.43****	**0.16****
Wetland J				LRH-2015-384-MUS	DSW401154756 & DSW401154841 (September 22, 2016)	4.49		
Wetland L	EMHT Wetland I&L	PEM	Yes	LRH-2015-384-MUS	DSW401154756 & DSW401154841 (September 22, 2016)	No Impact	**0.13******	**0******
Wetland I				2022-38-SCR	DSW401227824W (February 4, 2022)	No Impact		
Pond 1	EMHT Pond 1	N/A	NA	LRH-2023-268-SCR	DSW401238616W (February 13, 2024)	0.32	0	0.32***
						Total	**0.43**	**0.48**

***Within the limit-of-disturbance associated with the previous Section 401 permit (DSW401154756 & DSW401154841), Wetland F was not displayed as being present. Under a more recent Section 401 permit (DSW401227824W), Wetland F was identified as being avoided. Construction activities associated with (Section 401 permit: DSW401154756 & DSW401154841) has commence and site assessment completed by AECOM verify that wetland is not present within the Project Study Area and removal was associated by other activities prior to AEP.

****Wetland H represented within Section 401 permit (DSW401227824W) was identified as not being impacted by Project activities; however, the earlier permitted activities (DSW401154756 & DSW401154841) identify this wetland as Wetland J that is proposed for removal of 4.49 acres of forested wetland habitat with 0.43-acres of forested habitat to remain. Based on current site assessment completed by AECOM, this wetland complex (EMHT Wetland H&J / W-HLA-001) no longer exist as a forested wetland and the portion of wetland intended to remain, 0.43-acres, has reduced in size from activities completed by others.

***Pond 1 is proposed for complete removal under Section 401 authorization by others. Current site assessment confirmed that the feature still exists.

******Wetland L and I are represented by two separate applications for the same wetland complex. Under both permitted activities (Wetland L; DSW401154756 & DSW401154841 as well as Wetland I; DSW401227824W), the wetland was proposed to be avoided. However, current site assessment confirm that the wetland no longer exists as represented by photographs and upland datapoint associated with UPL-MRK-001, provided as Appendix B.

The purpose of the field survey was to assess the presence of wetlands and possible “waters of the United States” (WOTUS) that occur within the proposed Project survey. Secondary, land uses were also recorded to classify and characterize potential habitat for threatened and endangered species. This report will be used to assist AEP Ohio Transco’s efforts to identify potential WOTUS as well as threatened and endangered species habitat present within the proposed Addendum #1 Project Survey Area to avoid or minimize impacts during construction activities.

2.0 METHODOLOGY

A comprehensive methodology of the field surveys and data reviews are included within the March 2025 - Original Ecological Report and a brief summary of the delineation and agency coordination methodology has been provided below. Prior to conducting field surveys, digital United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) soil survey data, United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) data, USGS National Hydrography Dataset (NHD), FEMA 100-year floodplain data (FEMA), and USGS 7.5-minute topographic maps were reviewed as an exercise to identify the occurrence and location of potential wetland areas.

Field survey activities included recording the physical boundaries of observed water features using submeter capable EOS Arrow Global Positioning System (GPS) units in conjunction with ArcGIS Field Maps application on iPad tablets. The GPS data was imported into ArcMap Geographic Information System (GIS) software, where the data was reviewed, edited for accuracy, and compiled in a format suitable for transfer and use by AEP Ohio Transco. Water features were delineated and assessed based upon the appropriate procedures detailed below. Land uses observed within the Project Survey Area were assigned a general classification based upon the principal land characteristics and vegetation cover of the location.

3.0 RESULTS

The additional survey areas covered in the Addendum #1 Ecological Report were reviewed on September 9 and 22, 2023, and May 20, 2024. One previously delineated PEM wetland (EMHT Wetland I/L) was reviewed and confirmed as not being present. This previous wetland area was documented by AECOM as an upland data point (UPL-MRK-001) to document existing upland conditions and photographs provided as **Appendix B**. The previously documented wetland data forms and photos of Wetland I/L are provided in **Appendix A**. Previously recorded data forms and photographs of delineated AECOM wetlands and pond features within the vicinity of the Project Survey Area outside of the Addendum #1 Project Survey Area are contained within the March 2025 - Original Ecological Report (AECOM, 2025).

3.1 WETLAND DELINEATION

3.1.1 PRELIMINARY SOILS EVALUATION

According to the USDA/NRCS Web Soil Survey, four soil map units are mapped within the Addendum #1 Project Survey Area (USDA NRCS, 2023a and 2023b). These soil map units are:

- Bennington silt loam, 2 to 6 percent slopes (BeB)
- Centerburg silt loam, 6 to 12 percent slopes (Cen1B1)
- Centerburg silt loam, 6 to 12 percent slopes, eroded (Cen1C2)
- Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes (Pe)

Of these, all four soil map units were previously described in the June 2024 - Original Ecological Report and characteristics of hydric conditions was previously provided within this report. Soil Map units located in the Addendum #1 Project Survey Area and vicinity are shown in **Figure 2**.

3.1.2 NATIONAL WETLANDS INVENTORY MAP REVIEW

According to NWI data covering the Project location, the Addendum #1 Project Survey Area contains no NWI mapped wetlands. The locations of the NWI mapped wetlands in the Project vicinity are shown on **Figure 2**.

3.1.3 DELINEATED WETLANDS

No new wetlands were delineated within the Addendum #1 Project Survey Area. One previously identified wetland (EMHT Wetland I/L) was confirmed as upland (UPL-MRK-001) within the Addendum #1 Project Survey Area. EMHT-Wetland F was removed due to construction activity in survey area. The location of the previous identified wetlands and Addendum #1 Project Survey Area are displayed on **Figures 2** and **3**.

Details for previous and new delineated wetlands within the Project area are provided in **Table 2.** The wetland data form and photographs for the EMHT feature within the Addendum #1 Project Survey Area are provided in **Appendix A.** Previous data forms and photographs of other features within the Original Project Survey Area are contained within the June 2024 – Original Ecological Report.

TABLE 2: SUMMARY OF DELINEATED WETLANDS WITHIN THE ADDENDUM #1 PROJECT SURVEY AREA

Wetland ID	Location		Isolated?	Habitat Type	Delineated Area (acre)	ORAM		Nearest Structure # (Existing / Proposed)	Existing Structure # in Wetland	Proposed Structure # in Wetland	Structure Installation Method	Proposed Impacts	
	Latitude	Longitude				Score	Category					Temporary Matting Area (acre)	Permanent Impact Area (acre)
W-HLA-001 / EMHT Wetland H&J	40.095488	-82.738867	Yes	PEM	0.06	10[1]	1[1]	3 & 19	None	None	N/A	0	0
EMHT Pond 1	40.095632	-82.736356	-	POND	0.32	-	-	Tasjan (Green)	None	None	N/A	0	0
				Total:	**0.380**							0	0

*The Oram score associated with W-HLA-001 represents the current condition of the wetland observed at time of survey and does not represent the score or category assessed as EMHT Wetland H&J.

**EMHT Wetland F was removed due to construction activity. Additionally, no ORAM was included in documents accessible to AECOM at the time of this report.

*** EMHT Wetland I/L was confirmed as an upland within the Addendum Project Area.

****W-HLA-001 / EMHT Wetland H&J was assessed as a PEM / non-forested wetland at the time of the ecological survey in the Original Ecological Report for this Project. A small amount of trees and saplings persist within the wetland but are under 30% coverage to be characterized as a PFO/PSS wetland and clearing activities will be required to be completed for the portion that intersects the proposed rights-of-way (ROW).

*****Permitted for impact/fill under OEPA authorization no. DSW401238616W (February 13, 2024); however, as of the time of field survey no impact by others had yet occurred.

AEP will avoid any impacts to existing features.

3.2 STREAM DELINEATION

No streams were delineated within the Addendum #1 Project Survey Area.

3.2.1 OEPA STREAM ELIGIBILITY

The Project occurs within Headwaters Blacklick Creek Watershed (HUC-12 050600011503) that is designated as 401 WQC Possibly Eligible. OEPA stream eligibility mapping for the Project vicinity is provided on **Figure 4**. Please refer to the original report for detailed information regarding the stream eligibility (AECOM, 2024).

3.3 FEMA 100 YEAR FLOODPLAINS

No FEMA regulated floodways, or 100-year floodplains are located within the Addendum #1 Project Survey Area (FEMA, 2007).

3.4 UPLAND DRAINAGE FEATURES

No upland drainage features were identified within the Addendum #1 Project Survey Area.

3.5 VEGETATIVE COMMUNITIES

AECOM ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys. As described below in **Table 3**, habitat types within the Addendum #1 Project Survey Area includes Landscaped and Urban Habitats. Vegetative communities are depicted visually on aerial photography in **Figure 5**. Representative photographs of the vegetative communities in the Addendum #1 Project Survey Area are provided as **Appendix C**.

TABLE 3 - VEGETATIVE COMMUNITIES WITHIN THE ADDENDUM #1 PROJECT SURVEY AREA

Vegetative Community	Description	Approximate Acreage Within the Addendum #1 Project Survey Area	Approximate Percentage Within the Addendum #1 Project Survey Area
Landscaped Areas	Landscaped areas, including residential properties and commercial properties, were observed within the Project vicinity. These landscaped areas within the Project survey area and adjacent areas are frequently mowed grasses and forbs.	1.22	15.6%
Urban	Urban areas are areas developed with residential and commercial land uses, including roads, buildings and parking lots. These areas are generally devoid of significant woody and herbaceous vegetation.	6.47	82.7%
Streams/Wetlands	Streams and wetlands were observed either within or beyond the survey area for the Project.	0.07	0.91%
Woodlands	Woodlands (floodplain, upland, successional-mixed, etc) are present along the Project Survey Area. Woody species dominating these areas included Green ash (*Fraxinus pennsylvanica*), and Bur oak (*Quercus macrocarpa*).	0.06	0.77%
	Totals:	**7.82**	**100%**

Note: This table represents the habitat identified within the Addendum #1 Project Survey Area, only. For complete habitats identified within the Project Survey Area, combine the acreage presented within the June 2024 – Original Report with the quantities identified within the table above.

3.6 RARE, THREATENED AND ENDANGERED SPECIES AGENCY COORDINATION

Protected Species Agency Consultation –

A species list and overall assessment of the potential for rare, threatened, and endangered species, is provided within the March 2025 - Original Ecological Report. The Addendum #1 Project Survey Area is located within the previously consulted areas in August and September 2023 and no further coordination is necessary.

4.0 SUMMARY

The Addendum #1 Project Survey Area was reviewed where additional work pads or staging areas will be place, and where the Project Survey Area has been extended. The additional survey areas covered in the Addendum #1 Ecological Report were reviewed on September 9 and 22, 2023 and May 20, 2024. One previously delineated PEM wetland (EMHT Wetland I/L) was reviewed and confirmed as not being present. Data was collected by AECOM to document existing conditions and demarcated as UPL-MRK-001.

Of the previously six state and/or federal listed threatened or endangered species identified within range of the Project area as identified within the March 2025 – Original Ecological Report, no habitat for any of the listed aquatic, bat, or bird species were identified within the Addendum #1 Project Survey Area due to active construction areas being identified or future proposed construction activities will convert all habitat to urban land uses. Therefore, the original assessment regarding threatened and endangered species included

within the March 2025 – Original Report is still consistent with the Addendum #1 Ecological Report findings and no further coordination with ODNR and/or USFWS is warranted.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of AECOM's assessment. The results cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

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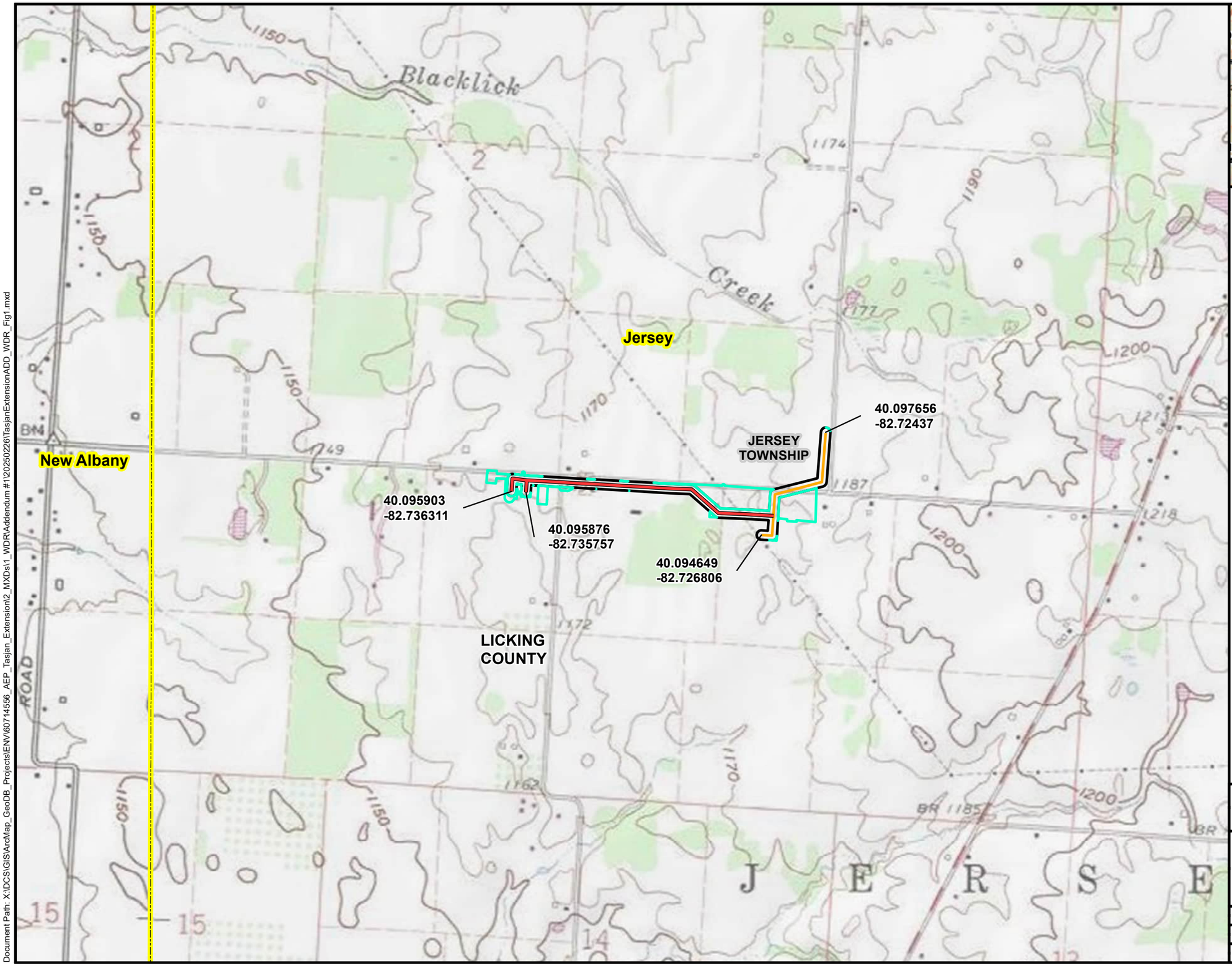
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Legend

- Tasjan Extension 138kV Transmission Line
- Green Chapel-Innovation 138kV Removal
- Project Survey
- Project Survey
- Ohio USGS 7.5' Topographic Quadrangle
- Township Boundary
- County Boundary

N

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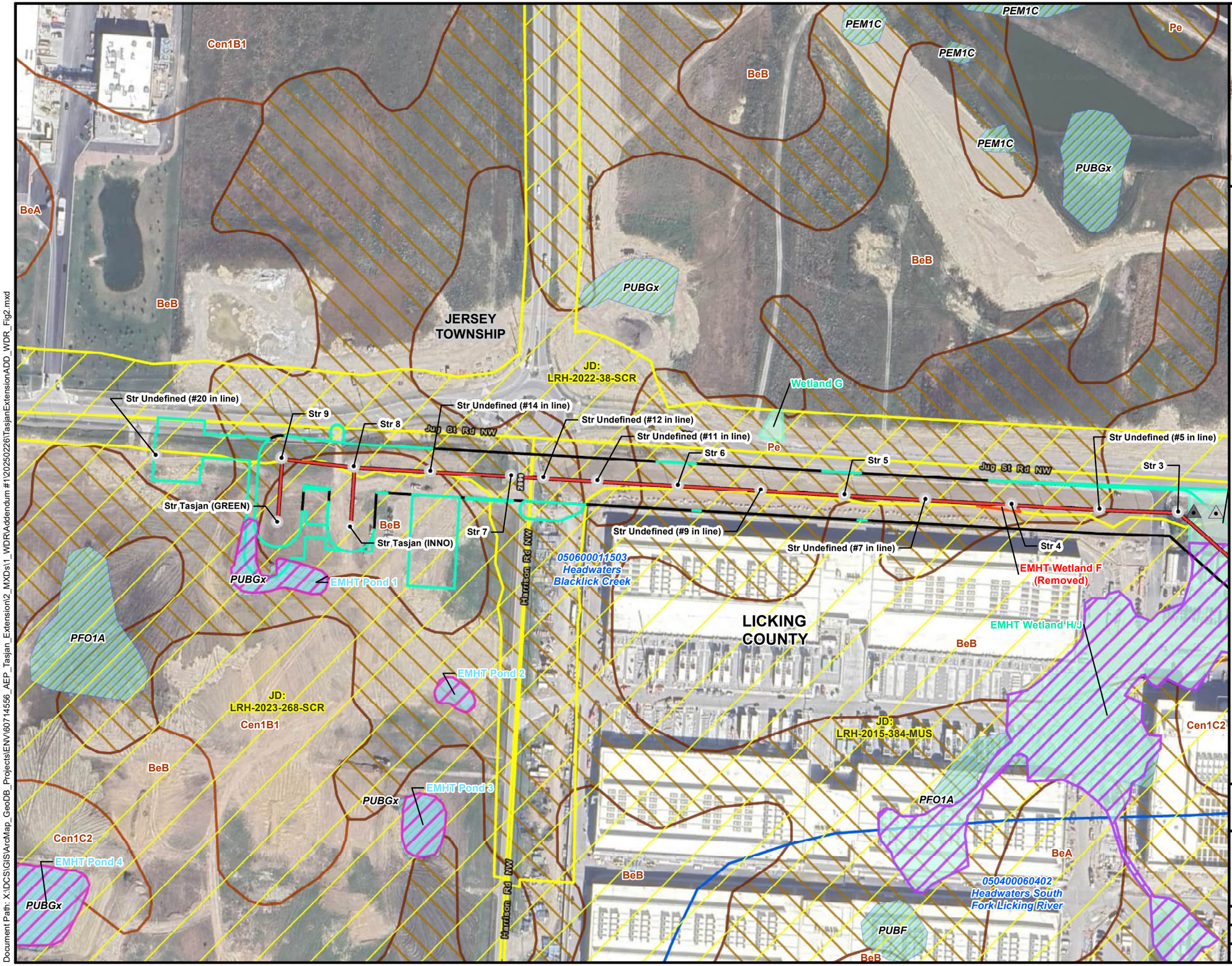
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 1
PROJECT OVERVIEW

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Legend

- Structure Location
- Previously Delineated Wetland Data Point
- Previously Delineated Upland Data Point
- Tasjan Extension 138kV Transmission Line
- Previously Delineated PEM Wetland
- Addendum Project Survey Area
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Section 401 Authorized Wetland Fill (DSW401238616W)
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BeB: Bennington silt loam, 2 to 6 percent slopes

Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

N

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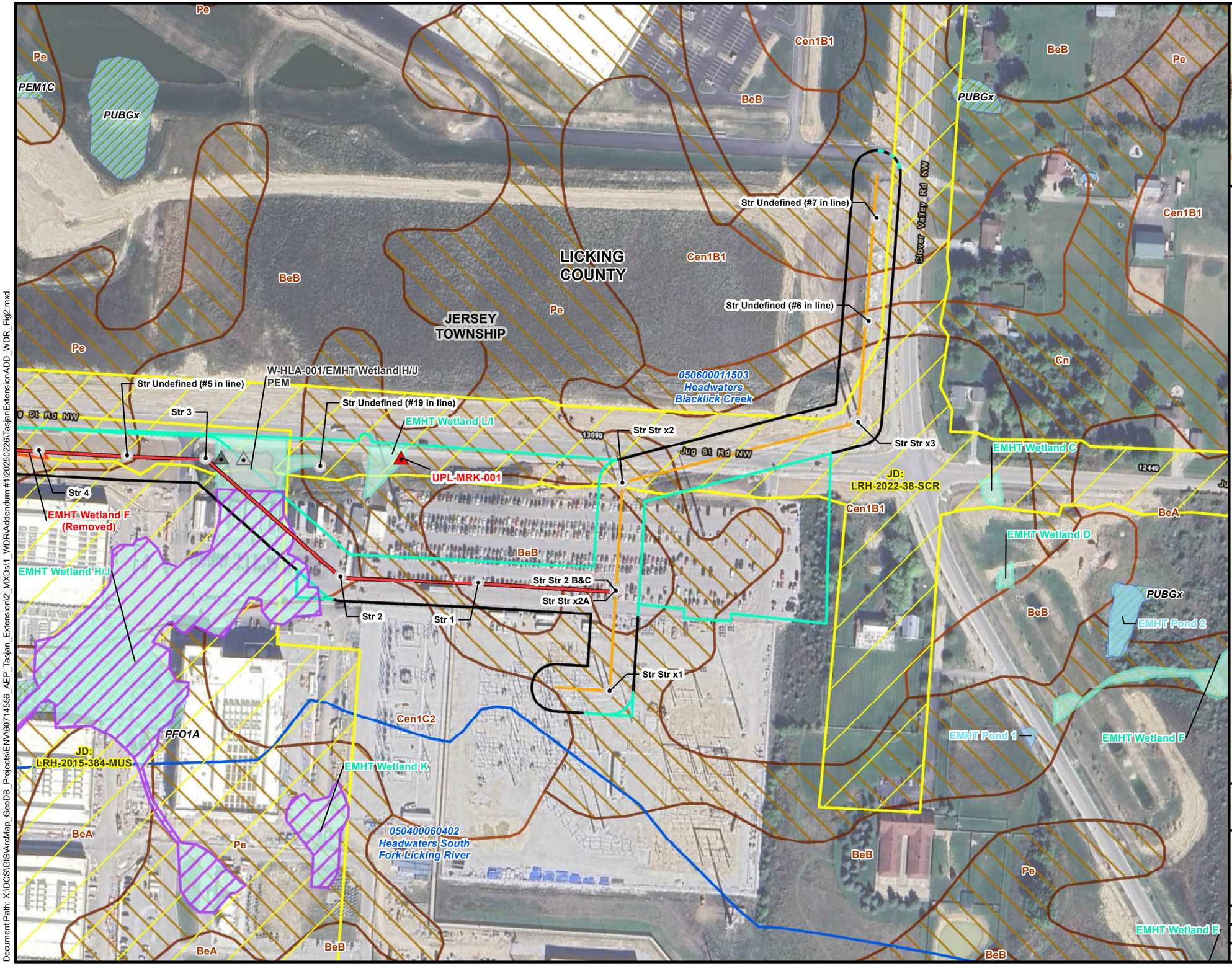
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 2
SHEET 1 OF 2
SOIL MAP AND NATIONAL WETLANDS INVENTORY MAP

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Legend

- Structure Location
- Upland Data Point
- Previously Delineated Wetland Data Point
- Previously Delineated Upland Data Point
- Green Chappel-Innovation 138kV Removal
- Tasjan Extension 138kV Transmission Line
- Previously Delineated PEM Wetland
- Addendum Project Survey Area
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland
- NWI Wetland (USFWS)
- HUC 12 (USGS)
- SSURGO Soil Map Unit (NRCS)
- Hydric SSURGO Soil Map Unit (NRCS)

Soil Map Unit Description

BeB: Bennington silt loam, 2 to 6 percent slopes

Cen1B1: Centerburg silt loam, 2 to 6 percent slopes

Cen1C2: Centerburg silt loam, 6 to 12 percent slopes, eroded

Pe: Pewamo silty clay loam, low carbonate till, 0 to 2 percent slopes

N

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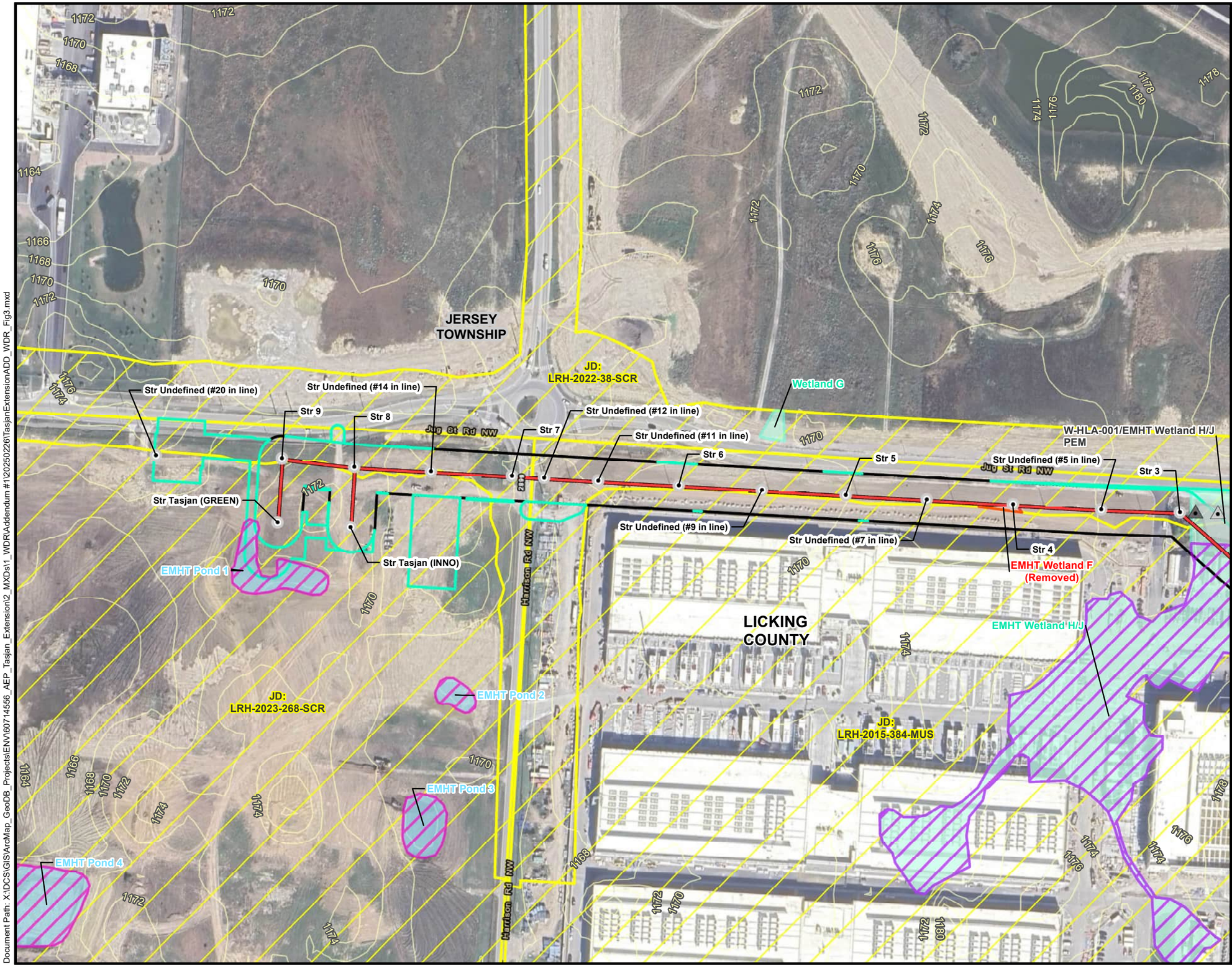
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 2
SHEET 2 OF 2
SOIL MAP AND NATIONAL WETLANDS INVENTORY MAP

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Legend

- Structure Location
- Previously Delineated Wetland Data Point
- Previously Delineated Upland Data Point
- Tasjan Extension 138kV Transmission Line
- Addendum Project Survey Area
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Section 401 Authorized Wetland Fill (DSW401238616W)
- Contours (2ft)
- Previously Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland

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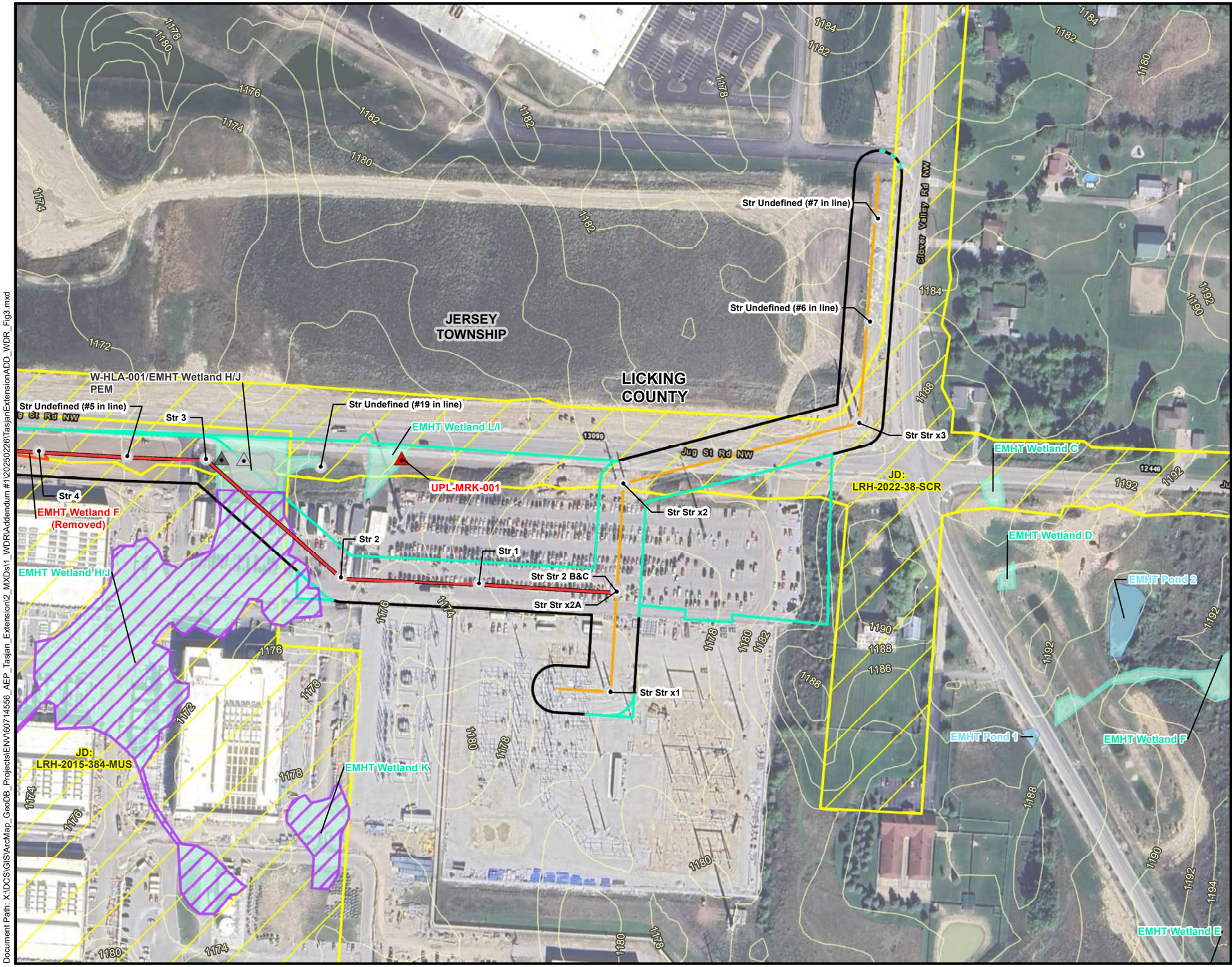
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 3
SHEET 1 OF 2
STREAMS AND WETLAND
ASSESMENT MAP

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Legend

- Structure Location

Cowardin Classification

- Upland Data Point
- Previously Delineated Wetland Data Point
- Previously Delineated Upland Data Point
- Tasjan Extension 138kV Transmission Line
- Green Chappel-Innovation 138kV Removal
- Addendum Project Survey Area
- Project Survey Area
- Section 401 Authorized Wetland Fill (DSW401154756 & DSW401154841)
- Contours (2ft)
- Previously Delineated PEM Wetland
- EMHT Delineated Wetland (Removed)
- EMHT Completed Survey Area
- EMHT Delineated Pond
- EMHT Delineated Wetland

N

0 100 200 400

Feet

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 3
SHEET 2 OF 2
STREAMS AND WETLAND ASSESMENT MAP

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OEPA EPA 401
Eligible
Headwaters Raccoon Creek
050400060301

OEPA EPA 401
Eligible
Duncan Run
050600011307

OEPA EPA 401
Possibly Eligible
Headwaters Blacklick Creek
050600011503

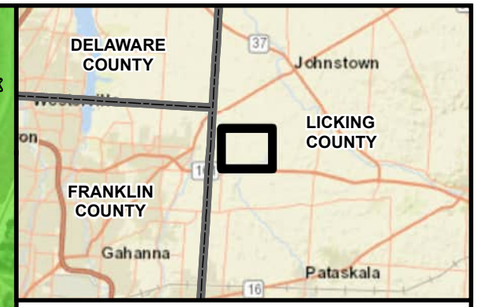
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40.095903
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40.094649
-82.726806

OEPA EPA 401
Eligible
Headwaters South Fork Licking River
050400060402



Legend

- Tasjan Extension 138kV Transmission Line
- Green Chappel-Innovation 138kV Removal
- Addendum Project Survey
- Project Survey

OEPA Eligibility:

- Eligible
- Possibly Eligible

N

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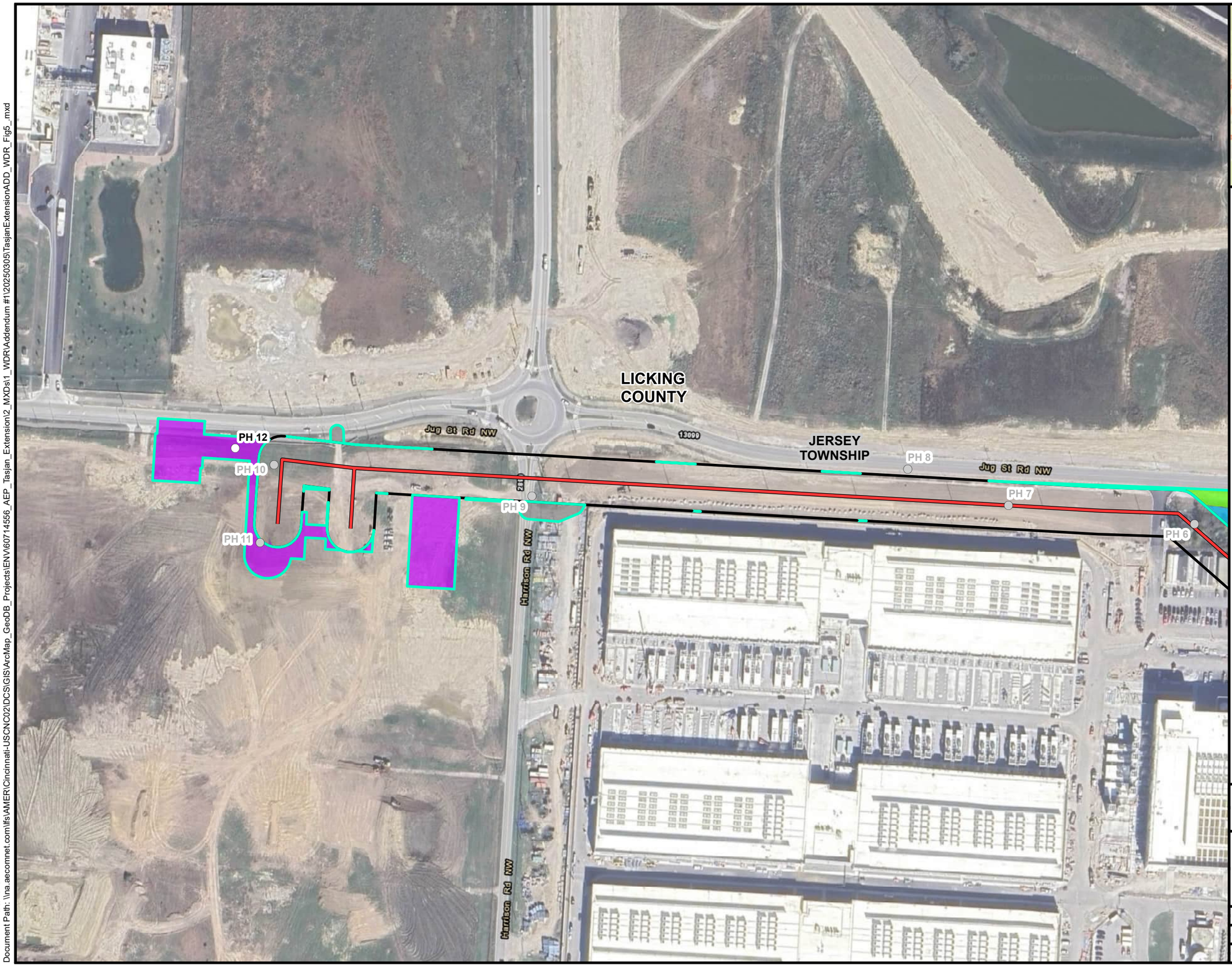
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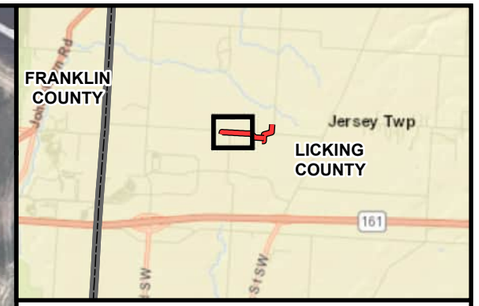
Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 4
STREAM ELIGIBILTY MAP

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Legend

- Previous Habitat Photograph Location
- Photograph Location
- Tasjan Extension 138kV Transmission Line
- Addendum Project Survey Area
- Project Survey Area

Vegetative Community Type

- Landscaped
- Streams/Wetlands
- Urban
- Woodlands

N

0 100 200 400

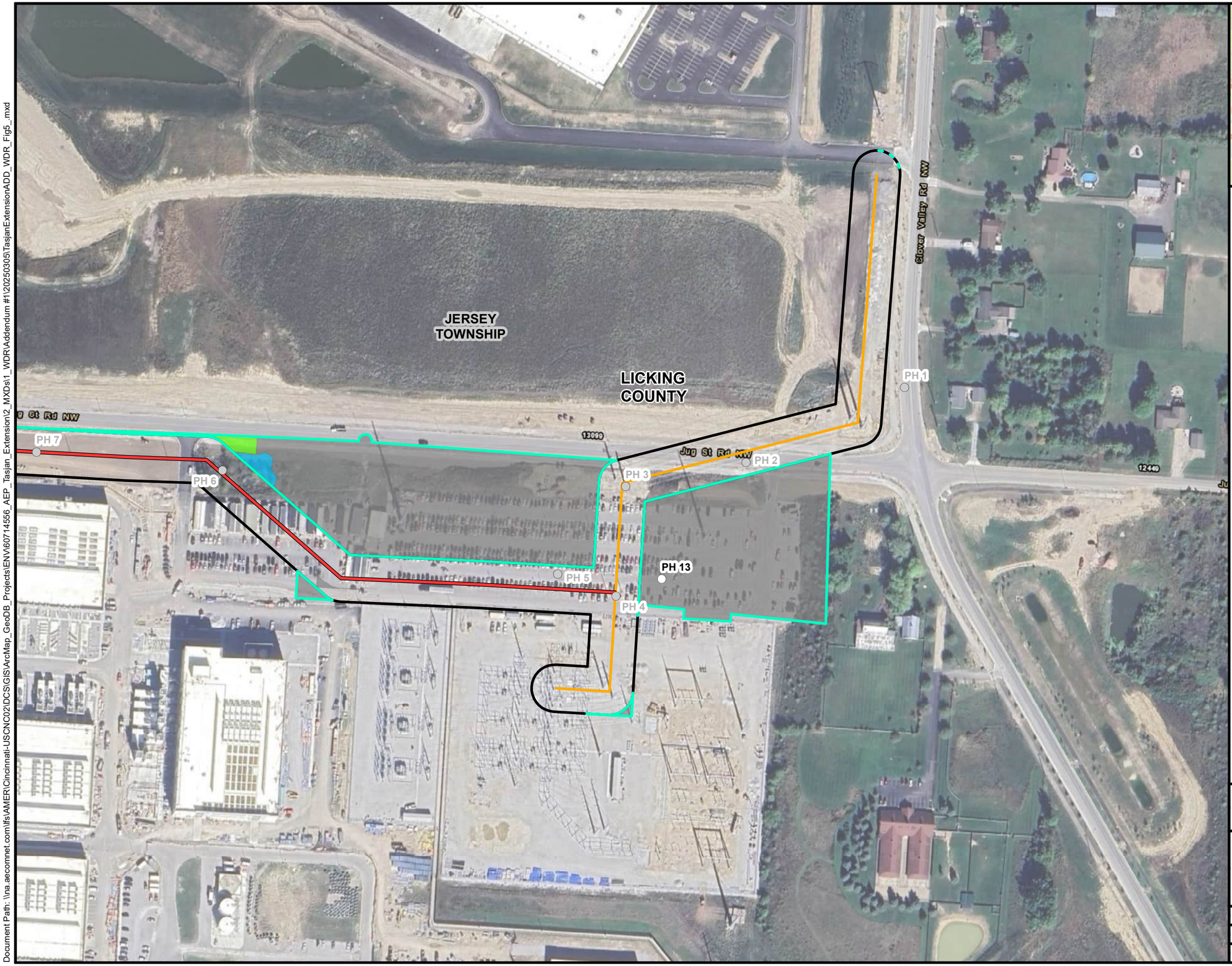
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Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 5
SHEET 1 OF 2
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

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Legend

- Previous Habitat Photograph Location
- Photograph Location
- Tasjan Extension 138kV Transmission Line
- Green Chappel-Innovation 138kV Removal
- Addendum Project Survey Area
- Project Survey Area

Vegetative Community Type

- Streams/Wetlands
- Urban
- Woodlands

N

0 100 200 400

Feet

Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project

FIGURE 5
SHEET 2 OF 2
VEGETATIVE COMMUNITIES
ASSESSMENT MAP

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APPENDIX A

WETLAND I/L WETLAND DATA FORM AND PHOTOGRAPHIC RECORD FROM OTHERS



Photograph 33
Wetland I facing north.
(EMH&T, 12/1/2021)



Photograph 34
Wetland I facing east.
(EMH&T, 12/1/2021)



Photograph 35
Wetland I facing south.
(EMH&T, 12/1/2021)



Photograph 36
Wetland I facing west.
(EMH&T, 12/1/2021)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Jug Street Improvements | City/County: New Albany/ Licking | Sampling Date: 12/3/2021

Applicant/Owner: The City of New Albany | State: OH | Sampling Point: W-I-1

Investigator(s): ETN | Section, Township, Range: T. 2 N; R. 15 W

Landform (hillside, terrace, etc.): depression | Local relief (concave, convex, none): concave

Slope (%): ____ | Lat: 40.095950° | Long: -82.728104° | Datum: ____

Soil Map Unit Name: Pewamo silty clay loam (Pe) | NWI classification: NA

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 disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X	No ____	**Is the Sampled Area within a Wetland?** **Yes** X **No** ____
Hydric Soil Present?	Yes X	No ____	
Wetland Hydrology Present?	Yes X	No ____	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Leersia oryzoides*	50	Yes	OBL
2. *Setaria faberi*	50	Yes	FACU
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 15')			
1.			
2.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	50	x 1 =	50
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	50	x 4 =	200
UPL species	0	x 5 =	0
Column Totals:	100 (A)		250 (B)

Prevalence Index = B/A = 2.50

Hydrophytic Vegetation Indicators:

____ 1 - Rapid Test for Hydrophytic Vegetation

____ 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

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

____ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

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

SOIL

Sampling Point: W-I-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-10	10YR 3/1	95	10YR 4/6	5	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains.

[2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ? Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ? Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Midwest Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils, Version 7.0, 2015 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- X Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No** ___

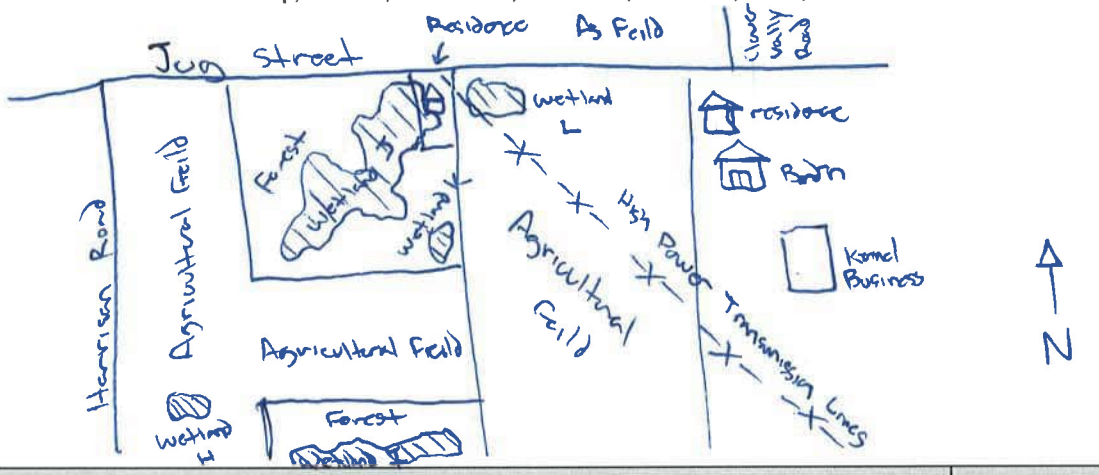
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Background Information

Name:	Nicholas D'Eramo
Date:	9/28/2015
Affiliation:	EMH&T
Address:	5500 New Albany Road, Columbus, OH 43054
Phone Number:	614-775-4513
e-mail address:	NDeramo@emht.com
Name of Wetland:	Wetland L
Vegetation Communit(ies):	Emergent
HGM Class(es):	Depression

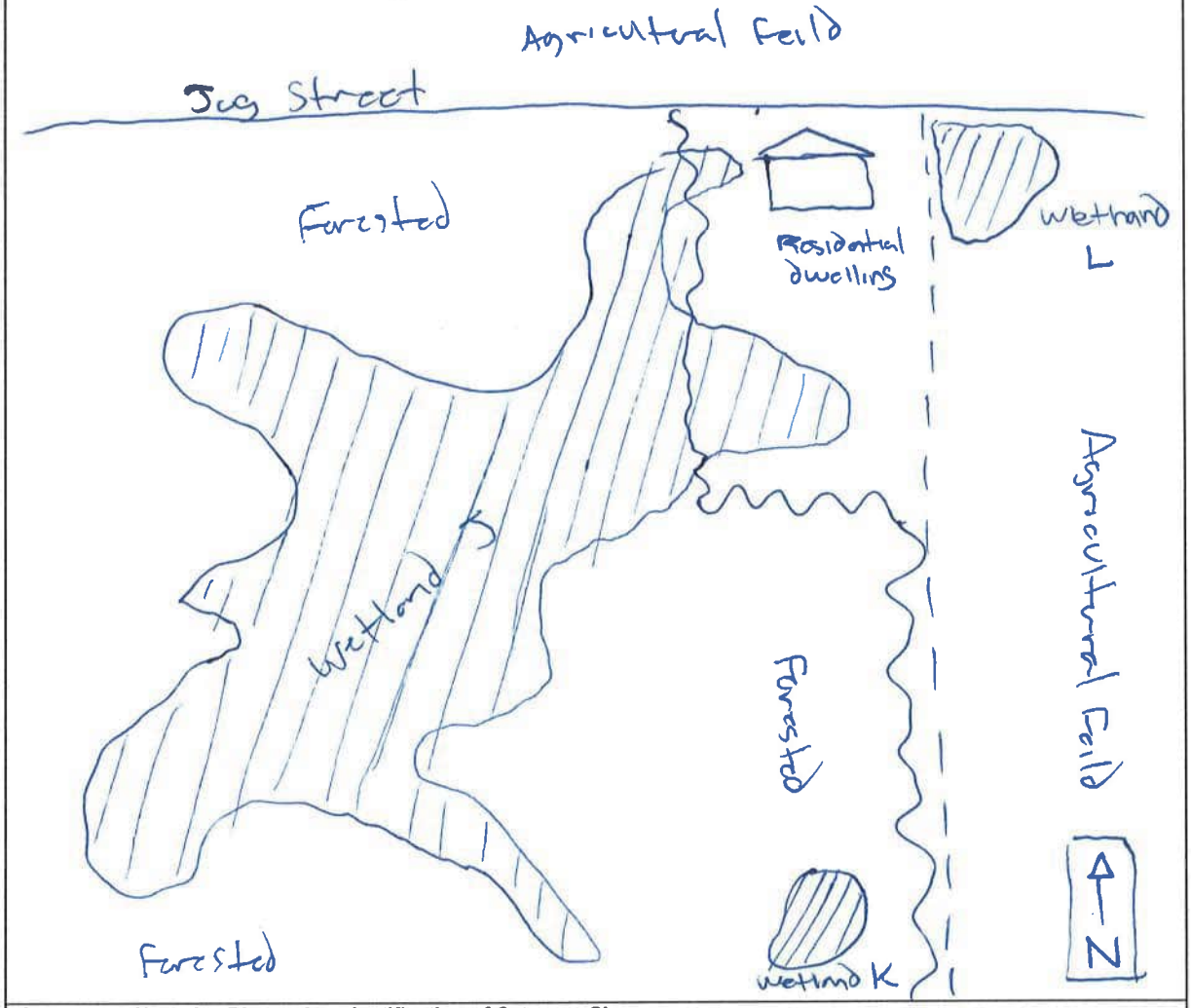
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.



Lat/Long or UTM Coordinate	40.054530 82.434087
USGS Quad Name	Jersey, OH
County	Licking
Township	Jersey
Section and Subsection	T2N R15W
Hydrologic Unit Code	05040006040 2
Site Visit	9/25/15
National Wetland Inventory Map	FWS 2014
Ohio Wetland Inventory Map	—
Soil Survey	NRCS 2014
Delineation report/map	EMH&T 2014

Name of Wetland: Wetland L (Pierfelice - Addition to Newton)	
Wetland Size (acres, hectares):	0.13 acres

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



Comments, Narrative Discussion, Justification of Category Changes:

Final score : 1	**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.	✓	
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.	✓	
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.	✓	
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.	✓	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		✓
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.		✓

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

Narrative Rating

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

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

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

Table 1. **Characteristic** plant species.

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

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

Site: Pier Felice - Wetland L	Rater(s): Nick DiFranco	Date: 9/25/2015

Metric 1. Wetland Area (size).

max 6 pts. | subtotal: 0 | 0

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

max 14 pts. | subtotal: 1 | 1

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

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

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

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

Metric 3. Hydrology.

max 30 pts. | subtotal: 5 | 6

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development.

max 20 pts. | subtotal: 3 | 9

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

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

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

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

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

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

Check all disturbances observed

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

subtotal this page: 9

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

Site: PierFelice - Wetland L	Rater(s): Nick D'Emmo	Date: 9/25/2015

9
subtotal first page

-10	-1
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

2	1
max 20 pts.	subtotal

Metric 6. Plant communities, interspersion, microtopography.

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

- [0] Aquatic bed
- [1] Emergent
- [2] Shrub
- [3] Forest
- [0] Mudflats
- [0] Open water
- [ ] Other_____

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

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

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

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

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

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	If yes, Category 3.
	Question 5. Category 1 Wetlands	(YES) NO	If yes, Category 1.
	Question 6. Bogs	YES (NO)	If yes, Category 3.
	Question 7. Fens	YES (NO)	If yes, Category 3.
	Question 8a. Old Growth Forest	YES (NO)	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands – Unrestricted with native plants	YES (NO)	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES (NO)	If yes, Category 3
	Question 11. Relict Wet Prairies	YES (NO)	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	-10	
	Metric 6. Plant communities, interspersion, microtopography	2	
	TOTAL SCORE	1	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 over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score *greater* than the Category 2 scoring threshold *(including* any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the *"gray zone"* for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit *moderate OR superior* hydrologic OR habitat, OR recreational functions AND the wetland was *not* categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.



Photo 1: View of the expanded area of Wetland J (EMH&T, 9/25/15)



Photo 1: View of Wetland L (EMH&T, 9/25/15)

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Pierfelice-Starkey Delineation City/County: Licking Sampling Date: 9/25/2015

Applicant/Owner: New Albany Company (NACO) State: OH Sampling Point: Wetland J

Investigator(s): Steve Bailey / Nick D'Eramo Section, Township, Range: T2N R12W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): - Lat: 40.054055 Long: 82.434300 Datum: -

Soil Map Unit Name: Pewamo silty clay loam (Pe) 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 Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No ____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No ____	Is the Sampled Area within a Wetland? Yes X No ____
Hydric Soil Present?	Yes X No ____	
Wetland Hydrology Present?	Yes X No ____	

Remarks:

This area is an emergent extension of the forested wetland from the previous delineation. Drain tile blown out in emergent portion of wetland in front f residence. Area has been historically mowed.

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. Polygonum persicaria	80	Yes	FACW
2. Echinochloa crus-galli	20	Yes	FACW
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

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

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: Pierfelice-Starkey Delineation City/County: Licking Sampling Date: 9/25/2015

Applicant/Owner: New Albany Company (NACO) State: OH Sampling Point: Wetland L

Investigator(s): Steve Bailey / Nick D'Eramo Section, Township, Range: T2N R12W

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): - Lat: 40.054521 Long: 82.434400 Datum: -

Soil Map Unit Name: Pewamo silty clay loam (Pe) 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 Y, Soil N, or Hydrology N significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation N, Soil N, or Hydrology N naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks:
Area is disturbed by farming. Wetland area is too wet to farm on an annual basis.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: 5')			
1. Echinochloa crus-galli	100	Yes	FACW
2. Ammannia coccinea	10	No	OBL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
	110 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No _____

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

SOIL

Sampling Point: WL L

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-14	10YR 3/2	90	7.5YR 5/8	10	C	PL	CL	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Dark Surface (S7)
- ___ Iron-Manganese Masses (F12)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: N/A

Depth (inches): ___

Hydric Soil Present? Yes X No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No X Depth (inches): ___

Water Table Present? Yes ___ No X Depth (inches): ___

Saturation Present? (includes capillary fringe) Yes ___ No X Depth (inches): ___

Wetland Hydrology Present? Yes X No ___

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

Remarks:

U.S. Army Corps of Engineers
WETLAND DETERMINATION DATA SHEET – Midwest Region
See ERDC/EL TR-10-16; 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: Conesville Corridor 345 kV Transmission Line Adjustment Project City/County: Licking County Sampling Date: 07/05/2022

Applicant/Owner: AEP - Ohio Transmission Company State: OH Sampling Point: W-SRC-EMHT-Wetland I

Investigator(s): Spencer Chronister Section, Township, Range: SQNW T2N R15W

Landform (hillside, terrace, etc.): Flat Local relief (concave, convex, none): Concave

Slope (%): 1 Lat: 40.095936 Long: -82.728056 Datum: WGS 1984

Soil Map Unit Name: Pe: Pewamo silty clay loam, 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, explain in Remarks.)

Are Vegetation____, Soil____, or Hydrology____ significantly disturbed? Are "Normal Circumstances" present? 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 point locations, transects, important features, etc.

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

Is the Sampled Area within a Wetland? **Yes** X **No** ____

Remarks:
This sample point is representative of EMHT-Wetland I, a PEM wetland. The wetland is located within a depression in an herbaceous powerline right-of-way.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30' Radius)	Absolute % Cover	Dominant Species?	Indicator Status
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15' Radius)			
1. N/A			
2.			
3.			
4.			
5.			
	=Total Cover		
Herb Stratum (Plot size: 5' Radius)			
1. *Echinochloa crus-galli*	30	Yes	FACW
2. *Persicaria pensylvanica*	20	Yes	FACW
3. *Carex vulpinoidea*	15	No	FACW
4. *Rumex crispus*	15	No	FAC
5. *Carex lurida*	5	No	OBL
6.			
7.			
8.			
9.			
10.			
	85	=Total Cover	
Woody Vine Stratum (Plot size: 30' Radius)			
1. N/A			
2.			
	=Total Cover		

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

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

Prevalence Index = B/A = ____

Hydrophytic Vegetation Indicators:

X 1 - Rapid Test for Hydrophytic Vegetation
___ 2 - Dominance Test is >50%
___ 3 - Prevalence Index is ≤3.0[1]
___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? **Yes** X **No** ____

Remarks: (Include photo numbers here or on a separate sheet.)
The criteria for hydrophytic vegetation was met at the time of investigation.

SOIL

Sampling Point: W-SRC-EMHT-Wetland I

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 3/1	95	7.5YR 5/6	5	C	PL/M	Loamy/Clayey	
6-10	10YR 3/1	95	7.5YR 5/6	5	C	M	Loamy/Clayey	
10-16	10YR 3/1	90	7.5YR 5/6	10	C	M	Loamy/Clayey	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- X Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ Red Parent Material (F21)
- ___ Very Shallow Dark Surface (F22)
- ___ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

The soil profile met the criteria to be considered hydric at the time of investigation.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- X Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- X Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

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

Wetland Hydrology Present? **Yes** X **No** ___

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

Remarks:

Multiple indicators of wetland hydrology were present at the time of investigation.

APPENDIX B

WETLAND I/L CURRENT ASSESSMENT (UPL-MRK-001) PHOTOGRAPHS AND FORMS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Tasjan Projects | City/County: Licking | Sampling Date: 20-May-24

Applicant/Owner: AEP | State: OH | Sampling Point: UPL-MRK-001

Investigator(s): MRK, TJK | Section, Township, Range: S | T 2N | R 15W

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): flat

Slope: 1.0% / 0.6 ° | Lat.: 40.0959 | Long.: -82.7279 | Datum: NAD83

Soil Map Unit Name: | NWI classification: NA

Are climatic/hydrologic conditions on the site typical for this time of year? Yes ◉ No ○ (If no, explain in Remarks.)

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

Are Vegetation ☐ , Soil ☐ , or Hydrology ☐ naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland? Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
Upland data point collected in a disturbed area associated with recent construction in the area.

VEGETATION - Use scientific names of plants.

Tree Stratum (Plot size: 30' radius)	Absolute % Cover	Dominant Species? Rel.Strat. Cover	Indicator Status
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Sapling/Shrub Stratum (Plot size: 15' radius)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
3.	0	☐ 0.0%	
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
	0	= Total Cover	
Herb Stratum (Plot size: 5' radius)			
1. Dactylis glomerata	15	☑ 42.9%	FACU
2. Persicaria pensylvanica	15	☑ 42.9%	FACW
3. Solidago canadensis	5	☐ 14.3%	FACU
4.	0	☐ 0.0%	
5.	0	☐ 0.0%	
6.	0	☐ 0.0%	
7.	0	☐ 0.0%	
8.	0	☐ 0.0%	
9.	0	☐ 0.0%	
10.	0	☐ 0.0%	
	35	= Total Cover	
Woody Vine Stratum (Plot size: 30' radius)			
1.	0	☐ 0.0%	
2.	0	☐ 0.0%	
	0	= Total Cover	

Dominance Test worksheet:

Number of Dominant Species That are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	15	x 2 =	30
FAC species	0	x 3 =	0
FACU species	20	x 4 =	80
UPL species	0	x 5 =	0
Column Totals:	35 (A)		110 (B)

Prevalence Index = B/A = 3.143

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is > 50%
- ☐ 3 - Prevalence Index is ≤3.0 [1]
- ☐ 4 - Morphological Adaptations [1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ○ No ◉

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

Vegetation does not meet hydrophytic criteria. Vegetation is sparse due to recent construction and topsoil disturbance.

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **UPL-MRK-001**

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

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

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

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ○ **No** ◉

Remarks:

Soil does not meet hydric criteria.

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

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

NA

Remarks:

No source of hydrology was observed.

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PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing North



Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing South



Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing West



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

May 20, 2024

Description:

PEM wetland

Category 1

Facing Soils



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing North



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing East



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing West



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PHOTOGRAPHIC RECORD

Wetland Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138kV and Green Chapel - Innovation 138kV Removal Project	60714556; 60714558

Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing South



Wetland W-HLA-001

Date:

December 20, 2024

Description:

PEM wetland

Category 1

Facing Soil



APPENDIX C

HABITAT PHOTOGRAPHIC RECORD

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PHOTOGRAPHIC RECORD

Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project Addendum #1	60714556, 60714558

PH-12

Date:

September 19, 2023

Description:

Urban

Facing East



PH-12

Date:

December 20, 2024

Description:

Urban

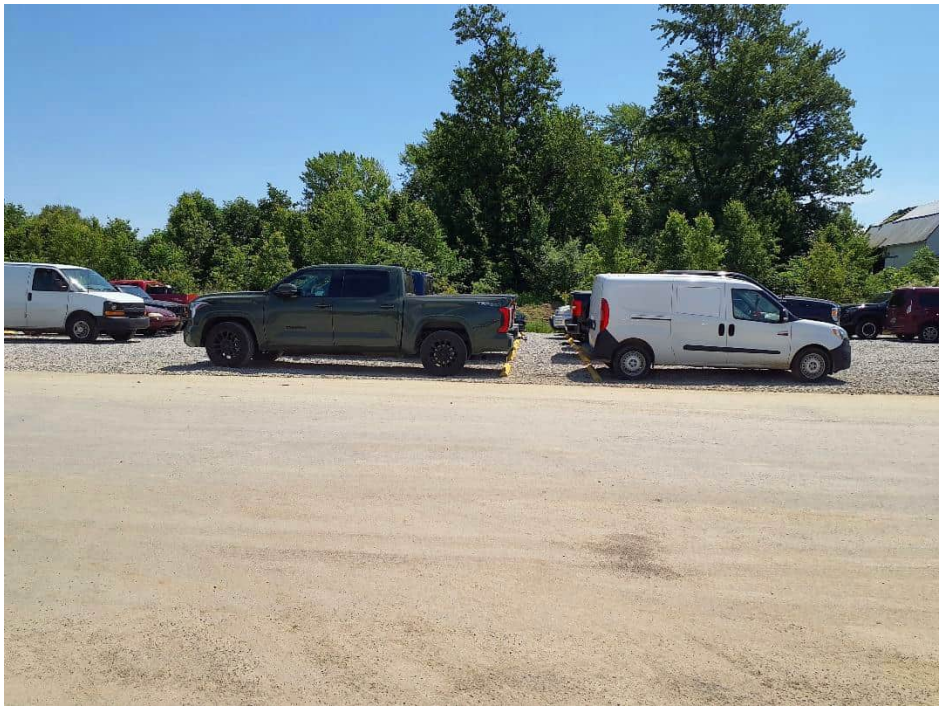
Facing East



AECOM Imagine it. Delivered.

PHOTOGRAPHIC RECORD
Habitat Photograph Record

Client Name:	Site Location:	Project No.
AEP	Tasjan Extension 138 kV and Green Chapel - Innovation 138 kV Removal Project Addendum #1	60714556, 60714558

PH-13 **Date:** May 20, 2024 **Description:** Urban Facing East	

PH-13 **Date:** December 20, 2024 **Description:** Urban	Due to active construction on site, access was not permitted for photo.