



LETTER OF NOTIFICATION APPLICATION

PIR-2350 – Jackson & Genoa Pipeline Replacement Project (2023) Perry Township, Stark County, Ohio

Ohio Power Siting Board Case No. 23-0096-GA-BLN

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

The following information is in accordance with Ohio Administrative Code (OAC) Chapter 4906-6, *Accelerated Application Requirements*.

APPLICATION REQUIREMENTS

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

The applicant is the East Ohio Gas Company d/b/a Dominion Energy Ohio (DEO). The name of the project is PIR-2350 Jackson and Genoa (2022) Pipeline Replacement Project. The internal project numbers are P400818467 and master work order (MWO) 64058952.

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

This project involves the replacement of approximately 5,659 feet of existing 10-inch diameter pipeline with approximately 6,615 feet of 12-inch diameter fusion bonded epoxy (FBE) steel pipeline. The new pipeline will be installed within existing DEO easements and public right-of-way. The existing pipeline will be abandoned in place. The project is located within Perry Township in Stark County, Ohio.

4906-6-05 (B)(1): Why the Project Meets the Requirements for a Letter of Notification

This project qualifies as a Letter of Notification Notice under Rule 4906-1-01, Appendix B (1)(a) because it involves the replacement of an existing pipeline segment of less than five miles. In this instance, DEO will be replacing 1.2 miles of pipeline.

4906-6-05 (B)(2): Statement of Need for the Proposed Facility

DEO is undertaking this project to maintain pipeline integrity, enhance public safety, and continue to assure safe, adequate, and reliable natural gas supply to DEO's customers.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

The existing 10-inch pipeline is 70 years old. As shown on *Attachment A*, this pipeline supplies gas from the meter and regulating station at Jackson & Southway Street to DEO's Massillon Border Station. The Massillon Border Station supplies gas to major IP systems CI2 and CI5. Because gas is supplied to the Southway station, and from the Massillon Border Station, by 12-inch diameter high pressure pipeline, the existing 10-inch pipeline connecting these stations creates a potential for supply constraints and decrease of system pressure. Replacing the 10-inch pipeline with 12-inch pipeline will contribute to consistent supply and operating characteristics of this segment of the high-pressure system. Furthermore, 10-inch diameter is an odd size pipe that DEO typically replaces with the next commonly available size (12-inch) where feasible.

4906-6-05(B)(3): Location of the Project

Attachment A contains an area system map showing the location of the replacement pipeline in relation to the existing pipeline. The project is completely within the boundaries of Perry Township, Stark County, Ohio.

The proposed 12-inch diameter pipeline installation will begin at DEO's Jackson & Southway Meter and Regulating Station, proceed approximately 500 feet south along Jackson Ave. to Mason St., east to Grace Ave., and then north to the existing pipeline. The remaining portion of the replacement segment between Jackson & Southway M&R to the Massillon Border Station will generally parallel the existing pipeline.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

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

Replacement of the existing 10-inch pipeline with pipe of the same size, installed parallel to the existing pipeline for the entire length of this segment, would increase the cost of the project, cause greater disruption to customers, and fail to alleviate potential supply and pressure issues. The route for the replacement pipeline deviates from an approximately 500' section of the existing route to avoid an existing building, septic tank, stream and pond between Jackson Ave. and Stardale Ave. These impacts are avoided by routing the pipe around them within existing public right-of-way. Replacing the existing 10-inch pipe with 12-inch pipe addresses the potential supply and pressure issues explained above.

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

On May 7th, 2021, a courtesy letter in the form of **Attachment C-1** was sent to the affected property owners and tenants identified on **Attachment B**. A copy of the pre-construction letter to be sent to all the landowners and tenants prior to the start of the construction is included as **Attachment C-2**.

4906-6-05(B)(6): Anticipated construction schedule, in-service date

The construction of the replacement pipeline is anticipated to begin in Spring 2023. DEO plans to place the line in-service and complete restoration activities by the end of Fall 2023.

4906-6-05(B)(7): Project Area Map and Directions

An area map that is at least pf a 1:24000 scale that depicts roads, streets and highways is attached as **Attachment A**.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

4906-6-05(B)(8): Easements, Options and/or Land Use Agreements

The project is entirely within DEO's existing easements and road right-of-way. Therefore, DEO will not need to obtain easements, options, or land use agreements to construct the project.

4906-6-05(B)(9)(a): Technical Features of the Project

The replacement pipeline will be installed by means of open-cut installation. Small excavation areas will also be necessary to allow for purge and cut and cap of the abandoned pipeline. The existing pipe will be abandoned in place. Additional technical features of the project are described below:

Pipeline MAOP: The new pipeline will operate at an MAOP of 160 psi.

Pipe Material: The replacement pipeline is 12-inches in diameter with a wall thickness of 0.375 inch and a yield strength of 52,000 psi. It will be cathodically protected by a 17 pound anode and externally coated with 14-16 mils of fusion bonded epoxy or powercrete epoxy.

Structures: No additional structures will be required for the new pipeline.

Right-of-Way and/or Land Requirement: The project is located within public right of way and existing DEO easements. Existing public right-of-way and DEO easements will provide the required equipment access. The temporary construction materials laydown areas will be necessary to store and stage material and will be determined after the bid has been awarded to the contractor

4906-6-05(B)(9)(c): Estimated Capital Costs

The capital cost of the entire project is estimated to be approximately \$2,000,000.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

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

The proposed project is located within the Perry Township, Stark County, Ohio. The land use associated with the project is primarily residential and public utility.

The environmental field study, prepared by Environmental Consulting and Technology, Inc. (ECT), reviewed all areas approximately 30 feet from the road centerline and/or 40 feet from the edge of pavement and all features within a 100-foot-wide study corridor centered on the existing utility easement or recently acquired utility easement. Per the environmental field study, the project area contains six (6) wetlands, five (5) streams, and one (1) open water feature (**Attachment D**). No floodplains were identified within the project area.

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

Per the Stark County Auditor, the majority of parcels within the project area are mapped as residential properties. However, three (3) parcels within the central portions of the Project Area are mapped as agricultural properties and have been assigned a Current Agricultural Use Value (“CAUV”) code by the county. Existing pipeline within these fields will be replaced with no change in post construction land cover or use; therefore, the project will not have an impact on agricultural activities.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

4906-6-05(B)(10)(c): Archeological and Cultural Resources

In January 2023, DEO’s consultant, ECT, performed an Ohio Historic Preservation Office (“OHPO”) Literature Review of archaeological and cultural resources for the project area as part of the project Field Summary Report (refer to **Attachment D**).

The literature review included a search for records of Ohio Archaeological Inventory (“OAI”) Properties, Ohio Historic Inventory (“OHI”) Properties, National Register Listed Properties, National Register Listed Districts, Determinations of Eligibility, and Phase 1, 2, or 3 Survey Areas. One (1) previous Phase 1 Archeological Survey was identified adjacent to the project area along the western side of Jackson Avenue SW. The Phase 1 Survey was completed for the Weston Place Allotment Development by Weller & Associates, Inc. in January 2022. The survey identified one (1) archaeological site within the survey area, 33ST1184, however, this site was determined to lack integrity and would therefore not be regarded as significant or eligible for listing on the National Register of Historic Places. No other records exist within the or near the project area. Refer to **Attachment E**.

Name of Supportive Document	Attachment
Field Survey Summary Report	D
Ohio Historic Preservation Office Map	E

4906-6-05(B)(10)(d): List of Governmental Agencies Which Have Requirements to be met by the Project

The following agencies have requirements to be met at various times by this project:

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

Name of Agency	Document to be Submitted	Attachment
Ohio Environmental Protection Agency (“EPA”) National Pollutant Discharge Elimination System (“NPDES”) Program	NOI for General Construction Stormwater Permit Application	G
Stark County Soil and Water Conservation District	Stark County SWPPP Review Application	H
U.S. Army Corps of Engineers (“USACE”)	Nationwide Permit 12 Authorization	I
U.S. Fish & Wildlife Service (“USFWS”)	January 25, 2022 Bald Eagle Email Coordination January 3, 2023 Threatened and Endangered Species Consultation	J
Ohio Department of Natural Resources (“ODNR”)	December 21, 2022 Threatened and Endangered Species Consultation	K

The project will disturb greater than one (1) acre of total land; therefore, a Storm Water Pollution Prevention Plan (“SWPPP”) has been prepared for the project. A copy of the SWPPP is included as **Attachment F**. The SWPPP will be provided in the package submitted for competitive bids from contractors.

A NOI was submitted to the Ohio EPA for the project on January 27, 2023. The permit is still pending. The NOI application is included as **Attachment G**.

A request for SWPPP approval from the Stark County Soil and Water Conservation District was submitted on January 20, 2023 for the project due to ground disturbance of greater than one (1) acre. Approval from the County is pending. A copy of the SWPPP submittal is included as **Attachment H**.

The discharge method and location for hydrostatic test waters will be determined when the construction contract is awarded, or during the pre-construction meeting. A permit

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

is not required if test waters will not enter any wetlands, streams, or other water bodies. Should hydrostatic test waters be discharged into waters of the State, an Hydrostatic Test Water Discharge Notice of Intent under the current available permit from Ohio Environmental Protection Agency will be obtained prior to hydrostatic testing.

DEO requests that Staff include a condition such as the one given in *Vectren Energy Delivery of Ohio, Inc.*, Case No. 16-2175-GA-BLN that prior to the commencement of construction activities in areas that require permits or authorizations by federal or state laws and regulations, DEO shall obtain and comply with such permits or authorizations. Copies of the permits will be provided upon receipt.

There are no other known local, state, or federal requirements that must be met prior to commencement of construction on the proposed pipeline project.

4906-6-05(B)(10)(e): Federal and State Designated Species

In July 2021, June 2022, and October 2022, DEO's consultant, ECT, reviewed the study area for suitable habitat for federally listed species known to be located within Stark County, Ohio. The study area is located along existing road ROW along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, an existing 100-ft wide utility easement which originates to the east of Jackson Avenue SW and extends east to Genoa Avenue SW, and a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement. The study area contains six (6) wetlands, five (5) streams, and one (1) open water. Stream 1, Stream 2, Stream 3 (Wetmore Creek), and Wetlands E and C are proposed to be temporarily impacted to allow for the necessary activities required for the pipeline installation. All proposed construction related

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

activities involved will follow those authorized in the U.S. Army Corps of Engineers (“USACE”) 2021 Nationwide Permit #12 (Oil or Natural Gas Pipeline Activities). A Pre-construction Notification was submitted to the U.S. Army Corps of Engineers (“USACE”) on January 20 2023. The NWP 12 authorization is still pending (**Attachment I**).

ECT initiated consultation with the U.S. Fish and Wildlife Service (“USFWS”) on December 21, 2022, and a response letter was provided on January 3, 2023 (**Attachment J**).

According to the USFWS response, two (2) federally listed species have ranges which include the portion of Stark County, Ohio in which the project is situated: the state and federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*). Additionally, the project will be conducted in a manner to avoid violation of the Migratory Bird Treaty Act.. Lastly, the study area overlaps the range of the bald eagle (*Haliaeetus leucocephalus*), a federal species of concern, which is also protected under the Bald and Golden Eagle Protection Act.

According to the report provided by ECT, nine (9) potential roost trees (“PRTs”) for the Indiana bat and/or the northern long-eared bat were located within the study area (**Attachment D**). Additionally, a desktop review for potential hibernacula for listed bat species confirmed that no known caves or abandoned mines occur within the vicinity of the project area. It will be necessary to remove trees, including some PRTs, along the pipeline installation area. In accordance with the response from USFWS, clearing of trees within the project will be completed between October 1 and March 31.

In addition to listed bat species, ECT reviewed the Project for potential habitat for the bald eagle (*Haliaeetus leucocephalus*), a species of concern that is protected under the

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

Bald and Golden Eagle Protection Act. The bald eagle has a range that covers the entire state of Ohio. The bald eagle nests in large trees near water. No bald eagles or bald eagle nesting sites were observed within or adjacent to the project. Although Perry Township in Stark County has known bald eagle nesting sites, email coordination with the USFWS on January 25, 2022 confirmed that no bald eagle nests occur within 0.5 miles of the project (**Attachment J**).

DEO submitted a letter on December 22, 2022 to the Ohio Department of Natural Resources (“ODNR”) requesting a finding from ODNR regarding any adverse effect to any state listed and natural areas that have a geological and/or ecological significance to them (**Attachment K**). A response from ODNR is pending.

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

There are no national or state parks or forests, wilderness areas, wildlife refuges, wildlife management areas, or wildlife sanctuaries located in the immediate vicinity of the proposed project. One (1) local park, Meredith Park, is approximately 0.36 miles north of the project study area but will not be impacted by project activities.

According to ECT’s assessment of the Project, six (6) wetlands, five (5) streams, and one (1) open water feature are located within the study area.

Two (2) wetlands and three (3) streams will be temporary impacted by construction activities associated with the installation of the pipeline. All work shall be performed within the designated Project area. Construction will be limited to these areas and will require soil disturbance to accommodate areas for trench excavation, side-cast spoil, temporary storage of the new pipe, and equipment/vehicular traffic.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

Separation of the topsoil from the subsoil will generally be performed at wetlands, streams, residential, commercial, and agricultural properties. The backfill material that will be returned to the trench will consist of the same material removed from the excavation, to the extent practicable.

Following pipeline replacement, all disturbed areas will be returned to their original slope and contour, seeded, and revegetated to provide a permanent herbaceous cover to stabilize the soils. Temporary erosion controls will be maintained until permanent cover is established.

4906-6-05(B)(10)(g): Any Known Unusual Conditions Resulting in Significant Environmental, Social, Health, or Safety Impacts

DEO conducted a review of the Ohio Department of Transportation's Ohio Regulate Properties Search ("ORPS") tool to assess for readily known unusual conditions in the project area that could result in significant environmental impacts. One (1) underground storage tank was identified but the project activities will not impact this area. Additionally, the ORPS tool indicated a 40 gallon spill of diesel fuel within the project area in a parcel along Southway Street NW in 2002.

Additionally, because this project proposes to replace an existing pipeline primarily within existing pipeline easements and public road ROW, there has already been prior ground disturbance and maintenance in the area. Other than slight potential health and safety issues associated with construction, which will be minimized with the best practices during construction, no additional health, social or safety impacts have been identified.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

Receipt of all environmental permits will confirm or alter the understanding regarding these impacts.

4906-6-07 SERVICE AND PUBLIC DISTRIBUTION OF ACCELERATED CERTIFICATE APPLICATIONS

4906-6-07(A)(1): Service of Accelerated Application upon Officials

Simultaneously with the filing this accelerated application with the Board, DEO has mailed the application to the following public officials:

Robert Fonte
President
Stark County Regional Planning Authority
201 3rd Street, Suite 201
Canton, OH 44702-1211

Stark County Commissioners
c/o Brant A. Luther
County Administrator
110 Central Plaza South, Suite 240
Canton, OH 44702

Keith A Bennett, P.E., P.S.
Stark County Engineer
5165 Southway St. SW
Canton, Ohio 44706

Donald Bendetta,
Stark County Utility Coordinator
5165 Southway St. SW
Canton, OH 44706

Perry Township Administrative Office
Lisa Nelligan, Trustee
Matt Miller, Trustee
Ralph DeChiara Jr., Trustee
3111 Hilton Street NW
Massillon, OH 44646

A copy of the transmittal letter (**Attachment L**) is attached.

4906-6-07(A)(2): Service of Accelerated Application upon Main Public Libraries of Each Political Subdivision

A copy of this accelerated application is being sent to the Perry-Sippo Branch of the Stark County District Library located at 5710 12th Street NW, Canton, OH 44708.

CASE NO. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

4906-6-07(A)(3): DEO's Website

A copy of the application is located on DEO's web page at <https://www.dominionenergy.com/siting%20board>. Choose the case number of this case to access.

Further interested persons may contact DEO at 320 Springside Dr., Akron, Ohio 44333 to obtain either an electronic copy or a paper copy of this accelerated application.

4906-6-07(B): Proof of Compliance

Within seven (7) days of the filing of this accelerated application, DEO will file proof of compliance with Rule 4906-6-07.

4906-6-08 PUBLIC NOTICE

4906-6-08(A): Newspaper Notice

DEO will cause public notice of this Letter of Notification to be published in the *The Canton Repository*, a newspaper of general circulation in Stark County. See

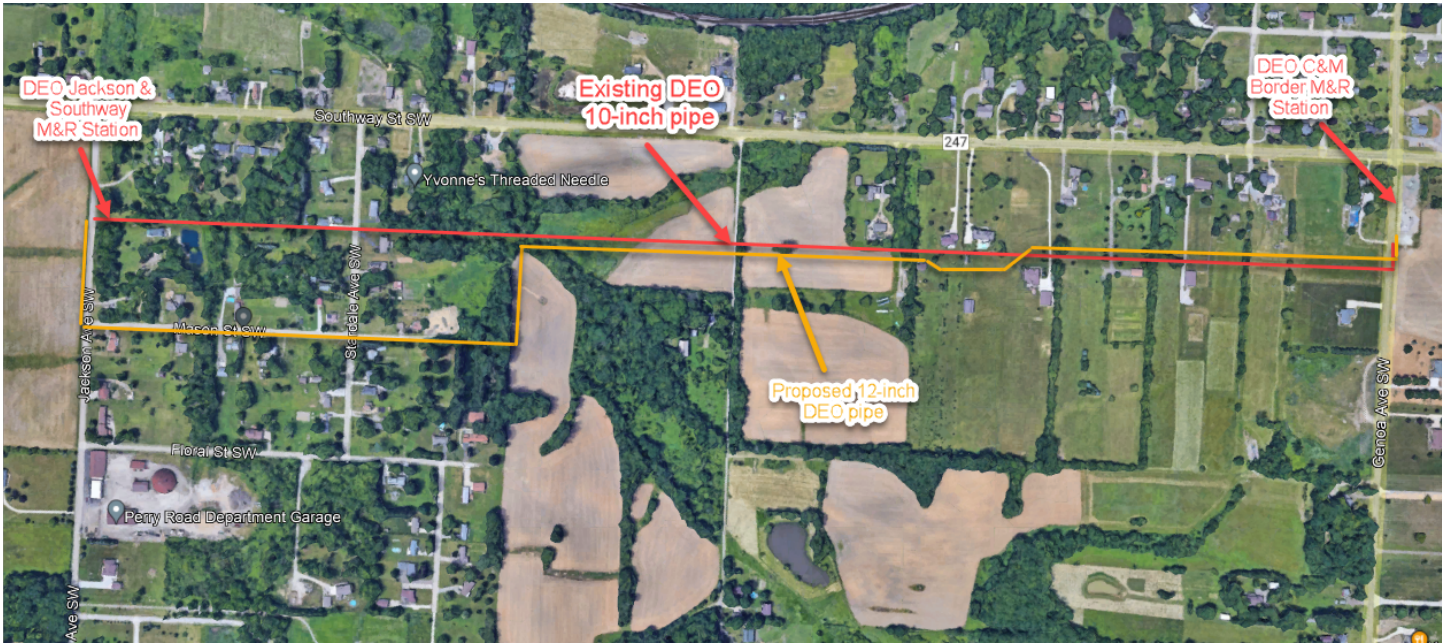
Attachment M.

**CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT**

ATTACHMENT A

AERIAL MAP

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2022) PIPELINE REPLACEMENT PROJECT



CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT B

LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS

PIR PROJECT PIR # 2350 MWO # 64058952 Ref. # 19-0462															
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Current Property Owner	Property Address	City	State	Zip	Mailing Address	City	State	Zip	Parcel #						
Bradley J. & Melissa M. Bartolone	1320 Jackson Avenue SW	Massillon	Ohio	44646	1320 Jackson Avenue SW	Massillon	Ohio	44646	4307912						
Donald W. Davis	2810 Mason Street SW	Massillon	Ohio	44646	2810 Mason Street SW	Massillon	Ohio	44646	4306868						
Charles E. & Rose M. Isler	1237 Stardale Avenue SW	Massillon	Ohio	44646	1237 Stardale Avenue SW	Massillon	Ohio	44646	4319589						
John & Yvonne Hudas	1304 Stardale Avenue SW	Massillon	Ohio	44646	1304 Stardale Avenue SW	Massillon	Ohio	44646	4310252						
Jeffrey C. Isler	Mason Street SW	Massillon	Ohio	44646	1314 Stardale Avenue SW	Massillon	Ohio	44646	4302487						
James K. Eyster & Mary Jo Landis	3131 Southway Street SW	Massillon	Ohio	44646					4314980						
Mark W. Berbaum	Southway Street SW	Massillon	Ohio	44646	1216 West Park Avenue NW	Canton	Ohio	44708	4317997 4317996						
Richard E. & Judith P. Albaugh	3323 Southway Street SW	Massillon	Ohio	44646	3323 Southway Street SW	Massillon	Ohio	44646	4317994						
Pamela Clayton, Ryan & Vanessa Flinn	3329 Southway Street SW	Massillon	Ohio	44646	3329 Southway Street SW	Massillon	Ohio	44646	4317998						
Roscoe E. & Patricia A. Chaney	3355 Southway Street SW	Massillon	Ohio	44646	3355 Southway Street SW	Massillon	Ohio	44646	4317992						
Kevin Nodo & Kim Kurtac-Nodo	3411 Southway Street SW	Massillon	Ohio	44646	3411 Southway Street SW	Massillon	Ohio	44646	4301927 4316442						
Betty Artman	3441 Southway Street SW	Massillon	Ohio	44646	3441 Southway Street SW	Massillon	Ohio	44646	4316441						
Simon & Sandra Miller Midfirst Bank	3451 Southway Street SW	Massillon	Ohio	44646	999 NW Grand Blvd	Oklahoma City	OK	73118	4300388 4313129						
Walter Strotz Jr. & Sharon Strotz	3461 Southway Street SW	Massillon	Ohio	44646	3461 Southway Street SW	Massillon	Ohio	44646	4301424 4313128						
Robert Lautenschleger	3481 Southway Street SW	Massillon	Ohio	44646	3481 Southway Street SW	Massillon	Ohio	44646	4315669						

Alice Witmer	3507 Southway Street SW	Massillon	Ohio	44646	3507 Southway Street SW	Massillon	Ohio	44646	4315387						
Melanie Capuano	3545 Southway Street SW	Massillon	Ohio	44646	3545 Southway Street SW	Massillon	Ohio	44646	4318190						
Leroy Miller II & Renee Miller	1309 Genoa Avenue SW	Massillon	Ohio	44646	1309 Genoa Avenue SW	Massillon	Ohio	44646	4318191						
Joseph & Susan Kay Small	3333 Southway Street SW	Massillon	Ohio	44646	3333 Southway Street SW	Massillon	Ohio	44646	4315335						
Adjacent Landowners															
Albert & Carol Kirkbride	2734 Mason Street SW	Massillon	Ohio	44646	2734 Mason Street SW	Massillon	Ohio	44646	4305848						
Theodore & Kimberly Karam	1333 Stardale Avenue SW	Massillon	Ohio	44646	1333 Stardale Avenue SW	Massillon	Ohio	44646	4308251						
Myron Ferguson	1325 Stardale Avenue SW	Massillon	Ohio	44646	1325 Stardale Avenue SW	Massillon	Ohio	44646	4304275 4304276						
Michael Bryan & Rebecca Durkin	1320 Stardale Avenue SW	Massillon	Ohio	44646	1320 Stardale Avenue SW	Massillon	Ohio	44646	4302484 4302488						
David Behringer	2930 Mason Street SW	Massillon	Ohio	44646	2930 Mason Street SW	Massillon	Ohio	44646	4302726						
Jill McDonald	1404 Jackson Avenue SW	Massillon	Ohio	44646	1404 Jackson Avenue SW	Massillon	Ohio	44646	4303376						
Matthew & Jennifer Orock	2739 Mason Street SW	Massillon	Ohio	44646	2739 Mason Street SW	Massillon	Ohio	44646	4303377						
Daniel & Selena Rohr	2811 Mason Street SW	Massillon	Ohio	44646	2811 Mason Street SW	Massillon	Ohio	44646	4307913 4307914 4305804						
Timothy Ziembiec	1415 Stardale Avenue SW	Massillon	Ohio	44646	1516 Perry Drive NW	Canton	Ohio	44708	4309361						
Jack & James Merryman	1404 Stardale Avenue SW	Massillon	Ohio	44646	1404 Stardale Avenue SW	Massillon	Ohio	44646	4307043						
Terry & Joanne Horner	2915 Southway Street SW	Massillon	Ohio	44646	101 Main Street South	North Canton	Ohio	44720	4303375						
Isaac Neuenschwander	1232 Stardale Avenue SW	Massillon	Ohio	44646	1232 Stardale Avenue SW	Massillon	Ohio	44646	4309554						
Andrew Fox	2925 Southway Street SW	Massillon	Ohio	44646	3057 Long Road	Akron	Ohio	44312	4310012						
Keon Hemerlein	2949 Southway Street SW	Massillon	Ohio	44646	2949 Southway Street SW	Massillon	Ohio	44646	4307951 4305200						

A List Land Development, LLC	Jackson Avenue SW	Massillon	Ohio	44646	1425 Whipple Avenue nw	Canton	Ohio	44708	10014105						
Michael Bowman Jr.	2731 Southway Street SW	Massillon	Ohio	44646	2731 Southway Street SW	Massillon	Ohio	44646	4309640 4309641 4302406						
Dennis & Eva Zimmerman	2741 Southway Street SW	Massillon	Ohio	44646	2741 Southway Street SW	Massillon	Ohio	44646	4303813						
Steven & Wanda Smith	2805 Southway Street SW	Massillon	Ohio	44646	10819 Forty Corners Road NW	Massillon	Ohio	44647	4310167						
Isaac Schuette & Marie Lindsey	2815 Southway Street SW	Massillon	Ohio	44646	2815 Southway Street SW	Massillon	Ohio	44646	4305055						
Mark Jackson	2825 Southway Street SW	Massillon	Ohio	44646	2825 Southway Street SW	Massillon	Ohio	44646	4302928 4302929						
Ernest & Shirley Burger	1344 Genoa Avenue SW	Massillon	Ohio	44646	1344 Genoa Avenue SW	Massillon	Ohio	44646	10013017						
Suzanne C. Reeve	2950 Floral St., SW	Massillon	Ohio	44646	Same				4304471						

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT C
MODEL NOTIFICATION LETTER TO PROPERTY OWNERS SENT

[DATE]

**Re: [NAME OF PROJECT]
Ohio Power Siting Board, Case # ____-GA-BLN**

Dear **[Property Owner or Tenant]:**

This letter is to notify you that Dominion Energy Ohio (DEO) has filed an application with the Ohio Power Siting Board (OPSB). Public records list you as the owner of record of property in the vicinity of this project. This letter summarizes important information about the project. A copy of this letter is also being delivered to the physical address of your property, if different from the address at which you are receiving this letter.

Facility Description

DEO is planning to replace approximately 5,659 feet of existing pipeline with approximately 6,615 feet of (12)-inch diameter FBE steel natural gas pipeline by means of open-cut installation. The new pipeline will be installed within existing DEO right-of-way (“ROW”) and the road right-of-way (“ROW”).

The proposed pipeline is located within Perry Township in Stark County, Ohio as described above. Existing public roadways and DEO ROW and easements will provide the required equipment access. Below is a map showing the location of the facility:

[INSERT COPY OF MAP FROM APPLICATION]

Inspection of Application

DEO filed the application for this project on **February 7, 2023**, and authority to proceed with the project is now pending before the OPSB. The completed application is available on the OPSB’s website (www.opsb.ohio.gov) and DEO’s corporate website (www.dominionenergy.com/siting board) by referencing case number 23-0096-GA-BLN. You may also view a printed copy of the application at the Perry-Sippo Branch of the Stark County District Library located at 5710 12th Street NW, Canton, OH 44708 or at DEO’s offices, located at 320 Springside Dr., Akron, OH, 44333.

Participation in the proceeding

You are entitled to submit comments to the OPSB regarding this project, and you may also have rights to participate in the application process. The OPSB rules for commenting and participating in proceedings are available on the OPSB website under the “rules” section.

Construction schedule

DEO plans to commence construction in Spring 2023 and conclude the project in Fall 2023, subject to OPSB approval. If the OPSB approves the project, DEO will notify you by mail of the final construction schedule at least seven days prior to the start of construction.

Should you have any additional questions, please contact DEO's Land Services Department at 1-855-226-6022. You may be asked to provide the Project Reference Number at the bottom of this letter.

Sincerely,

DOMINION ENERGY OHIO

Land Services Department

**SECOND LANDOWNER MODEL LETTER
TO BE SENT 7 DAYS PRIOR TO CONSTRUCTION – OAC Rule 4906-6-11 (C)
ATTACHMENT C-2**

[DATE]

ADDRESS

Re: [NAME OF PROJECT]
Ohio Power Siting Board, Case # __GA-__

Dear [Property Owner or Tenant]:

The Ohio Power Siting Board (OPSB) has approved Dominion Energy Ohio's (DEO) application to construct the above-referenced project. This letter summarizes important information about the project schedule and contact information during the construction process.

Nature of the Project

This project involves the replacement of approximately 5,659 feet of existing pipeline with approximately 6,615 feet of (12)-inch diameter FBE steel natural gas pipeline by means of open-cut installation. The new pipeline will be installed within existing DEO right-of-way ("ROW") and the road right-of-way ("ROW").

Complete project details may be found on the OPSB's website (www.opsb.ohio.gov) and DEO's corporate website (www.dominionenergy.com/siting board) by referencing case number 23-0096-GA-BLN

Construction schedule

DEO plans to commence construction on approximately Spring 2023 and conclude the project by Fall 2023. To the extent the project involves construction on your property, DEO will restore your property as close as possible to its original condition prior to construction. Restoration will commence following project completion, including sidewalks, driveways, and grading and reseeding yards. DEO expects that restoration activities will be completed by Fall 2023. The exact dates for project start and completion are subject to weather conditions or other factors beyond the company's control.

Contact information and dispute resolution

Please contact DEO's Land Services Department at 1-855-226-6022 with any questions or concerns that arise during the course of the project. You may be asked to provide the Project Reference Number at the bottom of this letter. A dedicated Land Services Agent will be assigned to work with you and the Project Manager to resolve your questions or concerns. Please note that due to the nature of work in the field, a representative from DEO will return your telephone call as soon as possible. Emergencies should be reported to your local police or fire department, or 9-1-1.

We thank you in advance for your patience and cooperation during this project.

Sincerely,

DOMINION ENERGY OHIO

Land Services Department

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT D

FIELD SURVEY SUMMARY REPORT

January 25, 2023
ECT No. 210470-0001

Eray Tulay
Dominion Energy Ohio
320 Springside Drive, Suite 320
Akron, Ohio 44333

Re: *Field Summary Report* – PIR 2350 – Jackson & Genoa, Perry Township, Stark County, Ohio

Dear Mr. Tulay:

The East Ohio Gas Company, d/b/a Dominion Energy Ohio, contracted Environmental Consulting & Technology, Inc. (ECT), to perform an ecological study for the PIR 2350 – Jackson & Genoa project (Project) located in Perry Township, Stark County, Ohio. The study included review of the Project for surface waters (e.g., wetlands, streams, ponds), potential habitat for endangered and threatened species (TES), and existing cultural and historic resources. Existing stormwater features were also identified and recorded. The area reviewed included approximately 50 feet on either side of the existing pipeline within the easement that extends east from Jackson Avenue SW to Genoa Avenue SW; approximately 40 feet from the edge of pavement along segments of Jackson Avenue SW, Stardale Avenue SW, and Mason Street SW; and along a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement. Background maps and maps depicting the results of ecological review are provided in Attachment A. Photographs depicting the study area are provided in Attachment B.

SITE DESCRIPTION

Environmental field reviews of the study area were completed on July 6, 2021, June 2, 2022, and October 27, 2022. The study area is dominated by residential development, active agricultural fields, and mature forested areas. The study area primarily has land cover of maintained lawn, areas of mature woods, and active agricultural fields.

WETLANDS AND WATERWAYS DELINEATION

Wetlands

Six (6) wetlands are located within the study area. Ohio Rapid Assessment Method (ORAM), Version 5.0, forms were completed for all identified wetlands to evaluate wetland quality. ORAM measures several metrics including wetland hydrology, size, and habitat alteration. Each metric is scored and then totaled to give a final ORAM score corresponding to an ORAM category (1 through 3). Category 1 wetlands represent low quality wetlands while Category 3 wetlands are high quality wetlands.

Table 1. Wetlands Identified within PIR 2350

Wetland ID	ORAM Score	ORAM Category	PEM ¹ within Study Area (acres)	PSS ² within Study Area (acres)	PFO ³ within Study Area (acres)	Acreage within Study Area
A	35.5	Mod. 2	0.02	0.00	0.03	0.05
B	30	1 or 2 gray zone	0.18	0.00	0.05	0.23
C	21.5	1	1.53	0.00	0.00	1.53
D	33	1 or 2 gray zone	0.00	0.00	0.13	0.13
E	35	Mod. 2	0.00	0.00	0.05	0.05
F	34.5	1 or 2 gray zone	0.03	0.00	0.00	0.03
TOTAL			1.73	0.00	0.29	2.02

Source: ECT 2023

¹ Palustrine emergent

² Palustrine scrub-shrub

³ Palustrine forested

Wetland A is composed of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation communities. The PFO vegetation community is dominated by green ash (*Fraxinus pennsylvanica*, FACW) while the PEM vegetation community is dominated by gray dogwood (*Cornus racemose*, FAC), jewelweed (*Impatiens capensis*, FACW), and lake sedge (*Carex lacustris*, OBL). Wetland A abuts and drains into Stream 1 and extends off-site of the Project Study Area to the north. Wetland A received a score 35.5 on the ORAM, placing it within the Modified 2 category.

Wetland B is a PEM/PFO wetland. The forested vegetation community is dominated by black willow (*Salix nigra*, OBL) and silver maple (*Acer saccharinum*, FACW), and the emergent vegetation community is dominated by reed canary grass (*Phalaris arundinacea*, FACW) and jewelweed. Wetland B continues offsite to the north and south of the Project Study Area and is located east of Stardale Avenue and west of Stream 3 (Wetmore Creek). Based on aerial review of the Project Study Area, Wetland B likely connects to off-site portions of Stream 3 (Wetmore Creek). The residential properties bordering Wetland B appear to mow right up to the wetland boundary. Wetland B received a score of 30 on the ORAM, placing it within Category 1 or 2 gray zone.

Wetland C is a PEM wetland dominated by reed canary grass. Wetland C is located east of Stream 3 (Wetmore Creek) and is predominately surrounded by active agricultural fields. Wetland C continues offsite to the north and south where it likely connects to an off-site tributary of Stream 3 (Wetmore Creek). Wetland C received a score 21.5 on the ORAM, placing it within Category 1.

Wetland D is a PFO wetland dominated by eastern cottonwood (*Populus deltoides*, FAC) and silky dogwood (*Cornus amomum*, FACW) and is predominately surrounded by residential land use. Wetland

D continues offsite to the north and is assumed to connect to an offsite aquatic resource. Wetland D received a score of 33 on the ORAM, placing it within Category 1 or 2 gray zone.

Wetland E is a PFO wetland dominated by silver maple (*Acer saccharinum*, FACW), green ash, and jewelweed and is predominately surrounded by residential land use. Wetland E is adjacent and appears to be hydrologically connected to Stream 1. Wetland E received a score of 35, placing it within Modified 2 category.

Wetland F is a PEM wetland dominated by red maple seedlings, yellow bristle-grass (*Setaria pumila*, FAC), Virginia wildrye (*Elymus virginicus*, FACW), and New York Ironweed (*Vernonia noveboracensis*, FACW) and is predominately surrounded by agricultural land and forest. Wetland F is located approximately 100 feet southwest of Stream 2 and Stream 3 (Wetmore Creek). Wetland F received a score of 34.5, placing it within the Category 1 or 2 gray zone.

Waterways

Two (2) perennial streams and three (3) ephemeral streams are located within the study area. Stream quality assessments were conducted following the Ohio Environmental Protection Agency's (OEPA) Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) dependent upon stream size and/or maximum pool depth. Streams with a watershed ≥ 1 square mile and/or a maximum pool depth ≥ 40 centimeters were assessed following QHEI, while streams with < 1 square mile and a maximum pool depth of < 40 centimeters were assessed using HHEI. Both methodologies assess several stream metrics, such as substrate type, and assigns scores for each metric. Totaled scores are used to determine the general quality of streams.

Stream 1 is a perennial stream that flows southeast to northwest through a forested area near the western extent of the Project Study Area where it then flows underneath a section of Mason Street SW. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A and Wetland E. A dam/impoundment has also been constructed between Stream 1 and Open Water A. Stream 1 received a score of 61 on the HHEI, classifying it as a Class II Primary Headwater (PHW).

Stream 2 is an ephemeral stream that flows from south to north through the Project Study Area into Stream 3 (Wetmore Creek). Stream 2 drains an active agricultural field located south of the Project Study Area, greatly impacting sedimentation and nutrient input into the stream. Stream 2 has a natural channel and shows no signs of modification. The dominant substrate in Stream 2 is clay/hardpan and gravel. Stream 2 received a score of 7 on the HHEI form, classifying it as a Class I PHW.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the Project Study Area and is connected to Stream 2. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream

3 (Wetmore Creek) are sand and gravel. Stream 3 received a score of 67 on the QHEI, meaning that it has the potential to attain the Warmwater Habitat designation.

Stream 4 is an ephemeral stream that runs north to south through the Project Study Area parallel to Genoa Ave SW. Stream 4 shows no signs of recovery from previous channelization. The dominate substrates in Stream 4 are clay/hardpan and gravel. Stream 4 received a score of 17 on the HHEI form, classifying it as a Modified Class I PHW.

Stream 5 is an ephemeral stream that flows from north to south through the Project Study Area into Stream 3 (Wetmore Creek). Stream 5 drains from Wetland C. Stream 5 shows signs of recovery from previous channelization. The dominate substrates are clay/hardpan and gravel. Stream 5 received a score of 19 on the HHEI, classifying it as a Modified Class I PHW.

Table 2. Streams Identified within PIR 2350

Stream ID	Flow Regime	Bankfull Width (ft)	Length (lf) within Study Area	Dominant Substrate Types	QHEI / HHEI Score	Class / Designation
1	Perennial	8.5	289	Sand/gravel	61	Class II PHW ¹
2	Ephemeral	3	37	Hardpan/gravel	7	Class I PHW
3 (Wetmore Creek)	Perennial	20	364	Gravel/sand	67	Warmwater Habitat
4	Ephemeral	3	60	Hardpan/gravel	17	Modified Class I PHW
5	Ephemeral	2	51	Hardpan/leaf pack	19	Modified Class I PHW
Perennial Streams (lf)						350
Ephemeral Streams (lf)						45
Total (lf)						395

Source: ECT 2023

¹ Primary Headwater

Open Waters

One (1) open water, Open Water A, is located within a residential lawn in the western most section of the study area. Open Water A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Open Water A is separated from Stream 1 by an impoundment.

Table 3. Open Waters Identified within PIR 2350

Open Waters ID	Acreage within study area
A	0.06

Source: ECT 2023

OEPA 401 WQC for NWP Eligibility

As part of the 401 Water Quality Certification (WQC) conditions for the 2022 Nationwide Permits (NWP), OEPA designated high-quality watersheds within the state of Ohio that are ineligible or possibly eligible for WQC under the NWP. Review of the OEPA 401 WQC for NWP Eligibility online map determined that this Project is not located within a protected watershed and is eligible for 401 WQC under the NWP. However, since the state WQC is not currently applicable to NWP 12, the high-quality watershed designation will have no bearing on the Project.

THREATENED AND ENDANGERED SPECIES EVALUATION

A search of the U.S. Fish and Wildlife Service (USFWS) Information for Planning and Consultation (IPaC) system was completed to identify potential for federally listed species to occur in the study area. The following four (4) species were identified by the IPaC search:

Bats

USFWS results indicated that the federally endangered Indiana bat (*Myotis sodalis*) and the federally threatened northern long-eared bat (*Myotis septentrionalis*) may be affected by Project activities. These bat species typically summer roost within forested areas under the loose bark of dead or dying trees. During the field surveys, ECT identified eight (8) trees within the study area with potential summer roosting habitat for the listed bats. No trees suitable for maternity roosts were identified within the study area. Photographs depicting potential habitat trees are included in the photographic log in Attachment B. A table providing information on potential roost trees is provided in Attachment F.

Bats typically overwinter in suitable underground hibernacula, including natural caves and abandoned mines with constant temperatures and humidity. Within northeastern Ohio, a variety of bat species, including the Indiana bat and northern long-eared bat, have been documented utilizing sandstone ledges for hibernation. A desktop review for potential hibernacula was conducted for the study area and a 0.25-mile radius. The review included searching the U.S. Geological Survey (USGS) database of Prospect and Mine-Related Features from 7.5- and 15-minute topographic quadrangles maps and the Ohio Department of Natural Resource (ODNR)'s Mines of Ohio and Karst Map databases. Topographic contour lines obtained from Stark County were also used to evaluate the potential presence of sandstone ledges within 0.25 miles of the Project study area. No mines, quarries, karst features, sinkholes, or steep slopes within the potential to contain sandstone ledges were identified during the desktop review (Attachment A: Figure 5).

Monarch Butterfly

The monarch butterfly is listed as a federal candidate species that is being considered for listing under the ESA. Although the monarch butterfly is known to forage on many wildflowers, monarch butterflies prefer open fields and meadows with milkweeds (*Asclepias* spp.), its larval host plant. According to the USFWS the current range of the monarch butterfly overlaps the region of the study area. The study area is dominated by maintained lawns, areas of mature woods, and active agricultural fields. Suitable habitat for the monarch butterfly does not occur within the study area.

Bald Eagle

The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. Bald eagles live near large bodies of water including estuaries, rivers, lakes, reservoirs, and coasts that provide a foraging base for the birds. Breeding eagles typically construct nests in large conifers that extend above the surrounding canopy. No bald eagles or bald eagle nests were identified during the field review. The Project area is situated in a township with bald eagle nest records.

FLOODPLAINS

No Federal Emergency Management Agency regulatory floodways or 1% annual chance floodplains are located within the study area.

CULTURAL RESOURCES

The Ohio History Connection Online Mapping System was searched to identify documented historic and cultural resources within or adjacent to the study area including National Register (NR) listed districts, NR properties, Ohio Historic Inventory structures, Ohio Genealogical Society cemeteries, Archaeological Sites, and Phase 1/2/3 Archaeological Surveys.

A Phase I Archaeological Survey was conducted in an agricultural field at the western end of the study area. The survey was completed by Weller & Associates, Inc. in 2022 for a housing development. One (1) archaeological site, 33ST1184, was identified during the survey and was deemed insignificant. The study determined that no landmarks or significant cultural resources will be affected and *"no further archaeological work is deemed necessary for this project."* Appendix B includes a representative photograph of the archaeological site location.

ADDITIONAL ENVIRONMENTAL CONCERNS

ECT reviewed the Ohio Regulated Properties Search (ORPS) Tool for contamination sites that may potentially pose environmental concerns for the site. Based on the ORPS Tool, no environmental sites were identified within or immediately adjacent to the study area.

Eray Tulay
DEO
January 25, 2023
Page 7

If you have any questions or need additional information, please contact Val Locker at (860) 305-9110 or vlocker@ectinc.com

Sincerely,

Environmental Consulting & Technology, Inc.



Charlotte Moore
Technician II



Valerie Locker
Senior Associate Scientist

cc: Greg Eastridge, Dominion Energy Services, Inc.

Attachment A

Background and Ecological Resources Maps

Figure 1. Site Location

Figure 2. USGS Topographic - Canton West Quadrangle

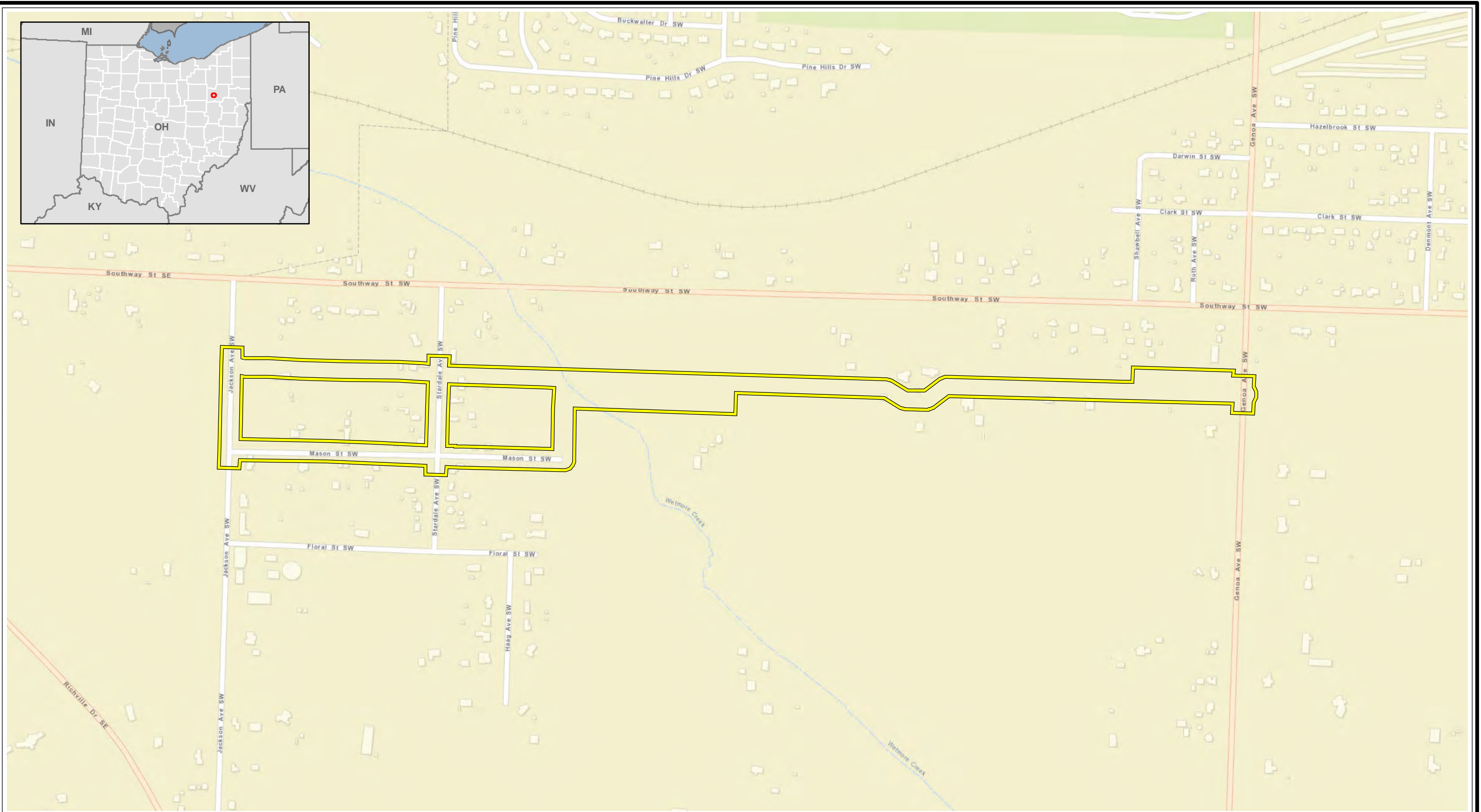
Figure 3. NWI & NHD Features


Figure 4. NRCS Soil Survey Units

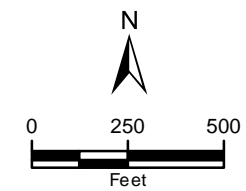
Figure 5. Potential Bat Hibernacula Indicators

Figure 6. Cultural Resources

Figure 7. Ecological Resources Map



 Project Study Area

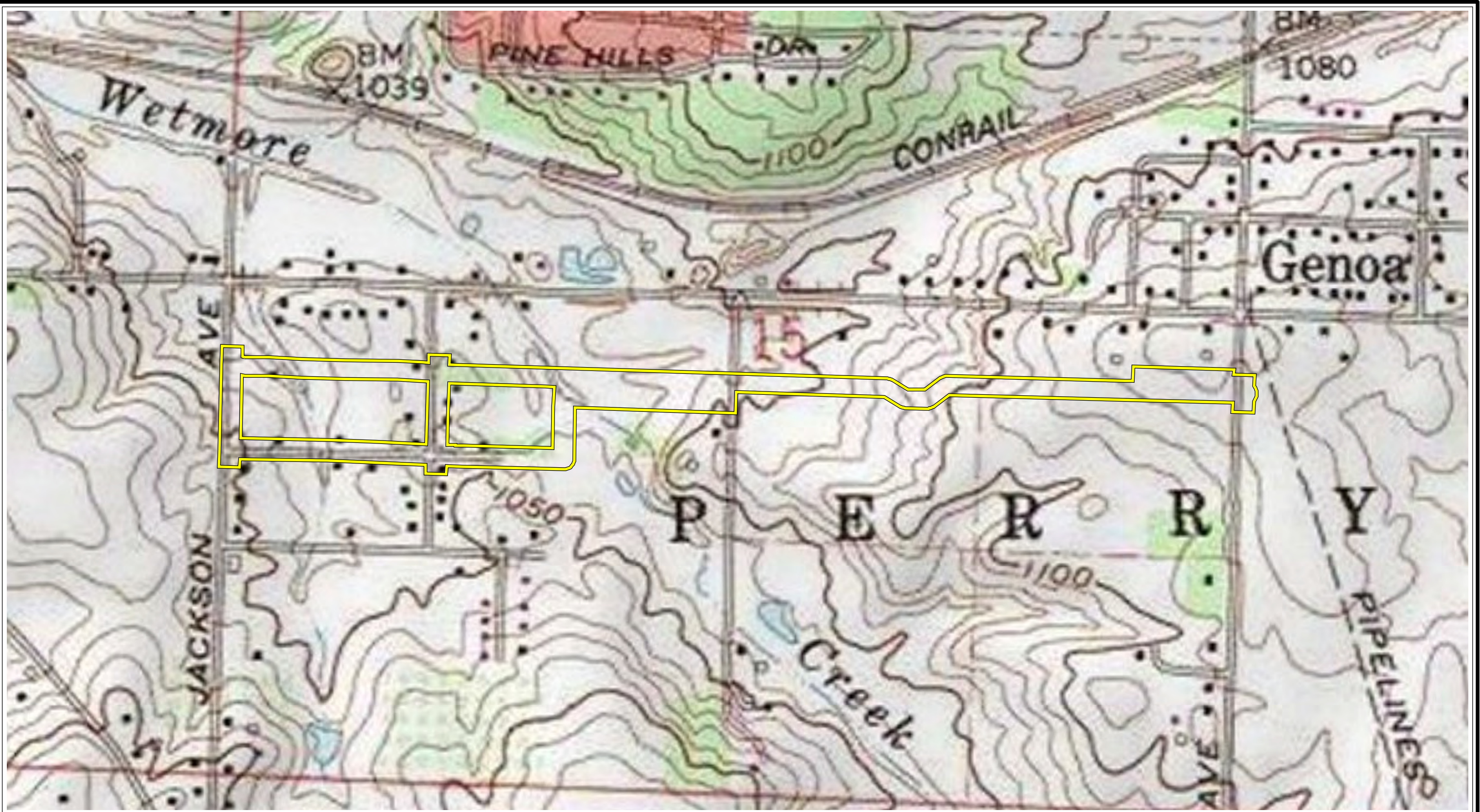



Base Layer: ESRI Street Map 2019

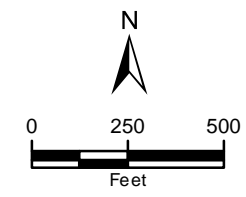
Figure 1
Site Location

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/15/2022





 Project Study Area

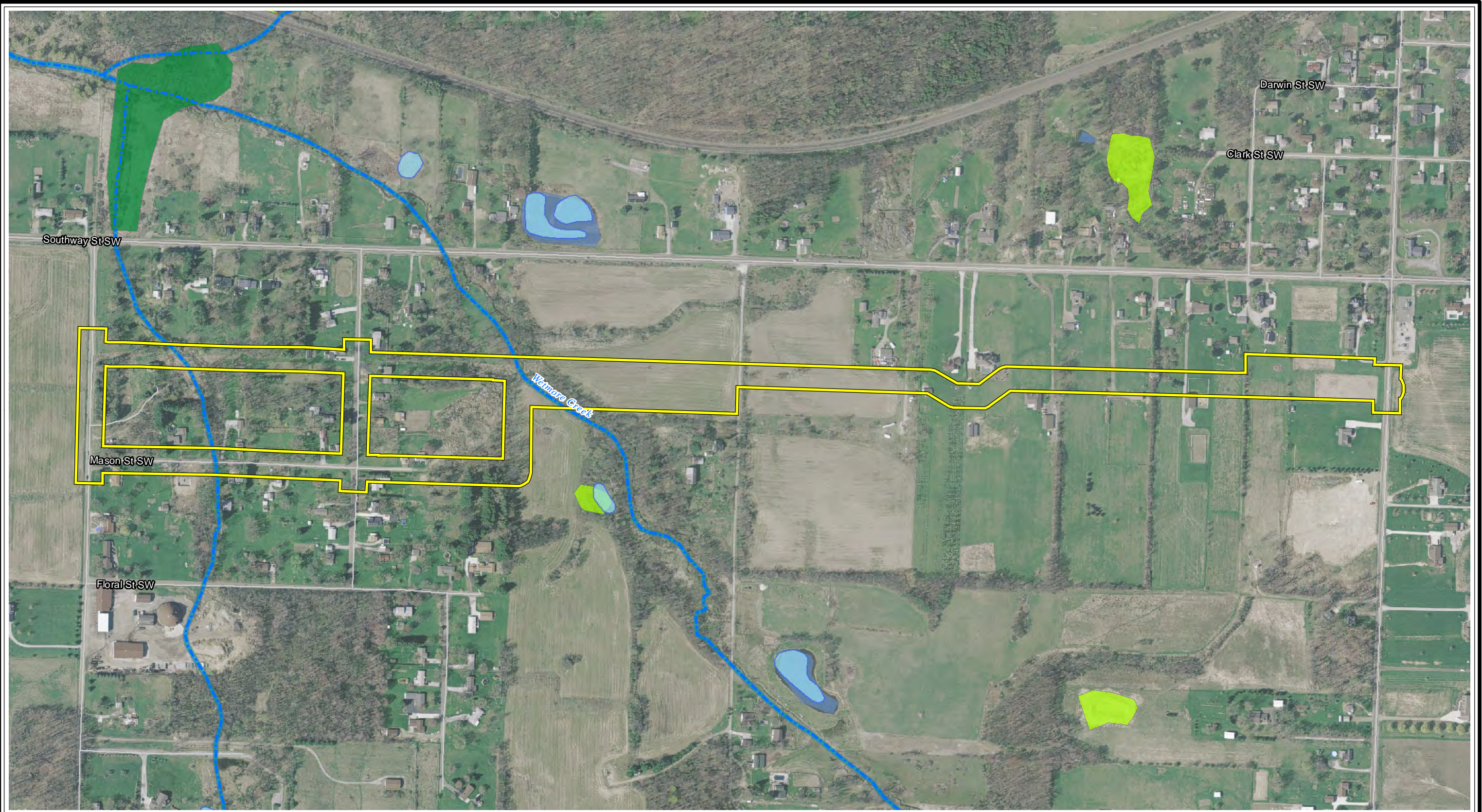


Base Layer: US TopoMaps

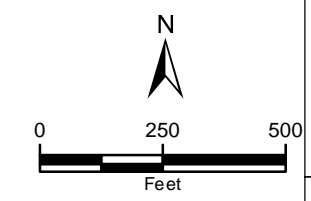
Figure 2
USGS Topographic - Canton West Quadrangle

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





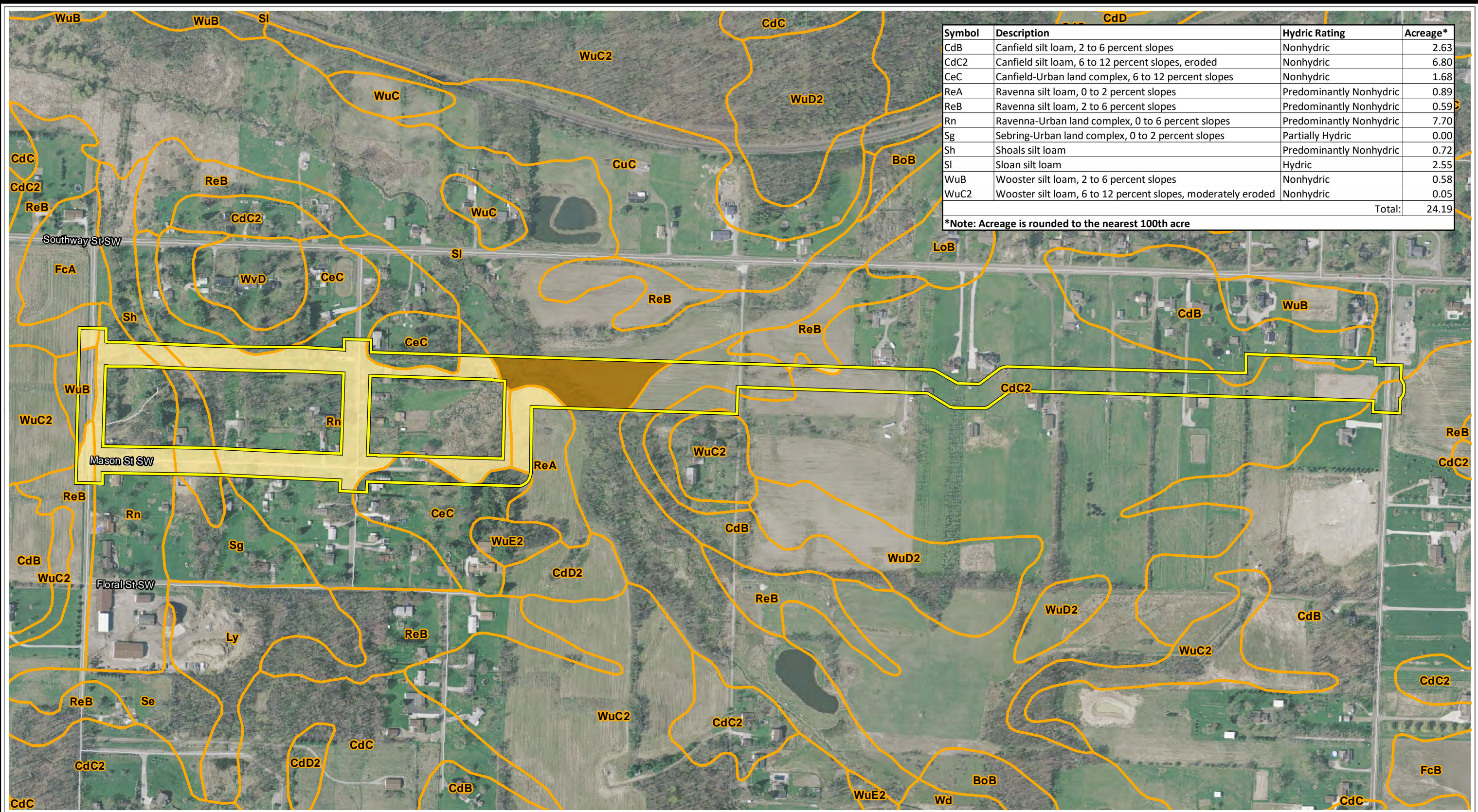
- Project Study Area
- NHD Flowline
- NHD Waterbody
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Base Layer: OSIP 2016

Figure 3
NWI & NHD Features
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



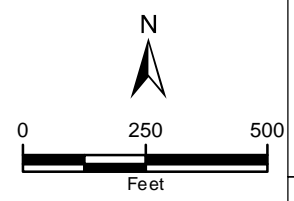


Symbol	Description	Hydric Rating	Acreage*
CdB	Canfield silt loam, 2 to 6 percent slopes	Nonhydric	2.63
CdC2	Canfield silt loam, 6 to 12 percent slopes, eroded	Nonhydric	6.80
CeC	Canfield-Urban land complex, 6 to 12 percent slopes	Nonhydric	1.68
ReA	Ravenna silt loam, 0 to 2 percent slopes	Predominantly Nonhydric	0.89
ReB	Ravenna silt loam, 2 to 6 percent slopes	Predominantly Nonhydric	0.59
Rn	Ravenna-Urban land complex, 0 to 6 percent slopes	Predominantly Nonhydric	7.70
Sg	Sebring-Urban land complex, 0 to 2 percent slopes	Partially Hydric	0.00
Sh	Shoals silt loam	Predominantly Nonhydric	0.72
SI	Sloan silt loam	Hydric	2.55
WuB	Wooster silt loam, 2 to 6 percent slopes	Nonhydric	0.58
WuC2	Wooster silt loam, 6 to 12 percent slopes, moderately eroded	Nonhydric	0.05
Total:			24.19

*Note: Acreage is rounded to the nearest 100th acre

Project Study Area
 Soils (NRCS)

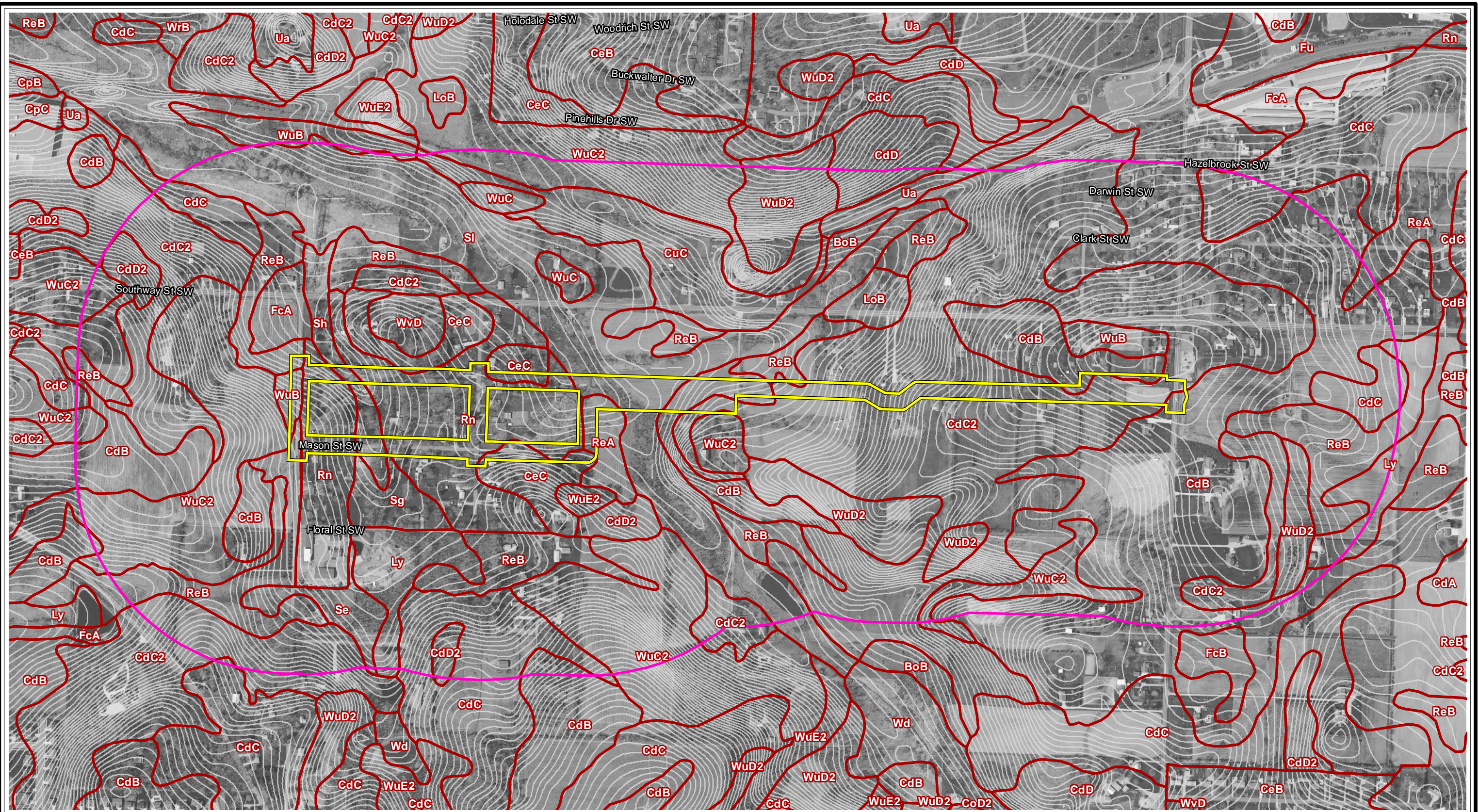
Soils - Hydric Rating
 Hydric
 Partially Hydric
 Predominantly Nonhydric
 Nonhydric



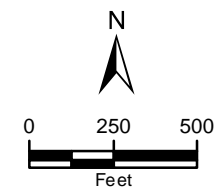
Base Layer: OSIP 2016

Figure 6
NRCS Soil Survey Units
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022





- Project Study Area
- 0.25-Mile Study Area Buffer
- Soils (NRCS)
- 2-Foot Contour

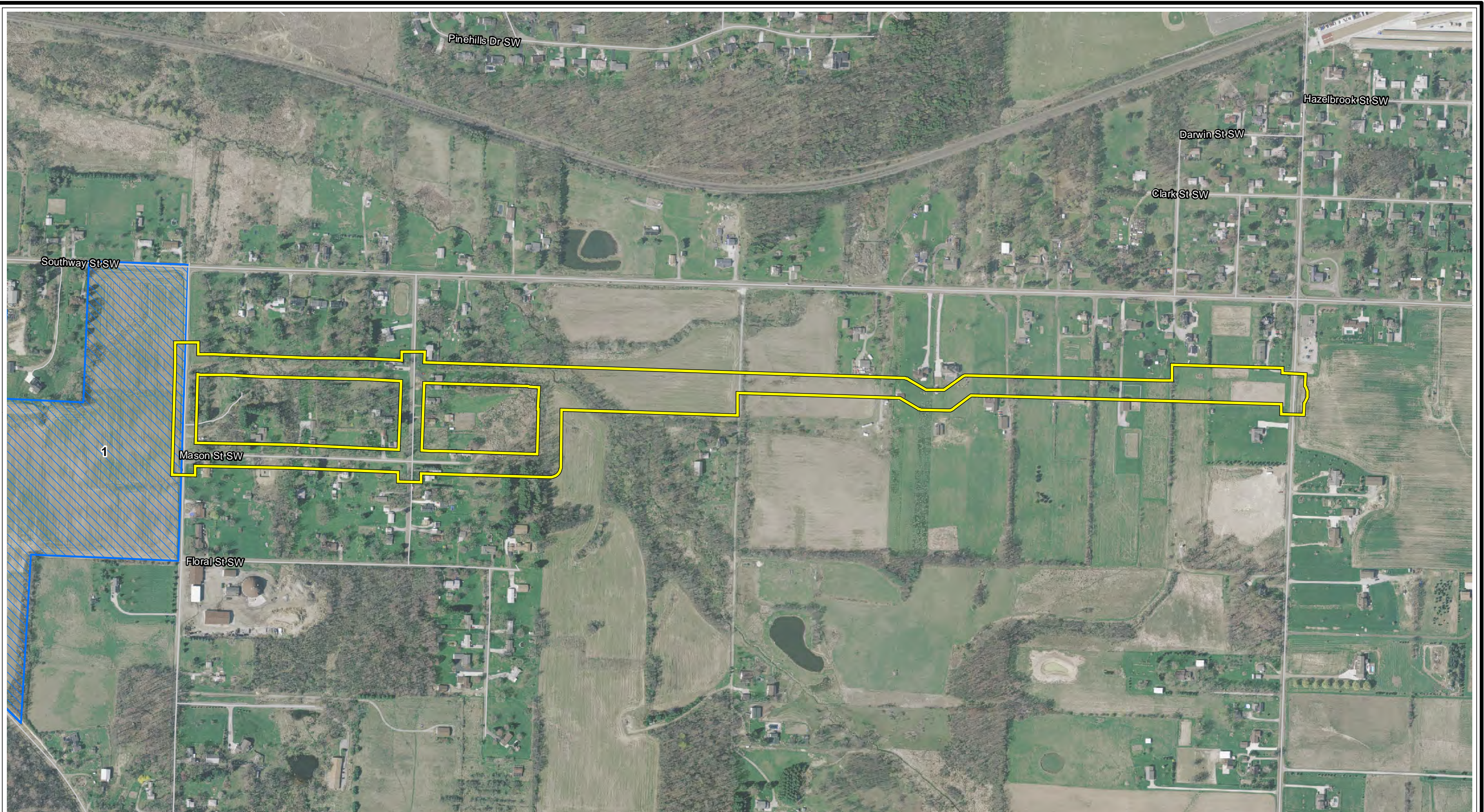


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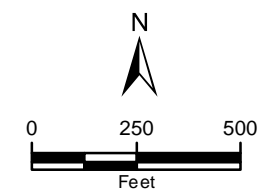
Figure 5
Potential Bat Hibernacula Indicators

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022





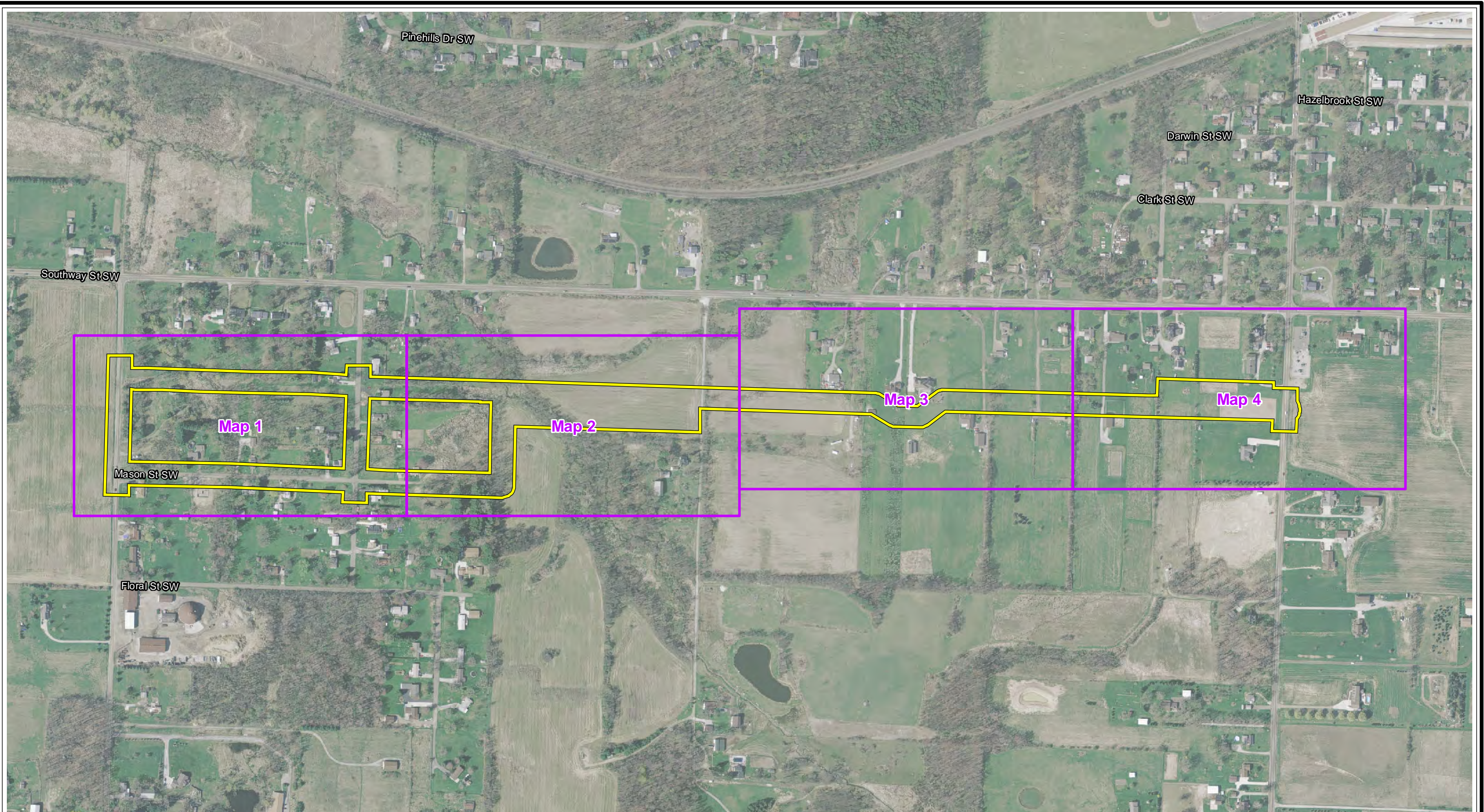
- Project Study Area
- Previously Surveyed Areas





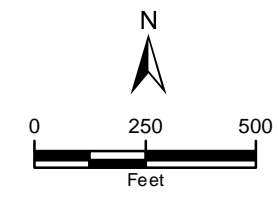
Base Layer: OSIP 2016

Figure 6
Cultural Resources
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/24/2023





 PIR2350_Study_Area_20221214
 Map Extent

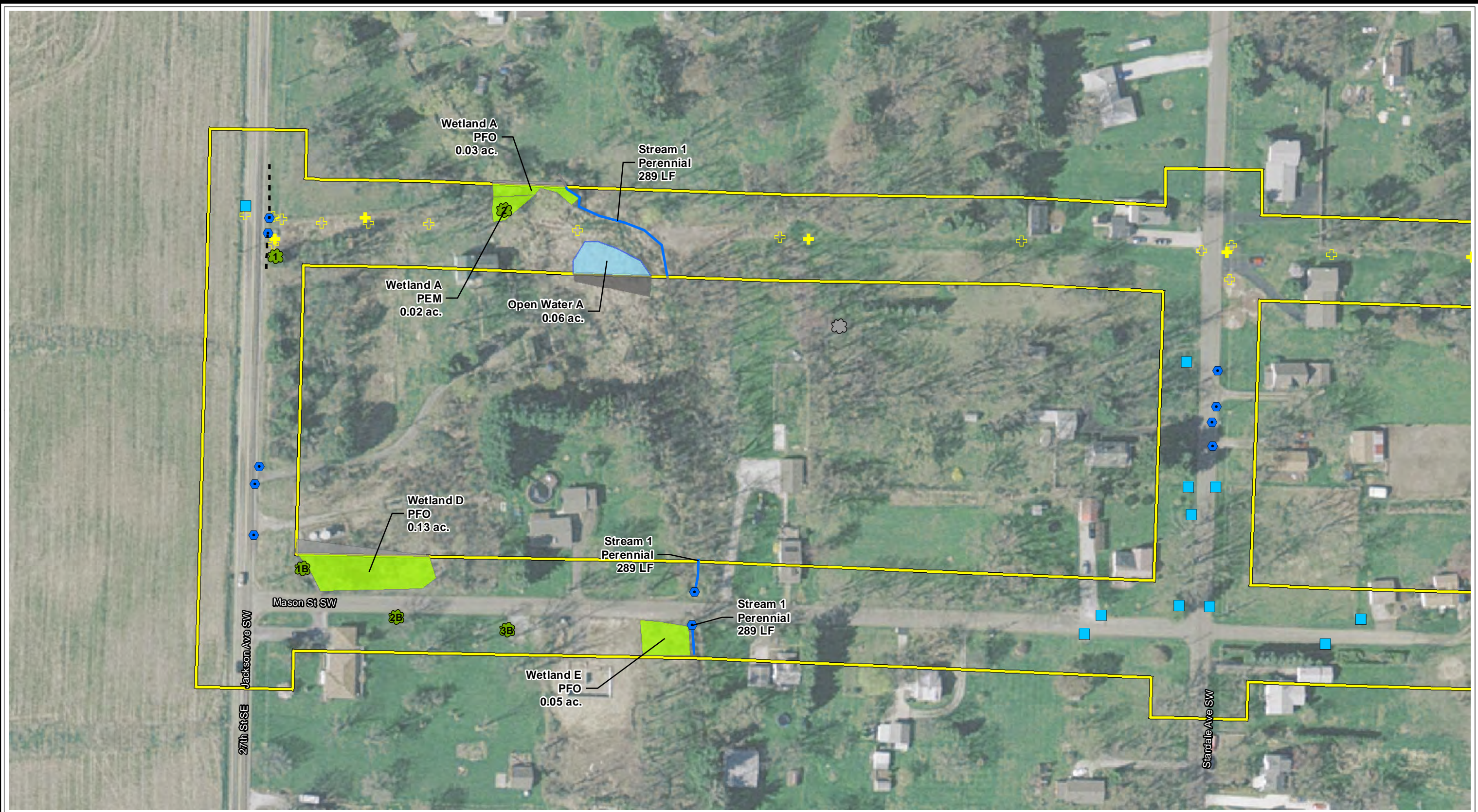


Base Layer: OSIP 2016

Figure 7
Ecological Resources Map

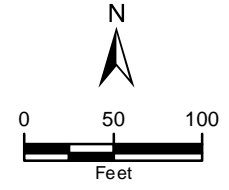
PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/24/2023





- | | | |
|-------------------------------|-------------------------------------|--------------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Perennial Stream On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site |
| Inlet | Temproyary Pipeline Marker On-Site | Delineated Wetland On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site |
| Potential Roost Tree Off-Site | Delineated Ditch | Delineated Waterbody On-Site |
| | Delineated Ephemeral Stream On-Site | Delineated Waterbody Off-Site |

No Special Flood Hazard Areas (SFHAs) within the map view

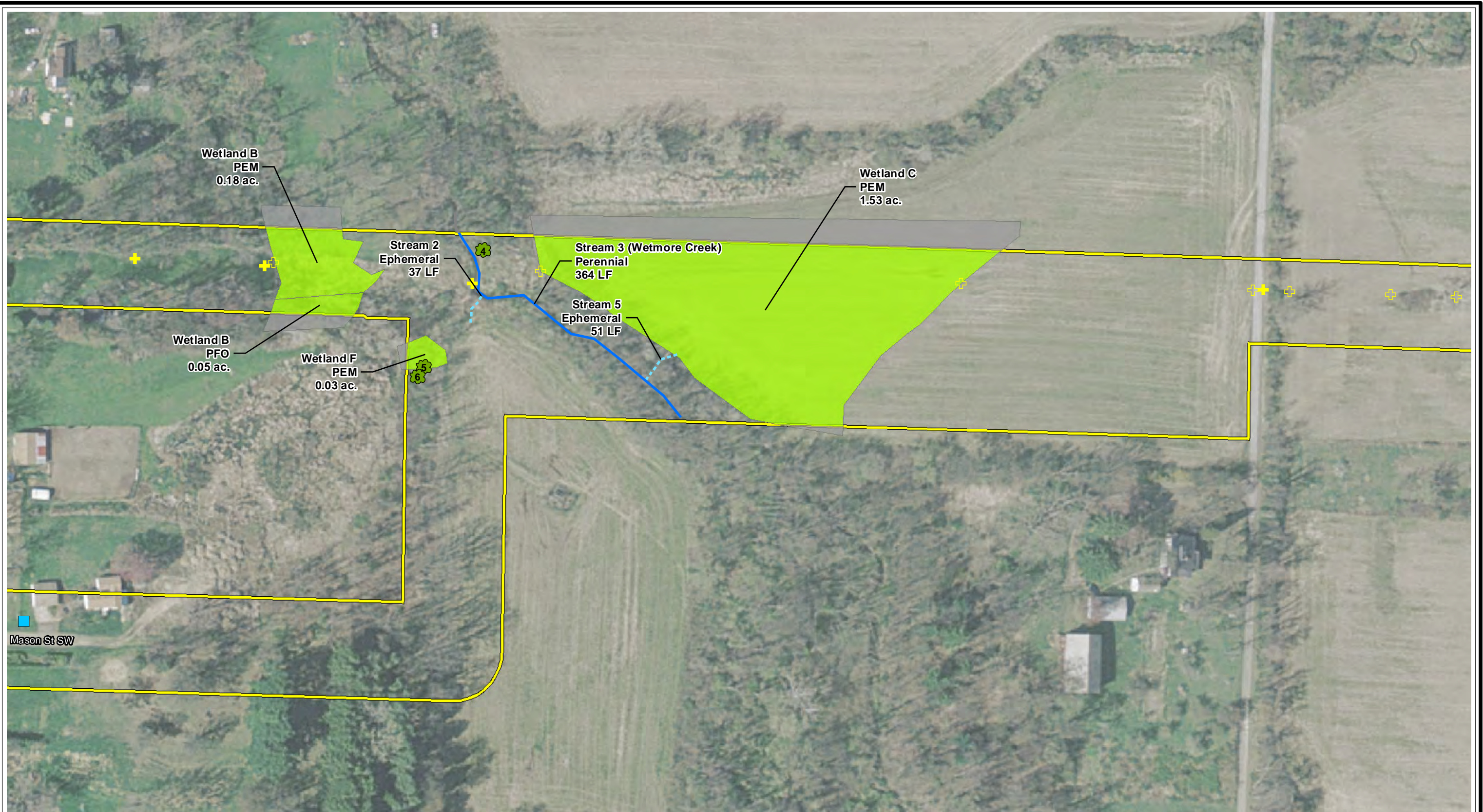


Base Layer: OSIP 2016

Figure 7
Ecological Resources Map 1 of 4

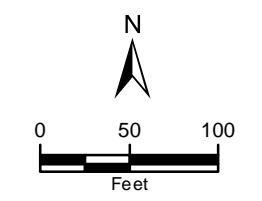
PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 1/24/2023





- | | | |
|-------------------------------|-------------------------------------|--------------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Perennial Stream On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site |
| Inlet | Temproyary Pipeline Marker On-Site | Delineated Wetland On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site |
| Potential Roost Tree Off-Site | Delineated Ditch | Delineated Waterbody On-Site |
| | Delineated Ephemeral Stream On-Site | Delineated Waterbody Off-Site |

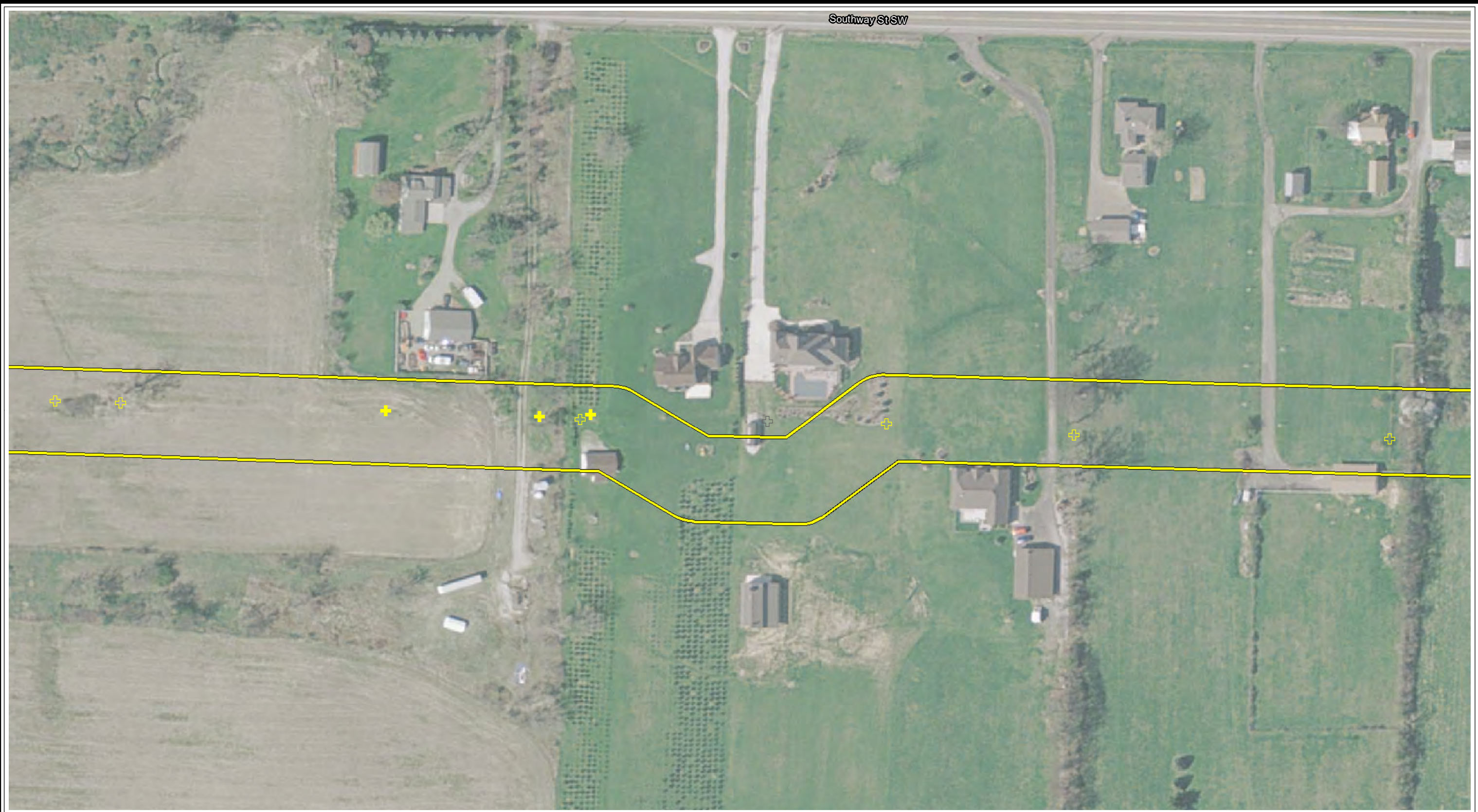
No Special Flood Hazard Areas (SFHAs) within the map view



Base Layer: OSIP 2016

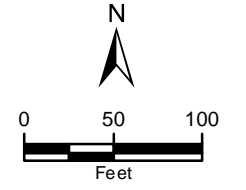
Figure 7
Ecological Resources Map 2 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/24/2023





- | | | |
|-------------------------------|-------------------------------------|--------------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Perennial Stream On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site |
| Inlet | Temproary Pipeline Marker On-Site | Delineated Wetland On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site |
| Potential Roost Tree Off-Site | Delineated Ditch | Delineated Waterbody On-Site |
| | Delineated Ephemeral Stream On-Site | Delineated Waterbody Off-Site |

No Special Flood Hazard Areas (SFHAs) within the map view

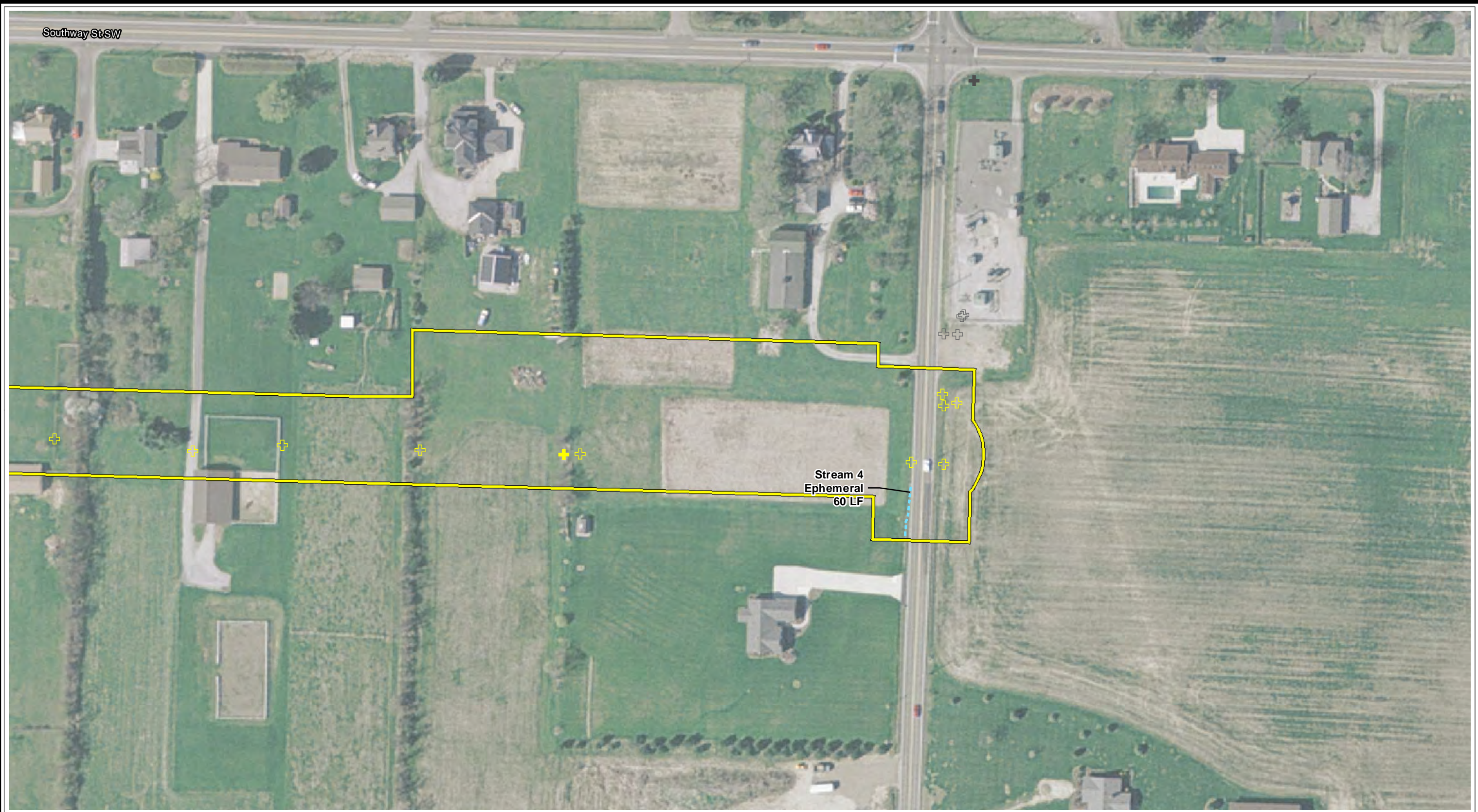


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Figure 7
Ecological Resources Map 3 of 4

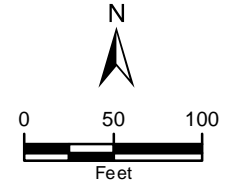
PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 1/24/2023





- | | | |
|-------------------------------|-------------------------------------|--------------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Perennial Stream On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site |
| Inlet | Temproary Pipeline Marker On-Site | Delineated Wetland On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site |
| Potential Roost Tree Off-Site | Delineated Ditch | Delineated Waterbody On-Site |
| | Delineated Ephemeral Stream On-Site | Delineated Waterbody Off-Site |

No Special Flood Hazard Areas (SFHAs) within the map view



Base Layer: OSIP 2016

Figure 7
Ecological Resources Map 4 of 4


PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 1/24/2023



Attachment B
Photographic Log

> **Photographic Log**

Photo #1	
Date: 07/06/2021	
Feature: Residential Land Use	
Description: Land use within the project area is dominated by residential homes with maintained lawns and isolated trees.	

Photo #2	
Date: 07/06/2021	
Feature: Agricultural Field	
Description: Areas of active agricultural fields planted with corn (<i>Zea mays</i>) are also located within the study area.	

> **Photographic Log**



Photo #3	
Date: 07/06/2021	
Feature: Forested Area	
Description: Woodlots are also located with the PIR 2350 study area. The woodlots are dominated by black walnut (<i>Juglans nigra</i>), green ash (<i>Fraxinus Pennsylvanica</i>), and cherry (<i>Prunus sp.</i>).	

Photo #4	
Date: 07/06/2021	
Feature: Wetland A	
Description: Wetland A is a PEM/PFO wetland dominated by green ash, gray dogwood (<i>Cornus racemosa</i>), jewelweed (<i>Impatiens capensis</i>), and lake sedge (<i>Carex lacustris</i>).	

> **Photographic Log**


Photo #5	
Date: 07/06/2021	
Feature: Wetland B	
Description: Wetland B is a PEM/PFO wetland dominated by reed canary grass (<i>Phalaris arundinacea</i>) and jewelweed.	

Photo #6	
Date: 07/06/2021	
Feature: Wetland C	
Description: Wetland C is a PEM wetland dominated by reed canary grass.	

> **Photographic Log**



Photo #7	
Date: 05/31/2022	
Feature: Wetland D	
Description: Wetland D is a PFO wetland dominated by eastern cottonwood (<i>Populus deltoides</i>) and silky dogwood (<i>Cornus amomum</i>).	

Photo #8	
Date: 05/31/2022	
Feature: Wetland E	
Description: Wetland E is a PFO wetland dominated by silver maple (<i>Acer saccharinum</i>), green ash, and jewelweed.	

> **Photographic Log**


Photo #9	
Date: 10/20/2022	
Feature: Wetland F	
Description: Wetland F is a PEM wetland dominated by red maple seedlings, yellow bristlegrass (<i>Setaria pumila</i>), Virginia wildrye (<i>Elymus virginicus</i>), and New York Ironweed (<i>Vernonia noveboracensis</i>).	

Photo #10	
Date: 07/06/2021	
Feature: Stream 1 Upstream	
Description: Stream 1 runs through a portion of forested area within the study area. Photo faces upstream portion of Stream 1.	

> **Photographic Log**



Photo #11	
Date: 07/06/2021	
Feature: Stream 1 Downstream	
Description: Photo faces downstream portion of Stream 1.	

Photo #12	
Date: 07/06/2021	
Feature: Stream 1 Substrate	
Description: Substrates of Stream 1 are dominated by sand and gravel.	

> **Photographic Log**

Photo #13	
Date: 07/06/2021	
Feature: Stream 2 Upstream	
Description: Stream 2 runs through a portion of forest within the study area. Stream 2 drains from an adjacent active agricultural field and connects to Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 2.	

Photo #14	
Date: 07/06/2021	
Feature: Stream 2 Downstream	
Description: Photo faces downstream portion of Stream 2.	

> **Photographic Log**

Photo #15	
Date: 07/06/2021	
Feature: Stream 2 Substrate	
Description: Substrates of Stream 2 are dominated by clay/hardpan and gravel.	

Photo #16	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Upstream	
Description: Stream 3 runs through a portion of forest within the study area. Photo faces upstream portion of Stream 3.	

> **Photographic Log**


Photo #17	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Downstream	
Description: Photo faces downstream portion of Stream 3 (Wetmore Creek).	

Photo #18	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Substrate	
Description: Substrates of Stream 3 (Wetmore Creek) are dominated by sand and gravel.	


> **Photographic Log**

Photo #19	
Date: 07/06/2021	
Feature: Stream 4 Upstream	
Description: Stream 4 is a roadside drainage feature that runs parallel to Genoa Avenue SW. Stream 4 runs from north to south.	

Photo #20	
Date: 07/06/2021	
Feature: Stream 4 Downstream	
Description: Photo faces downstream portion of Stream 4.	

> **Photographic Log**

Photo #21	
Date: 07/06/2021	
Feature: Stream 4 Substrate	
Description: Substrates of Stream 4 are dominated by clay/hardpan and gravel.	

Photo #22	
Date: 06/02/2022	
Feature: Stream 5 Upstream	
Description: Stream 5 is an ephemeral stream that flows into Stream 3 (Wetmore Creek) and drains from Wetland C.	

> **Photographic Log**


Photo #23	
Date: 06/02/2022	
Feature: Stream 5 Downstream	
Description: Photo faces downstream portion of Stream 5.	

Photo #24	
Date: 06/02/2022	
Feature: Stream 5 Substrate	
Description: Substrates of Stream 5 are dominated by hardpan and leaf pack.	

> **Photographic Log**



Photo #25	
Date: 07/06/2021	
Feature: Open Water A	
Description: Open Water A is a pond located in a maintained lawn of a residential home.	

Photo #26	
Date: 07/06/2021	
Feature: Tree 1	
Description: <i>Pinus sp.</i>	

> **Photographic Log**



Photo #27	
Date: 07/06/2021	
Feature: Tree 2	
Description: <i>Salix sp.</i>	

Photo #28	
Date: 07/06/2021	
Feature: Tree 4	
Description: <i>Prunus serotina</i>	

> **Photographic Log**



Photo #29	
Date: 10/20/2022	
Feature: Tree 5	
Description: <i>Quercus rubra</i>	

Photo #30	
Date: 05/31/2022	
Feature: Tree 1B	
Description: <i>Acer sp.</i>	

> **Photographic Log**




Photo #31	
Date: 05/31/2022	
Feature: Tree 2B	
Description: <i>Acer sp.</i>	

Photo #32	
Date: 05/31/2022	
Feature: Tree 3B	
Description: <i>Juglans sp.</i>	

> **Photographic Log**

Photo #33	 A photograph showing a gravel area next to a road. The gravel area is marked with yellow survey markers. The road has yellow double lines. The background shows a clear blue sky and green trees.
Date: 07/06/2021	
Feature: Phase 1 Archaeological Survey	
Description: A Phase 1 Archaeological Survey was conducted in 2022 in an agricultural field at the western end of the study area.	

Attachment C
ORAM Data Forms

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

5	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input checked="" type="checkbox"/> dike <input type="checkbox"/> weir <input checked="" type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

9.5	29.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input checked="" type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input checked="" type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input checked="" type="checkbox"/> nutrient enrichment

29.5
subtotal this page

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
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29.5

subtotal first page

0	29.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6	35.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

35.5

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

8	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

13	23
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

9	32
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

32
subtotal this page

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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32

subtotal first page

0	32
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2	30
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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3	3
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

2	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

5.5	25.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

25.5
subtotal this page

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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25.5

subtotal first page

0	25.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4	21.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

21.5

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland D

Rater(s): H. Mikula

Date: 06/03/2022

1	1
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	4
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Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

14	18
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

12	30
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

30

subtotal this page

Site: Wetland D	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	33
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

33

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland E	Rater(s): H. Mikula	Date: 06/03/2022
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	18
max 30 pts.	subtotal

Metric 3. Hydrology.

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

Check all disturbances observed	
<ul style="list-style-type: none"> <input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input checked="" type="checkbox"/> stormwater input 	<ul style="list-style-type: none"> <input type="checkbox"/> point source (nonstormwater) <input type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

12	30
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

Check all disturbances observed	
<ul style="list-style-type: none"> <input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input type="checkbox"/> clearcutting <input checked="" type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants 	<ul style="list-style-type: none"> <input checked="" type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input checked="" type="checkbox"/> nutrient enrichment

30
subtotal this page

Site: Wetland E	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5	35
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

35

End of Quantitative Rating. Complete Categorization Worksheets.

Site: Wetland F

Rater(s): H. Mikula

Date: 10/27/2022

2	2
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	5
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Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

17.5	22.5
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

9	31.5
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

31.5

subtotal this page

Site: Wetland F	Rater(s): H. Mikula	Date: 10/27/2022
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31.5

subtotal first page

0	31.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	34.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

34.5

End of Quantitative Rating. Complete Categorization Worksheets.

Attachment D

HHEI/QHEI Data Forms



Primary Headwater Habitat Evaluation Form

61

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 1**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.30**

LENGTH OF STREAM REACH (ft) **176** LAT. **41.78202** LONG. **-81.48410** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Small Drainage Warmwater Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> %
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 15%
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 25%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 40%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **10.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**

TOTAL NUMBER OF SUBSTRATE TYPES: **6**

HHEI Metric Points

Substrate Max = 40

21

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

Pool Depth Max = 30

20

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **2.60**

Bankfull Width Max=30

20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
(Per Bank)	Wide >10m	(Most Predominant per Bank)	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Moderate 5-10m		Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Narrow <5m		Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	None		Fenced Pasture
			<input type="checkbox"/>
			Conservation Tillage
			<input type="checkbox"/>
			Urban or Industrial
			<input type="checkbox"/>
			Open Pasture, Row Crop
			<input type="checkbox"/>
			Mining or Construction

COMMENTS _____

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

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: **Wetmore Creek** Distance from Evaluated Stream **0.23** mi.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order
County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: **06/22/21** Quantity: **0.26**
Photograph Information: **See Attached.**
Elevated Turbidity? (Y/N): N Canopy (% open): **30%**
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

7

SITE NAME/LOCATION **Stream 2**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **23** LAT. **40.78166** LONG. **-81.47908** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text" value="0%"/>	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text" value="95%"/>
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text" value="5%"/>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text" value="0%"/>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **0**

TOTAL NUMBER OF SUBSTRATE TYPES: **2**

HHEI Metric Points

Substrate Max = 40

2

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.91**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m		Conservation Tillage	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial	<input type="checkbox"/>
None		Open Pasture, Row Crop	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: **Wetmore Creek** Distance from Evaluated Stream ft.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score:

67.0

Stream/Location: Stream 3 (Wetmore Creek) / PIR 2350 - Jackson & Genoa, Stark County
STORET#:
River Code:
Lat/Long.: 40.781727°, -81.478963°
Scorers Full Name & Affiliation: H. Mikula, A. Dietz-Oergel, ECT
Date: 6/3/2022

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES: estimate % or note every type present

Table with columns: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for various substrate types like BLDR/SLABS, BOULDER, SAND, BEDROCK, etc. and quality levels like HEAVY, MODERATE, FREE, etc.

Substrate Maximum 20 16.0

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts

Table with columns: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS >70CM, ROOTWADS, BOULDERS, OXBOWS/BACKWATERS, AQUATIC MACROPHYTES, LOGS or WOODY DEBRIS. Includes checkboxes for presence and amount.

Cover Maximum 20 14.0

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Table with columns: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for categories like HIGH, MODERATE, LOW, NONE, EXCELLENT, GOOD, FAIR, POOR, etc.

Channel Maximum 20 15.0

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Table with columns: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes for erosion levels, riparian width, and flood plain quality categories.

Riparian Maximum 10 9.0

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Table with columns: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes for depth, width, and velocity categories.

Pool/Current Maximum 12 4.0

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Table with columns: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for riffle characteristics.

Riffle/Run Maximum 8 5.0

6] GRADIENT

Form for Gradient calculation: DRAINAGE AREA (1.25 mi²), %POOL: 25, %GLIDE: 25, %RUN: 25, %RIFFLE: 25. Gradient Maximum 10 4.0

Stream & Location: 0

METHOD		SECCHI DEPTH	<i>Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions.</i>
<input type="checkbox"/> BOAT		1st _____ cm	
<input type="checkbox"/> WADE		pass	_____
<input type="checkbox"/> L. LINE			_____
<input type="checkbox"/> OTHER		2nd _____ cm	_____
DISTANCE		CANOPY	_____
<input type="checkbox"/> 0.5 Km		<input type="checkbox"/> >85%-OPEN	_____
<input type="checkbox"/> 0.2 Km		<input type="checkbox"/> 55%-<85%	_____
<input type="checkbox"/> 0.15 Km		<input type="checkbox"/> 30%-<55%	_____
<input type="checkbox"/> 0.12 Km		<input type="checkbox"/> 10%-<30%	_____
<input type="checkbox"/> OTHER		<input checked="" type="checkbox"/> <10%-CLOSED	_____
_____ meters		Consider maintenance status and basin issues. Write something to aide understanding of overall QHEI score.	

Stream Drawing:



Primary Headwater Habitat Evaluation Form

17

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 4**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **22** LAT. **40.78128** LONG. **-81.46607** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text" value="10%"/>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text" value="0%"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text" value="75%"/>
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text" value="15%"/>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text" value="0%"/>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**

TOTAL NUMBER OF SUBSTRATE TYPES: **3**

HHEI Metric Points

Substrate Max = 40

12

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m		Conservation Tillage	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Urban or Industrial	<input type="checkbox"/>
None		Open Pasture, Row Crop	<input type="checkbox"/>
		Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Distance from Evaluated Stream **0.84** mi.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order
County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **06/22/21** Quantity: **0.26**
Photograph Information: **See Attached.**
Elevated Turbidity? (Y/N): **N** Canopy (% open): **100%**
Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): **Y** If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

19

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **S5**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **43** LAT. **40.78153** LONG. **-81.47827** RIVER CODE _____ RIVER MILE _____

DATE **10/27/22** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 60%
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 15%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

HHEI Metric Points

Substrate Max = 40

14

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)	Wide >10m	(Most Predominant per Bank)	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Moderate	5-10m	Immature Forest, Shrub or Old Field	Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Narrow	<5m	Residential, Park, New Field	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
None		Fenced Pasture	Mining or Construction

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Distance from Evaluated Stream ft.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 

Attachment E
USFWS IPAC Results



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
Phone: (614) 416-8993 Fax: (614) 416-8994

In Reply Refer To:
Project Code: 2023-0027465
Project Name: PIR 2350 - Jackson & Genoa

December 21, 2022

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological

evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see <https://www.fws.gov/birds/policies-and-regulations.php>.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see <https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php>.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit <https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

(614) 416-8993

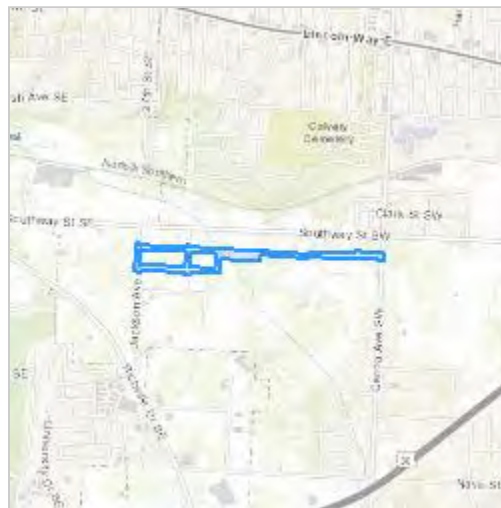
Project Summary

Project Code: 2023-0027465
Project Name: PIR 2350 - Jackson & Genoa
Project Type: Distribution Line - Maintenance/Modification - Below Ground
Project Description: DEO is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch natural gas pipeline under the PIR program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations. The project will also involve abandoning approximately 1,885 of natural gas pipeline.

The PIR 2350 project is located in Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and an existing 100-ft wide utility easement between Jackson Avenue SW to Genoa Avenue SW. The western terminus of the existing easement area is located along Jackson Avenue SW and extends east to Genoa Avenue SW and terminates at the DEO station near Southway Street and Genoa Avenue SW. The latitude and longitude coordinates for the center point of the project area are 40.782068°, -81.480849°.

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@40.781361000000004,-81.47758397900432,14z>



Counties: Stark County, Ohio

Endangered Species Act Species

There is a total of 4 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location does not overlap the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949	Endangered
Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Endangered
Tricolored Bat <i>Perimyotis subflavus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/10515	Proposed Endangered

Insects

NAME	STATUS
Monarch Butterfly <i>Danaus plexippus</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

IPaC User Contact Information

Agency: Environmental Consulting and Technology, Inc.

Name: Alyssa Dietz-Oergel

Address: 161 East Aurora Road

City: Northfield

State: OH

Zip: 44067

Email: adietz-oergel@ectinc.com

Phone: 2165134893

Lead Agency Contact Information

Lead Agency: Army Corps of Engineers

Attachment F
Potential Bat Habitat Tree Table

Table 4. Potential Habitat Trees within PIR 2350

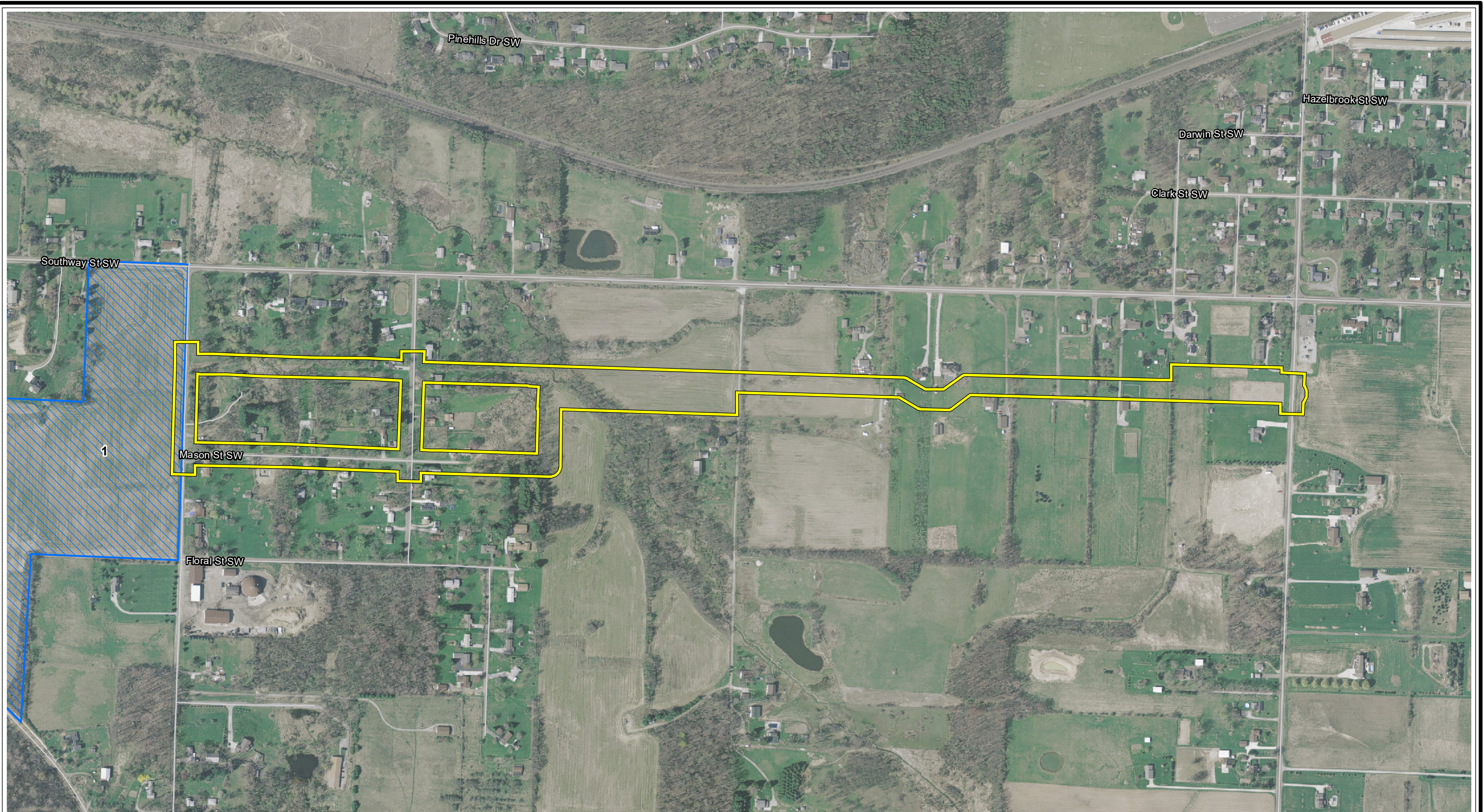
Tree ID	Species	DBH (in)	Address	Location	Tree Condition	Habitat / Maternity Tree	Potential Habitat Features
1	<i>Pinus sp.</i>	26	N/A	Woodlot	Dead	Habitat	Small amount of exfoliating bark and deadwood
2	<i>Salix sp.</i>	72	N/A	Woodlot	Dead	Habitat	Average amount of exfoliating bark, deadwood, and cavities/crevices
4	<i>Prunus serotina</i>	16	N/A	Woodlot	Excellent	Habitat	Small amount of exfoliating bark
5	<i>Quercus rubra</i>	12	N/A	Woodlot	Dead	Habitat	Small amount of deadwood and exfoliating bark
6	<i>Quercus rubra</i>	14	N/A	Woodlot	Dead	Habitat	Small amount of exfoliating bark and deadwood
1B	<i>Acer sp.</i>	12	2700-2898 Mason Street SW	Property lawn	Dead	Habitat	Small amount of deadwood and crevices/cavities
2B	<i>Acer sp.</i>	25	1404 Jackson Avenue SW	Property lawn	Dead	Habitat	Small amount of exfoliating bark, deadwood, and crevices/cavities
3B	<i>Juglans sp.</i>	15	2739 Mason Street SW	Property lawn	Critical	Habitat	Small amount of deadwood

Source: ECT 2023

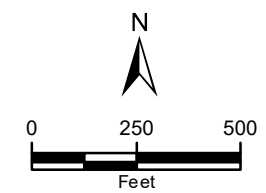
CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT E

OHIO HISTORIC PRESERVATION OFFICE MAP



- Project Study Area
- Previously Surveyed Areas



Base Layer: OSIP 2016

Figure 1
Cultural Resources
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/24/2023



CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT F

STORMWATER POLLUTION PREVENTION PLAN (“SWPPP”)



**OHIO GENERAL PERMIT AUTHORIZATION FOR STORMWATER
DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

**The East Ohio Gas Company, d/b/a Dominion Energy Ohio
Stormwater Pollution Prevention Plan (SWP3)**

**PIR 2350 – Jackson & Genoa
Perry Township, Stark County, Ohio**

Planned Construction Start Date: March 2023

Planned Construction Completion Date: December 2023

Construction Supervisor: _____

Telephone: _____

Project Manager (signature): _____

Construction Contractor (signature): _____

Environmental Inspector (signature): _____

Note:

**THIS PLAN MUST BE KEPT AT THE
CONSTRUCTION SITE DURING WORKING HOURS**

**SWP3 Prepared: January 12, 2023
Prepared by: Environmental Consulting & Technology, Inc.**

DULY AUTHORIZED

OPERATOR/PERMITEE CERTIFICATION

I certify that the positions named below are my duly authorized representatives for the Ohio EPA General Construction Stormwater Permits (Ohio NPDES General Permit OHC000005 or General Permit for Storm Water Discharges Associated with Construction Activity from Oil and Gas Linear Transmission Line and Gathering Line Installation OHCG00001) for Discharges of Stormwater from Construction Activities. I certify that these positions named below and defined within the corresponding SWPPP are my duly authorized representatives to have overall responsibilities sufficient to implement the SWPPP, amend or modify the SWPPP, and sign all required reports as assigned.

I also certify that the positions named below are my duly authorized representatives for the Ohio EPA General Permit Authorization to Discharge Hydrostatic Test Water (Ohio NPDES General Permit OHH000003). These individuals are my duly authorized representatives to sign all required reports or other information that may be requested by the Ohio EPA Director.

“Facilities Project Manager, Owner
Project Engineer
Environmental Compliance Coordinator
Supervisor Environmental
Qualified Inspection Personnel”

Signature Zachary R. Goodson
Printed Name Zachary R. Goodson
Title Director - Gas operations
Date 11/30/2022

This Operator Certification must be signed by a responsible corporate officer or delegated authority.

DULY AUTHORIZED

OPERATOR/PERMITEE CERTIFICATION

I certify that the positions named below are my duly authorized representatives for the Ohio EPA General Construction Stormwater Permits (Ohio NPDES General Permit OHC000005 or General Permit for Storm Water Discharges Associated with Construction Activity from Oil and Gas Linear Transmission Line and Gathering Line Installation OHCG00001) for Discharges of Stormwater from Construction Activities. I certify that these positions named below and defined within the corresponding SWPPP are my duly authorized representatives to have overall responsibilities sufficient to implement the SWPPP, amend or modify the SWPPP, and sign all required reports as assigned.

I also certify that the positions named below are my duly authorized representatives for the Ohio EPA General Permit Authorization to Discharge Hydrostatic Test Water (Ohio NPDES General Permit OHH000003). These individuals are my duly authorized representatives to sign all required reports or other information that may be requested by the Ohio EPA Director.

“Facilities Project Manager, Owner
Project Engineer
Environmental Compliance Coordinator
Supervisor Environmental
Qualified Inspection Personnel”

Signature *Frank A. Martin*
Printed Name FRANK A. MARTIN
Title DIRECTOR, GAS OPERATIONS
Date 11-30-2022

This Operator Certification must be signed by a responsible corporate officer or delegated authority.

CERTIFICATIONS

Owner/Developer Certification (must be signed by president, vice-president or equivalent or ranking elected official)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Date

Printed Name

Title

If authorization is no longer accurate because of a different individual or position has responsibility for the overall operation of the Project, a new authorization must be submitted to the Director prior to, or together with any reports, information, or applications to be signed by an authorized representative.

Contractor(s) Certification (must be signed by president, vice-president or equivalent or ranking elected official)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWP3 referenced above. Based on my inquiry of the construction site owner/developer identified above, and/or my inquiry of the person directly responsible for assembling this SWP3, I believe the information submitted is accurate. I am aware that this SWP3, if approved, makes the above-described construction activity subject to the Ohio NPDES General Permit, and that certain activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations and for failure to comply with these permit requirements.

Primary Contractor Name

Primary Contractor Address

Signature

Date

Printed Name

Title

Subcontractor Name

Subcontractor Address

Signature

Date

Printed Name

Title

**OHIO GENERAL PERMIT AUTHORIZATION FOR STORMWATER
DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER
THE NPDES STORMWATER POLLUTION PREVENTION PLAN**

**THE EAST OHIO GAS COMPANY, d/b/a DOMINION ENERGY OHIO
PIR 2350 – Jackson & Genoa
Perry Township, Stark County, Ohio**

TABLE OF CONTENTS

SECTION	Page
EXECUTIVE SUMMARY	v
1.0 PERMIT REQUIREMENTS.....	1
2.0 STORMWATER POLLUTION PREVENTION PLAN	2
2.1 SITE/PROJECT DESCRIPTION AND LOCATION/SETTING	3
2.2 PRE-CONSTRUCTION AND POST-CONSTRUCTION SITE CONDITIONS	4
2.3 EXISTING SOIL DATA	4
2.4 STEEP SLOPES.....	4
2.5 PRIOR LAND USES	4
2.6 RECEIVING STREAMS OR SURFACE WATERS	4
2.7 IMPLEMENTATION SCHEDULE	6
2.8 SITE MAPPING	8
3.0 CONTROLS	9
3.1 PRESERVATION METHODS.....	9
3.2 EROSION CONTROL PRACTICES	9
3.3 RUNOFF CONTROL PRACTICES.....	12
3.4 SURFACE WATER PROTECTION.....	13
3.5 WETLAND PRACTICES.....	15
3.6 SEDIMENT CONTROL PRACTICES	15
3.7 POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM).....	17
3.8 OTHER CONTROLS	17
3.9 MAINTENANCE	21
3.10 INSPECTIONS	21

4.0	APPROVED STATE OR LOCAL PLANS.....	23
5.0	EXCEPTIONS.....	24
6.0	NOTICE OF TERMINATION REQUIREMENTS.....	25

LIST OF TABLES

Table		Page
1	Permanent Stabilization	10
2	Temporary Stabilization	10
3	Summary of Onsite Streams.....	14
4	Summary of Onsite Wetlands.....	14
5	Summary of Onsite Open Waters	15
6	Required Spacing and Materials for Trench Plugs.....	17

LIST OF APPENDICES

A	Site Location Maps (highway, topographic, watershed)
B	Soils Map and Table Identifying Soil Types and Characteristics
C	Detailed Erosion and Sediment Control Location Drawings
D	Site Drawing Checklist and Logs
E	Corrective Action Log
F	Typical Upland Erosion and Sediment Control Plan Drawings
G	Typical Stream Crossing Drawings
H	Typical Wetland Crossing Drawing
I	NOI Application Documentation
J	Concrete Washout Typical Detail
K	SWP3 Inspection Forms

LIST OF DEFINITIONS

BMP	Best Management Practice
C&DD	Construction and Demolition Debris
CWA	Clean Water Act
Director	Director of the Ohio Environmental Protection Agency
E&S	Erosion and Sediment
EPA	Environmental Protection Agency
General Permit	General Permit for Stormwater Discharges Associated with Construction Activities Under the National Pollutant Discharge Elimination System Permit No. OHC000005, effective April 23, 2018, expires April 22, 2023.
HUC	Hydrologic Unit Code
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAC	Ohio Administrative Code
ORAM	Ohio Rapid Assessment Method
ORC	Ohio Revised Code
PCSM	Post-Construction Stormwater Management
PTI	Permit to Install
SPCC	Spill Prevention Control and Countermeasures
SWP3	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
VAP	Voluntary Action Program

EXECUTIVE SUMMARY

The purpose of this Stormwater Pollution Prevention Plan (SWP3) is to present procedures that will be followed during construction activities to minimize adverse impacts due to sedimentation and potential environmental pollutants resulting from storm water runoff and to reduce sediment and environmental pollutant runoff after Project completion. This SWP3 sets forth procedures to be followed during construction activities for The East Ohio Gas Company, d/b/a Dominion Energy Ohio (Dominion Energy), Pipeline Infrastructure Replacement (PIR) project, PIR 2350 – Jackson & Genoa (Project), located in Perry Township, Stark County, Ohio. The procedures developed in this plan must be implemented throughout the duration of the Project.

Dominion Energy will be responsible for the development, implementation, and enforcement of this plan. Dominion Energy personnel may designate qualified representatives such as environmental inspectors or contractors to ensure the provisions of this permit are properly employed.

This document was prepared in accordance with the following documents: Ohio Department of Natural Resources, Division of Soil and Water Conservation "Rainwater and Land Development" Manual Third Edition 2006, Updated 11-6-14; Ohio Environmental Protection Agency (EPA), Authorization for Stormwater Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System Permit OHC000005; and Ohio EPA Stormwater Program Website, <http://www.epa.state.oh.us/dsw/storm/index.aspx>.

This plan covers all new and existing discharges composed entirely of stormwater discharges associated with construction activity that enter surface waters of the State or a storm drain leading to surface waters of the State. Construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb one (1) or more acres of land.

1.0 PERMIT REQUIREMENTS

The purpose of this SWP3 is to present procedures that will be followed during construction activities to minimize adverse impacts due to sedimentation resulting from storm water runoff and to reduce sediment runoff after Project completion. Operators who intend to obtain initial coverage for a stormwater discharge associated with construction activity under this General Permit Authorization for Storm Water Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System (NPDES), Ohio EPA Permit Number OHC000005 (effective April 23, 2018 and expires April 22, 2023 (General Permit)) must submit a complete and accurate Notice of Intent (NOI) application form and appropriate fee at least 21 days prior to the commencement of construction activity. The completed NOI application is provided in **Appendix G**.

Dominion Energy must make NOIs and SWP3s available upon request of the Director of Ohio EPA; local agencies approving sediment and erosion control plans, grading plans or stormwater management plans; local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site.

2.0 STORMWATER POLLUTION PREVENTION PLAN

This SWP3 was prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and stormwater management practices addressing all phases of construction. This SWP3 was prepared by Dominion Energy and Environmental Consulting & Technology, Inc.

This SWP3 has identified potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activities. This SWP3 describes and ensures the implementation of Best Management Practices (BMPs) that reduce the pollutants in stormwater discharges during construction and pollutants associated with post-construction activities to ensure compliance with Ohio Revised Code (ORC) Section 6111.04, Ohio Administrative Code (OAC) Chapter 3745-1 and the terms and conditions of the General Permit. In addition, the SWP3 must conform to the specifications of the Ohio Rainwater and Land Development Manual.

Plan Availability

Dominion Energy must provide a copy of this SWP3 within seven (7) days upon written request by any of the following: The Director or the Director's authorized representative; a local agency approving sediment and erosion plans, grading plans or stormwater management plans; or; in the case of a stormwater discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system. A copy of the NOI and letter granting permit coverage under this General Permit must also be made available at the site.

All NOIs, General Permit approval for coverage letters, and SWP3s are considered reports that must be available to the public in accordance with the Ohio Public Records law. Dominion Energy must make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, Dominion Energy may claim to Ohio EPA any portion of a SWP3 as confidential in accordance with Ohio law.

Plan Revisions and Amendments.

The Director or authorized representative, and/or any regulatory authority associated with approval of this plan, may notify Dominion Energy at any time that the SWP3 does not meet one (1) or more of the minimum requirements. Within ten (10) days after such notification from the Director (or as otherwise provided in the notification) or authorized representative, and/or any regulatory authority associated with approval of this plan, Dominion Energy must make the required changes to the SWP3 and, if requested, must submit to Ohio EPA, and/or other regulatory authority, the revised SWP3 or a written certification that the requested changes have been made. Dominion Energy must also amend the SWP3 whenever there is a change in site design, construction, operation, or maintenance that requires the installation of BMPs or modifications to existing BMPs.

Duty to Inform Contractors and Subcontractors.

Dominion Energy must inform all contractors and subcontractors who will be involved in the implementation of the SWP3 of the terms and conditions of the General Permit and/or other approval from a regulatory authority. Dominion Energy must maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document must be created and signatures of each individual contractor must be obtained prior to their commencement of work on the construction site. Certification statements for contractors and subcontractors can be found at the beginning of this document.

2.1 SITE/PROJECT DESCRIPTION AND LOCATION/SETTING

Dominion Energy is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of 10- and 12-inch diameter natural gas pipeline and conduct any necessary abandonment activities under Dominion Energy's PIR Program. The purpose of this program is to replace existing pipe to ensure the safety and reliability of pipeline operations.

The PIR 2350 Project is located within Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Genoa Avenue SW, a 60-foot-wide existing off-road utility easement running east from Jackson Avenue SW to Genoa Avenue SW, and a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement. Along portions of abandoned pipeline, small areas of excavation may occur to allow the line to be purged and cut and capped. At intersections of roads with no proposed mainline replacement, small portions of pipeline may be installed to "tie in" the new pipeline to existing pipelines. Service lines to individual structures may also be replaced as part of this Project. The need for any laydown and/or material storage areas will be determined by the selected construction contractor. The Project area is easily accessible from public roads.

The scope of work is to install and abandon sections of natural gas pipeline; no other utilities will be constructed. The construction of new buildings, roads, or parking facilities, is not included in the scope of work. Disturbance within the Project area will be minimized as much as possible. The area reviewed for the project was 36 acres. Approximately 8.5 acres (23.6%) will be temporarily disturbed due to excavation, filling, grading, and installation of erosion control measures. The 8.5 acres will be disturbed in phases.

The Project area is located in residential and agricultural properties and undeveloped land within the Tuscarawas River drainage basin (Hydrologic Unit Code [HUC] 05040001). The Project area has undulating elevations. Five (5) streams, six (6) wetlands, and one (1) open water are located within the Project area.

The maps included in **Appendix A** depict the location of the Project on a roadway map, U.S. Geological Survey Topographic Map, and a watershed map.

2.2 PRE-CONSTRUCTION AND POST-CONSTRUCTION SITE CONDITIONS

New impervious surfaces will not be created. The Project will essentially result in no permanent change in land use or land cover and, therefore, is not expected to result in an increase in runoff. All areas disturbed by the Project will be restored to their pre-construction material, condition, and contours; therefore, the calculation of runoff coefficients for pre-construction vs. post-construction conditions is not warranted or applicable to this linear Project.

2.3 EXISTING SOIL DATA

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) Soil Survey was utilized to identify soil map units within the Project site. The primary soils types located within the Project include Ravenna-Urban land complex, 0 to 6 percent slopes (Rn); Canfield silt loam, 6 to 12 percent slopes, eroded (CdC2); and Canfield silt loam, 2 to 6 percent slopes (CdB). A copy of the Soil Survey for the Project and a table identifying the soil types and characteristics (drainage capacity, depth to water table, K factor rating, etc.) are provided in **Appendix B**.

2.4 STEEP SLOPES

The project area does exhibit steep/critical slopes. At those areas exhibiting steep/critical slopes, erosion and sediment controls appropriate for use were selected.

2.5 PRIOR LAND USES

Prior land uses for the Project site includes residential, agricultural, and undeveloped land.

2.6 RECEIVING STREAMS OR SURFACE WATERS

The Project is located within the City of Massillon-Tuscarawas River subwatershed (HUC12 # 05040001 1202) of the Pigeon Run-Tuscarawas River watershed (HUC10 05040001 12), within the greater Tuscarawas River watershed (HUC8 05040001). The first named receiving stream for the Project is Stream 3 (Wetmore Creek), located within the central portion of the Project area. Wetmore Creek drains northeast to the Tuscarawas River. The Tuscarawas River joins the Walhonding River to form the Muskingum River that drains south into the Ohio River. A map depicting where the Project is located within a watershed setting is included in **Appendix A**. Any rivers, streams, wetlands, and any significant ponds or ditches crossed by the Project have been included on the maps in **Appendix C**.

The following water bodies are located within the project area: Wetland A, Wetland B, Wetland C, Wetland D, Wetland E, Wetland F, Stream 1, and Stream 2, Stream 3 (Westmore Creek), Stream 4, Stream 5, and Open Water A. Stream 1, Stream 3 (Westmore Creek), Wetland C, and Wetland E will be open cut and temporarily impacted. Stream 2 may also be temporarily impacted for construction activities related to the nearby trenching. Temporary impacts to these resources are qualified for coverage under the U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) 12. Coordination with the USACE for a Section 404 permit is being implemented for these

water resource impacts under NWP 12. Ohio EPA has waived Section 401 Water Quality Certification associated with NWP 12. Additionally, any temporary impact and crossing methods of waterbody resources are authorized under Section 401/antidegradation review. Wetland A, Wetland B, Wetland D, Wetland F, Stream 4, Stream 5, and Open Water A will be avoided.

Stream 1 is a perennial stream that flows southeast to northwest through a forested area near the western extent of the study area. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and Open Water A.

Stream 2 is an ephemeral stream that flows from south to north through the study area into Stream 3 (Wetmore Creek). Stream 2 drains an active agricultural field located south of the study area, greatly impacting sedimentation and nutrient input into the stream. Stream 2 has a natural channel and shows no signs of modification. The dominant substrates in Stream 2 are clay/hardpan and gravel.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Stream 2. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Ave SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel.

Stream 5 is an ephemeral stream that drains an active agricultural field into Stream 3 (Wetmore Creek). Stream 5 appears to have been previously channelized. The dominant substrate in Stream 5 is clay/hardpan.

Wetland A is a PEM/PFO wetland dominated by green ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus racemosa*), jewelweed (*Impatiens capensis*), and lake sedge (*Carex lacustris*). Wetland A drains into Stream 1 and extends off-site of the study area to the north.

Wetland B is a PEM/PFO wetland dominated by reed canary grass (*Phalaris arundinacea*) and jewelweed. Wetland B continues offsite to the north and south of the study area and is located east of Stardale Avenue and west of Stream 3 (Wetmore Creek). Based on aerial review of the study area, Wetland B likely connects to off-site portions of Stream 3 (Wetmore Creek). The residential properties bordering Wetland B appear to mow right up to the wetland boundary.

Wetland C is a PEM wetland dominated by reed canary grass. Wetland C is located east of Stream 3 (Wetmore Creek) and is predominately surrounded by active agricultural fields. Wetland C continues offsite to the north and south where it likely connects to an off-site tributary of Stream 3 (Wetmore Creek).

Wetland D is a PFO wetland dominated by eastern cottonwood (*Populus deltoides*) and silky dogwood (*Cornus amomum*, FACW) and is predominately surrounded by residential land use. Wetland D continues offsite to the north and does not appear hydrologically connected to any onsite but is assumed to connect to an offsite aquatic resource.

Wetland E is a PFO wetland dominated by silver maple (*Acer saccharinum*, FACW), green ash (*Fraxinus pennsylvanica*, FACW) and jewelweed (*Impatiens capensis*, FACW) and is predominately surrounded by residential land use. Wetland E is adjacent to Stream 1.

Wetland F is a PEM wetland dominated by red maple (*Acer rubrum*, FAC), yellow bristle-grass (*Setaria pumila*, FAC), and Virginia wildrye (*Elymus virginicus*, FACW) and is predominately surrounded by agricultural land and forest. Wetland F is located approximately 100 feet southwest of Stream 3 (Wetmore Creek).

Open Water A is located within a residential lawn in the westernmost section of the study area. Open Water A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Open Water A is separated from Stream 1 by an impoundment.

No floodplains are located within or immediately adjacent to the Project area.

The Ohio EPA conducts periodic surveys to collect water quality data on Ohio's streams and rivers. The data are incorporated into the Ohio Integrated Water Quality Monitoring and Assessment Report. The watershed monitoring data closest to the project area indicates that a section of the Tuscarawas River at Massillon and Walnut Street is in full attainment for Aquatic Life Use. The Watershed Assessment indicates that the watershed, as a whole, is in non-attainment for recreational use. The water is not utilized for drinking water supply and it is impaired.

The project area is located in Perry Township and Stark County which both hold a MS4 Stormwater Permit (3GQ00053*CG and 3GQ00120*CG , respectively).

Dedicated asphalt and/or concrete batch plant discharges covered by the NPDES construction stormwater General Permit are not applicable to this Project.

2.7 IMPLEMENTATION SCHEDULE

A general implementation schedule providing the sequence of major construction operations is provided below. Construction activities are expected to be initiated and completed in 2023. The specific start date will be determined by the receipt of all applicable permits and the selected construction contractors' schedule. The completion date may be affected by weather conditions. Surface stabilization at the Project site is expected to take place incrementally, as construction progresses. Once all land disturbing activities have been completed, the site must be permanently stabilized. Throughout the life of the Project, construction logs must be kept to record major dates of grading, excavating, and stabilizing.

1 - SITE PREPARATION FOR ENTIRE PROJECT (To be determined by the contractor)

- Mobilization.
- Survey and stake existing pipeline and limits of construction.
- Flag/field mark wetland areas, as necessary.
- Installation/improvement to construction entrances, and installation of silt fence or other BMPs designated to control storm water at the project boundary.
- Install gravel on dirt roads, and fill-in rutted areas on existing gravel roads.

2 - SITE PREPARATION FOR EACH JOB (To be determined by the contractor)

- Install BMPs (see Section 3.0) for access roads/equipment crossings at stream crossings and wetland crossings.
- Begin clearing and grubbing of the site.
- Install temporary runoff controls and erosion control devices where needed.
- Conduct grading activities, as needed.
- Monitor all erosion and sediment controls

3 - MAJOR CONSTRUCTION ACTIVITIES (To be determined by the contractor)

- Excavation.
- Implement BMPs (See Section 3.0) for dewatering (if required).
- Monitor all erosion and sediment controls

4 - RESTORATION (To be determined by the contractor)

- Restore grade to preconstruction contours and install permanent runoff controls, where needed.
- Installation of concrete washout (if required)
- Apply seed and mulch to all disturbed upland areas.
- Install erosion control blankets or turf matting on steep slopes.
- Monitor all erosion and sediment controls

5 - POST-CONSTRUCTION MONITORING (On-going until 70 percent cover reached)

- Removal of concrete washout and disposal of washout material
- Monitor adequacy of erosion control practices.
- Remove temporary erosion and sediment controls and runoff controls once 70 percent uniform vegetative growth is achieved.
- Submit Notice of Termination.

2.8 SITE MAPPING

The scope of this project is to install new or replacement natural gas pipeline and as applicable, conduct activities associated with pipeline abandonment. No other utilities, buildings, roads, or parking facilities will be constructed.

Project site location maps are provided in **Appendix A**. The Soil Survey map for the Project is provided in **Appendix B**. The project specific erosion and sediment control location drawings (in **Appendix C**) depict the limits of earth-disturbing activity, existing and proposed contours; surface water locations, relation to existing buildings and roads, the location of all erosion and sediment control measures, and the location of all construction entrances. The site drawing checklist and logs are included in **Appendix D**. Typical erosion and sediment control drawings for all sediment and erosion controls practices are also included in **Appendices F, G, and H**.

3.0 CONTROLS

To the extent practicable, the locations of temporary and permanent stormwater BMPs to be implemented for the Project site are shown on the drawings provided in **Appendix C**. [Some BMP locations (construction entrances, ingress/egress points, etc.) will be determined in the field upon discussion with the selected construction contractor and will be noted on the project drawings (in **Appendix A, B, and/or C**, as appropriate) at that time. The construction contractor will complete the “Site Drawing Checklist” (**Appendix D**) verifying the inclusion of these features.] The BMPs will be implemented in accordance with the Typical Drawings provided in **Appendices F, G, and H**. The erosion, sediment, and stormwater management practices to be implemented are in accordance with the standards and specification in the current edition of Ohio’s Standards for Stormwater Management, Land Development and Urban Stream Protection, Rainwater and Land Development Manual, Third Edition 2006 updated November 6, 2014.

3.1 PRESERVATION METHODS

In order to preserve the existing natural condition as much as feasible, the Project will avoid clearing and grubbing where feasible, minimize the amount of soil and vegetation disturbances by phasing construction operations, and minimize disturbances to surface waters. The recommended buffer along any surface water of the state to be undisturbed is fifty (50) feet measured from the ordinary high water mark of the surface water.

Disturbance within the project area will be minimized as much as possible. The area reviewed for the project was 36 acres. Approximately 8.5 acres will be temporarily disturbed due to excavation, filling, grading, and installation of erosion control measures. The 8.5 acres will be disturbed in phases.

Separation of the topsoil from the subsoil will generally be performed at residential properties, any wetlands and streams, and agricultural lands. The backfill material returned to the excavation will consist of the same material removed from the excavation, to the extent practicable.

3.2 EROSION CONTROL PRACTICES

Erosion control measures provide cover over disturbed soils in order to minimize erosion. Disturbed areas must be stabilized after construction activities. Erosion control measures likely employed for the Project include: phased disturbance, clearing and grubbing, construction entrances, dust control, matting (Temporary Rolled Erosion Control Product), mulching, topsoiling, temporary seeding, permanent seeding, and sodding. Erosion Control Measures will be in accordance with the Rainwater and Land Development Manual. Typical drawings for these erosion control measures are provided in **Appendix F**.

Permanent stabilization is defined as the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one (1) year.

Temporary stabilization is defined as the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.

Final stabilization is defined and achieved when all soil disturbing activities at the site are complete and disturbed surfaces are covered with new structures, pavement, a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least seventy (70) percent cover, or other equivalent stabilization measures (such as the use of landscape mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion.

Disturbed areas will be stabilized following completion of construction activities as specified in **Tables 1** and **2** below and in accordance with the site layout maps and detail sheets provided in **Appendix C**.

Table 1: Permanent Stabilization

Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls (Stabilization)
Any areas that will lie dormant for one (1) year or more.	Within seven (7) days of the most recent disturbance.
Any areas within 50 feet of a surface water of the State and at final grade.	Within two (2) days of reaching final grade.
Any other areas at final grade.	Within seven (7) days of reaching final grade within that area.

Table 2: Temporary Stabilization

Area Requiring Temporary Stabilization	Time Frame to Apply Erosion Controls (Stabilization)
Any disturbed areas within 50 feet of a surface water of the State and not at final grade.	Within two (2) days of the most recent disturbance if the area will remain idle for more than fourteen (14) days.
For all construction activities, any disturbed areas that will be dormant for more than fourteen (14) days but less than one (1) year, and not within 50 feet of a surface water of the State.	Within seven (7) days of the most recent disturbance within the area. For residential subdivisions, disturbed areas must be stabilized at least seven (7) days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter.	Prior to the onset of winter weather.

Clearing and Grubbing: Clearing and grubbing is the removal of trees, brush, and other unwanted material in order to develop land for other uses or provide access for site work. Clearing generally describes the cutting and removal of above ground material, while grubbing is the removal of roots, stumps, and other unwanted material below existing grade. Clearing and grubbing includes the proper disposal of materials and the implementation of BMPs in order to minimize exposure of soil to erosion and causing downstream sedimentation.

Construction Entrance: A construction entrance is a method of erosion control that is used to reduce the amount of mud tracked off-site with construction traffic. A construction entrance is a stabilized pad of stone underlain with a geotextile. These entrances are located at points of ingress/egress of construction traffic.

Dust Control: Dust control is a method of erosion control that involves preventing or reducing dust from exposed soils or other sources during land disturbing, demolition, and construction activities to reduce the presence of airborne substances which may present health hazards, traffic safety problems, or harm animal or plant life.

Matting/Temporary Rolled Erosion Control Product (TREC): TRECs are a method of erosion control which is a degradable manufactured material used to stabilize easily eroded areas while vegetation becomes established. Temporary Rolled Erosion Control Products are degradable products composed of biologically, photo chemically, or otherwise degradable materials. TRECs consist of erosion control netting, open weave textiles, and erosion control blankets and mattings. These products reduce soil erosion and assist vegetative growth by providing temporary cover from the erosive action of rainfall and runoff while providing soil-seed contact.

Mulching: Mulching is a temporary or permanent method of erosion control used to protect exposed soil or freshly seeded areas from the direct impact of precipitation by providing a temporary surface cover. Mulch also helps establish vegetation by conserving moisture and creating favorable conditions for seeds to germinate. Mulch must be used liberally throughout construction to limit the areas that are bare and susceptible to erosion. Mulch can be used in conjunction with seeding to establish vegetation or by itself to provide erosion control when the season does not allow grass to grow. Mulch and other vegetative practices must be applied on all disturbed portions of construction-sites that will not be re-disturbed for more than fourteen (14) days.

Permanent Seeding: Permanent seeding is a method of erosion control used to permanently stabilize soil on construction sites where land-disturbing activities, exposed soil, and work has been completed or is not scheduled for more than twelve (12) months. Permanent seeding must be applied to any disturbed areas or portions of construction sites at final grade. Permanent seeding must not be delayed on any one portion of the site at final grade while construction on another portion of the site is being completed. Permanent seeding must be completed in phases, if necessary. Permanent vegetation is used to stabilize soil, reduce erosion, prevent sediment pollution, reduce runoff by promoting infiltration, and provide stormwater quality benefits offered by dense grass cover.

Phased Disturbance: Phased disturbance is a method of erosion control that limits the total amount of grading at any one time and sequences operations so that at least half the site is either left as undisturbed vegetation or re-stabilized prior to additional grading operations. This approach actively monitors and manages exposed areas so that erosion is minimized and sediment controls can be more effective in protecting aquatic resources and downstream landowners.

Sodding: Sodding is a method of erosion control that utilizes rolls or mats of turf grass to provide immediate stabilization to bare soils. It is especially useful in highly erosive areas such as drainage

ways and on slopes that will be mowed. Sod may be used where immediate cover is required or preferred and where vegetation will be adequate stabilization such as minor swales, around drop inlets, and lawns.

Temporary Seeding: Temporary seeding is a method of erosion control used to temporarily and quickly stabilize soil on construction sites where land-disturbing activities have been initiated but not completed. Appropriate rapidly growing annual grasses or small grains must be planted on the disturbed areas. Temporary seeding effectively minimizes the area of a construction site prone to erosion and must be used everywhere the sequence of construction operations allows vegetation to be established. Temporary seeding must be applied on exposed soil where additional work (grading, etc.) is not scheduled for more than fourteen (14) days. Mixes to be applied are specific to the time of year the seeding will take place and the location of the Project within the state.

Topsoiling: During grading operations, topsoil and the upper most organic layer of soil will be stripped and stockpiled and then subsequently replaced on the newly graded areas. Topsoil provides a more suitable growing medium than subsoil or on areas with poor moisture, low nutrient levels, undesirable pH, or in the presence of other materials that would inhibit establishment of vegetation. Replacing topsoil helps plant growth by improving the water holding capacity, nutrient content, and consistency of the soils.

3.3 RUNOFF CONTROL PRACTICES

Temporary and permanent runoff control is important on development sites to minimize on-site erosion and to prevent off-site sediment discharge. Runoff control methods likely implemented for this Project include dewatering measures, compost sock check dams, and waterbars. Runoff control measures will be in accordance with Chapter 4 and 5 of the Rainwater and Land Development Manual.

Dewatering Measures. Dewatering consists of providing an area for receiving and treating surface runoff and groundwater pumped from excavation or work areas prior to being released off the site, such as desilting basins or sediment traps. For project areas without these detention features, dewatering typically consists of the use of filter devices (e.g. filter bags) to treat and release water removed from excavation. Filter bags should discharge to an upland location if possible. These practices reduce sediment impacts to downstream water resources.

Compost Sock Check Dam: Compost sock check dams are dams constructed in swales, grassed waterways or diversions comprised of a compost filter sock (staked in place). Compost sock check dams reduce the velocity of concentrated flows thereby reducing erosion within the swale or waterway.

Waterbar. A waterbar is a diversion constructed across the slope of an access road or utility right-of-way. Waterbars are used to reduce concentrated runoff on unpaved road surfaces, thus reducing water accumulation and erosion gullies from occurring. Waterbars divert runoff to road side swales, vegetated areas, or settling ponds.

3.4 SURFACE WATER PROTECTION

The Project area encompasses five (5) streams, six (6) wetlands, and one (1) open water (see Section 2.6 for additional information on delineated water resources). Waters must be protected by avoiding crossing of streams and wetlands where feasible and using sediment and erosion control practices to prevent sediment-laden runoff from reaching the surface waters.

Surface Waters of the State Protection. If construction activities disturb areas adjacent to surface waters of the State, structural practices must be designed and implemented onsite to protect all adjacent surface waters of the State from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) must be used in a surface water of the State. For all construction activities immediately adjacent to surface waters of the State, it is recommended that a setback of at least 25 feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer.

Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the Project must be designed such that the number of crossings and the width of the disturbance within the setback area are minimized.

In order to minimize the amount of disturbance and sedimentation caused by work at wetland crossings, every effort will be made to minimize impacts. Movement across waters will be limited to necessary equipment only. BMPs for vehicle crossing of streams and wetlands will be utilized when practical. Dominion will employ a typical temporary equipment crossing at each crossing location. These crossing methods are found on the typical drawings in Appendices G and H. All wetland crossings will be restored to pre-construction grades, contours, and, when feasible, vegetation type. Dominion will obtain all necessary wetland crossing permits from federal and state regulatory agencies. Summaries of the onsite surface waters and any impacts are provided in Tables 3 and 4.

Surface Water Utility Crossing. Surface water utility crossings include pipeline, power line, or road construction projects that cross streams, rivers, or wetlands. Measures used to minimize damage from the construction of utilities across streams and wetlands start in the planning stages of a project and continue through site restoration.

Temporary Surface Water Crossing. A temporary surface water crossing provides construction traffic temporary access across a surface water while reducing the amount of disturbance and sediment pollution. It is a temporary practice which includes restoring the crossing area after construction. The typical kinds of surface water crossings are: bridges, timber mats, culverts and fords. Each has specific applications and each is designed to minimize surface water damage by leaving wetland areas and stream banks stable and vegetated.

Table 3: Summary of Onsite Streams

Stream ID	Stream Length (lf) within Project Area	Bankfull Width (feet)	Flow Regime	Substrate Type(s)	Designation/ Classification ¹	Crossing Method ²	Impacts - Upstream to Downstream Length (lf)	Impacts- Trench Crossing Length (lf)
Stream 1	289	12	Perennial	Sand, gravel	Class II PHW ³	Open Cut	10	8.5
Stream 2	37	3	Ephemeral	Clay/hardpan, gravel	Class I PHW	Equipment Crossing	37	3 ⁴
Stream 3 (Wetmore Creek)	364	20	Perennial	Gravel, sand	Warmwater Habitat	Open Cut	115	20
Stream 4	60	2	Ephemeral	Clay/hardpan, gravel	Modified Class I PHW	Avoid	0	0
Stream 5	51	3	Ephemeral	Clay/hardpan, leaf pack	Modified Class I PHW	Avoid	0	0

Note:

- 1 Designation determination made using Headwater Habitat Evaluation Index (HHEI) or Qualitative Habitat Evaluation Index (QHEI) scoring methods.
- 2 Project Managers must approve changes to crossing methods.
- 3 Primary Headwater
- 4 Impacts to Stream 2 are associated with construction activity supportive to the nearby trenching; but will not involve trenching
- 5

Table 4: Summary of Onsite Wetlands

Wetland ID	Vegetation Cover Type within the Project Area	Area within ROW (acres)	ORAM ¹ Category	Crossing Method ²	Impact Area (acres)	Impacts Length of Wetland Crossing
Wetland A	PEM/PFO	0.05	Mod. 2	Avoid	0	0
Wetland B	PEM/PFO	0.23	1 or 2 gray zone	Avoid	0	0
Wetland C	PEM	1.53	1	Open Cut	0.613	445
Wetland D	PFO	0.13	1 or 2 gray zone	Avoid	0	0
Wetland E	PFO	0.05	Mod. 2	Open Cut	0.008	35
Wetland F	PEM	0.03	1 or 2 gray zone	Avoid	0	0

Notes:

- 1 Ohio Rapid Assessment Method
- 2 Project Managers must approve changes to crossing methods.

Table 5: Summary of Onsite Open Waters

Open Water ID	Area within ROW (acres)	Crossing Method ¹	Impact Area (acres)	Impacts Length of Open Water Crossing
Open Water A	0.06	Avoid	0	0

Note:

- 1 Project Managers must approve changes to crossing methods.

3.5 WETLAND PRACTICES

Concentrated stormwater runoff from proposed BMPs to natural wetlands must be converted to diffuse flow before the runoff enters the wetlands. The flow must be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between stormwater features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If Dominion Energy proposes to discharge to natural wetlands, a hydrologic analysis must be performed. Dominion Energy must attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. Dominion Energy must assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

3.6 SEDIMENT CONTROL PRACTICES

All Project activities will occur within the areas indicated on site drawings in **Appendix C**. All Sediment Control Devices will match those indicated on the mapping in **Appendix C**. Minor adjustments to control devices (type, location, etc.) deemed necessary to maintain compliance can be made on the project mapping. The location of any laydown and/or material storage areas will be determined in the field upon discussion with the selected construction contractor and will be noted on the project site drawings at that time. The “Site Drawing Checklist” (**Appendix D**) will be completed, verifying the inclusion of these features or minor adjustments. Any necessary mainline to mainline tie-ins (at intersections with streets with no proposed mainline replacement) will also be noted on the drawings. Construction activities for this Project will be limited to the Limit of Disturbance of 8.5 acres. Sediment Control Practices must treat runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices must be used to control erosion and trap sediment from a disturbed site. Methods of control that may be used include, among others: silt fence, storm drain inlet protection, filter socks, and trench plugs. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond. Sediment Controls must be designed, installed, and maintained in accordance with the requirements set forth in Chapter 6 of the Ohio Rainwater and Land Development Manual, and/or Ohio General Permit OHC000005. Dominion Energy discourages the use of haybales unless utilized as a secondary treatment element in conjunction with another erosion and sediment

control(s) and only if approved by Dominion Energy.

Timing. Sediment control structures must be present, as indicated or otherwise deemed to be necessary, and must be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers must be implemented prior to grading and within seven (7) days from the start of grubbing. Sediment control structures must continue to function until the up-slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns.

Silt Fence. Silt fence is a temporary method of sediment control that is used in sheet-flow areas to encourage the ponding of runoff and settling of sediments. It consists of a geotextile fabric secured to wood or steel posts that have been trenched into the ground. It is installed downslope of the disturbed area, installed along slopes, at bases of slopes on a level contour, and around the perimeter of a site as a final barrier to sediment being carried off site. Maximum drainage area and slopes must be considered when determining the appropriateness of silt fence. Silt fence is removed after permanent vegetation is established.

Silt fence must be installed where indicated on the site drawings and as needed throughout the Project site where construction activity is likely to cause sediment-laden runoff to be carried offsite and into downstream surface waters. After construction is completed and the Project site has been permanently stabilized, silt fence must be removed and disposed of at an appropriate offsite disposal facility.

Placing silt fence in a parallel series does not extend the size of the drainage area. Stormwater diversion practices must be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive stormwater runoff from areas up to ten (10) acres.

See the silt fence detail located in **Appendix F** (for additional information on proper installation procedures).

Inlet Protection. Storm drain inlet protection devices remove sediment from stormwater before it enters storm sewers and downstream areas. Inlet protection devices may consist of washed gravel or crushed stone, geotextile fabrics, and other materials that are supported around or across storm drain inlets. Inlet protection is installed to capture some sediment and reduce the maintenance of storm sewers and other underground piping systems prior to the site being stabilized. Due to their poor effectiveness, inlet protection is considered a secondary sediment control to be used in conjunction with other more effective controls. Other erosion and sediment control practices must minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond. Generally, inlet protection is limited to areas draining less than one (1) acre; areas of one or more acres will require a sediment settling pond.

Filter Sock. Filter socks are sediment-trapping devices using compost inserted into a flexible, permeable tube. Filter socks trap sediment by filtering water passing through the berm and allowing water to pond, creating a settling of solids. Filter socks may be a preferred alternative

where equipment may drive near or over sediment barriers, as they are not as prone to complete failure as silt fence if this occurs during construction. Driving over filter socks is not recommended; however, if it should occur, the filter sock must be inspected immediately, repaired, and moved back into place as soon as possible. Typically, filter socks can handle the same water flow or slightly more than silt fence. For most applications, standard silt fence is replaced with twelve (12)-inch diameter filter socks.

Trench Plugs. Trench Plugs are required at each side of streams and wetlands crossings completed by trenching, regardless of trench slope. These requirements supplement DEO’s general construction practice for the placement of plugs in trenches on steep slopes. Trench plugs will also be installed if it is determined that flooding at the low point elevation of a pipeline will adversely affect the adjacent property. Installation will be in accordance with the details depicted in **Detail F-5** and **Table 5** below.

Table 6: Required Spacing and Materials for Trench Plugs

Trench Slope (%)	Spacing (ft)	Plug Material
< 5	*	*
5 – 15	500	Sand or Earth** Filled Sacks
15 – 25	300	Sand or Earth** Filled Sacks
25 – 35	200	Sand or Earth** Filled Sacks
35 – 100	100	Sand or Earth** Filled Sacks
> 100	50	Cement Filled Bags (Wetted) or Mortared Stone

* Trench Plugs are required at each side of all stream, river or water-body crossings completed by trenching, regardless of trench slope; otherwise not required.

** Topsoil may not be used to fill sacks.

Modifying Controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, Dominion Energy must replace or modify the control for site conditions.

3.7 POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM)

The proposed disturbance associated with the Project is temporary; therefore, no permanent stormwater structures will be required. The Project area will be restored to original contours and re-vegetated. No impervious areas will be created for this Project.

3.8 OTHER CONTROLS

In some instances, a non-sediment pollutant source may become present on the Project site and pollution controls may be required.

Non-Sediment Pollutant Controls

Handling of Toxic or Hazardous Materials. All construction personnel, including subcontractors who may use or handle hazardous or toxic materials, must be made aware of the general guidelines regarding management and disposal of toxic or hazardous construction wastes. This can be accomplished by training for construction personnel by the Contractor or by Dominion Energy.

Waste Disposal. Containers (e.g., dumpsters, drums) must be available for the proper collection of all waste material including construction debris, sanitary garbage, petroleum products, and any hazardous materials to be used on-site. Containers must be covered, as required, and not leaking. All waste material must be disposed of at facilities approved by the Ohio EPA for that material. Ensure storage time frames are not exceeded.

Clean Hard Fill. No Construction related waste materials are to be buried on-site. By exception, clean fill (clean bricks, hardened concrete, and soil) may be utilized in a way which does not encroach upon natural wetlands, streams, or floodplains or result in the contamination of waters.

Construction and Demolition Debris (C&DD). C&DD waste will be disposed of in an Ohio EPA permitted C&DD landfill as required by ORC 3714 and approved by Dominion Energy.

Construction Chemical Compounds. Storing, mixing, pumping, transferring or other handling of construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials must be done in an area away from any waterbody, ditch, or storm drain.

Equipment Fueling and Maintenance. Oil changing, equipment refueling, maintenance on hydraulic systems, etc., must be performed away from waterbodies, ditches, or storm drains, and in an area designated for that purpose. The designated area must be equipped for recycling oil and catching spills. Secondary containment must be provided for all fuel and oil storage tanks. These areas must be inspected every seven (7) days and within 24 hours of a one-half (0.5)-inch or greater rain event to ensure there are no exposed materials which would contaminate stormwater. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with accumulative aboveground storage of 1,320 gallons or more, or 42,000 gallons of underground storage.

No detergent may be used to wash vehicles. Wash waters will be treated in a sediment basin or alternative control which provides equivalent treatment prior to discharge.

Concrete Wash Water and Wash Outs. Concrete wash water must not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A lined sump or pit with no potential for discharge must be constructed if needed to contain concrete wash water. Field tile (agricultural drain tiles) or other subsurface drainage structures within ten (10) feet of the concrete sump or wash pit must be cut and plugged. Concrete wash water is wastewater and thus is not permitted to be discharged under the provisions of Ohio EPA's Construction General Permit which only allows the discharge of stormwater. Concrete washout details are located in **Appendix J**. The location for concrete washout will be determined in the field as necessary.

Spill Reporting Requirements. In the event of a spill of a regulated or hazardous material, immediately contact the Dominion Energy ECC assigned to the site or Project. The Dominion Energy ECC (if Dominion Energy ECC not available, other Dominion Energy Environmental staff) will coordinate spill reporting to the appropriate agencies. Spills on pavement must be absorbed with sawdust, kitty litter or other absorbent material. Spills to land require excavation of the contaminated material. Wastes generated from spill cleanup must be disposed of in accordance with applicable Federal, State, and Local waste regulations. Hazardous or industrial wastes including, but not limited to, most solvents, gasoline, oil-based paints, oil, grease, battery acid, muriatic acid, and cement curing compounds require special handling¹. Spills must be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products must be reported to Ohio EPA (1-800-282-9378), the local fire department, and the Local Emergency Planning Committee within thirty (30) minutes of the discovery of the release. All spills (no matter how small), which result in contact with waters of the state, must be reported to Ohio EPA's Hotline. Spills of hazardous substances, extremely hazardous substances, petroleum, and objectionable substances that are of a quantity, type, duration, and in a location as to damage the waters of the state must be immediately reported to the Ohio EPA's Regional Environmental Coordinator.

Contaminated Soils. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil must be dug up and disposed of at a licensed sanitary landfill or other approved petroleum contaminated soil remediation facility (not a construction/demolition debris landfill) which has been approved by Dominion Energy.

Open Burning. Waste disposal by open burning is prohibited by Dominion Energy.

Dust Controls/Suppressants. Dust control is required to prevent nuisance conditions. Dust controls must be used in accordance with the manufacturer's specifications and not be applied in a manner, which would result in a discharge to waters of the state. Isolation distances from bridges, catch basins, and other drainage ways must be observed. Application (excluding water) may not occur when precipitation is imminent as noted in the short term forecast. Used oil may not be applied for dust control. Watering must be done at a rate that prevents dust but does not cause soil erosion. Chemical stabilizers and adhesives must not be used, unless written permission is received from Ohio EPA.

Air Permitting Requirements. All contractors and subcontractors must be made aware that certain activities associated with construction will require air permits. Activities including, but not limited

¹ The Federal Resource Conservation and Recovery Act (RCRA) requires that all wastes generated by industrial activity, including construction activities, be evaluated to determine if the waste is hazardous, non-hazardous or special wastes. Hazardous waste and special wastes have specific handling and disposal requirements which must be met to comply with RCRA. Additional information regarding the waste evaluation process and the proper handling and disposal requirements for wastes can be found in the following Dominion Guidance Documents: "Hazardous Waste Guidance", "Hazardous Waste Guidance Labeling", "Hazardous Waste Guidance Labeling - Appendix A", "Nonhazardous Waste Management", "Universal Waste Management", "Universal Waste Guidance - Appendix A - Labeling Matrix", and "Used Oil and Oil Filter Management". Consult with the DES ECC assigned to the site or project for advice.

to, mobile concrete batch plants, mobile asphalt plants, concrete crushers, generators, etc., will require specific Ohio EPA Air Permits for installation and operation. Dominion Energy must seek authorization from the corresponding district of Ohio EPA for these activities. Notification for Restoration and Demolition must be submitted to Ohio EPA for all commercial sites to determine if asbestos abatement actions are required.

Process Wastewater/Leachate Management. All contractors must be made aware that Ohio EPA's Construction General Permit only allows the discharge of stormwater. Other waste discharges including, but not limited to, vehicle and/or equipment washing, leachate associated with on-site waste disposal, concrete wash outs, etc. are a process wastewater. These types of wastewaters are not authorized for discharge under the General Stormwater Permit associated with Construction Activities. All process wastewaters must be collected and properly disposed at an Dominion Energy approved disposal facility. In the event there are leachate outbreaks (water that has passed through contaminated material and has acquired elevated concentrations of the contaminated material) associated with onsite disposal, measures must be taken to isolate this discharge for collection and proper disposal at an Dominion Energy approved disposal facility. Investigative measures and corrective actions must be implemented to identify and eliminate the source of all leachate outbreaks.

Permit to Install (PTI) Requirements. All contractors and subcontractors must be made aware that a PTI must be submitted and approved by Ohio EPA prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one (1), two (2), and three (3) family dwellings) and potable water lines. The issuance of an Ohio EPA Construction General Stormwater Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI. If necessary, Dominion Energy will acquire the PTI or Dominion Energy will require the contractor to acquire the PTI.

Compliance with Other Requirements. This plan is consistent with State and/or local waste disposal, sanitary sewer or septic system regulations including provisions prohibiting waste disposal by open burning. Contaminated soils are not expected to be encountered on this Project. If they are encountered within the limits of construction, they will be managed and disposed of properly by trained personnel.

Trench and Groundwater Control. There must be no turbid discharges to surface waters of the State resulting from dewatering activities. If trench or groundwater contains sediment, it must pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Groundwater dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging groundwater to ensure that it does not become pollutant laden by traversing over disturbed soils or other pollutant sources. Discharge of contaminated groundwater is not authorized.

Contaminated Sediment. Where construction activities are to occur on sites with historical contamination, operators must be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in stormwater

discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized and may require coverage under a separate individual or general remediation permit. Contaminated soil stockpiles shall be protected from discharges by covering the contaminated soil with a tarp or other such material which will prohibit water from coming in contact with the soils. Contaminated soils can also be removed from the site and disposed of at a Dominion Energy approved facility.

3.9 MAINTENANCE

All temporary and permanent control measures must be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control measures must be maintained in a functional condition until all up slope areas are permanently stabilized. The following maintenance procedures will be conducted to ensure the continued performance of control practices.

- Qualified personnel must inspect all BMPs at least once every seven (7) days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled. Rainfall amounts will be determined by Dominion Energy personnel or a designated representative using National Weather Service or other acceptable resources such as an on-site rain gauge, and determine if the SWP3 has been properly implemented.
- Maintenance or repair of BMPs must be completed by the designated contractor within three (3) days of the date of the inspection that revealed a deficiency. For sediment ponds, repair or maintenance is required within ten (10) days of the date of the inspection.
- Off-site vehicle tracking of sediments and dust generation must be minimized. Temporary construction entrances must be provided where applicable to help reduce vehicle tracking of sediment. Any paved roads adjacent to the site entrance must be swept daily to remove excess mud, dirt, or rock tracked from the site, as necessary.

3.10 INSPECTIONS

The following inspection practices must be followed once site activities have commenced and erosion and sediment control measures have been installed.

- All onsite controls must be inspected by Dominion Energy personnel or a designated representative at least once every seven (7) calendar days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled.
- Inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice, or the ground is frozen). A waiver of inspection requirements is available from Ohio EPA until one (1) month before thawing conditions are expected to result in a discharge if all of the following conditions are met: the Project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than

one (1) month); land disturbance activities have been suspended; and the beginning and ending dates of the waiver period are documented in the SWP3. Dominion Energy will obtain the waiver at the request of the contractor.

- Once a definable area has reached final stabilization as defined in Section 3.2 Erosion Control Practices, the area must be marked on the SWP3 and no further inspection requirements apply to that portion of the site.
- A Dominion Energy or a designated representative “qualified inspection personnel” must conduct inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule or whether additional control measures are required.
- Following inspection, a checklist must be completed and signed by the qualified inspection personnel representative. The inspection form and checklist is provided in **Appendix K**. The record and certification must be signed in accordance with Ohio Permit OHC000005.
- Inspection reports must be maintained for three (3) years following the submittal of a Notice of Termination.
- For BMPS that require repair or maintenance, BMPs must be repaired or maintained within three (3) days of the inspection; sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.
- For BMPs that are not effective and that another, more appropriate BMP is required, the SWP3 must be amended and the more appropriate BMP must be installed within ten (10) days of the inspection.
- For BMPs depicted on the SWP3 that have not been actually installed onsite, the control practice must be implemented within ten (10) days from the inspection.

4.0 APPROVED STATE OR LOCAL PLANS

This SWP3 must comply, unless exempt, with the lawful requirements of municipalities, counties, and other local agencies regarding discharges of stormwater from construction activities. All erosion and sediment control plans and stormwater management plans approved by local officials must be retained.

5.0 EXCEPTIONS

If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this plan or site specific conditions are such that implementation of any erosion and sediment control practices contained in this plan will result in no environmental benefit, then Dominion Energy must provide justification for rejecting each practice based on site conditions. Dominion Energy may request approval from Ohio EPA and any other applicable regulatory authority to use alternative methods if Dominion Energy can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed.

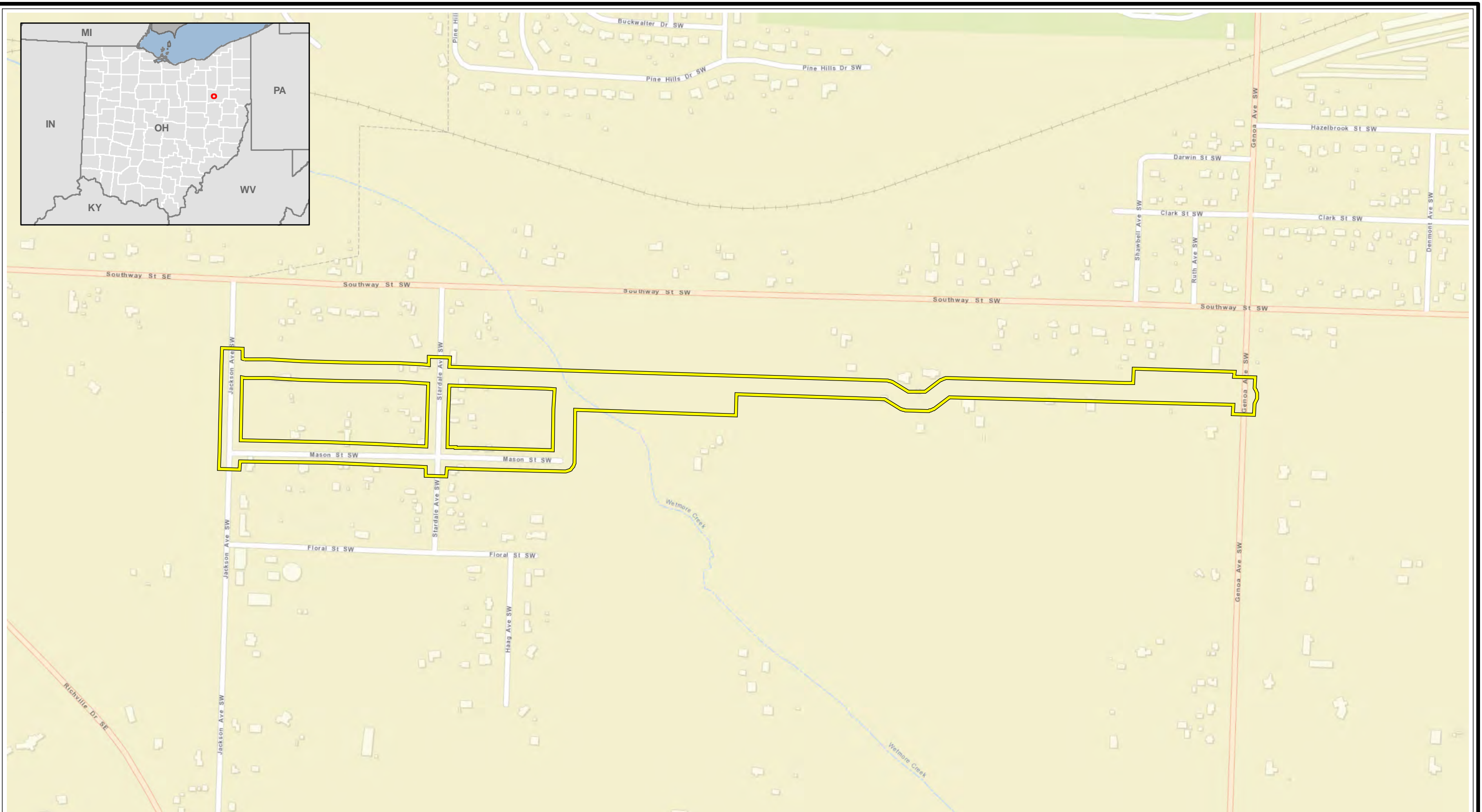
6.0 NOTICE OF TERMINATION REQUIREMENTS


Once a site reaches final stabilization and construction activities have ceased, NPDES permit coverage is terminated by filing a notice of termination (NOT). The NOT must be filed within 45 days of reaching final stabilization. The terms and conditions of this permit must remain in effect until a signed NOT form is submitted. NOT forms must be submitted in accordance with Ohio Permit OHC000005.

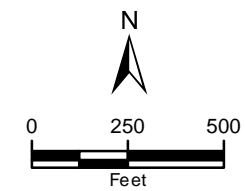
Similarly, a notice of completion must be provided to any municipalities, counties, and other local agencies that require such notice.

APPENDIX A

Site Location Maps



 PIR2350_Study_Area_20221214

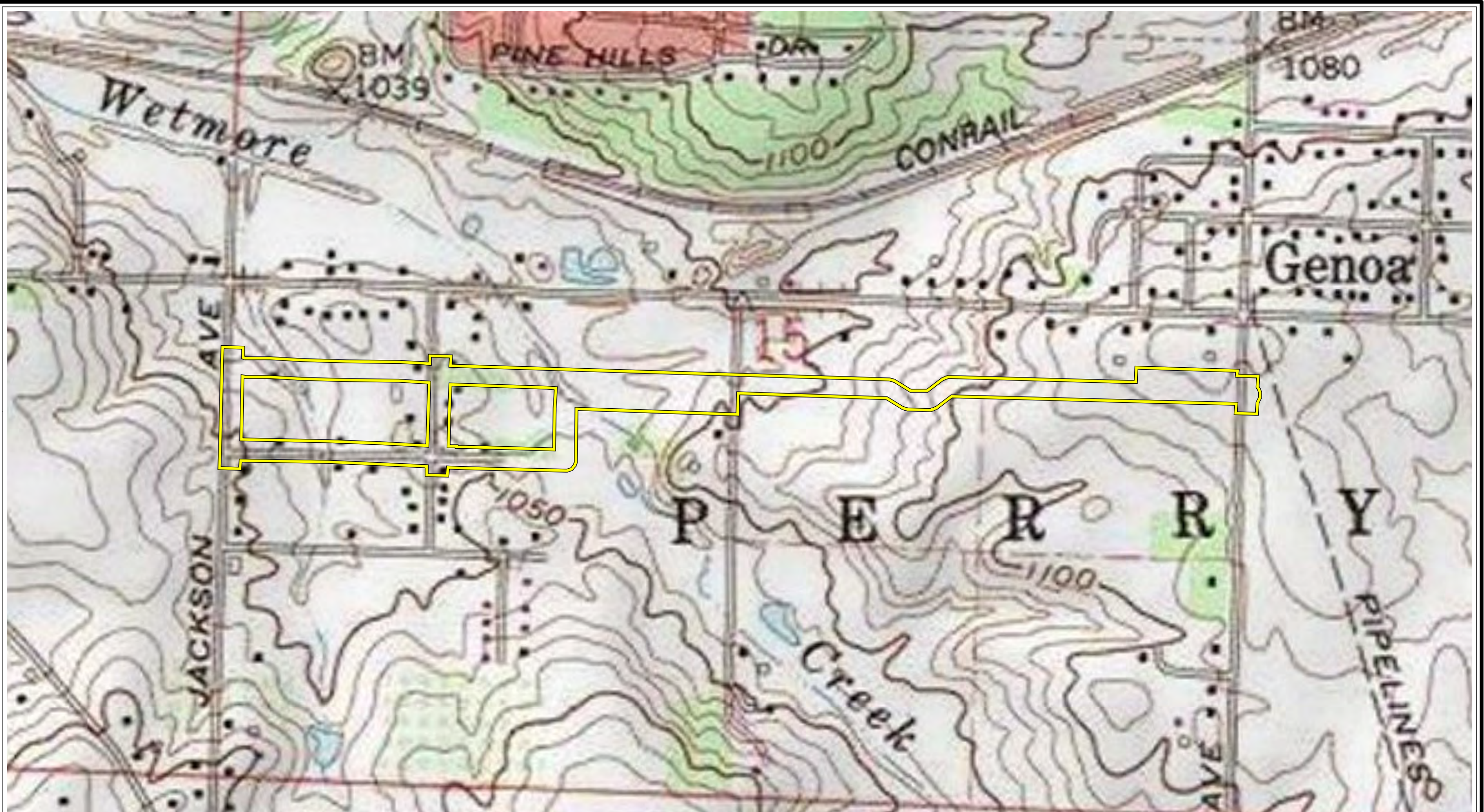



Base Layer: ESRI Street Map 2019

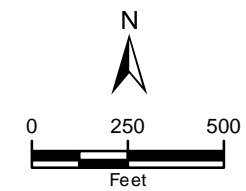
Appendix A - Figure 1 Site Location

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





 Project Study Area

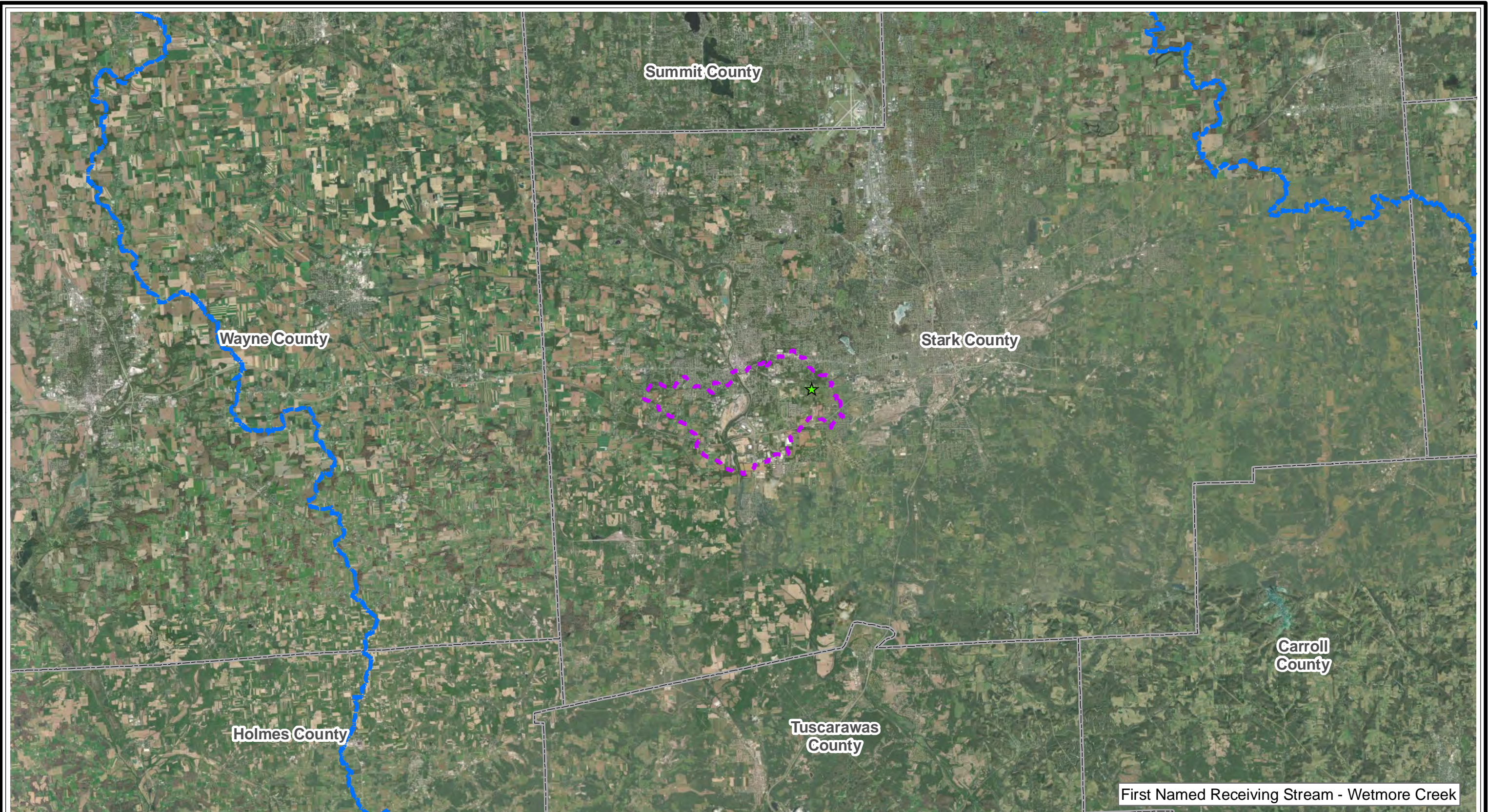







Base Layer: US TopoMaps

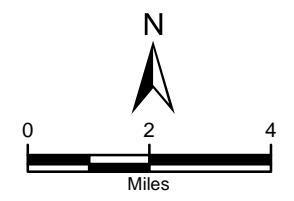
Appendix A - Figure 2
USGS Topographic - Canton West Quadrangle

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





-  Project Study Area - Approx. Location
-  HUC 12 - City of Massillon-Tuscarawas River
-  HUC 8 - Tuscarawas
-  County Boundaries
-  State Boundary



Sources: USGS NAI Aerial

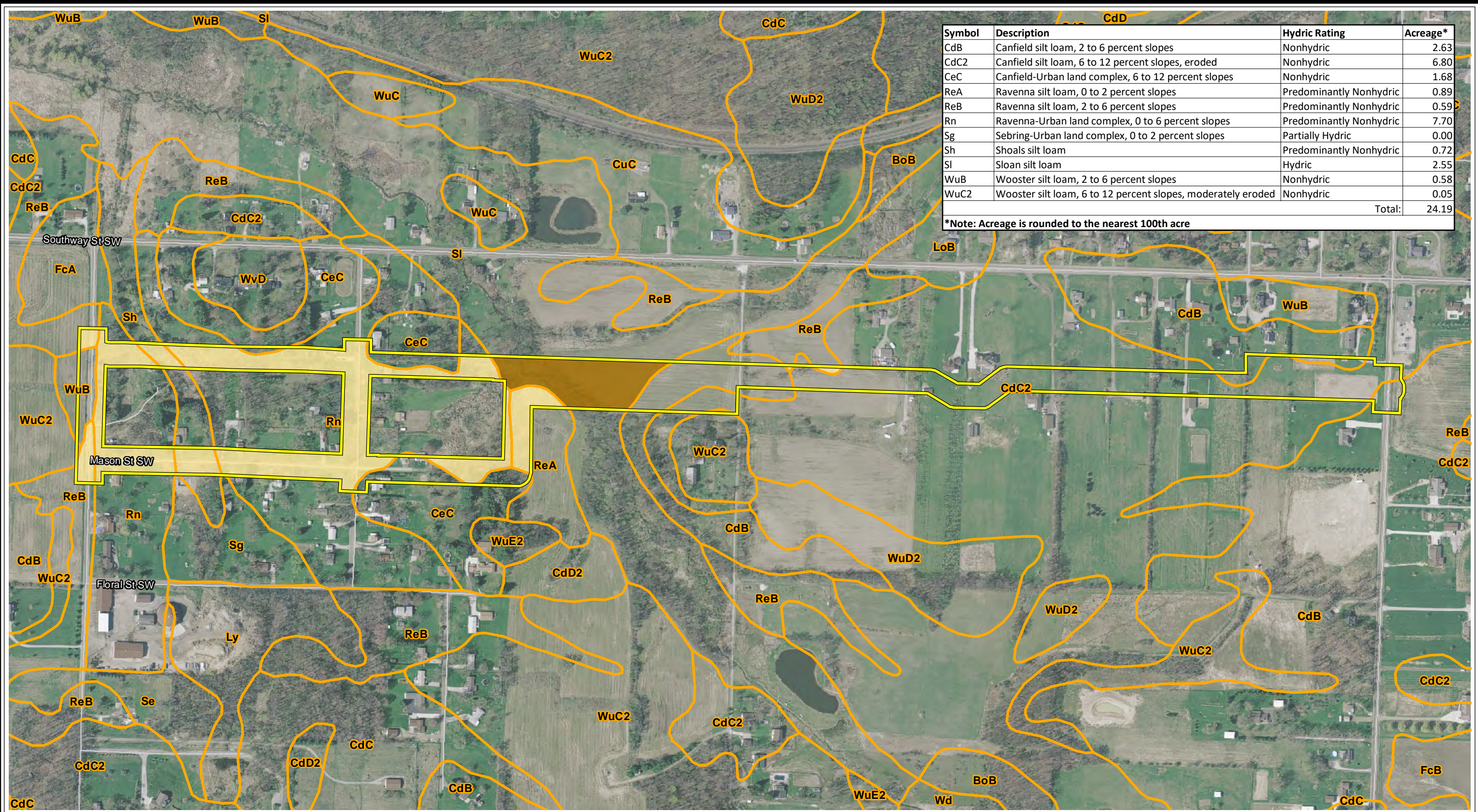
First Named Receiving Stream - Wetmore Creek

Appendix A - Figure 3
Watershed Location Map
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



APPENDIX B

Soil Map and Table

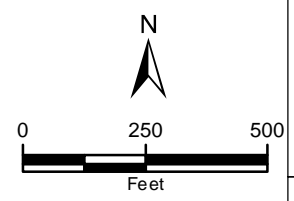


Symbol	Description	Hydric Rating	Acreage*
CdB	Canfield silt loam, 2 to 6 percent slopes	Nonhydric	2.63
CdC2	Canfield silt loam, 6 to 12 percent slopes, eroded	Nonhydric	6.80
CeC	Canfield-Urban land complex, 6 to 12 percent slopes	Nonhydric	1.68
ReA	Ravenna silt loam, 0 to 2 percent slopes	Predominantly Nonhydric	0.89
ReB	Ravenna silt loam, 2 to 6 percent slopes	Predominantly Nonhydric	0.59
Rn	Ravenna-Urban land complex, 0 to 6 percent slopes	Predominantly Nonhydric	7.70
Sg	Sebring-Urban land complex, 0 to 2 percent slopes	Partially Hydric	0.00
Sh	Shoals silt loam	Predominantly Nonhydric	0.72
SI	Sloan silt loam	Hydric	2.55
WuB	Wooster silt loam, 2 to 6 percent slopes	Nonhydric	0.58
WuC2	Wooster silt loam, 6 to 12 percent slopes, moderately eroded	Nonhydric	0.05
Total:			24.19

*Note: Acreage is rounded to the nearest 100th acre

Project Study Area
 Soils (NRCS)

Soils - Hydric Rating
 Hydric
 Partially Hydric
 Predominantly Nonhydric
 Nonhydric



Base Layer: OSIP 2016

**Appendix B - Figure 1
NRCS Soil Survey Units**

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022

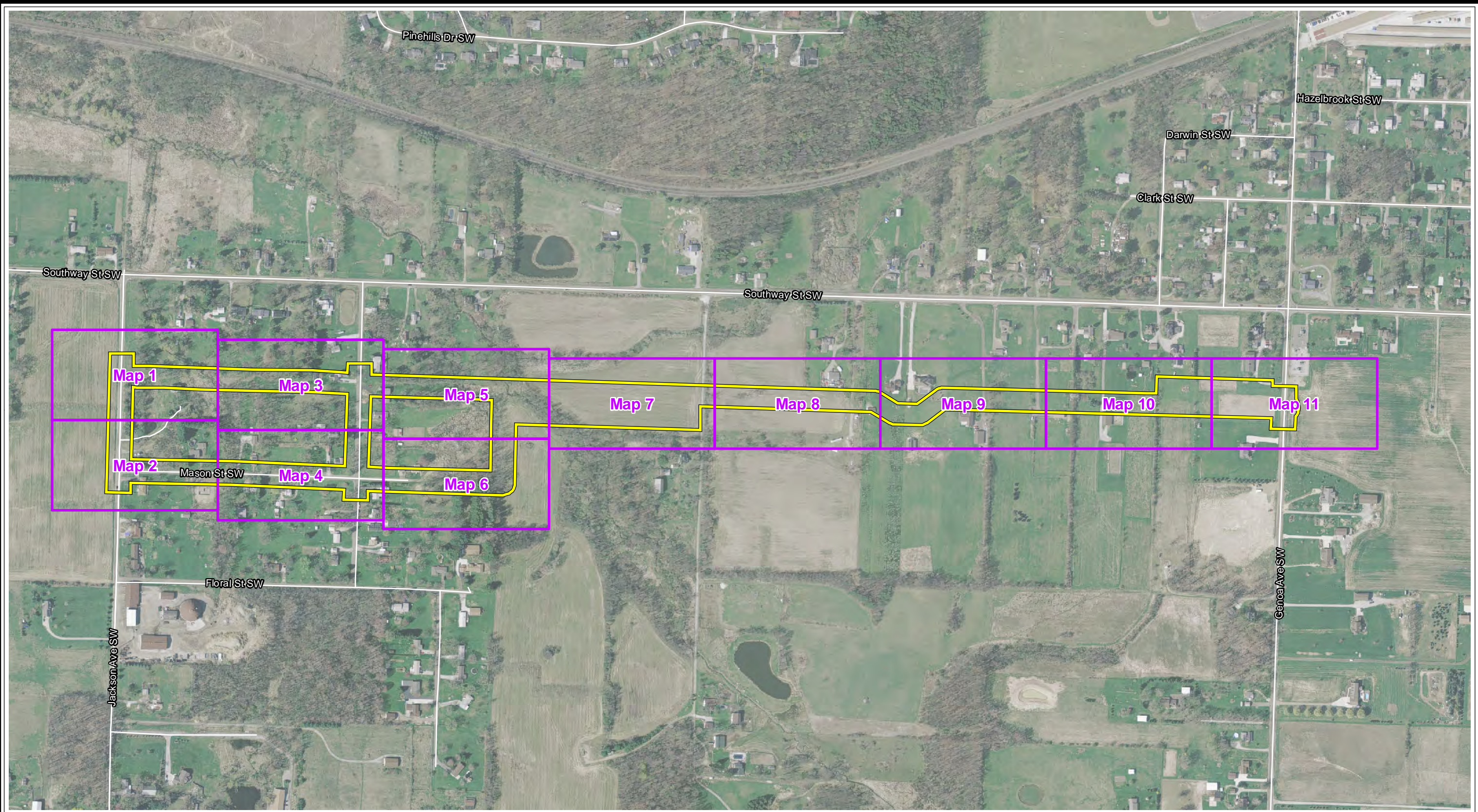


Appendix B - Soil Types and Descriptions

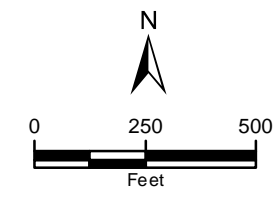
Soil Type	Map Symbol	Slope	Material	Drainage Class	Location	Depth to Water Table (cm)	Depth to Restrictive Feature (cm)	K Factor, Whole Soil (Erosibility)
Ravenna-Urban land complex, 0 to 6 percent slopes	Rn	3%	Till	-	Till plains	23	56	-
Canfield silt loam, 6 to 12 percent slopes, eroded	CdC2	9%	Till	Moderately well drained	Till plains	38	61	0.43
Canfield silt loam, 2 to 6 percent slopes	CdB	4%	Till	Moderately well drained	Till plains	38	66	0.37
Sloan silt loam	Sl	1%	Loamy alluvium	Very poorly drained	Floodplains	8	>200	0.32
Canfield-Urban land complex, 6 to 12 percent slopes	CeC	9%	Till	Moderately well drained	Till plains	38	66	0.37
Ravenna silt loam, 2 to 6 percent slopes	ReB	4%	Till	Somewhat poorly drained	Till plains, depressions	23	56	0.37
Wooster silt loam, 2 to 6 percent slopes	WuB	4%	Till	Well drained	Till plains	122	53	0.43
Shoals silt loam	Sh	1%	Alluvium	Somewhat poorly drained	Floodplains, depressions	31	>200	0.24
Ravenna silt loam, 0 to 2 percent slopes	ReA	1%	Till	Somewhat poorly drained	Till plains, depressions	23	56	0.37
Wooster silt loam, 6 to 12 percent slopes, moderately eroded	WuC2	9%	Till	Well drained	Till plains	122	53	0.43
Sebring-Urban land complex, 0 to 2 percent slopes	Sg	1%	Glaciolacustrine deposits	-	Terraces	2	>200	0.37

APPENDIX C

Detailed Erosion and Sediment Control Location Drawings



- Project Study Area
- Map Extent



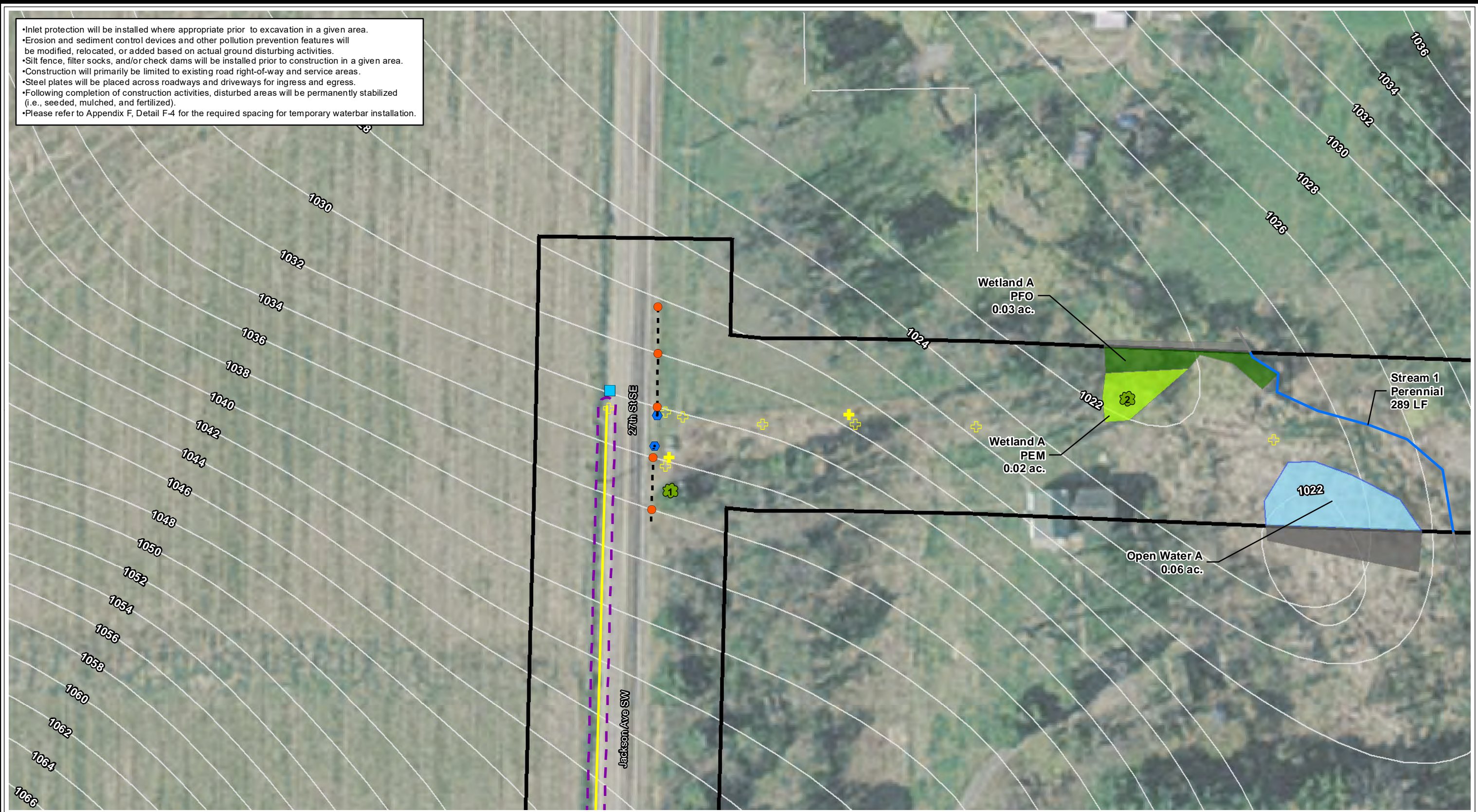
Base Layer: OSIP 2016

Appendix C - Figure 1
Erosion and Sediment Control Map Book

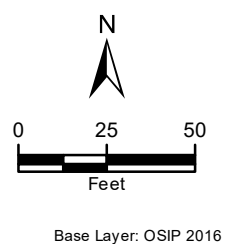
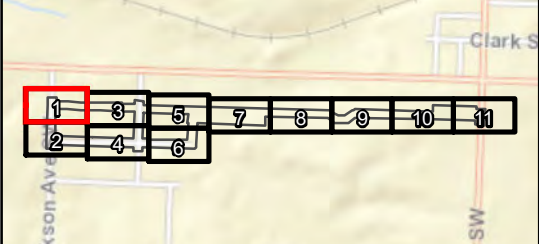
PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



- Inlet protection will be installed where appropriate prior to excavation in a given area.
- Erosion and sediment control devices and other pollution prevention features will be modified, relocated, or added based on actual ground disturbing activities.
- Silt fence, filter socks, and/or check dams will be installed prior to construction in a given area.
- Construction will primarily be limited to existing road right-of-way and service areas.
- Steel plates will be placed across roadways and driveways for ingress and egress.
- Following completion of construction activities, disturbed areas will be permanently stabilized (i.e., seeded, mulched, and fertilized).
- Please refer to Appendix F, Detail F-4 for the required spacing for temporary waterbar installation.



Project Study Area	Filter Fence	Potential Roost Tree On-Site	Delineated PEM Wetland On-Site
Work Corridor	Waterbar	Potential Roost Tree Off-Site	Delineated PFO Wetland On-Site
Proposed Pipeline	2-Foot Contour	Delineated Ephemeral Stream On-Site	Delineated Wetland Off-Site
Culvert	Permanent Pipeline Marker On-Site	Delineated Perennial Stream On-Site	Delineated Waterbody On-Site
Inlet Protection	Permanent Pipeline Marker Off-Site	Delineated Perennial Stream Off-Site	Delineated Waterbody Off-Site
Check dam	Temporary Pipeline Marker On-Site	Impacted Stream	Impacted Wetland
Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	



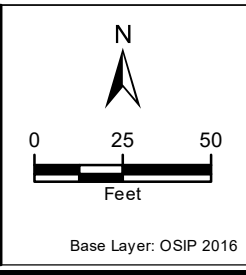
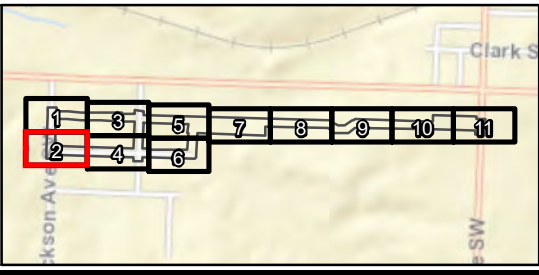
Appendix C - Figure 1
Erosion and Sediment Control Map 1 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



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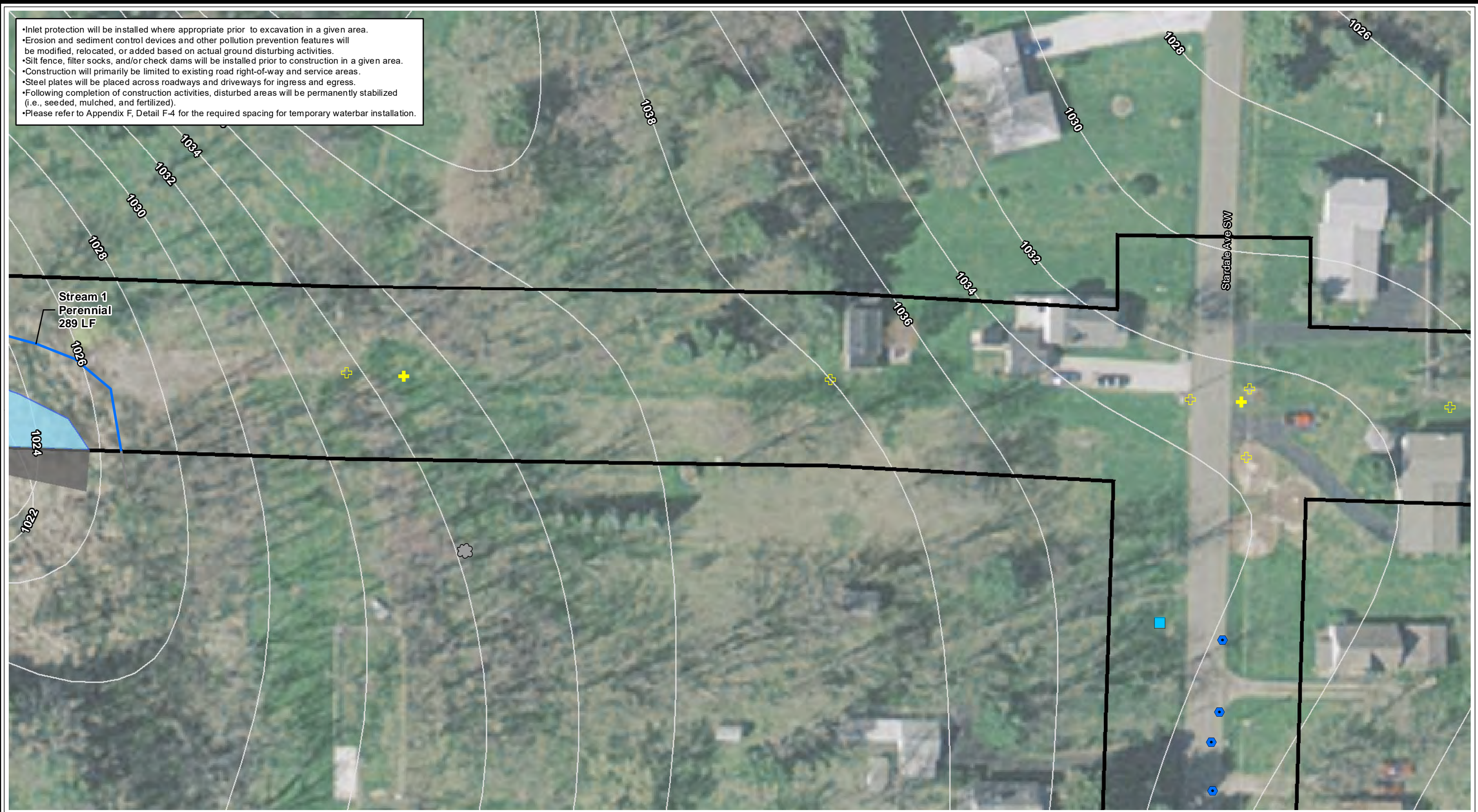
Project Study Area	Filter Fence	Potential Roost Tree On-Site	Delineated PEM Wetland On-Site
Work Corridor	Waterbar	Potential Roost Tree Off-Site	Delineated PFO Wetland On-Site
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Check dam	Temporary Pipeline Marker On-Site	Impacted Stream	Impacted Stream
Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	Impacted Wetland



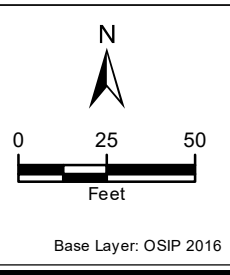
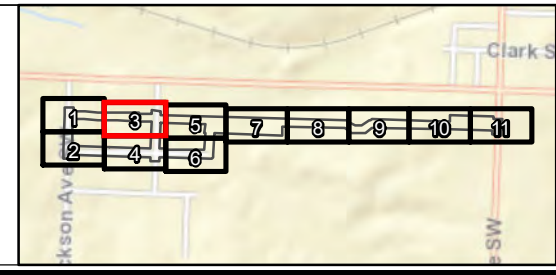
Appendix C - Figure 1
Erosion and Sediment Control Map 2 of 11

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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Inlet Protection	Permanent Pipeline Marker Off-Site	Delineated Perennial Stream Off-Site	Delineated Waterbody Off-Site
Check dam	Temporary Pipeline Marker On-Site	Impacted Stream	Impacted Wetland
Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	



Appendix C - Figure 1
Erosion and Sediment Control Map 3 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

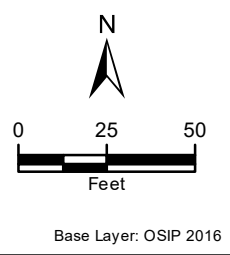
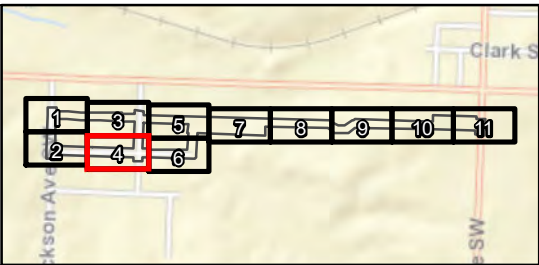
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Wetland E
 0.05 ac. total
 0.008 ac. impacted
 Open Trench Cut

Stream 1
 Perennial
 289 LF

Stream 1
 289 LF. total
 10 LF. impacted
 Open Cut Trench

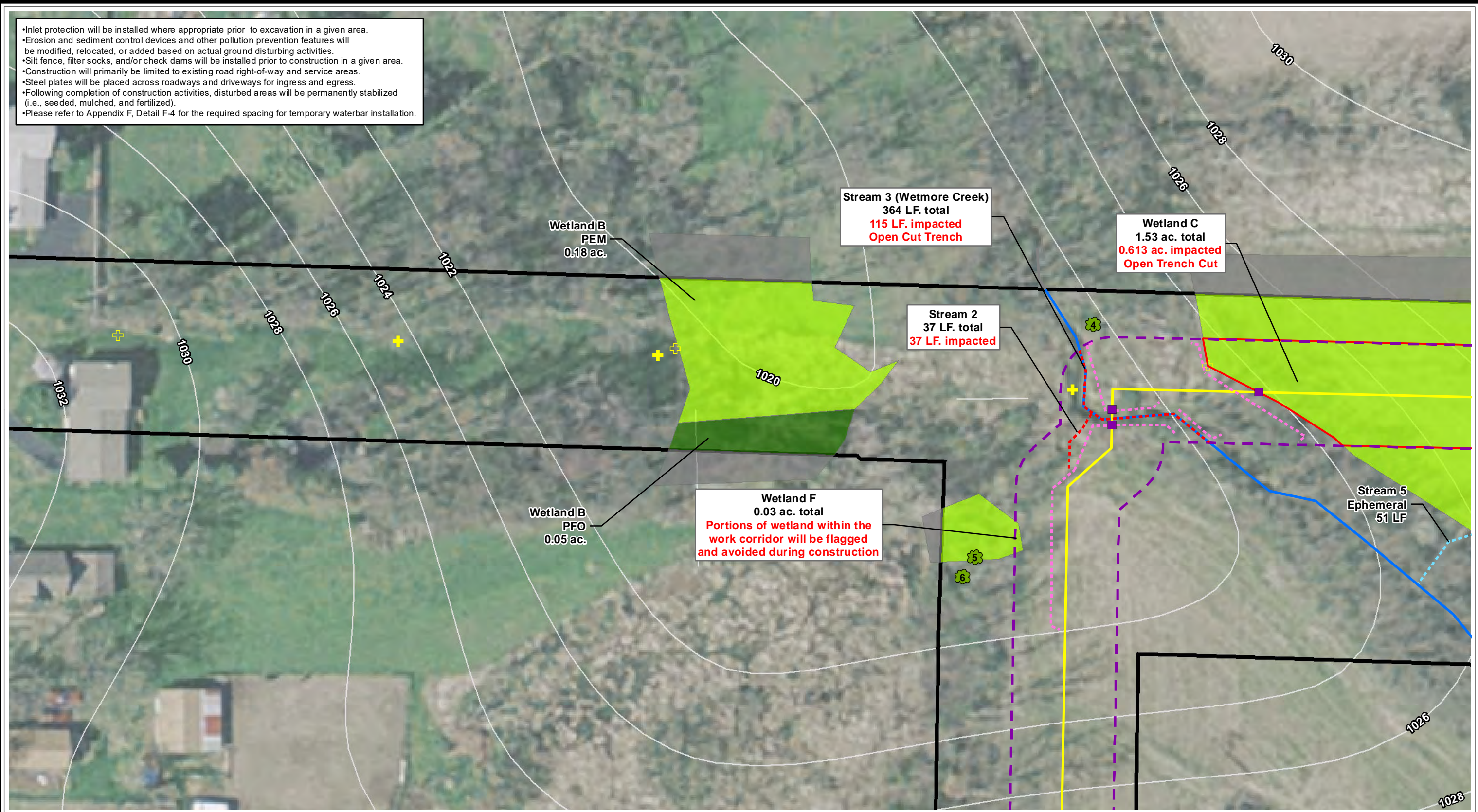
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|--------------------|------------------------------------|--------------------------------------|--------------------------------|
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| Culvert | Permanent Pipeline Marker On-Site | Delineated Perennial Stream On-Site | Delineated Waterbody On-Site |
| Inlet Protection | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody Off-Site |
| Check dam | Temporary Pipeline Marker On-Site | Delineated Ditch | Impacted Stream |
| Trench Plug | Temporary Pipeline Marker Off-Site | Impacted Wetland | |



Appendix C - Figure 1
Erosion and Sediment Control Map 4 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



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Wetland B
PEM
0.18 ac.

Stream 3 (Wetmore Creek)
364 LF. total
115 LF. impacted
Open Cut Trench

Wetland C
1.53 ac. total
0.613 ac. impacted
Open Trench Cut

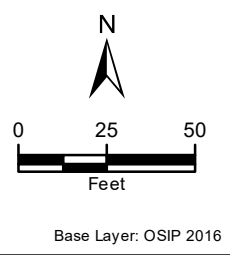
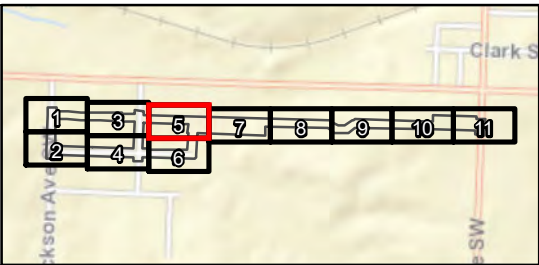
Stream 2
37 LF. total
37 LF. impacted

Wetland B
PFO
0.05 ac.

Wetland F
0.03 ac. total
Portions of wetland within the
work corridor will be flagged
and avoided during construction

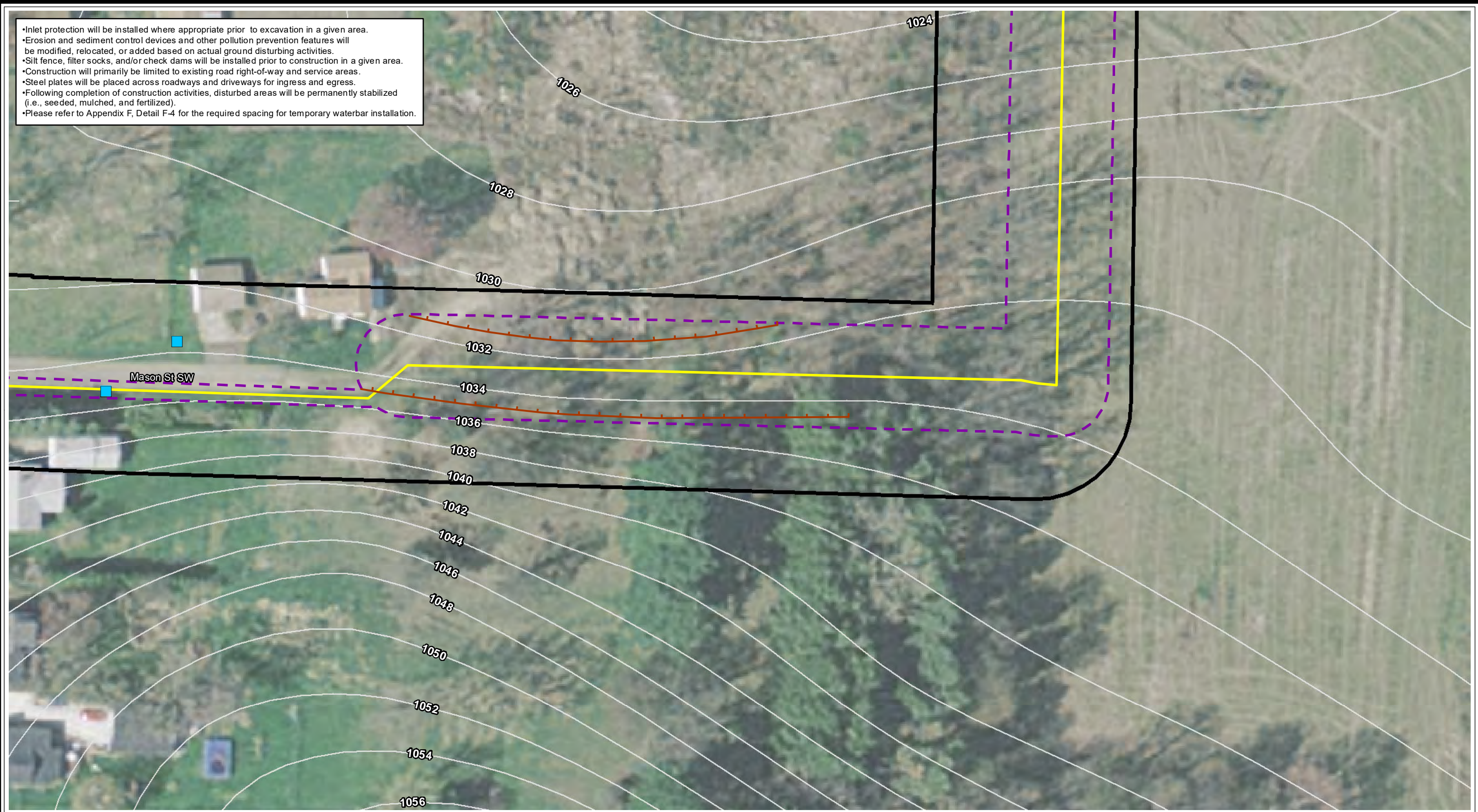
Stream 5
Ephemeral
51 LF

- | | | | |
|--------------------|------------------------------------|--------------------------------------|--------------------------------|
| Project Study Area | Filter Fence | Potential Roost Tree On-Site | Delineated PEM Wetland On-Site |
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| Check dam | Temporary Pipeline Marker On-Site | Impacted Stream | Impacted Wetland |
| Trench Plug | Temporary Pipeline Marker Off-Site | Delineated Ditch | |

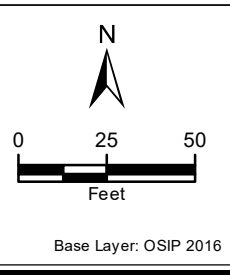
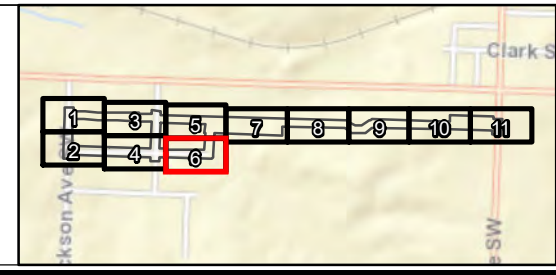


Appendix C - Figure 1
Erosion and Sediment Control Map 5 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
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- | | | | |
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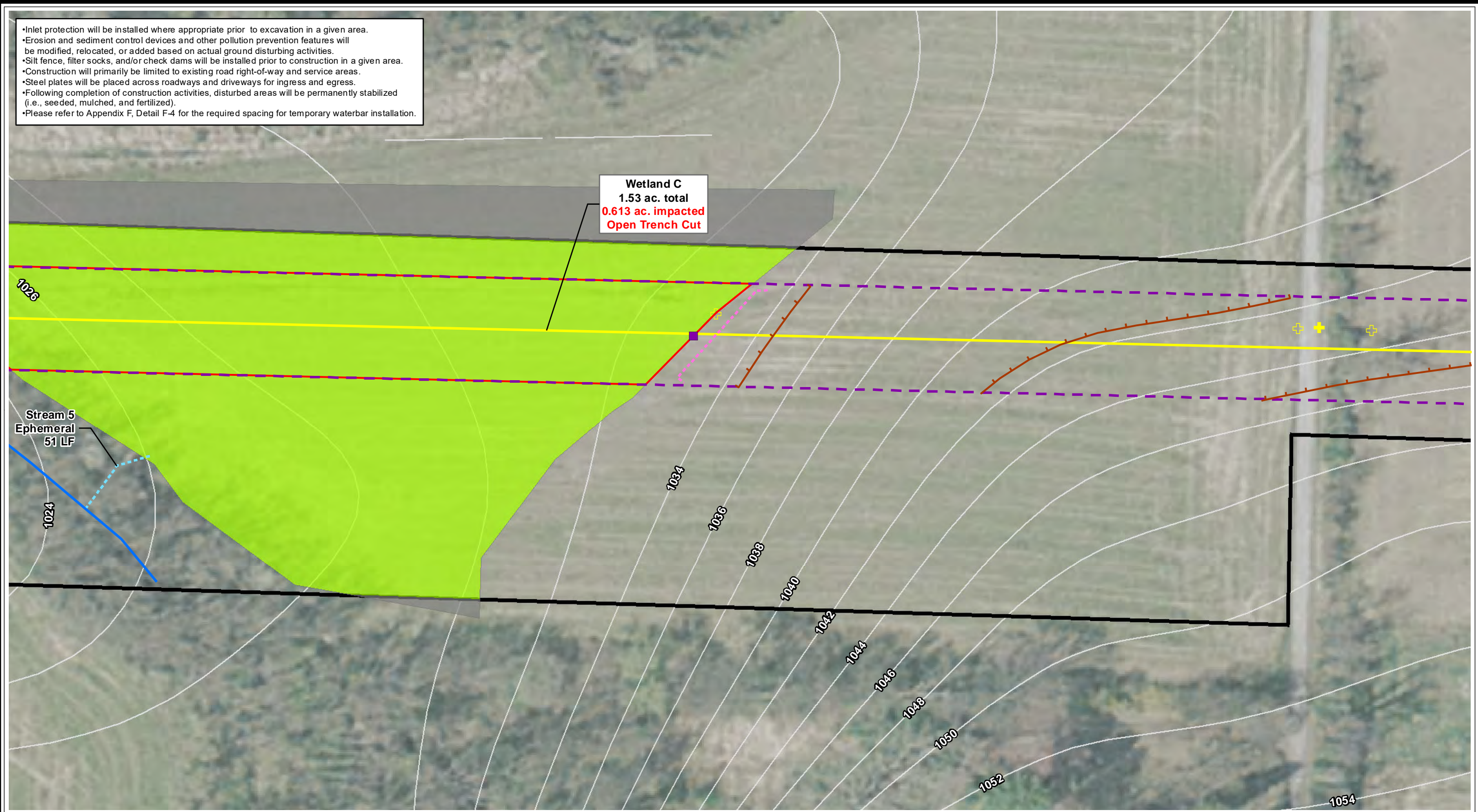


Appendix C - Figure 1
Erosion and Sediment Control Map 6 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

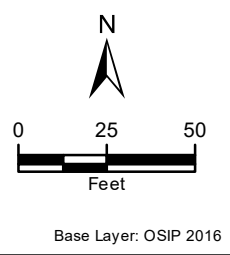
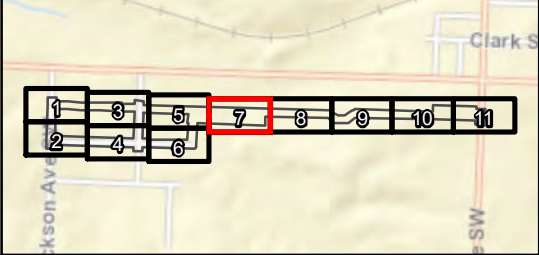
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Wetland C
 1.53 ac. total
 0.613 ac. impacted
 Open Trench Cut

Stream 5
 Ephemeral
 51 LF



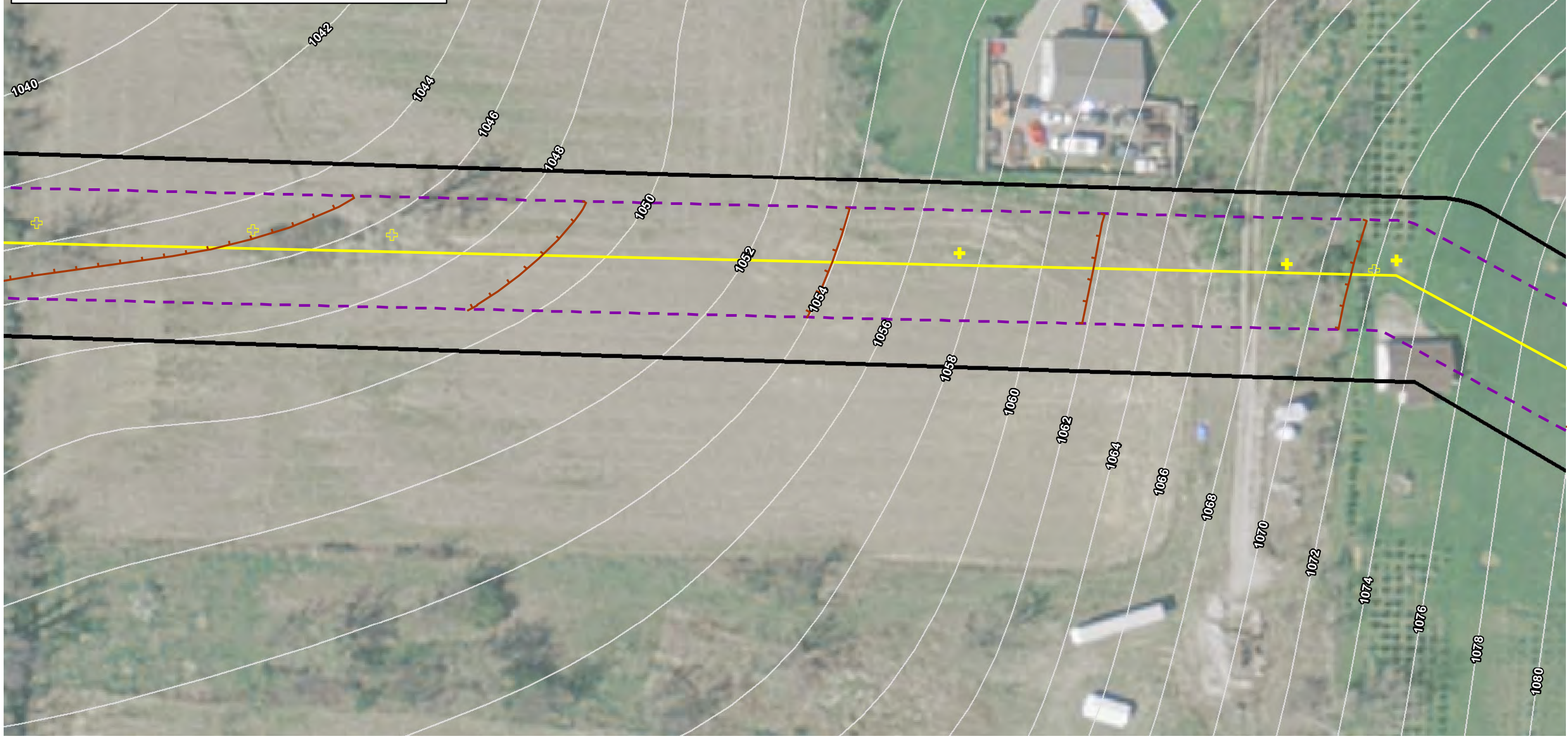
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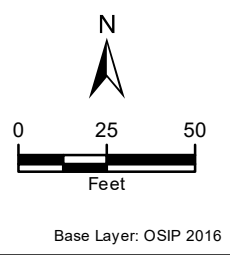
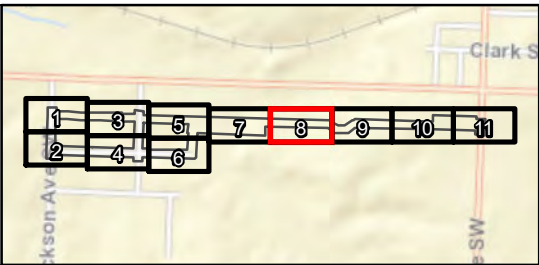
Appendix C - Figure 1
Erosion and Sediment Control Map 7 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
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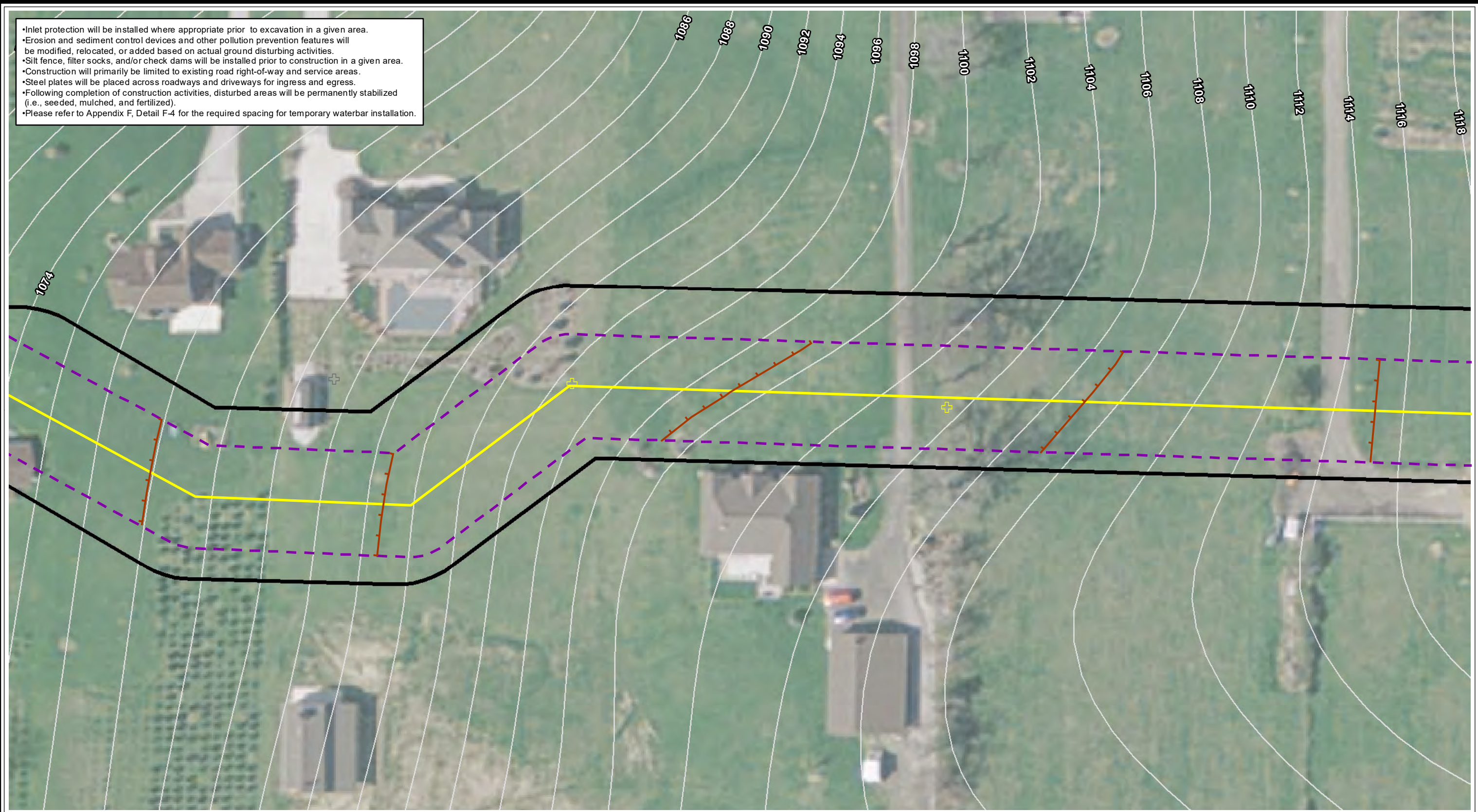
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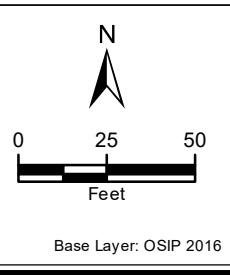
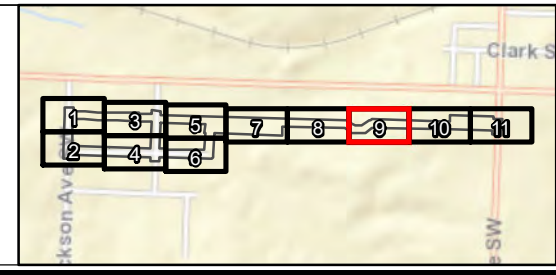
Appendix C - Figure 1
Erosion and Sediment Control Map 8 of 11
 PIR 2350 - Jackson & Genoa
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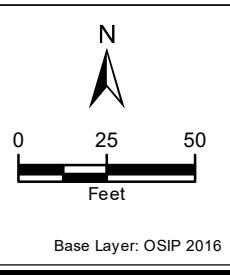
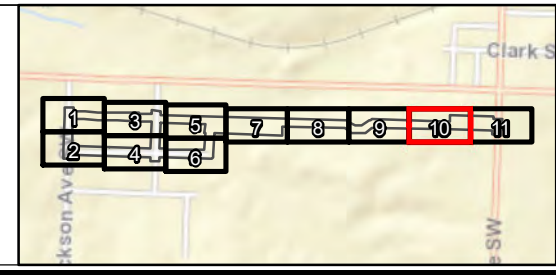
Appendix C - Figure 1
Erosion and Sediment Control Map 9 of 11

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023


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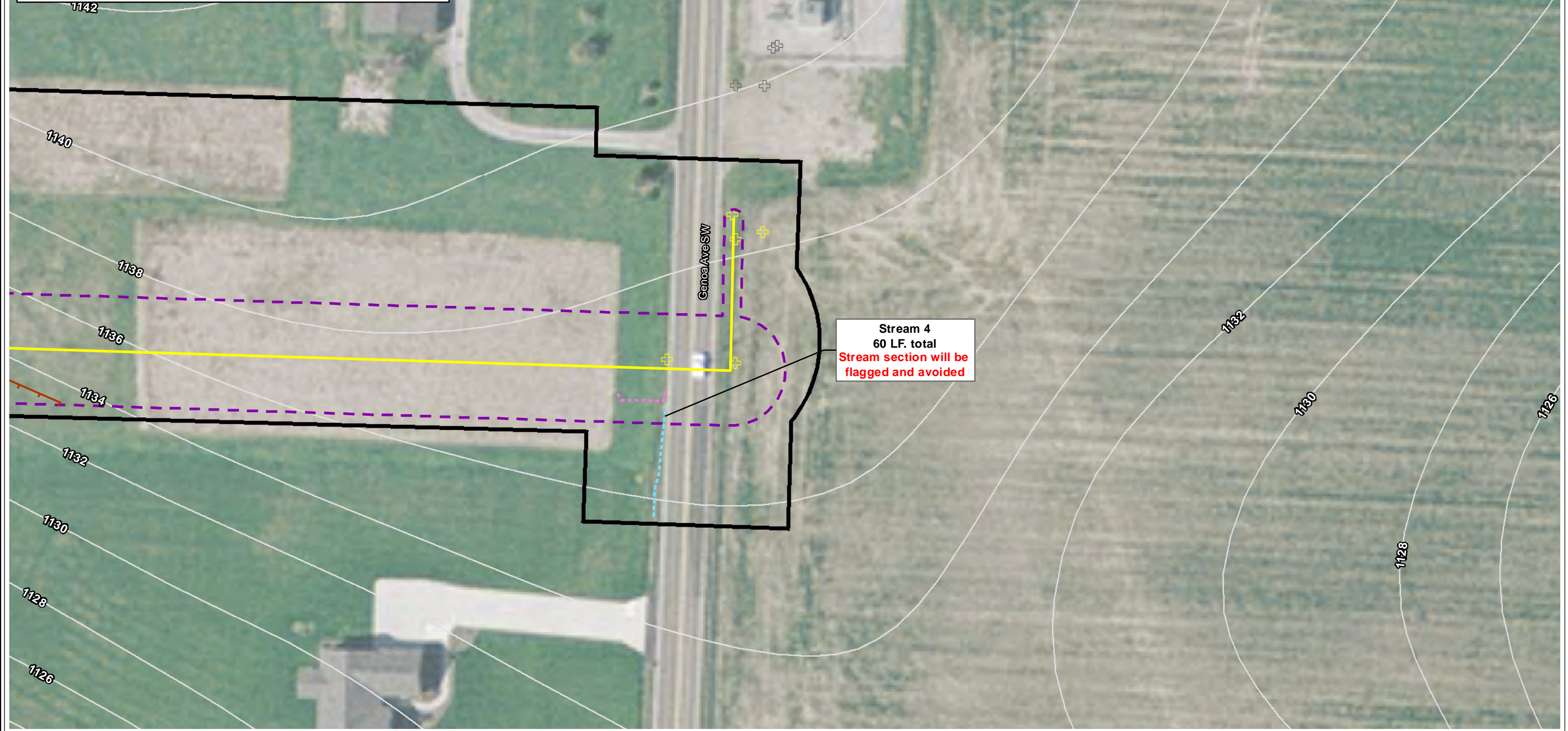
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Appendix C - Figure 1
Erosion and Sediment Control Map 10 of 11
 PIR 2350 - Jackson & Genoa
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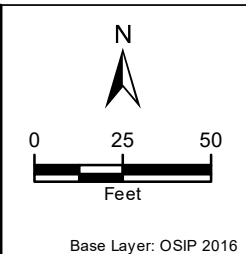
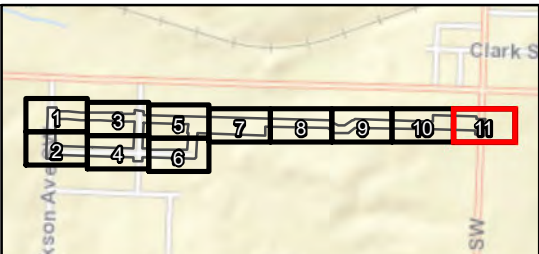


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Stream 4
60 LF. total
Stream section will be
flagged and avoided

- | | | | |
|--------------------|------------------------------------|--------------------------------------|--------------------------------|
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Appendix C - Figure 1
Erosion and Sediment Control Map 11 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

APPENDIX D

Site Drawing Checklist and Logs

D-1 SITE DRAWING CHECKLIST **

- **Location of solid waste dumpsters**
- **Location designated for waste drums of oil soaked absorbent pads/rags; solids, sludge, or oil collected from pipeline**
- **Locations of sanitary facilities such as Port-a-Jons (update these locations on drawings as project progresses)**
- **Locations of diesel and gasoline storage tanks (secondary containment provided)**
- **Locations of pipe and equipment storage yards**
- **Locations of cement truck washout**

**** *These locations can be hand drawn on the site drawings.***

APPENDIX E

Corrective Action Log



Dominion Construction Stormwater General Permit: Corrective Action Log

Project Name:

State-Specific Corrective Action Requirement*:

Positions Authorized to Document Corrective Action Completion:

Corrective Action #	Inspection Date	Inspector Name(s)	Description of Deficiency	Corrective Action Required	Date Corrective Action is Due*	Agency Notification Required? (Y/N)	Date Corrective Action Performed / Responsible Person

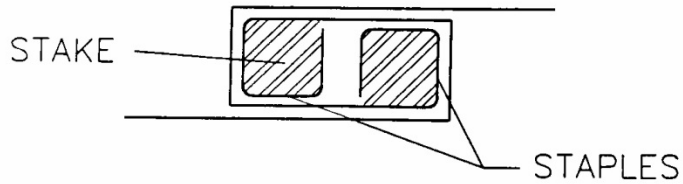
*Corrective action requirements/deadlines are state specific. Thus, refer to your construction stormwater permit. Should the project team not be able to meet the permit deadlines then the stormwater management program authority (e.g. state agency) must be notified.

APPENDIX F

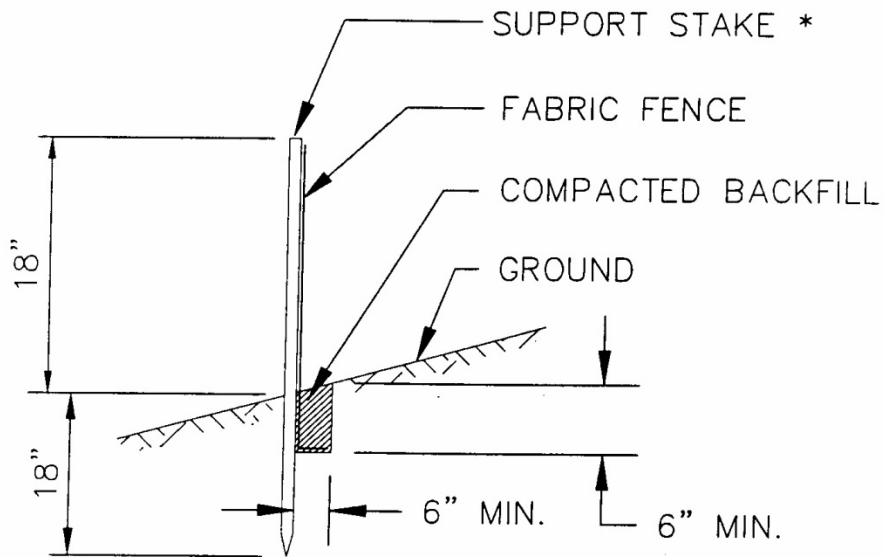
Typical Upland Erosion and Sediment Control Plan Drawings

DETAIL F-1

FILTER FABRIC FENCE DETAIL



JOINING FENCE SECTIONS



*Stakes spaced @ 8' maximum. Use 2"x 2" wood or equivalent steel stakes.

Filter Fabric Fence must be placed at level existing grade. Both ends of the barrier must be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.

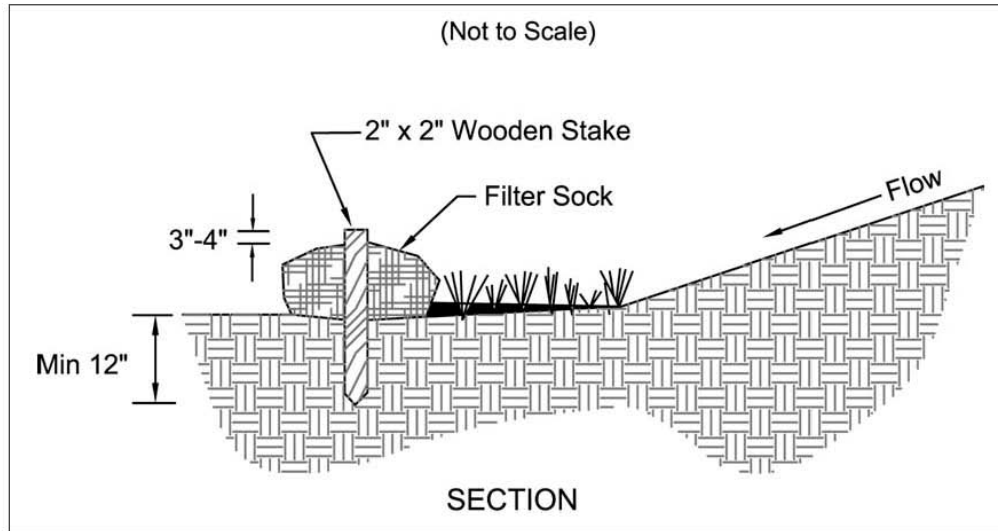
Trench shall be backfilled and compacted to prevent runoff from cutting underneath the fence.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

Any section of Filter fabric fence that has been undermined or topped should be immediately replaced.

DETAIL F-2

FILTER SOCK DETAIL



1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

INSTALLATION:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.

5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

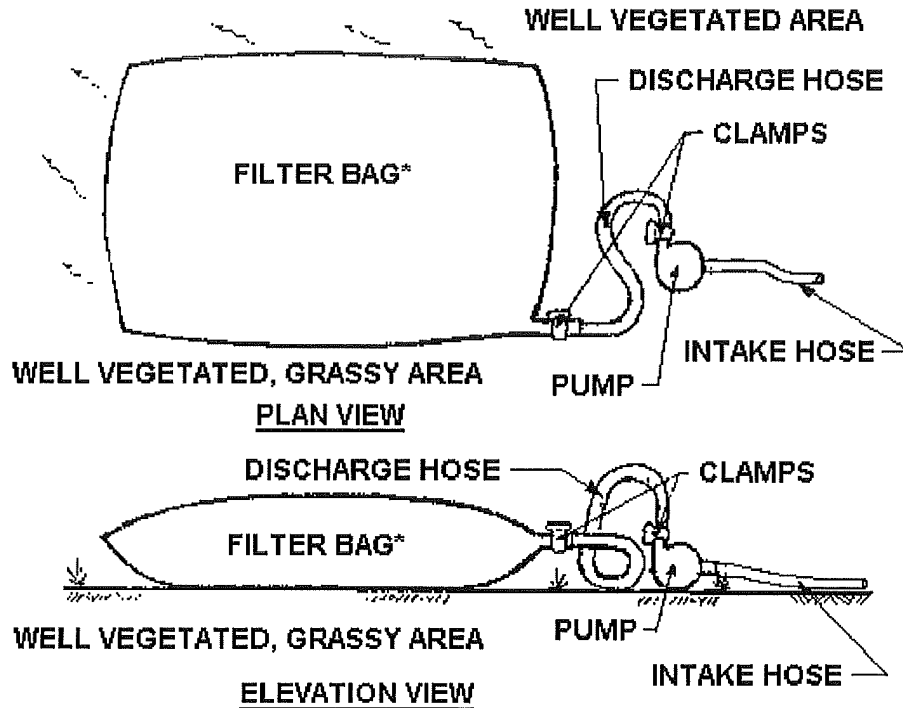
MAINTENANCE:

6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such a way as to facilitate and not obstruct seedings.

Note: Filter socks may not require stakes if used in areas of little to no slope, for short duration, and/or for relatively small disturbances such as sidecast piles from service line tie-ins.

DETAIL F-3

PUMPED WATER FILTER BAG DETAIL



Filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They shall be capable of trapping particles larger than 150 microns.

A suitable means of accessing the bag with machinery required for disposal purposes must be provided. Filter bags shall be replaced when they become 1/2 full. Spare bags shall be kept available for replacement of those that have failed or are filled.

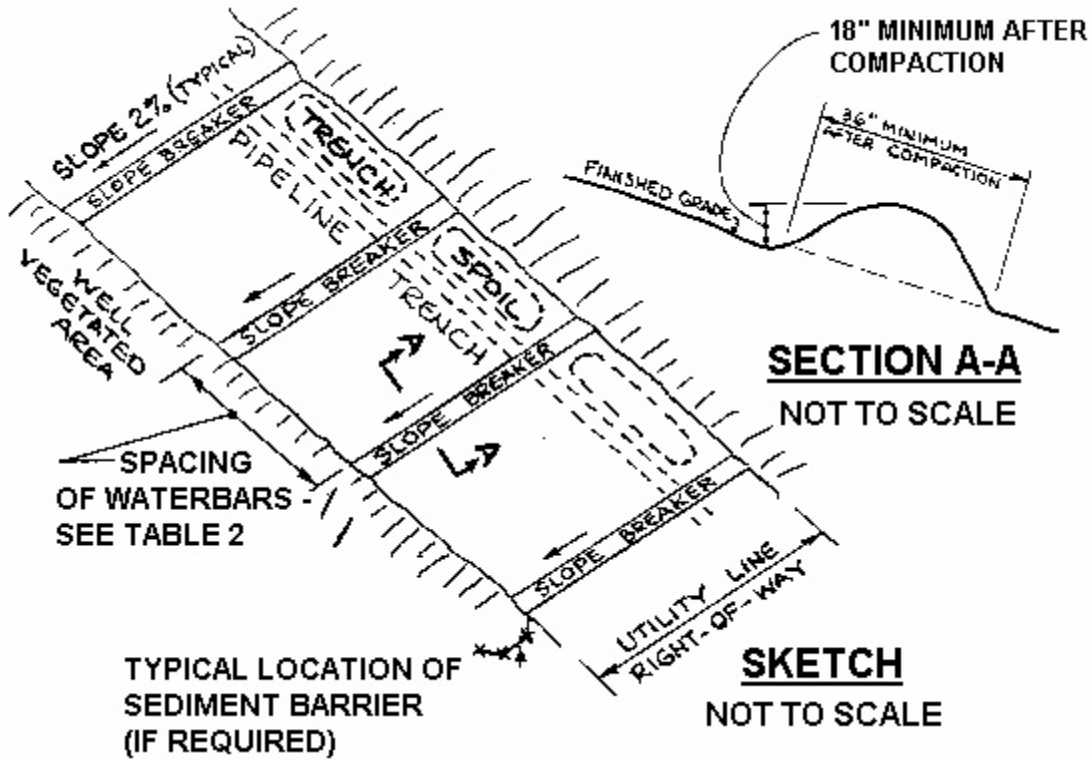
Bags shall be located in a well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile flow path shall be provided. Bags should not be placed on slopes greater than 5%.

For hydrostatic discharge, the pumping rate is 350-500 gallons per minute (gpm). For trench dewatering, the pumping rate shall be no more than 750 gpm. Floating pump intakes should be considered to allow sediment-free water to be discharged during dewatering.

Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

DETAIL F-4

WATERBAR INSTALLATION



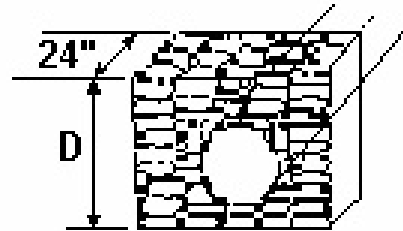
Required Spacing for Temporary and Permanent Waterbars	
Percent Slope	Spacing (FT)
1	400
2	250
5	135
10	80
15	60
20	45

Waterbars should be constructed at a slope of 1% and discharge to a well-vegetated area. Waterbars should not discharge into an open trench. Waterbars should be oriented so that the discharge does not flow back onto the ROW. Obstructions, (e.g. silt fence, rock filters, etc.) should not be placed in any waterbars. Where needed, they should be located below the discharge end of the waterbar.

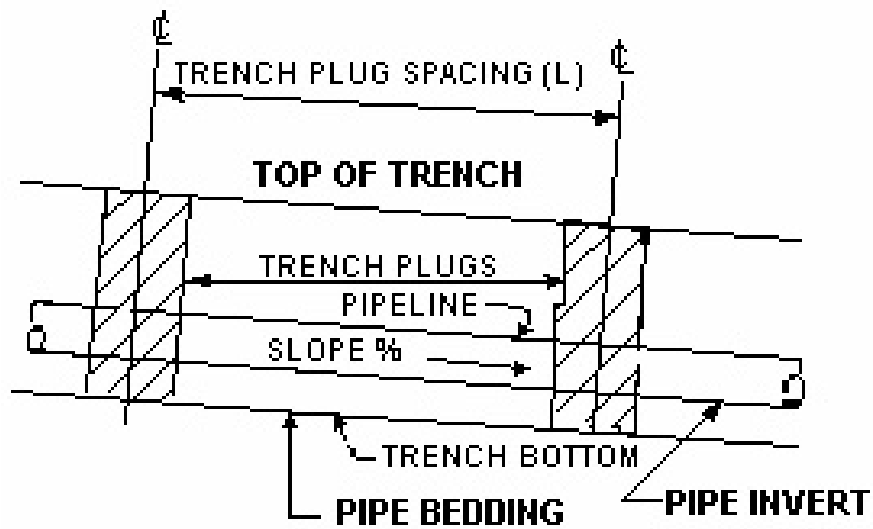
DETAIL F-5

TRENCH PLUG INSTALLATION DETAIL

D - DEPTH TO BOTTOM OF TRENCH



SECTION VIEW NOT TO SCALE

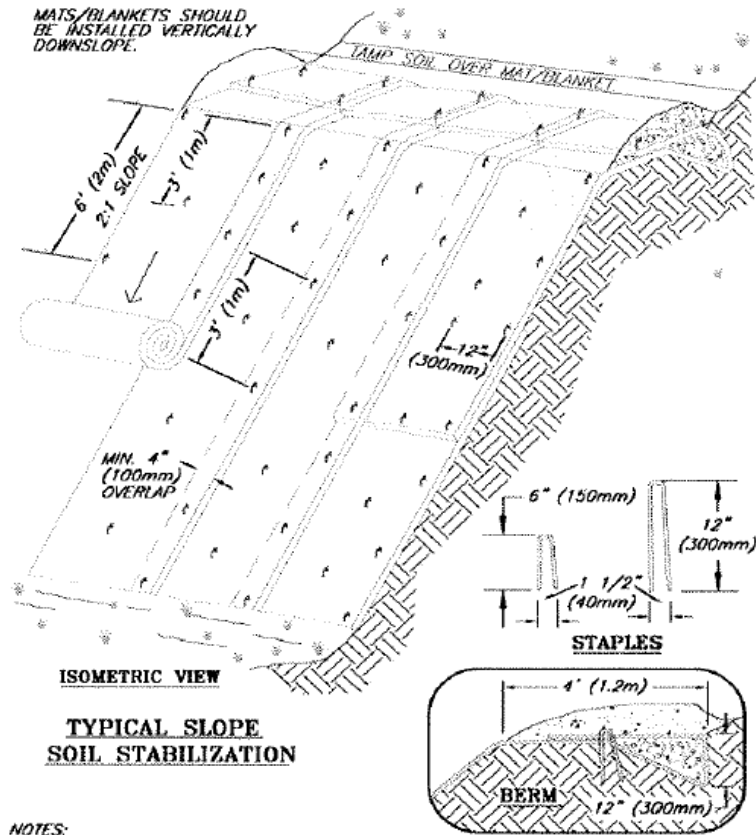


ELEVATION NOT TO SCALE

DETAIL F-6

EROSION CONTROL MATTING DETAIL

EROSION CONTROL BLANKET DETAIL



- NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

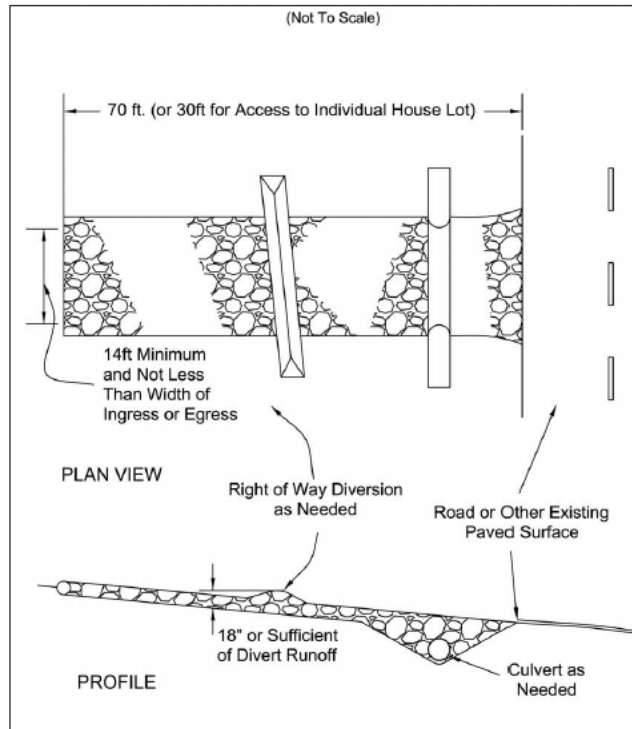
NOT TO SCALE

EROSION BLANKETS & TURF REINFORCEMENT MATS SLOPE INSTALLATION

Refer to manufacturer's lining installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

DETAIL F-7

ROCK CONSTRUCTION ENTRANCE DETAIL



Specifications
for

Construction Entrance

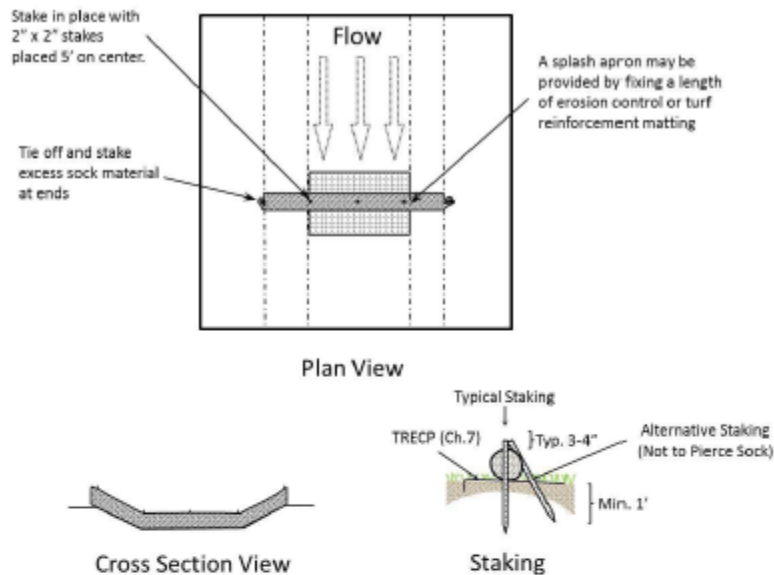
1. Stone Size—ODOT # 2 (1.5-2.5 inch) stone shall be used, or recycled concrete equivalent.
2. Length—The Construction entrance shall be as long as required to stabilize high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).
3. Thickness -The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
4. Width -The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
5. Geotextile -A geotextile shall be laid over the entire area prior to placing stone. It shall be composed of strong rot-proof polymeric fibers and meet the following specifications:
6. Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.
7. Culvert -A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed out onto paved surfaces.
8. Water Bar -A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
9. Maintenance -Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.
10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction-site shall be restricted from muddy areas.
11. Removal—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

Figure 7.4.1

Geotextile Specification for Construction Entrance	
Minimum Tensile Strength	200 lbs.
Minimum Puncture Strength	80 psi.
Minimum Tear Strength	50 lbs.
Minimum Burst Strength	320 psi.
Minimum Elongation	20%
Equivalent Opening Size	EOS < 0.6 mm.
Permittivity	1×10 ⁻³ cm/sec.

DETAIL F-8

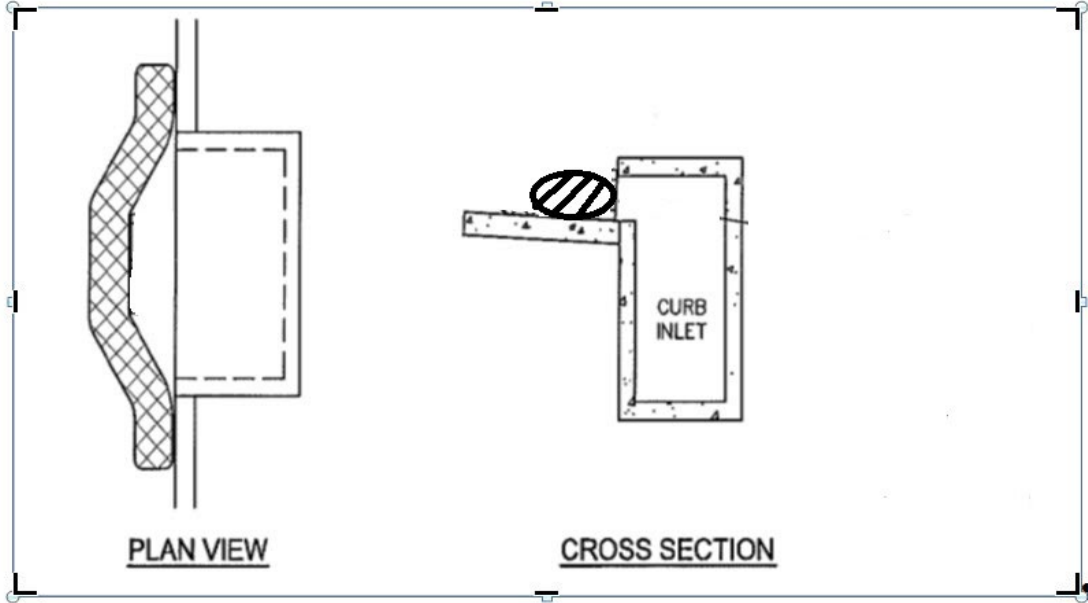
COMPOST SOCK CHECK DAM DETAIL



- Compost sock netting shall use a knitted mesh fabric with 1/8-3/8 inch openings, and compost media with particle sizes 99% < 3 inches, and 60% > 3/8 inches (conforming to media described in Chapter 6 Filter Sock).
- Compost sock check dams shall be used in areas that drain 5 acres or less.
- Sediment shall be removed from behind the sock when it reaches 1/2 the height of the check dam.
- Compost sock check dams shall be constructed with 12, 18, or 24 in diameter compost socks, and shall completely cover the width of the channel. The midpoint of the compost sock check dam shall be a minimum of 6 inches lower than the sides in order to direct flow across the center and away from the channel sides. Filter sock check dams shall be filled to a density such that they shall reach their intended height (diameter). After installation and use, they shall be considered unsuitable and in need of replacement after falling below 80% of their minimum required height (diameter).
- Although no trenching is necessary, compost sock check dams shall be placed on a graded surface where consistent contact with the soil surface is made without bridging over gaps, rills, gullies, stones or other irregularities.
- Place compost sock check dams so that the ends extend to the top of bank. Staking for compost sock check dams shall use 2 inch x 2 inch wooden stakes, placed 5 foot on center. Stake length shall allow them to be driven 12 inches into existing soil and allow at least 2 inches above the sock.
- Space compost sock check dams so that the toe of the upstream dam is at the same elevation or lower elevation as the top of the downstream compost sock check dam (at the center of the channel). This will be influenced by the height of the sock and gradient of the waterway.
- A splash apron may be needed where flows over the sock may erode the channel and undercut the compost sock check dam. Create the apron by fixing a length of Temporary Rolled Erosion Control Product (Erosion Control Matting) or Turf Reinforcement Matting starting upstream of the sock a distance equal to the sock height and extending a length two times the height of the compost sock check dam. See Chapter 7 for information regarding these materials. Materials used should be able to be left in place (e.g. biodegradable/photodegradable TRECP) without creating problems for future mowing or maintenance of the channel.

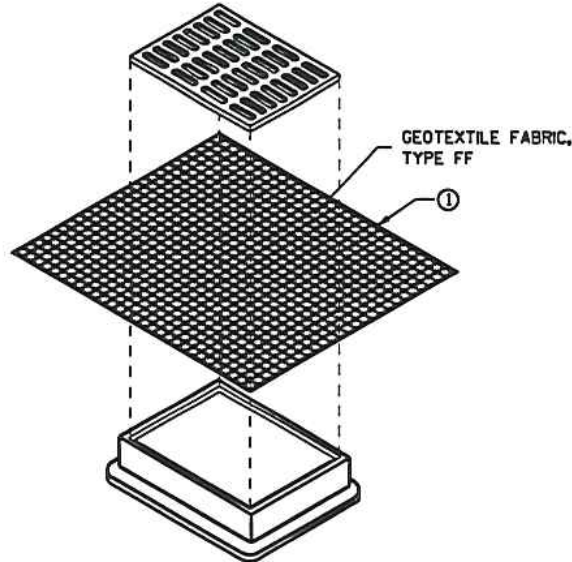
DETAIL F-9A

CURB INLET PROTECTION



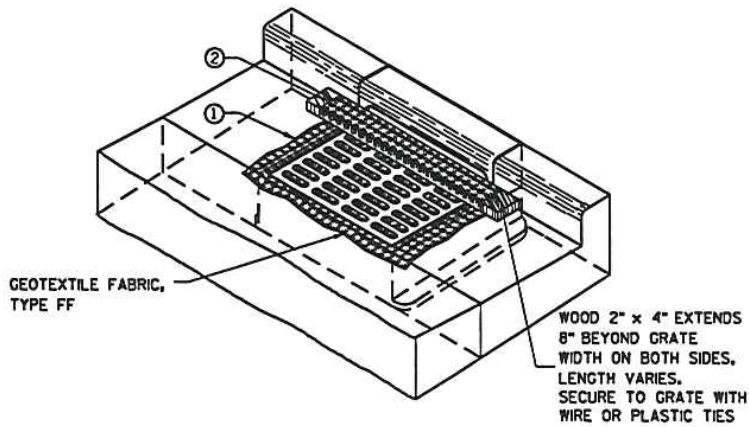
DETAIL F-9B

CURB INLET PROTECTION



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

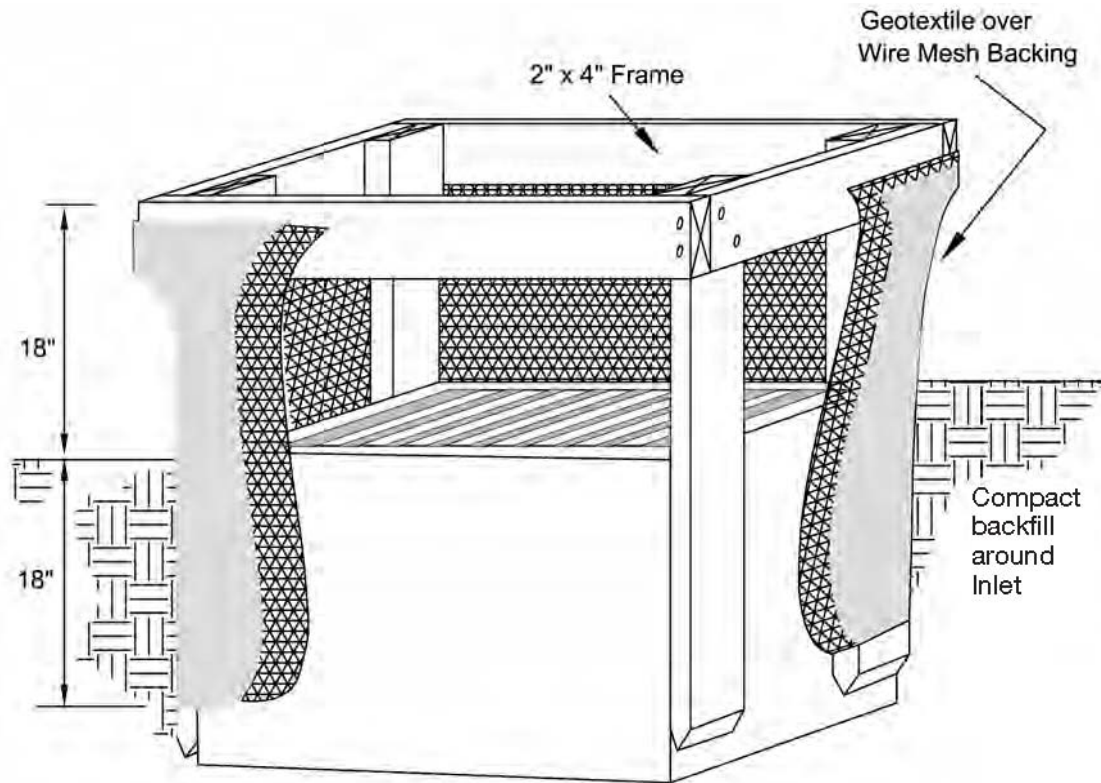
TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

DETAIL F-9C

GEOTEXTILE INLET PROTECTION DETAIL



SECTION

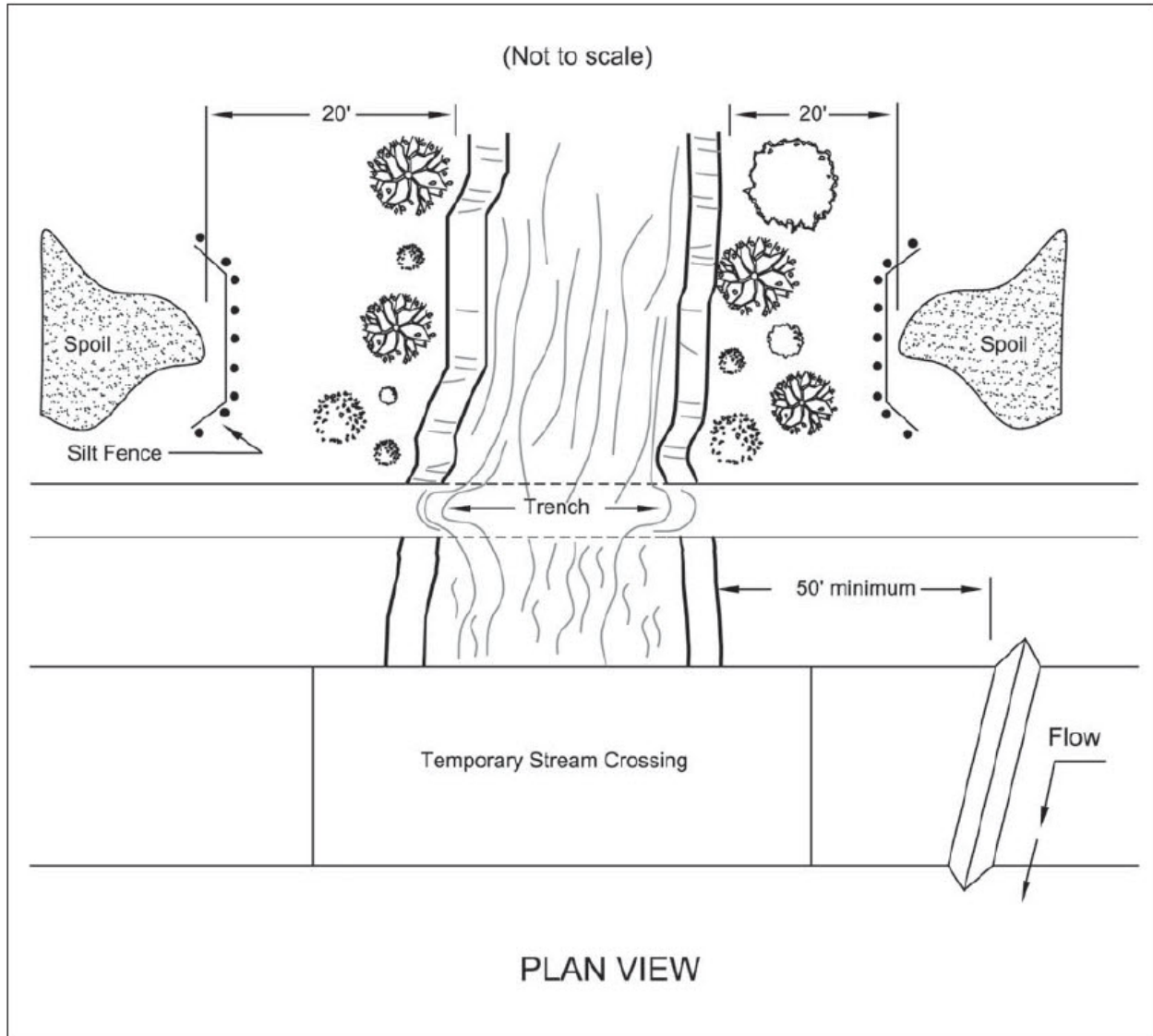
1. Inlet protection shall be constructed either before upslope land disturbance begins or before the inlet becomes functional.
2. The earth around the inlet shall be excavated completely to a depth at least 18 inches.
3. The wooden frame shall be constructed of 2-inch by 4-inch construction grade lumber. The 2-inch by 4-inch posts shall be driven one (1) ft. into the ground at four corners of the inlet and the top portion of 2-inch by 4-inch frame assembled using the overlap joint shown. The top of the frame shall be at least 6 inches below adjacent roads if ponded water will pose a safety hazard to traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile material shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 inches below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.
6. Backfill shall be placed around the inlet in compacted 6inch layers until the earth is even with notch elevation on ends and top elevation on sides.
7. A compacted earth dike or check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression. The top of the dike shall be at least 6 inches higher than the top of the frame.
8. Filter fabric and filter socks can also be used as inlet protection.

APPENDIX G

Typical Stream Crossing Drawings

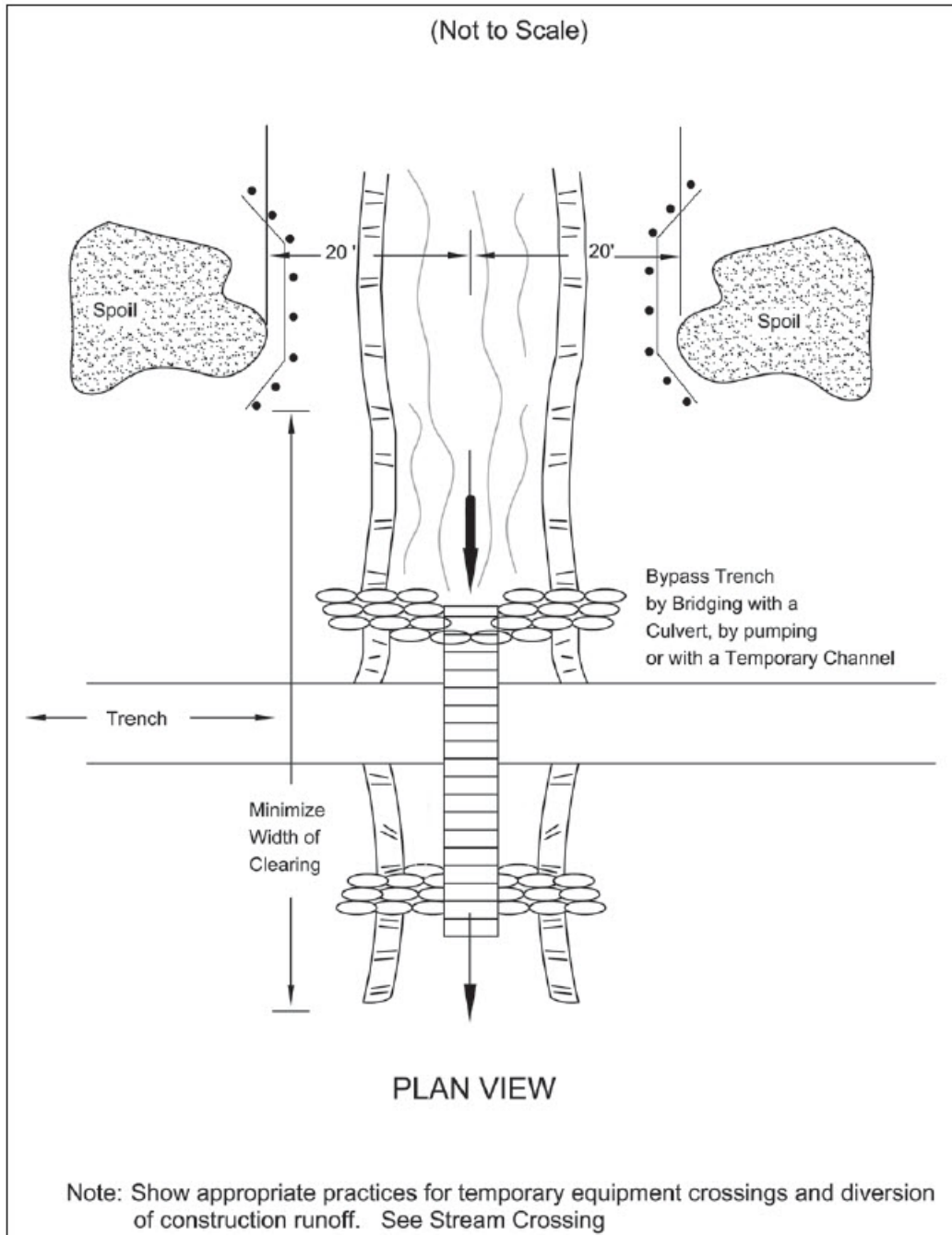
DETAIL G-1

LARGE STREAM UTILITY CROSSING



DETAIL G-2

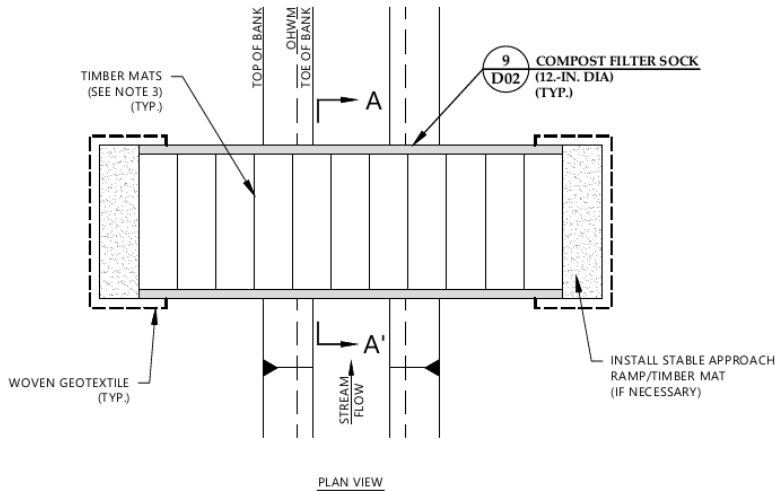
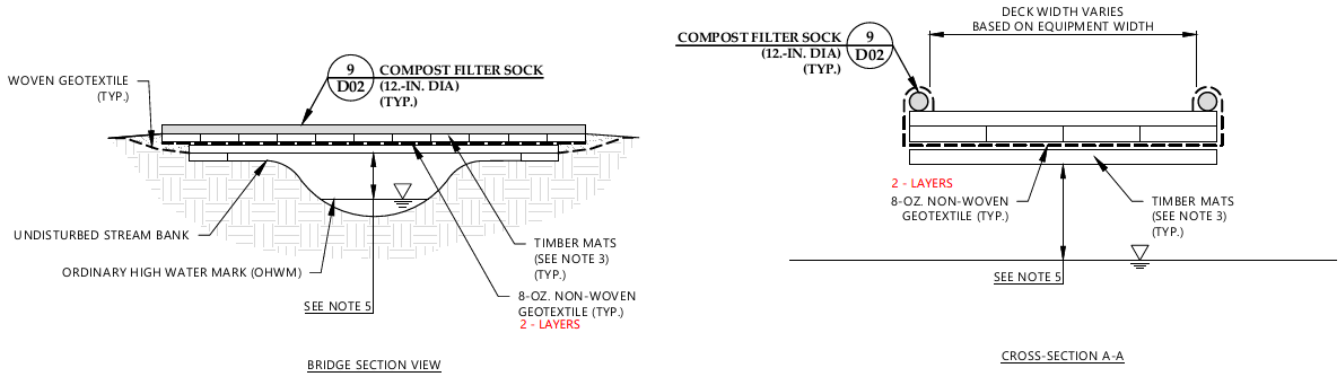
SMALL STREAM UTILITY CROSSING



Notes: A diversion barrier may also be used to direct water away from the pipe trench
Trench plugs will be installed as necessary on each side of water body crossings.

DETAIL G-3

TEMPORARY ACCESS BRIDGE



TEMPORARY BRIDGE NOTES

1. A PRE-FABRICATED BRIDGE OR FLATBED RAILCAR MAY BE SUBSTITUTED FOR THE TEMPORARY CONSTRUCTION BRIDGE.
2. INSTALL THE BRIDGE IN A MANNER THAT WILL MINIMIZE SEDIMENT FROM ENTERING THE WATER.
3. BRIDGE MUST BE DESIGNED BY CONTRACTOR'S ENGINEER TO SUPPORT EXPECTED LOADS.
4. SECURELY ANCHOR BRIDGE AT ONE (1) END USING STEEL CABLE OR CHAIN.
5. ABUTMENTS SHOULD BE PLACED PARALLEL TO, AND ON, STABLE BANKS SUCH THAT THE STRUCTURE IS AT OR ABOVE BANKFULL DEPTH TO PREVENT ENTRAPMENT OF FLOATING MATERIALS AND DEBRIS.
6. PLACE SAND BAGS IN DECK OPENINGS AS NECESSARY TO PREVENT ACCUMULATION OF SEDIMENT ON NON-WOVEN GEOTEXTILE. PROVIDE SUPPORT FOR SAND BAGS IF NECESSARY.

TEMPORARY BRIDGE MAINTENANCE

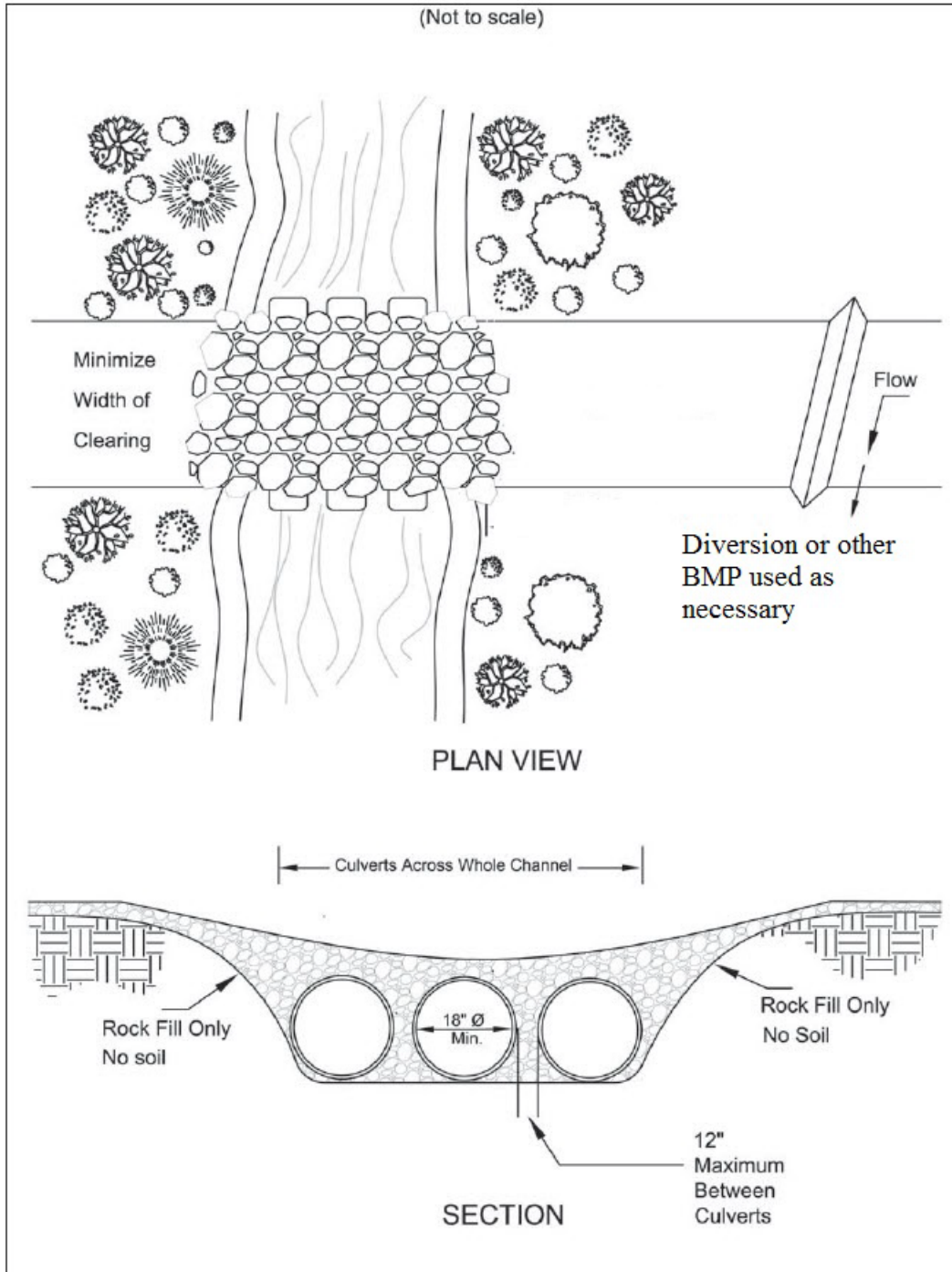
1. INSPECT TEMPORARY BRIDGE AT LEAST ONCE PER 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAIN EVENT GREATER THAN OR EQUAL TO 1.0-IN. IN 24 HOURS. INSPECT MORE FREQUENTLY DURING PERIODS OF HEAVY USE.
2. TEMPORARY CONSTRUCTION BRIDGE WILL BE MAINTAINED IN A CONDITION THAT WILL PREVENT SEDIMENT FROM ENTERING THE WATER.
3. CLEAR EXCESSIVE SEDIMENT DEPOSITED ON BRIDGE AS NECESSARY.

7
D02 TEMPORARY BRIDGE
NOT TO SCALE

- Notes:**
1. Culvert Pipes may be utilized instead of footings, piers or other bridge supports.
 2. Bridge will be temporarily removed during high water events.
 3. Bridge to remain until the completion of final restoration.
 4. Filter socks shall surround the bridge structure above the water line; removed during use, and replaced at night.
 5. Ramp approaches can be either graded or dug into the ground. Stone may be used on approaches.

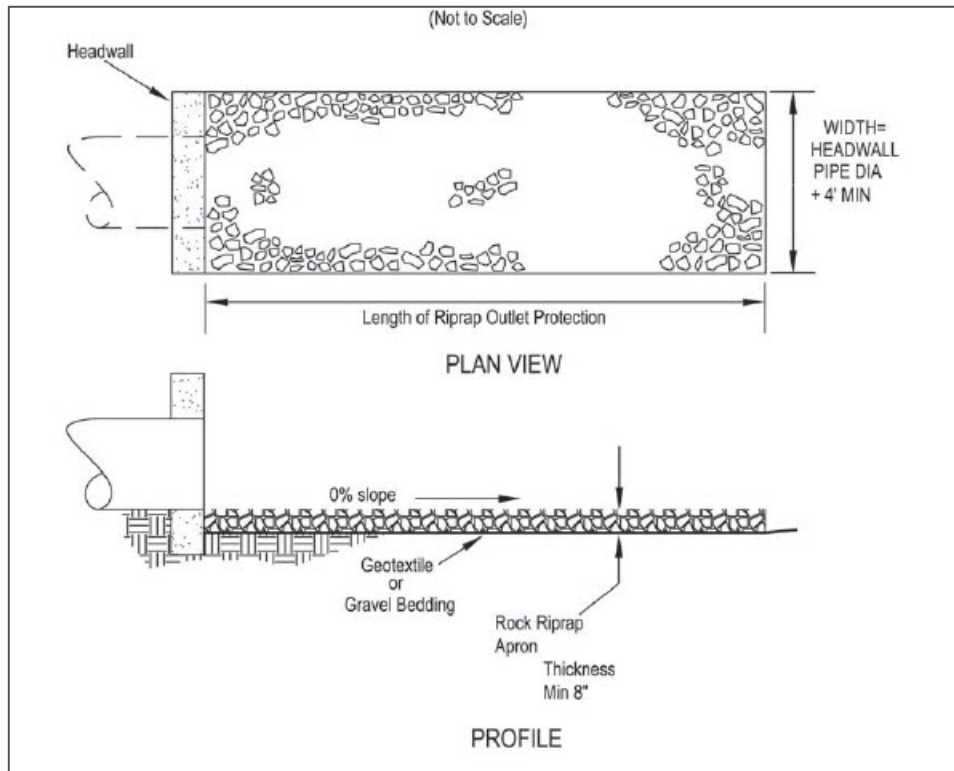
DETAIL G-4

CULVERT (FLUMED) STREAM CROSSING



DETAIL G-5

ROCK OUTLET PROTECTION

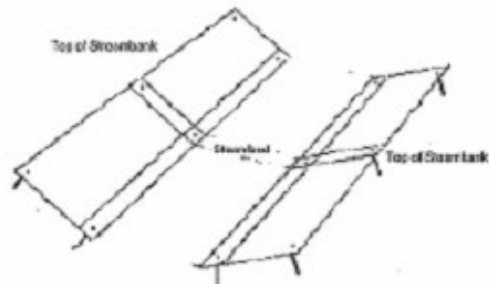


1. Subgrade for the filter or bedding and riprap shall be prepared to the required lines and grades as shown on the plan. The subgrade shall be cleared of all trees, stumps, roots, sod, loose rock, or other material.
2. Riprap shall conform to the grading limits as shown on the plan.
3. Geotextile shall be securely anchored according to manufacturers' recommendations.
4. Geotextile shall be laid with the long dimension parallel to the direction of flow and shall be laid loosely but without wrinkles and creases. Where joints are necessary, strips shall be placed to provide a 12-in. minimum overlap, with the upstream strip overlapping the downstream strip.
5. Gravel bedding shall be ODOT No. 67's or 57's unless shown differently on the drawings.
6. Riprap may be placed by equipment but shall be placed in a manner to prevent slippage or damage to the geotextile.
7. Riprap shall be placed by a method that does not cause segregation of sizes. Extensive pushing with a dozer causes segregation and shall be avoided by delivering riprap near its final location within the channel.
8. Construction shall be sequenced so that outlet protection is placed and functional when the storm drain, culvert, or open channel above it becomes operational.
9. All disturbed areas will be vegetated as soon as practical.

DETAIL G-6

STREAM BANK RESTORATION DETAIL

Erosion Control Mat Details



Refer to matting manufacturer's installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

Stream Rip-Rap Details

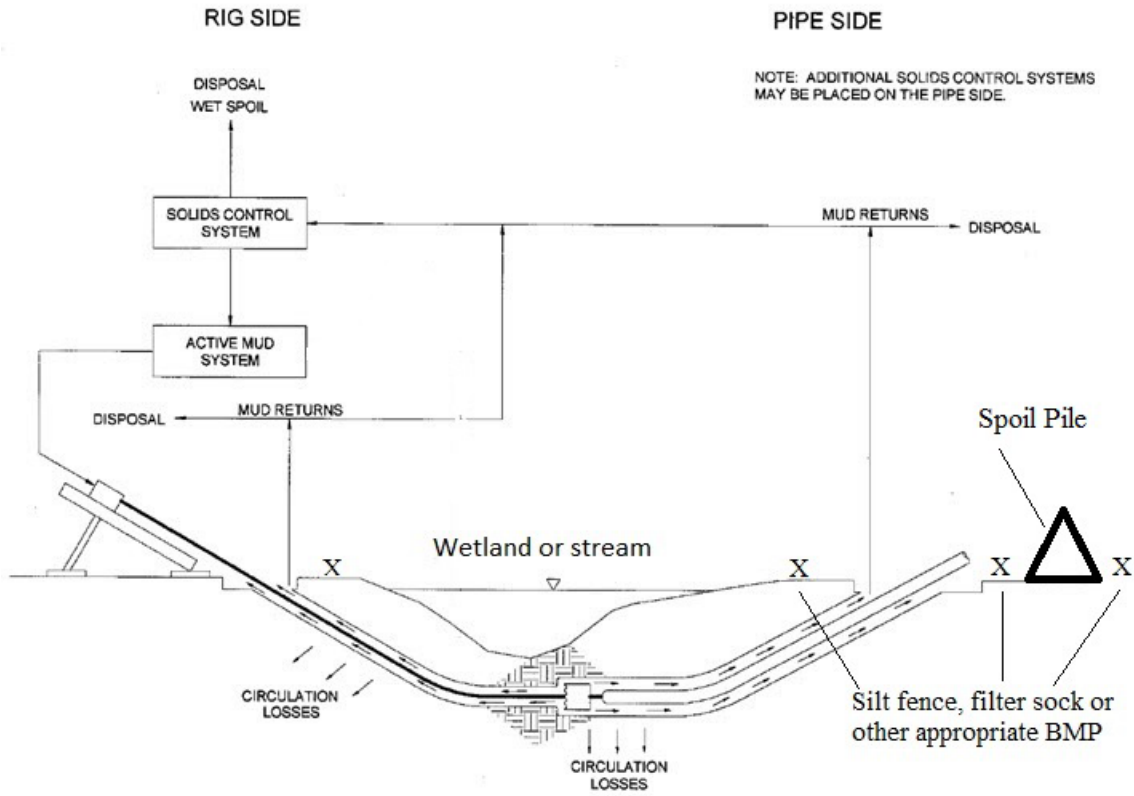


The following guidelines will be used to select riprap size and thickness:

- For channels with water depth > 3 feet, use R-5 at 6" thick.
- For channels with water depth between 2 and 3 feet, use R-4 at 4" thick
- For channels with water depth between 1 and 2 feet, use R-3 at 3" thick
- For channels with water depth < 1 feet, use R-2 at 3" thick

DETAIL G-7

HORIZONTAL DIRECTIONAL DRILL (BORE) OF SURFACE WATER



Specifications
for
Stream Utility Crossing

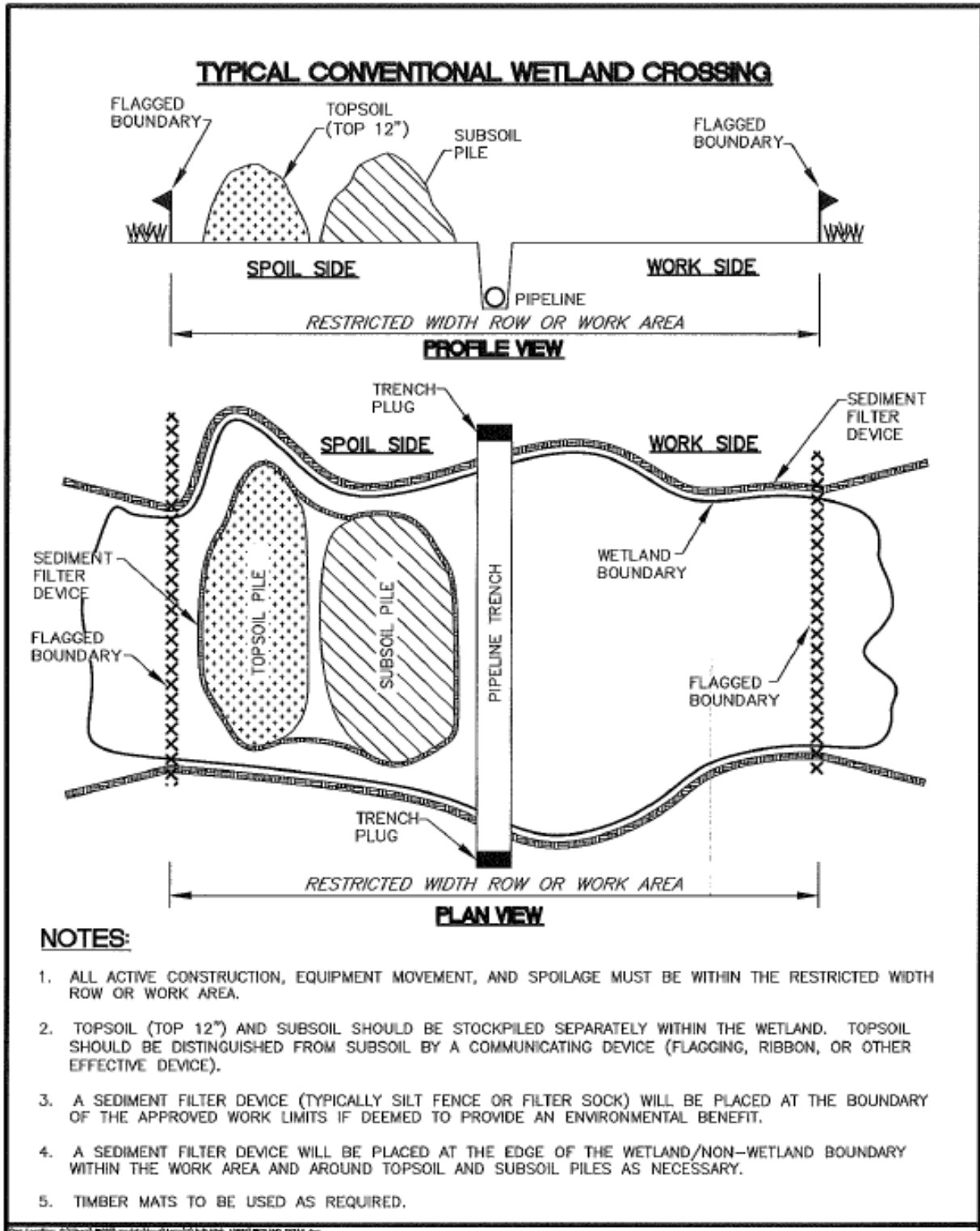
1. When site conditions allow, one of the following shall be used to divert stream flow or keep the flow away from construction activity.
 - Drill or bore the utility lines under the stream channel.
 - Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep flow from moving through the disturbed area. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.
 - Stage construction by confining first one-half of the channel until work there is completed and stabilized, then move to the other side to complete the crossing.
 - Route the stream flow around the work area by bridging the trench with a rigid culvert, pumping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottom and side slopes.
2. Crossing Width -The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself but also clearing done through the vegetation growing on the streambanks.
3. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
4. Material excavated from the trench shall be placed at least 20 ft. from the streambanks.
5. To the extent other constraints allow, stream shall be crossed during periods of low flow.
6. Duration of Construction -The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the streambank.
7. Fill Placed Within the Channel -The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be used to backfill the trench.
8. Streambank Restorations -Streambanks shall be restored to their original line and grade and stabilized with riprap or vegetative bank stabilization.
9. Runoff Control Along the Right-of-Way -To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the stream.
10. Sediment laden water from pumping or dewatering or pumping shall not be discharged directly to a stream. Flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.
11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland through a flat well-vegetated area.
12. Permits -In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

APPENDIX H

Typical Wetland Crossing Drawings

DETAIL H-1

TYPICAL WETLAND CROSSING



DETAIL H-2

WETLAND TIMBER MAT CROSSING



APPENDIX I

**NOI Application
Documentation**



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: The East Ohio Gas Co d/b/a Dominion Energy Ohio

Mailing (Applicant) Address Line: 320 Springside Drive Suite 320

City: Akron **State :** OH **Zip Code:** 44333

Country: USA

Contact Person: Greg Eastridge **Phone:** (330) 664-2576 **Fax:** (330) 664-2669

Contact E-mail Address: gregory.k.eastridge@dominionenergy.com

II. Facility/Site Location Information

Facility/Site Name: PIR 2350 - Jackson & Genoa

Facility Address: Jackson Avenue SW

City: Perry Township **State:** OH **Zip Code:** 44646

County: Stark **Township:** Perry

Facility Contact Person: Eray Tulay **Phone:** (330) 664-2492 **Fax:** (330) 664-2691

Facility Contact E-mail Address: eray.tulay@dominionenergy.com

Latitude: 40.782068 **Longitude:** -81.480849 **Facility/Map Attachment:** PIR2350_NOI_SLM_20221214.pdf

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: OHC000005 **Coverage Type:** New

Type of Activity: Construction Site Stormwater General Permit **SIC Code(s):**

Existing NPDES Facility Permit Number: 3GC13818*AG **ODNR Coal Mining Application Number:**

If Household Sewage Treatment System, is system for: **New Home Construction:** **Replacement of failed existing system:**

Outfall	Design Flow (MGD):	Associated Permit Effluent Table:	Receiving Water :	Latitude	Longitude

Are These Permits Required? **PTI:** NO **Individual 401 Water Quality Certification:** NO

Individual NPDES: NO **Isolated Wetland:** NO **U.S. Army Corp Nationwide Permit:** PENDING

Proposed Project Start Date(if applicable): March 01, 2023 **Estimated Completion Date(if applicable):** December 31, 2023

Total Land Disturbance (Acres): 8.5 **MS4 Drainage Area (Sq. Miles):**

SWP3 Attachment(s): <None>

IV. Payment Information

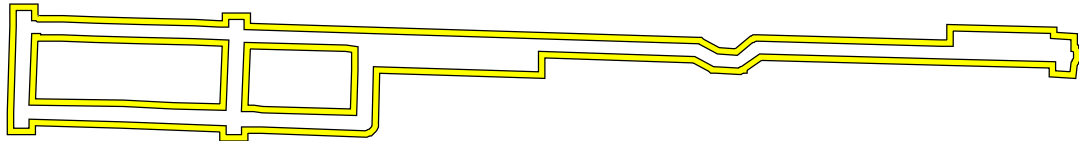
Check #:	For Ohio EPA Use Only	
Check Amount:	Check ID(OFA): _____	ORG #: _____
Date of Check:	Rev ID: _____	DOC #: _____


I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Applicant Name (printed or typed): _____ **Title:** _____

Signature:	Date:
ADDITIONAL INFORMATION	
<i>Please add any additional comments or attachments below.</i>	

Project Name: PIR 2350 – Jackson & Genoa
Facility Contact: Eray Tulay



 Project Study Area

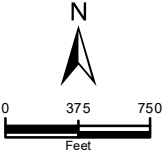


Figure 1
Site Location Map

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022



APPENDIX J

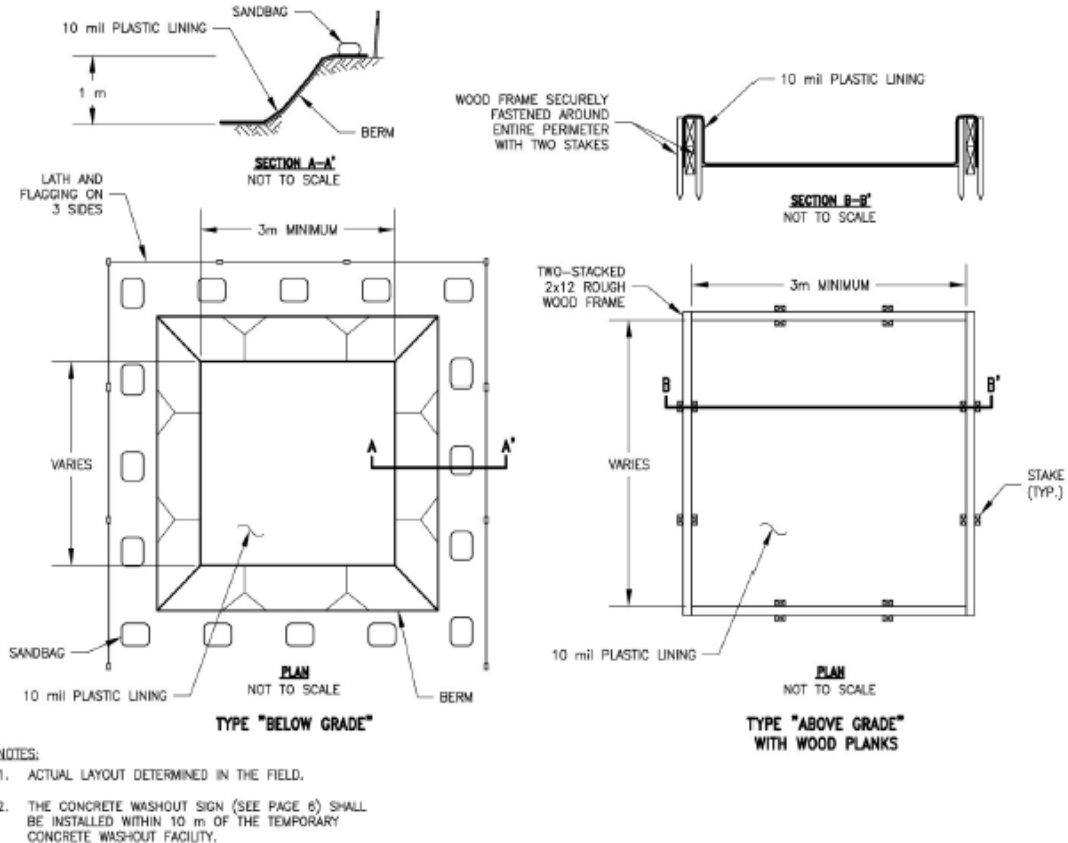
**Concrete Washout Typical
Detail**

DETAIL H-1

Concrete Washout Detail*

Note: This detail to be used in the absence of the following concrete washout BMPs:

1. Washout into a depressional area where new sidewalks will be poured.
2. Washout into a lined pit in the ground with filter socks as perimeter control.



Sign Examples



Photograph of the "ABOVE GRADE" concrete washout structure

- * 1. Concrete washout location is subject to change and will be located by the contractor before construction begins.
2. Concrete washout will be installed away from wetlands and streams.
3. Proper removal and disposal of concrete washout material is required once the project is complete.

APPENDIX K

SWP3 Inspection Forms

ECTS Checklist Guidance

Checklist Title: SWP3 Inspection Form

(For Dominion Energy Construction Projects with a SWP3)

THIS CHECKLIST IS TO BE COMPLETED BY AN ENVIRONMENTAL INSPECTOR (EI) CONTRACTED BY DOMINION ENERGY OR A DOMINION ENERGY INSPECTOR DURING SCHEDULED OR UNSCHEDULED SITE INSPECTIONS OF ACTIVE CONSTRUCTION SITES WITH A SWP3.

- **Information at the top of the form.**

- **Site Name:** Note the Project name and/or location of the construction activity.
- **Inspector:** Note the inspector’s name and circle the appropriate title.
- **Qualifications:** Note applicable qualifications.
 - Eight-Hour Stormwater Management During Construction Course - A course administered by numerous third-party trainers.
 - CESSWI - Certified Erosion, Sediment and Stormwater Inspector. A federal certification program administered by EnviroCert International. If “Yes” include certification number.
 - Dominion SWP3 Training - A training module prepared by Dominion Energy Environment and Sustainability for Dominion Energy construction Sites
 - Other – List other applicable qualifications
- **Signature:** Include the signature of the inspector on paper copy maintained at the site.

- **Inspection Documentation Area:**

- **Circle the applicable inspection type:**
 - “Weekly” - Inspection required at least once every seven calendar days during active construction and restoration.
 - “Monthly” - Inspection required after all construction and restoration activity has ceased.
 - “Routine” - Minimum weekly inspection interval
 - “Precipitation Event” - Must be completed at least once every seven (7) calendar days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled. Rainfall amounts will be determined by Dominion Energy personnel or a designated representative using National Weather Service or other acceptable resources such as an on-site rain gauge.
 - “Other” - Random inspection, Compliance Inspection, Follow-up, etc.
- **Has it rained since last inspection? (Y/N)** Circle as appropriate and note the time started and duration of the previous storm event. If the precipitation amount is known, insert this information here.
- **Current Conditions:** Describe the weather conditions during this inspection. Circle the most appropriate soil condition. “Saturated” = standing water is visible on the ground surface.
- **Features Inspected:** List each feature inspected at the site. The Feature ID must correspond to the site plan submitted with the SWP3 or E&S Control Plan. Record any repairs or maintenance necessary for each device; include an accurate description of the

location of repair and a date when the repair must be completed.

- **Information on second page.**

- **Construction Inspector(s):** Note the inspection date, site name, and inspector's name.
- **Previous Inspections:** Review the previous site inspection form, including action items and dates of completion. Comment on any ongoing activities and its progress. The site has three days from discovery to complete applicable repairs and 10 days from discovery to install new controls if warranted.
- **Necessary Documents:** Confirm the presence of environmental permit, plans, and notices. These must include: a Stormwater Pollution Prevention Plan (SWP3) or Erosion and Sediment (E&S) Control Plan; Construction Permit/Land Disturbance Permit; Notice of Intent (NOI) to begin disturbance; and Notices of Termination.
- **Disturbed Areas:** Any disturbed areas that are anticipated to lie dormant for more than 14 days must be stabilized to prevent potential erosion. Stabilization may include: permanent cover (e.g., building, parking lot, etc.); vegetation (seed and straw), mulch or tack; gravel, stone or rip rap.
- **E/SCDs:** Are Erosion/Sediment Control Devices (E/SCDs) of appropriate design for the areas they are controlling, properly installed and being maintained? The E/SCDs installed must be described in the SWP3 or E&S Control Plan. Furthermore, design details must meet the minimum design details described in the state stormwater control manual. If alternate control methods were installed: notify the site manager and engineer to confirm the controls installed are sufficiently designed; revise the plans accordingly; or remove and replace insufficient controls. The site has three days from discovery to complete applicable repairs and 10 days from discovery to install new controls if warranted.
- **Final Grade:** List any areas at final grade since last inspection. Areas at final grade are not likely to be disturbed again and must be stabilized. See Question # 9 above.
- **Untreated Discharges:** Observations of untreated discharge may include:
 - A sheen indicating petroleum products;
 - Foam or froth indicating a chemical or other discharge;
 - Suspended particles or sludge beneath the surface;
 - Discolored water, including dirty/muddy characteristics of sedimentation;
 - A change in water temperature; and
 - Damaged or stressed vegetation or wildlife.
- **Notification:** Review the inspection findings with a site manager or other responsible person and note this individual.

Checklist Owner: Tara Buzzelli

Local: 8-657-2579

Work: 330-664-2579

Cell: 330-604-8871

Email: Tara.E.Buzzelli@DominionEnergy.com

Email: Gregory.K.Eastridge@DominionEnergy.com

Date of Last Revision: July 2020

Subject Matter Expert: Greg Eastridge

Local: 8-657-2576

Work: 330-664-2576

Cell: 330-571-7855

OHIO SWP3 INSPECTION FORM

Site Name: _____

Date: _____

Environmental Inspection Company: _____

Environmental Inspector: _____

Qualifications: Completed 8-HR Stormwater Management During Construction Course	Y	N
CESSWI	Y	N
Dominion SWP3 Training	Y	N
Other: _____		

Inspector Signature: _____

Weekly

Monthly

Routine Inspection

Precipitation Event >0.5-inch

Other _____

(circle all applicable)

Has it rained since last inspection? *(circle one)*

Yes: Date(s) & Approx. Amount _____

No

Current Conditions: _____

Soil Conditions:

Dry

Wet

Saturated

Frozen

(circle applicable conditions)

Feature ID

BMP, ECD, SCD Applied

Recommendations

Feature ID	BMP, ECD, SCD Applied	Recommendations

BMP: Best Management Practice E/SCD: Erosion/Sediment Control Device SF: Silt Fence SW: Straw Wattle W: Wetland S: Stream
 TM: Timber Mat IP: Inlet Protection WB: Waterbar RCE: Rock Construction Entrance ECM: Erosion Control Matting FS: Filter Sock

Date:

Site:

Stormwater Pollution Prevention Plan Inspection Form

Construction Inspector(s) On Site:

Unresolved issues from previous inspections:

Are the SWP3, NOI and General Permit Letter on-site? Yes No
If no, explain.

List newly disturbed areas likely to lie dormant for more than 14 days:

Have soil stockpiles been placed at least 50 feet from drainageways?

List construction entrances and SCDs used to prevent tracking into roadway:

Are E/SCDs of appropriate design for area they are controlling, properly installed and being maintained?

List any new areas at final grade since last inspection:

Is the inlet protection of appropriate design?

Were any untreated discharges into streams, wetlands or inlets observed? If yes, document location(s):

Note person(s) notified of any inspection finding(s) and expected date of correction:

Notes

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT G

GENERAL CONSTRUCTION STORMWATER NOTICE OF INTENT



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: The East Ohio Gas Co d/b/a Dominion Energy Ohio

Mailing (Applicant) Address Line: 320 Springside Drive Suite 320

City: Akron **State :** OH **Zip Code:** 44333

Country: USA

Contact Person: Greg Eastridge **Phone:** (330) 664-2576 **Fax:** (330) 664-2669

Contact E-mail Address: gregory.k.eastridge@dominionenergy.com

II. Facility/Site Location Information

Facility/Site Name: PIR 2350 - Jackson & Genoa

Facility Address: Jackson Avenue SW

City: Perry Township **State:** OH **Zip Code:** 44646

County: Stark **Township:** Perry

Facility Contact Person: Eray Tulay **Phone:** (330) 664-2492 **Fax:** (330) 664-2691

Facility Contact E-mail Address: eray.tulay@dominionenergy.com

Latitude: 40.782068 **Longitude:** -81.480849 **Facility/Map Attachment:** PIR2350_NOI_SLM_20221214.pdf

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: OHC000005 **Coverage Type:** New

Type of Activity: Construction Site Stormwater General Permit **SIC Code(s):**

Existing NPDES Facility Permit Number: 3GC13818*AG **ODNR Coal Mining Application Number:**

If Household Sewage Treatment System, is system for: **New Home Construction:** **Replacement of failed existing system:**

Outfall	Design Flow (MGD):	Associated Permit Effluent Table:	Receiving Water :	Latitude	Longitude

Are These Permits Required? **PTI:** NO **Individual 401 Water Quality Certification:** NO

Individual NPDES: NO **Isolated Wetland:** NO **U.S. Army Corp Nationwide Permit:** PENDING

Proposed Project Start Date(if applicable): March 01, 2023 **Estimated Completion Date(if applicable):** December 31, 2023

Total Land Disturbance (Acres): 8.5 **MS4 Drainage Area (Sq. Miles):**

SWP3 Attachment(s): <None>

IV. Payment Information

Check #:	For Ohio EPA Use Only	
Check Amount:	Check ID(OFA): _____	ORG #: _____
Date of Check:	Rev ID: _____	DOC #: _____

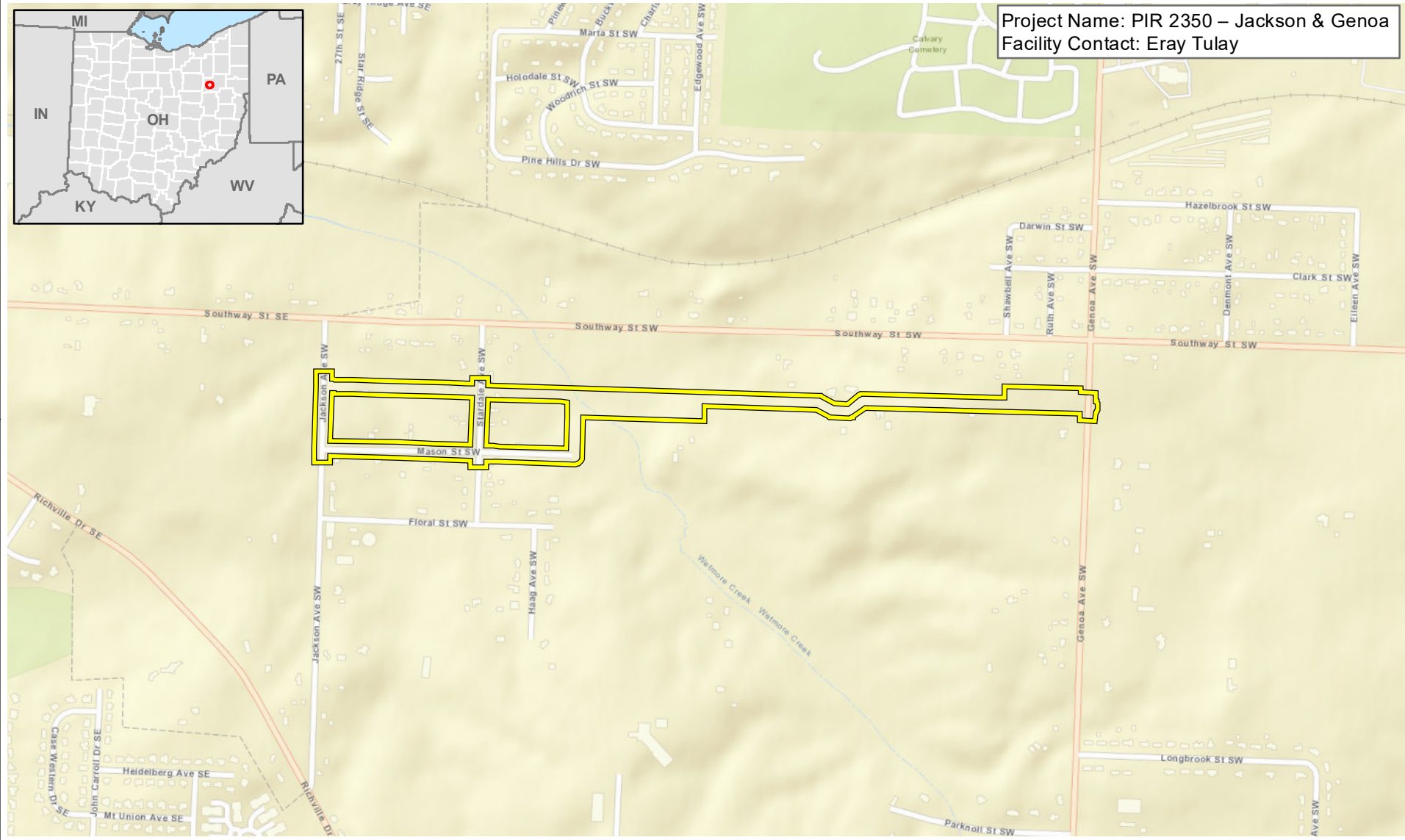
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Applicant Name (printed or typed): _____ **Title:** _____

Signature:	Date:
ADDITIONAL INFORMATION	
<i>Please add any additional comments or attachments below.</i>	



Project Name: PIR 2350 – Jackson & Genoa
Facility Contact: Eray Tulay



 Project Study Area

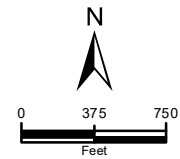


Figure 1
Site Location Map
PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022



Base Layer: ESRI StreetMaps

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT H

STARK COUNTY SWPPP REVIEW APPLICATION



January 20, 2023

BY UPS

Sarah Matheny, Storm Water Manager
Stark County Soil & Water Conservation District
2650 Richville Drive SE, Suite 100
Massillon, Ohio 44646

RE: The East Ohio Gas Company, Pipeline Infrastructure Replacement Program
Summit County Stormwater Management Application
PIR 2350 – Jackson & Genoa

Dear Ms. Matheny:

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), requests review of the following information associated with the Pipeline Infrastructure Replacement (PIR) project, PIR 2350 – Jackson & Genoa. DEO is proposing to replace natural gas pipeline under the PIR Program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations.

The PIR 2350 project is located in Perry Township along Jackson Avenue SW, Mason Street SW, Genoa Avenue SW, an existing utility easement which extends between Jackson Avenue SW and Genoa Avenue SW, and a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement. The following documents are enclosed for your review:

- Stark County Soil and Water Conservation District (SWCD) Storm Water Pollution Prevention Plan (SWP3) Checklist (Attachment 1) – one (1) copy
- PIR 2350 SWP3 (Attachment 2) – two (2) copies
- Ohio EPA General Permit OHC000005 NOI Documentation (Attachment 3) – one (1) copy
- A check for \$1,255.00 (review and inspection fees) made payable to Stark County SWCD
- PIR 2350 Delineation Report (Attachment 4)

The Ohio EPA construction storm water permit documentation included as Attachment 2 was generated from the online permit submission site. DEO anticipates submitting the online permit request to the Agency in the near future. The issued Ohio EPA construction storm water permit will be forwarded to your attention upon receipt.

Additionally, project activities will require temporary impacts within federally regulated wetlands and streams. Authorization under the U.S. Army Corps of Engineers (USACE) Nationwide Permit #12 for Oil or Natural Gas Pipeline Activities will be obtained prior to construction. The issued USACE authorization will also be forwarded to your attention upon receipt.


DEO will hold a pre-construction meeting with the Stark County SWCD inspector prior to earthwork activities. This meeting will be scheduled by DEO with Stark County SWCD office personnel, DEO, the contractor, and the DEO environmental inspector.

Your review and approval of this project is appreciated. Please forward your response to the attention of:

Greg Eastridge
Environmental Specialist III
320 Springside Drive, Suite 320
Akron, Ohio 44333
gregory.k.eastridge@dominionenergy.com

If you have any questions, please contact Greg Eastridge at (330) 664-2576.

Sincerely,



Darrell R. Shier
Manager, Environmental Services
Authorized Representative

Enclosures

cc: Gregory Eastridge
Administrator, Perry Township MS4 (one [1] copy of the SWPPP)
Administrator, County MS4 (one [1] copy of the SWPPP)

NICK HARRISON
1001 DOM ENERGY FLEX
DOMINION ENERGY
320 SPRINGSIDE DR
AKRON OH 44333

Commercial Convenience Check **542**

1/18/23 68-1/510
Date

Pay to the order of STARK COUNTY SWCD \$ 1255.00

One Thousand Two hundred FIFTY FIVE & ⁰⁰/₁₀₀ Dollars



Bank of America



Bank of America, N.A.
Richmond, VA

Void after 60 days
For Deposit Only

PIR- 2350 Jackson and Genoa

For MWO : 64058952

[Handwritten Signature] MP

Attachment 1

Stark County SWCD SWP3 Checklist



2650 Richville Dr. SE., Suite 100, Massillon, OH 44646 • (330) 451-SOIL (7645) • info@starkswcd.org

STORM WATER POLLUTION PREVENTION PLAN (SWP3) CHECKLIST

If a site will disturb 1 acre of land as defined by clearing, grading, grubbing, excavation, demolition, timbering, filling and off-site borrow areas, or is part of a larger common plan of development or sale an SWP3 must be submitted to this office for review and approval prior to disturbance. (v4)

Project Name: PIR 2350 - Jackson & Genoa **Phase:** NA

Project Type: Commercial Condo Demo Government
 Industrial Recreational Redevelopment Residential
 Roadway Utility Other: _____

Total Acres: 8.5 acres **Disturbed Acres:** 8.5 acres **NPDES NOI #:** Pending

For Linear utility projects site area and disturbance are generally the same

Location (Township / Village / City): Perry Township **Parcel #:** _____

Does this site Discharge into an MS4 System: YES NO **MS4 Operator:** Perry Township & Stark County

Watershed (HUC): City of Massillon-Tuscarawas River subwatershed (HUC12 # 05040001 1202)

Latitude: 40.782068° **Longitude:** -81.480849°

Prior Land Use: agricultural/residential **Imperviousness % (Pre / Post):** _____ / _____

Owner / Developer

Company: The East Ohio Gas Company, d/b/a Dominion Energy Ohio

Contact: Greg Eastridge (on behalf of Frank Martin)

Address: 320 Springside Drive, Suite 320
Akron, OH 44333

Tel #: (330) 664-2576

Email: gregory.k.eastridge@dominionenergy.com

Engineer

Company: The East Ohio Gas Company, d/b/a Dominion Energy Ohio

Contact: Eray Tulay

Address: 320 Springside Drive, Suite 320
Akron, OH 44333

Tel #: (330)664-2492

Email: eray.tulay@dominionenergy.com

Contractor

Company: TBD

Contact: _____

Address: _____

Tel #: _____

Email: _____

Earthwork Contractor / Other

Company: TBD

Contact: _____

Address: _____

Tel #: _____

Email: _____



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 2

Additional Site Information

Site Entrance / Street Name:

Easement access from: Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and Genoa Avenue SW

Geographical Coordinates

Latitude (Decimal Degree)

Longitude (Decimal Degree)

Post Construction WQ Practice #1

N		W	
Selected PC BMP Watershed to in Acres:		(PC BMP)	(Acres)

Post Construction WQ Practice #2

N		W	
Selected PC BMP Watershed to in Acres:		(PC BMP)	(Acres)

Post Construction WQ Practice #3

N		W	
Selected PC BMP Watershed to in Acres:		(PC BMP)	(Acres)

Post Construction WQ Practice #4

N		W	
Selected PC BMP Watershed to in Acres:		(PC BMP)	(Acres)

Storm Water Outfall to MS4

N		W	
----------	--	----------	--

Storm Water Outfall to MS4

N		W	
----------	--	----------	--

Storm Water Outfall to MS4

N		W	
----------	--	----------	--



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST
PAGE 3

Are there jurisdictional wetlands or streams on the site that will be impacted or disturbed?

NO YES If yes, please attach copy of delineation and letter from USACE or OEPA

List all permits obtained for this project:

NWP 12, USACE, Pending; OHC000005, Ohio EPA, Pending

Certification Sheet
The Owner of this project and/or undersigned, do hereby covenant and agree to comply with all of the laws of the State of Ohio and the regulations of Stark County, pertaining to earthwork (including erosion / sediment control & water quality requirements per The Stark County Storm Water Quality Regulation) and the said construction will be in accordance with plans and specifications submitted herewith and certify that the information and statements given on the application are true.

Applicant / Permittee

Frank Martin, Director of Gas Operations

Print Name

The East Ohio Gas Company, d/b/a Dominion Energy Ohio

Organization / Company

gregory.k.eastridge@dominionenergy.com (contact)

Email Address

Frank A Martin, P.E. Digitally signed by Frank A Martin, P.E.
Date: 2023.01.19 15:53:29 -05'00'

Signature

(330) 664-2576 (Greg Eastridge - Contact)

Telephone / Cell

Date



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 5

Fee Schedule

Review Fees

Review Type	Fee
Preliminary Reviews	\$20.00 / Disturbed Acre Minimum charge - \$100.00
Storm Water Pollution Prevention Plan (SWPPP or SWP3)	\$30.00 / Disturbed Acre Minimum charge - \$150.00
*A Revised SWP3 submitted for review after plan approval will be re-billed at \$25.00 per disturbed acre with a \$125.00 minimum.	

Inspection Fees

Active Sites within the MS4 Operator's jurisdiction are inspected on a bi-monthly basis for compliance. Sites outside of the MS4 Operator's jurisdiction will be inspected on a monthly basis for compliance.	
Disturbed Acres	Fees
Sites 1 to 4.9 Acres Disturbed	\$500.00
Sites 5 to 9.9 Acres Disturbed	\$1000.00
Sites 10 to 19.9 Acres Disturbed	\$1500.00
Sites 20 to 49.9 Acres Disturbed	\$2000.00
Sites Larger than 50 Acres Disturbed	\$2500.00
Sites to be found in <u>non-compliance</u> of the Stark County Storm Water Regulations may be charged \$250.00 per violation. This will be for each area of the regulations, not each violation. Example: Silt fencing not in place in multiple areas would be one violation. Silt Fencing not in place and off-site discharge would be two (2) separate violations.	

Submittal Requirements

- This completed checklist (pages 1 – 4)
- One full set of Digital construction plans (pdf) sized to 11x17, which includes SWP3
- One draft of the Long Term Maintenance Plan / Agreement
- The Storm Water Management Report w/ WQ Calculations (hard copy or pdf)
 - Pre/Post Drainage Maps
 - All required calculations per OEPA GCP (OHC000005) for WQv Determination (New, Redevelopment, Combined, etc.).



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 6

Submittal Requirements Continued

- **As-Built drawings of any Post Construction WQ Feature**
- **Ohio Environmental Protection Agency NPDES NOI Permit – Approval Letter**
 - **Copy of Submitted Application with proof of payment will allow for approval**
 - **Approval Letter will be required prior to scheduling of Pre-Construction Meeting**
- **Wetland Delineation Report (if required)**
 - **Proof of Compliance:**
 - **Ohio Environmental Protection Agency**
 - **Section 401 of the Clean Water Act – Approval Letter**
 - **US Army Corps of Engineers**
 - **Section 404 of the Clean Water Act – Approval Letter**
 - **Qualified Professional / Consultant**
 - **Letter Certifying that survey has been completed and coverage is not applicable.**
- **Copy of SWP3 Inspection Report (On-Site Report)**
 - **This will be one completed by contractor or other responsible party on weekly basis and after ½ inch rainfall events.**
- **Letter of Variance for Water Quality Orifices smaller than 2 inches in diameter (Stark County Storm Water Quality Regulation – Section IV.C.2) (if needed)**
 - **This should be addressed to the Storm Water Manager and state the specific variances sought and the reasons with supporting data for their granting (i.e. per Ohio EPAs GCP requirements for Water Quality Volume and Drain Times).**



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 7

Submitted Plans must include:

- Fees** – All review/inspection fees must be paid prior to approval. The chart on page #5 is separated into Plan Review fees and Inspection fees. If your plan was submitted to the Stark County Regional Planning Commission, a preliminary fee will be charged.
- Site Description** – The cover page should include name and contact information for site operators and SWP3 authorization agents.
- Contractor Information**- Contact information of the contractor who will be responsible for implementing (*installing & removing practices*) the SWP3 Plan and write the inspection reports. NOTE: If the contractor is unknown at the time of plan review the information will be required before a pre-construction meeting is scheduled.
- Vicinity Map** – Location map showing site in relation to surrounding area. Include Location of receiving streams/surface waters
- Limits of Clearing and Grading Plan** – Clearly indicate limits and show acreage of earth disturbing activity. Show borrow, spoil and topsoil stockpile areas (both onsite and off-site locations). Include before and after contours with appropriate contour intervals. Delineate drainage watersheds, indicating acreage of each area.
- Project Description** – Briefly describe the nature, purpose and scope of the land disturbing activity. Include total area of site and acreage's of individual phases if applicable. Include a narrative describing the overall erosion and sediment control scheme for this site.
- Soils Information** – Show unstable or highly erodible soils as determined by the USDA Natural Resource Conservation Service Soil Survey websoilsurvey.nrcs.usda.gov and/or soil tests. Show location of any soil test borings on plan. Other soils information such as permeability, perched water table, etc. may be mentioned.
- Surface Water Locations** – Show locations of all lakes, ponds, surface drainage patterns, wetlands, spring, etc. on or within 1000 feet of the site. If storm water will be discharging into a municipal separate storm sewer system or into a storm water management structure such as a retention basin that is off the site, clearly indicate this on the plans.
- Site Development** – Show locations of all existing and proposed buildings, roads, Utilities, parking facilities, etc.



STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 8

- Schedule of Construction Activity & Sequencing** – Included in this should be a schedule for implementing temporary and permanent erosion and sediment control practices and storm water management facilities. The first item within should state "Contact Stark Soil & Water Conservation District to schedule a Pre-Construction Meeting at (330) 451-7645 prior to any earth moving activity". Include when the project will begin and its proposed completion. Note any major activities (site grading). The NPDES permit requires that all sediment ponds and perimeter barriers be constructed within 7 days of first grubbing. All sediment control structures must remain functional until upland areas are stabilized. Provide phased approach if possible to minimize land disturbing activity.

- Location of Practices** – Show locations of all structural erosion and sediment control, storm water management, and water quality practices, including post-construction best management practices. Water ponding facilities should be drawn to scale, with the area of the contributing watershed given. This should include the following: Silt Fencing / Sock (12”), inlet protection, stabilized construction entrance(s), concrete washout facility, and any other temporary or permanent BMP within the site.

- Detail Drawings** – All practices should be explained with the detail drawings & specifications. Installation specifications are necessary to aid the contractor. Include outlet structures for retention, detention facilities, cross sections and any special modifications to these structures to aid in improved sediment trapping capability. All BMP’s indicated on the SWPPP must have a detail and installation requirements and location called out within the plan sheet.

- Land Stabilization Measures** – Provide specifications for temporary and permanent seeding, mulching, blanketing, etc. and also installation schedule for each practice. Temporarily stabilize disturbed areas that will remain idle for 14 days or longer within 7 days of last disturbance or within 2 days for areas within 50’ of a stream. Permanently stabilize disturbed areas within 7 days of reaching final grade. Erosion control blankets and matting should be used to stabilize channels where the flow velocity is greater than **3.5 ft./sec.**, steep slopes, on highly erosive soils and on areas slow to establish a vegetative cover.

Permanent Stabilization	
Area requiring permanent stabilization	Time frame to apply erosion controls
Any areas that will lie dormant for one year or more	Within seven days of the most recent disturbance
Any areas within 50 feet of a surface water of the state and at final grade	Within two days of reaching final grade
Any other areas at final grade	Within seven days of reaching final grade within that area

Temporary Stabilization	
Area requiring temporary stabilization	Time frame to apply erosion controls
Any disturbed areas within 50 feet of a surface water of the state and not at final grade	Within two days of the most recent disturbance if the area will remain idle for more than 14 days
For all construction activities, any disturbed areas that will be dormant for more than 14 days but less than one year, and not within 50 feet of a surface water of the state	Within seven days of the most recent disturbance within the area For residential subdivisions, disturbed areas must be stabilized at least seven days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter	Prior to the onset of winter weather



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STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 9

- Special Notes for Critical Areas** – Include pertinent information regarding stream bank stabilization, riparian corridors, buffer areas, stream restoration plans, and wetland areas.
- Existing Natural Areas** – Show existing or unusual vegetation, wetlands, springs, rock outcroppings, etc. Include vegetation to remain (trees, buffer areas, etc.). Provide extent & description of wetlands or aquatic sites being disturbed or receiving discharge(s). Call out any instream crossings that will take place as part of this project.
- Maintenance and Inspections** – Provide notes and information regarding maintenance of each practice to assure continued performance. Erosion and sediment control must be inspected once every 7 days and with 24 hours of 0.5” or greater rainfall. A written log of these inspections must become part of the SWPPP. This log should indicate the dates of inspection, inspector weather conditions, observations, actions taken to correct problems, and the date action was taken. These logs (reports) must be kept on site with the SWPPP.
- Permits** – A copy of the Ohio EPA’s NPDES NOI Permit must be submitted before approval can be given. You may obtain additional information, copies of the permit and current forms / instruction from the EPA’s website at <http://epa.ohio.gov/dsw/storm/index.aspx>. These may also be found within our website at <https://www.starkswcd.org/urban-services>. Sites that will impact wetlands or streams will need to submit approval letters from either Ohio EPA (401) or US ACE (404).
- Storm Water Runoff Considerations and Post-Construction BMPs** Large and Small sites– Show the pre and post-construction runoff coefficients including information such as the method used to calculate runoff and the water quality orifice (if applicable). Reference the Stark County Storm Water Quality Regulations for further water quality design requirements. If the site is a redevelopment site, indicate how this was determined. Include a narrative describing post construction storm water quality BMP’s. The plan must describe the post construction BMPs used for the site and the rational for their selection. If the site is exempt from providing water quality treatment post construction, cite the exemption on the plan. Provide the pre & post impervious areas for the project. If the site is considered a small construction site (1 to 1.9 acres) explain the water quality practice chosen and why. A separate long term maintenance plan is also required (as indicated on this check list). Show the locations of all storm water quality practices. Include vegetation to remain (trees, buffer areas, etc.). Storm Water quantity approvals must be received by the reviewing agency (city engineer, sub-division engineer, village engineer).
 - **NOTE:** All practices for large construction sites (2 acres and above) must be selected from either Table 4a or 4b within the Ohio EPA Permit No. OHC000005. Any alternative BMPs will need approved by OEPA.

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 10

- Sediment Ponds or Traps** – Calculations must be shown for all temporary or permanent sediment ponds or traps and any retention/detention facilities to be used for this purpose. A surface dewatering device shall be used. The minimum total design volume for ponds used for the purpose of trapping sediment shall have 2 components, the dewatering zone and the sediment storage zone. The volume of the dewatering zone shall be a minimum of 1800 cubic feet (67 cubic yards) per acre of total drainage area to the pond. The volume of the sediment storage zone shall be 1000 cubic feet (37 cubic yards) per disturbed acre within the watershed of the basin. (Note: for design information see the Ohio Rainwater & Land Development Manual or OEPA Construction General Permit). Don't forget the minimum length to width ratio from the inlet into the basin to the outlet (3:1 preferred).
- Solid, Sanitary, Construction and other Waste Material** – Waste material must be disposed of in a proper manner in accordance with local, state, and federal regulations. It is prohibited to burn, bury or pour out onto the ground or into the storm sewers any solvents, paints, stains, gasoline, diesel fuel, used motor oil, hydraulic fluid, and antifreeze, cement curing compounds and other such toxic or hazardous wastes. Show the location and description of any storm water discharges associated with dedicated asphalt and dedicated concrete plants covered by this permit and the best management practices to address pollutants in these storm water discharges. Wash out of cement trucks should occur in a diked, designated area where the washings can collect and be disposed of properly when they harden. Storage tanks should be located in diked areas away from any drainage channels. Show the location of all construction entrances. Show lay down areas and areas designated for storage of supplies, fuel, paints & dumpsters.
- Plan Certification** – The plan must include the following verbiage: *“I, the undersigned, certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.”* This statement must be dated and signed by all applicable parties with indication of what activity they are responsible for.
- Transportation Projects-** The construction of new roads and roadway improvement projects by public entities (i.e., the state, counties, townships, cities, or villages) may implement *post-construction* BMPs in compliance with the most current version of the Ohio Department of Transportation's "Location and Design Manual, Volume Two Drainage Design" that has been accepted by Ohio EPA as an alternative to the conditions of the OEPA Construction General Permit (most current version OHC000005). The Storm Water Pollution Prevention Plan must contain all items as listed in PART III. Storm Water Pollution Prevention Plan (SWP3) in the most current Construction General Permit.



STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 11

Long Term Maintenance Plan – Detail drawings and maintenance plans shall be provided to Stark SWCD and/or the local MS4 Operator for all Post-Construction Best Management Practices (BMP's) prior to plan approval and shall include the following information:

- Cover sheet listing MS4 Operator, site location, site name and date (signed and dated).
- Name, telephone number and email address of the party or association responsible for post construction long term maintenance (the association must be legally recorded).
- List of all post-construction BMP's, structural and non-structural with all supporting design data needed to maintain the practice correctly.
- Instructions on how and when the practices are to be maintained along with an inspection schedule. (routine and non-routine maintenance)
- A detail drawing of the BMP's listed.
- A copy of any required easements.

- **Note (Subdivisions)** – The responsible party will be required to submit new cover sheet signed and dated by responsible party of HOA at time of transfer. This office will then meet with representative to discuss what responsibilities are required. At conclusion of meeting, transfer of long term maintenance will be approved.

Maintenance plans must ensure that pollutants collected within structural Post-Construction BMP practices are disposed of in accordance with local, state and federal guidelines.

Guidance Documents

- Stark County Storm Water Quality Regulations – www.starkswcd.org
- Rain Water & Land Development Manual - http://epa.ohio.gov/dsw/storm/technical_guidance.aspx
- Ohio EPA's Small MS4 Permit – http://epa.ohio.gov/portals/35/permits/SmallMS4_Final_GP_sep14.pdf
- Ohio EPA's Construction General Permit - https://epa.ohio.gov/portals/35/permits/OHC000005/Final_OHC000005.pdf
- Urbanized Area Map – NE Ohio - <https://www.google.com/maps/d/viewer?mid=16pFLSZ51kezX175jXL0raArM-tY>
- Total Maximum Daily Load (TMDL) Guidance
 - Community Identifier - http://neohiostormwater.com/uploads/3/5/0/4/35043674/tmdl_community_identifier_table_final_nedo_20150422_cz.xlsx
 - TMDL Factsheets <http://neohiostormwater.com/index.html>
- NEO Storm Water Council – Maintaining Storm Water Control Measures Manual http://epa.ohio.gov/Portals/35/documents/SCM_OM_Manual_Final_7-30-15.pdf

STORM WATER POLLUTION PREVENTION PLAN CHECKLIST

PAGE 12

Faircloth Skimmer Checklist

- The minimum sediment storage volume is correctly calculated (1000 CF per acre disturbed area)
- The minimum dewatering volume is correctly calculated (67 CY per acre drainage area)

Is the elevation that achieves the top of the sediment storage volume (bottom of the dewatering volume) higher than the outlet structure invert on which the skimmer will be attached?

- No – OK (see note regarding winter months)
- Yes – a pedestal is provided with a top elevation that corresponds with the top elevation of the required sediment storage volume (bottom of the dewatering volume). NOTE: if the skimmer will remain operational in winter months, the pedestal should be slightly higher so as to maintain positive slope on the barrel at all times).

Based on the on-line spreadsheets found at <http://www.fairclothskimmer.com/skimmer-sizing>

- Proposed skimmer size is based on the minimum required dewatering volume (any extra volume that is provided is acceptable, but should not be figured into sizing the skimmer)
- Proposed skimmer size and orifice is correct (based on a minimum 48-hr drawdown)

Based on the following table:

- Correct barrel length is specified
- Correct stub size is specified on the outlet structure (reducers may be specified)

Skimmer Size (Faircloth)	Arm Length – SCHD 40 PVC (1.4X the depth of the dewatering volume is recommended)	Coupling size included (stub size that should be provided on outlet structure)
1.5"	6-ft MAXIMUM	4"
2"	6-ft MINIMUM	4"
2.5"	6-ft MINIMUM	4"
3"	8-ft MINIMUM	4"
4"	8-ft MINIMUM	4"
5"	8-ft MINIMUM	6"
6"	8-ft MINIMUM	6"
8"	8-ft MINIMUM	8"

- A detail is provided that includes sufficient notes regarding installation, maintenance, disposal and removal criteria

All Items within SWP3 must satisfy OEPA requirements per NPDES GCP #OHC000005

Attachment 2

SWP3



**OHIO GENERAL PERMIT AUTHORIZATION FOR STORMWATER
DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER
THE NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)**

**The East Ohio Gas Company, d/b/a Dominion Energy Ohio
Stormwater Pollution Prevention Plan (SWP3)**

**PIR 2350 – Jackson & Genoa
Perry Township, Stark County, Ohio**

Planned Construction Start Date: March 2023

Planned Construction Completion Date: December 2023

Construction Supervisor: _____

Telephone: _____

Project Manager (signature): _____

Construction Contractor (signature): _____

Environmental Inspector (signature): _____

Note:

**THIS PLAN MUST BE KEPT AT THE
CONSTRUCTION SITE DURING WORKING HOURS**

**SWP3 Prepared: January 12, 2023
Prepared by: Environmental Consulting & Technology, Inc.**

DULY AUTHORIZED

OPERATOR/PERMITEE CERTIFICATION

I certify that the positions named below are my duly authorized representatives for the Ohio EPA General Construction Stormwater Permits (Ohio NPDES General Permit OHC000005 or General Permit for Storm Water Discharges Associated with Construction Activity from Oil and Gas Linear Transmission Line and Gathering Line Installation OHCG00001) for Discharges of Stormwater from Construction Activities. I certify that these positions named below and defined within the corresponding SWPPP are my duly authorized representatives to have overall responsibilities sufficient to implement the SWPPP, amend or modify the SWPPP, and sign all required reports as assigned.

I also certify that the positions named below are my duly authorized representatives for the Ohio EPA General Permit Authorization to Discharge Hydrostatic Test Water (Ohio NPDES General Permit OHH000003). These individuals are my duly authorized representatives to sign all required reports or other information that may be requested by the Ohio EPA Director.

“Facilities Project Manager, Owner
Project Engineer
Environmental Compliance Coordinator
Supervisor Environmental
Qualified Inspection Personnel”

Signature Zachary R. Goodson
Printed Name Zachary R. Goodson
Title Director - Gas operations
Date 11/30/2022

This Operator Certification must be signed by a responsible corporate officer or delegated authority.

DULY AUTHORIZED

OPERATOR/PERMITEE CERTIFICATION

I certify that the positions named below are my duly authorized representatives for the Ohio EPA General Construction Stormwater Permits (Ohio NPDES General Permit OHC000005 or General Permit for Storm Water Discharges Associated with Construction Activity from Oil and Gas Linear Transmission Line and Gathering Line Installation OHCG00001) for Discharges of Stormwater from Construction Activities. I certify that these positions named below and defined within the corresponding SWPPP are my duly authorized representatives to have overall responsibilities sufficient to implement the SWPPP, amend or modify the SWPPP, and sign all required reports as assigned.

I also certify that the positions named below are my duly authorized representatives for the Ohio EPA General Permit Authorization to Discharge Hydrostatic Test Water (Ohio NPDES General Permit OHH000003). These individuals are my duly authorized representatives to sign all required reports or other information that may be requested by the Ohio EPA Director.

“Facilities Project Manager, Owner
Project Engineer
Environmental Compliance Coordinator
Supervisor Environmental
Qualified Inspection Personnel”

Signature Frank A. Martin
Printed Name FRANK A. MARTIN
Title DIRECTOR, GAS OPERATIONS
Date 11-30-2022

This Operator Certification must be signed by a responsible corporate officer or delegated authority.

CERTIFICATIONS

Owner/Developer Certification (must be signed by president, vice-president or equivalent or ranking elected official)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature

Date

Printed Name

Title

If authorization is no longer accurate because of a different individual or position has responsibility for the overall operation of the Project, a new authorization must be submitted to the Director prior to, or together with any reports, information, or applications to be signed by an authorized representative.

Contractor(s) Certification (must be signed by president, vice-president or equivalent or ranking elected official)

I certify under penalty of law that I have reviewed this document, any attachments, and the SWP3 referenced above. Based on my inquiry of the construction site owner/developer identified above, and/or my inquiry of the person directly responsible for assembling this SWP3, I believe the information submitted is accurate. I am aware that this SWP3, if approved, makes the above-described construction activity subject to the Ohio NPDES General Permit, and that certain activities on-site are thereby regulated. I am aware that there are significant penalties, including the possibility of fine and imprisonment for knowing violations and for failure to comply with these permit requirements.

Primary Contractor Name

Primary Contractor Address

Signature

Date

Printed Name

Title

Subcontractor Name

Subcontractor Address

Signature

Date

Printed Name

Title

**OHIO GENERAL PERMIT AUTHORIZATION FOR STORMWATER
DISCHARGES ASSOCIATED WITH CONSTRUCTION ACTIVITY UNDER
THE NPDES STORMWATER POLLUTION PREVENTION PLAN**

**THE EAST OHIO GAS COMPANY, d/b/a DOMINION ENERGY OHIO
PIR 2350 – Jackson & Genoa
Perry Township, Stark County, Ohio**

TABLE OF CONTENTS

SECTION	Page
EXECUTIVE SUMMARY	v
1.0 PERMIT REQUIREMENTS.....	1
2.0 STORMWATER POLLUTION PREVENTION PLAN	2
2.1 SITE/PROJECT DESCRIPTION AND LOCATION/SETTING	3
2.2 PRE-CONSTRUCTION AND POST-CONSTRUCTION SITE CONDITIONS	4
2.3 EXISTING SOIL DATA	4
2.4 STEEP SLOPES.....	4
2.5 PRIOR LAND USES	4
2.6 RECEIVING STREAMS OR SURFACE WATERS	4
2.7 IMPLEMENTATION SCHEDULE	6
2.8 SITE MAPPING	8
3.0 CONTROLS	9
3.1 PRESERVATION METHODS.....	9
3.2 EROSION CONTROL PRACTICES	9
3.3 RUNOFF CONTROL PRACTICES.....	12
3.4 SURFACE WATER PROTECTION.....	13
3.5 WETLAND PRACTICES.....	15
3.6 SEDIMENT CONTROL PRACTICES	15
3.7 POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM).....	17
3.8 OTHER CONTROLS	17
3.9 MAINTENANCE	21
3.10 INSPECTIONS	21

4.0	APPROVED STATE OR LOCAL PLANS.....	23
5.0	EXCEPTIONS.....	24
6.0	NOTICE OF TERMINATION REQUIREMENTS.....	25

LIST OF TABLES

Table		Page
1	Permanent Stabilization	10
2	Temporary Stabilization	10
3	Summary of Onsite Streams	14
4	Summary of Onsite Wetlands	14
5	Summary of Onsite Open Waters	15
6	Required Spacing and Materials for Trench Plugs.....	17

LIST OF APPENDICES

A	Site Location Maps (highway, topographic, watershed)
B	Soils Map and Table Identifying Soil Types and Characteristics
C	Detailed Erosion and Sediment Control Location Drawings
D	Site Drawing Checklist and Logs
E	Corrective Action Log
F	Typical Upland Erosion and Sediment Control Plan Drawings
G	Typical Stream Crossing Drawings
H	Typical Wetland Crossing Drawing
I	NOI Application Documentation
J	Concrete Washout Typical Detail
K	SWP3 Inspection Forms

LIST OF DEFINITIONS

BMP	Best Management Practice
C&DD	Construction and Demolition Debris
CWA	Clean Water Act
Director	Director of the Ohio Environmental Protection Agency
E&S	Erosion and Sediment
EPA	Environmental Protection Agency
General Permit	General Permit for Stormwater Discharges Associated with Construction Activities Under the National Pollutant Discharge Elimination System Permit No. OHC000005, effective April 23, 2018, expires April 22, 2023.
HUC	Hydrologic Unit Code
MS4	Municipal Separate Storm Sewer System
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
OAC	Ohio Administrative Code
ORAM	Ohio Rapid Assessment Method
ORC	Ohio Revised Code
PCSM	Post-Construction Stormwater Management
PTI	Permit to Install
SPCC	Spill Prevention Control and Countermeasures
SWP3	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
VAP	Voluntary Action Program

EXECUTIVE SUMMARY

The purpose of this Stormwater Pollution Prevention Plan (SWP3) is to present procedures that will be followed during construction activities to minimize adverse impacts due to sedimentation and potential environmental pollutants resulting from storm water runoff and to reduce sediment and environmental pollutant runoff after Project completion. This SWP3 sets forth procedures to be followed during construction activities for The East Ohio Gas Company, d/b/a Dominion Energy Ohio (Dominion Energy), Pipeline Infrastructure Replacement (PIR) project, PIR 2350 – Jackson & Genoa (Project), located in Perry Township, Stark County, Ohio. The procedures developed in this plan must be implemented throughout the duration of the Project.

Dominion Energy will be responsible for the development, implementation, and enforcement of this plan. Dominion Energy personnel may designate qualified representatives such as environmental inspectors or contractors to ensure the provisions of this permit are properly employed.

This document was prepared in accordance with the following documents: Ohio Department of Natural Resources, Division of Soil and Water Conservation "Rainwater and Land Development" Manual Third Edition 2006, Updated 11-6-14; Ohio Environmental Protection Agency (EPA), Authorization for Stormwater Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System Permit OHC000005; and Ohio EPA Stormwater Program Website, <http://www.epa.state.oh.us/dsw/storm/index.aspx>.

This plan covers all new and existing discharges composed entirely of stormwater discharges associated with construction activity that enter surface waters of the State or a storm drain leading to surface waters of the State. Construction activities include any clearing, grading, excavating, grubbing and/or filling activities that disturb one (1) or more acres of land.

1.0 PERMIT REQUIREMENTS

The purpose of this SWP3 is to present procedures that will be followed during construction activities to minimize adverse impacts due to sedimentation resulting from storm water runoff and to reduce sediment runoff after Project completion. Operators who intend to obtain initial coverage for a stormwater discharge associated with construction activity under this General Permit Authorization for Storm Water Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System (NPDES), Ohio EPA Permit Number OHC000005 (effective April 23, 2018 and expires April 22, 2023 (General Permit)) must submit a complete and accurate Notice of Intent (NOI) application form and appropriate fee at least 21 days prior to the commencement of construction activity. The completed NOI application is provided in **Appendix G**.

Dominion Energy must make NOIs and SWP3s available upon request of the Director of Ohio EPA; local agencies approving sediment and erosion control plans, grading plans or stormwater management plans; local governmental officials, or operators of municipal separate storm sewer systems (MS4s) receiving drainage from the permitted site.

2.0 STORMWATER POLLUTION PREVENTION PLAN

This SWP3 was prepared in accordance with sound engineering and/or conservation practices by a professional experienced in the design and implementation of standard erosion and sediment controls and stormwater management practices addressing all phases of construction. This SWP3 was prepared by Dominion Energy and Environmental Consulting & Technology, Inc.

This SWP3 has identified potential sources of pollution which may reasonably be expected to affect the quality of stormwater discharges associated with construction activities. This SWP3 describes and ensures the implementation of Best Management Practices (BMPs) that reduce the pollutants in stormwater discharges during construction and pollutants associated with post-construction activities to ensure compliance with Ohio Revised Code (ORC) Section 6111.04, Ohio Administrative Code (OAC) Chapter 3745-1 and the terms and conditions of the General Permit. In addition, the SWP3 must conform to the specifications of the Ohio Rainwater and Land Development Manual.

Plan Availability

Dominion Energy must provide a copy of this SWP3 within seven (7) days upon written request by any of the following: The Director or the Director's authorized representative; a local agency approving sediment and erosion plans, grading plans or stormwater management plans; or; in the case of a stormwater discharge associated with construction activity which discharges through a municipal separate storm sewer system with an NPDES permit, to the operator of the system. A copy of the NOI and letter granting permit coverage under this General Permit must also be made available at the site.

All NOIs, General Permit approval for coverage letters, and SWP3s are considered reports that must be available to the public in accordance with the Ohio Public Records law. Dominion Energy must make documents available to the public upon request or provide a copy at public expense, at cost, in a timely manner. However, Dominion Energy may claim to Ohio EPA any portion of a SWP3 as confidential in accordance with Ohio law.

Plan Revisions and Amendments.

The Director or authorized representative, and/or any regulatory authority associated with approval of this plan, may notify Dominion Energy at any time that the SWP3 does not meet one (1) or more of the minimum requirements. Within ten (10) days after such notification from the Director (or as otherwise provided in the notification) or authorized representative, and/or any regulatory authority associated with approval of this plan, Dominion Energy must make the required changes to the SWP3 and, if requested, must submit to Ohio EPA, and/or other regulatory authority, the revised SWP3 or a written certification that the requested changes have been made. Dominion Energy must also amend the SWP3 whenever there is a change in site design, construction, operation, or maintenance that requires the installation of BMPs or modifications to existing BMPs.

Duty to Inform Contractors and Subcontractors.

Dominion Energy must inform all contractors and subcontractors who will be involved in the implementation of the SWP3 of the terms and conditions of the General Permit and/or other approval from a regulatory authority. Dominion Energy must maintain a written document containing the signatures of all contractors and subcontractors involved in the implementation of the SWP3 as proof acknowledging that they reviewed and understand the conditions and responsibilities of the SWP3. The written document must be created and signatures of each individual contractor must be obtained prior to their commencement of work on the construction site. Certification statements for contractors and subcontractors can be found at the beginning of this document.

2.1 SITE/PROJECT DESCRIPTION AND LOCATION/SETTING

Dominion Energy is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of 10- and 12-inch diameter natural gas pipeline and conduct any necessary abandonment activities under Dominion Energy's PIR Program. The purpose of this program is to replace existing pipe to ensure the safety and reliability of pipeline operations.

The PIR 2350 Project is located within Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Genoa Avenue SW, a 60-foot-wide existing off-road utility easement running east from Jackson Avenue SW to Genoa Avenue SW, and a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement. Along portions of abandoned pipeline, small areas of excavation may occur to allow the line to be purged and cut and capped. At intersections of roads with no proposed mainline replacement, small portions of pipeline may be installed to "tie in" the new pipeline to existing pipelines. Service lines to individual structures may also be replaced as part of this Project. The need for any laydown and/or material storage areas will be determined by the selected construction contractor. The Project area is easily accessible from public roads.

The scope of work is to install and abandon sections of natural gas pipeline; no other utilities will be constructed. The construction of new buildings, roads, or parking facilities, is not included in the scope of work. Disturbance within the Project area will be minimized as much as possible. The area reviewed for the project was 36 acres. Approximately 8.5 acres (23.6%) will be temporarily disturbed due to excavation, filling, grading, and installation of erosion control measures. The 8.5 acres will be disturbed in phases.

The Project area is located in residential and agricultural properties and undeveloped land within the Tuscarawas River drainage basin (Hydrologic Unit Code [HUC] 05040001). The Project area has undulating elevations. Five (5) streams, six (6) wetlands, and one (1) open water are located within the Project area.

The maps included in **Appendix A** depict the location of the Project on a roadway map, U.S. Geological Survey Topographic Map, and a watershed map.

2.2 PRE-CONSTRUCTION AND POST-CONSTRUCTION SITE CONDITIONS

New impervious surfaces will not be created. The Project will essentially result in no permanent change in land use or land cover and, therefore, is not expected to result in an increase in runoff. All areas disturbed by the Project will be restored to their pre-construction material, condition, and contours; therefore, the calculation of runoff coefficients for pre-construction vs. post-construction conditions is not warranted or applicable to this linear Project.

2.3 EXISTING SOIL DATA

The United States Department of Agriculture, Natural Resources Conservation Service (NRCS) Soil Survey was utilized to identify soil map units within the Project site. The primary soils types located within the Project include Ravenna-Urban land complex, 0 to 6 percent slopes (Rn); Canfield silt loam, 6 to 12 percent slopes, eroded (CdC2); and Canfield silt loam, 2 to 6 percent slopes (CdB). A copy of the Soil Survey for the Project and a table identifying the soil types and characteristics (drainage capacity, depth to water table, K factor rating, etc.) are provided in **Appendix B**.

2.4 STEEP SLOPES

The project area does exhibit steep/critical slopes. At those areas exhibiting steep/critical slopes, erosion and sediment controls appropriate for use were selected.

2.5 PRIOR LAND USES

Prior land uses for the Project site includes residential, agricultural, and undeveloped land.

2.6 RECEIVING STREAMS OR SURFACE WATERS

The Project is located within the City of Massillon-Tuscarawas River subwatershed (HUC12 # 05040001 1202) of the Pigeon Run-Tuscarawas River watershed (HUC10 05040001 12), within the greater Tuscarawas River watershed (HUC8 05040001). The first named receiving stream for the Project is Stream 3 (Wetmore Creek), located within the central portion of the Project area. Wetmore Creek drains northeast to the Tuscarawas River. The Tuscarawas River joins the Walhonding River to form the Muskingum River that drains south into the Ohio River. A map depicting where the Project is located within a watershed setting is included in **Appendix A**. Any rivers, streams, wetlands, and any significant ponds or ditches crossed by the Project have been included on the maps in **Appendix C**.

The following water bodies are located within the project area: Wetland A, Wetland B, Wetland C, Wetland D, Wetland E, Wetland F, Stream 1, and Stream 2, Stream 3 (Westmore Creek), Stream 4, Stream 5, and Open Water A. Stream 1, Stream 3 (Westmore Creek), Wetland C, and Wetland E will be open cut and temporarily impacted. Stream 2 may also be temporarily impacted for construction activities related to the nearby trenching. Temporary impacts to these resources are qualified for coverage under the U.S. Army Corps of Engineers (USACE) Nationwide Permit (NWP) 12. Coordination with the USACE for a Section 404 permit is being implemented for these

water resource impacts under NWP 12. Ohio EPA has waived Section 401 Water Quality Certification associated with NWP 12. Additionally, any temporary impact and crossing methods of waterbody resources are authorized under Section 401/antidegradation review. Wetland A, Wetland B, Wetland D, Wetland F, Stream 4, Stream 5, and Open Water A will be avoided.

Stream 1 is a perennial stream that flows southeast to northwest through a forested area near the western extent of the study area. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and Open Water A.

Stream 2 is an ephemeral stream that flows from south to north through the study area into Stream 3 (Wetmore Creek). Stream 2 drains an active agricultural field located south of the study area, jundw|#lp sdfwlgj#vhglp hqwdlrq#dqg#qxlw#lqsw#lqr#wk#wuhdp . Stream 2 has a natural channel and shows no signs of modification. The dominant substrates in Stream 2 are clay/hardpan and gravel.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Stream 2. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Ave SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel.

Stream 5 is an ephemeral stream that drains an active agricultural field into Stream 3 (Wetmore Creek). Stream 5 appears to have been previously channelized. The dominant substrate in Stream 5 is clay/hardpan.

Wetland A is a PEM/PFO wetland dominated by green ash (*Fraxinus pennsylvanica*), gray dogwood (*Cornus racemosa*), jewelweed (*Impatiens capensis*), and lake sedge (*Carex lacustris*). Wetland A drains into Stream 1 and extends off-site of the study area to the north.

Wetland B is a PEM/PFO wetland dominated by reed canary grass (*Phalaris arundinacea*) and jewelweed. Wetland B continues offsite to the north and south of the study area and is located east of Stardale Avenue and west of Stream 3 (Wetmore Creek). Based on aerial review of the study area, Wetland B likely connects to off-site portions of Stream 3 (Wetmore Creek). The residential properties bordering Wetland B appear to mow right up to the wetland boundary.

Wetland C is a PEM wetland dominated by reed canary grass. Wetland C is located east of Stream 3 (Wetmore Creek) and is predominately surrounded by active agricultural fields. Wetland C continues offsite to the north and south where it likely connects to an off-site tributary of Stream 3 (Wetmore Creek).

Wetland D is a PFO wetland dominated by eastern cottonwood (*Populus deltoides*) and silky dogwood (*Cornus amomum*, FACW) and is predominately surrounded by residential land use. Wetland D continues offsite to the north and does not appear hydrologically connected to any onsite but is assumed to connect to an offsite aquatic resource.

Wetland E is a PFO wetland dominated by silver maple (*Acer saccharinum*, FACW), green ash (*Fraxinus pennsylvanica*, FACW) and jewelweed (*Impatiens capensis*, FACW) and is predominately surrounded by residential land use. Wetland E is adjacent to Stream 1.

Wetland F is a PEM wetland dominated by red maple (*Acer rubrum*, FAC), yellow bristle-grass (*Setaria pumila*, FAC), and Virginia wildrye (*Elymus virginicus*, FACW) and is predominately surrounded by agricultural land and forest. Wetland F is located approximately 100 feet southwest of Stream 3 (Wetmore Creek).

Open Water A is located within a residential lawn in the westernmost section of the study area. Open Water A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Open Water A is separated from Stream 1 by an impoundment.

No floodplains are located within or immediately adjacent to the Project area.

The Ohio EPA conducts periodic surveys to collect water quality data on Ohio's streams and rivers. The data are incorporated into the Ohio Integrated Water Quality Monitoring and Assessment Report. The watershed monitoring data closest to the project area indicates that a section of the Tuscarawas River at Massillon and Walnut Street is in full attainment for Aquatic Life Use. The Watershed Assessment indicates that the watershed, as a whole, is in non-attainment for recreational use. The water is not utilized for drinking water supply and it is impaired.

The project area is located in Perry Township and Stark County which both hold a MS4 Stormwater Permit (3GQ00053*CG and 3GQ00120*CG , respectively).

Dedicated asphalt and/or concrete batch plant discharges covered by the NPDES construction stormwater General Permit are not applicable to this Project.

2.7 IMPLEMENTATION SCHEDULE

A general implementation schedule providing the sequence of major construction operations is provided below. Construction activities are expected to be initiated and completed in 2023. The specific start date will be determined by the receipt of all applicable permits and the selected construction contractors' schedule. The completion date may be affected by weather conditions. Surface stabilization at the Project site is expected to take place incrementally, as construction progresses. Once all land disturbing activities have been completed, the site must be permanently stabilized. Throughout the life of the Project, construction logs must be kept to record major dates of grading, excavating, and stabilizing.

1 - SITE PREPARATION FOR ENTIRE PROJECT (To be determined by the contractor)

- Mobilization.
- Survey and stake existing pipeline and limits of construction.
- Flag/field mark wetland areas, as necessary.
- Installation/improvement to construction entrances, and installation of silt fence or other BMPs designated to control storm water at the project boundary.
- Install gravel on dirt roads, and fill-in rutted areas on existing gravel roads.

2 - SITE PREPARATION FOR EACH JOB (To be determined by the contractor)

- Install BMPs (see Section 3.0) for access roads/equipment crossings at stream crossings and wetland crossings.
- Begin clearing and grubbing of the site.
- Install temporary runoff controls and erosion control devices where needed.
- Conduct grading activities, as needed.
- Monitor all erosion and sediment controls

3 - MAJOR CONSTRUCTION ACTIVITIES (To be determined by the contractor)

- Excavation.
- Implement BMPs (See Section 3.0) for dewatering (if required).
- Monitor all erosion and sediment controls

4 - RESTORATION (To be determined by the contractor)

- Restore grade to preconstruction contours and install permanent runoff controls, where needed.
- Installation of concrete washout (if required)
- Apply seed and mulch to all disturbed upland areas.
- Install erosion control blankets or turf matting on steep slopes.

- Monitor all erosion and sediment controls

5 - POST-CONSTRUCTION MONITORING (On-going until 70 percent cover reached)

- Removal of concrete washout and disposal of washout material
- Monitor adequacy of erosion control practices.
- Remove temporary erosion and sediment controls and runoff controls once 70 percent uniform vegetative growth is achieved.
- Submit Notice of Termination.

2.8 SITE MAPPING

The scope of this project is to install new or replacement natural gas pipeline and as applicable, conduct activities associated with pipeline abandonment. No other utilities, buildings, roads, or parking facilities will be constructed.

Project site location maps are provided in **Appendix A**. The Soil Survey map for the Project is provided in **Appendix B**. The project specific erosion and sediment control location drawings (in **Appendix C**) depict the limits of earth-disturbing activity, existing and proposed contours; surface water locations, relation to existing buildings and roads, the location of all erosion and sediment control measures, and the location of all construction entrances. The site drawing checklist and logs are included in **Appendix D**. Typical erosion and sediment control drawings for all sediment and erosion controls practices are also included in **Appendices F, G, and H**.

3.0 CONTROLS

To the extent practicable, the locations of temporary and permanent stormwater BMPs to be implemented for the Project site are shown on the drawings provided in **Appendix C**. [Some BMP locations (construction entrances, ingress/egress points, etc.) will be determined in the field upon discussion with the selected construction contractor and will be noted on the project drawings (in **Appendix A, B, and/or C**, as appropriate) at that time. The construction contractor will complete the “Site Drawing Checklist” (**Appendix D**) verifying the inclusion of these features.] The BMPs will be implemented in accordance with the Typical Drawings provided in **Appendices F, G, and H**. The erosion, sediment, and stormwater management practices to be implemented are in accordance with the standards and specification in the current edition of Ohio’s Standards for Stormwater Management, Land Development and Urban Stream Protection, Rainwater and Land Development Manual, Third Edition 2006 updated November 6, 2014.

3.1 PRESERVATION METHODS

In order to preserve the existing natural condition as much as feasible, the Project will avoid clearing and grubbing where feasible, minimize the amount of soil and vegetation disturbances by phasing construction operations, and minimize disturbances to surface waters. The recommended buffer along any surface water of the state to be undisturbed is fifty (50) feet measured from the ordinary high water mark of the surface water.

Disturbance within the project area will be minimized as much as possible. The area reviewed for the project was 36 acres. Approximately 8.5 acres will be temporarily disturbed due to excavation, filling, grading, and installation of erosion control measures. The 8.5 acres will be disturbed in phases.

Separation of the topsoil from the subsoil will generally be performed at residential properties, any wetlands and streams, and agricultural lands. The backfill material returned to the excavation will consist of the same material removed from the excavation, to the extent practicable.

3.2 EROSION CONTROL PRACTICES

Erosion control measures provide cover over disturbed soils in order to minimize erosion. Disturbed areas must be stabilized after construction activities. Erosion control measures likely employed for the Project include: phased disturbance, clearing and grubbing, construction entrances, dust control, matting (Temporary Rolled Erosion Control Product), mulching, topsoiling, temporary seeding, permanent seeding, and sodding. Erosion Control Measures will be in accordance with the Rainwater and Land Development Manual. Typical drawings for these erosion control measures are provided in **Appendix F**.

Permanent stabilization is defined as the establishment of permanent vegetation, decorative landscape mulching, matting, sod, rip rap and landscaping techniques to provide permanent erosion control on areas where construction operations are complete or where no further disturbance is expected for at least one (1) year.

Temporary stabilization is defined as the establishment of temporary vegetation, mulching, geotextiles, sod, preservation of existing vegetation and other techniques capable of quickly establishing cover over disturbed areas to provide erosion control between construction operations.

Final stabilization is defined and achieved when all soil disturbing activities at the site are complete and disturbed surfaces are covered with new structures, pavement, a uniform perennial vegetative cover (e.g., evenly distributed, without large bare areas) with a density of at least seventy (70) percent cover, or other equivalent stabilization measures (such as the use of landscape mulches, rip-rap, gabions or geotextiles) have been employed. In addition, all temporary erosion and sediment control practices are removed and disposed of and all trapped sediment is permanently stabilized to prevent further erosion.

Disturbed areas will be stabilized following completion of construction activities as specified in **Tables 1** and **2** below and in accordance with the site layout maps and detail sheets provided in **Appendix C**.

Table 1: Permanent Stabilization

Area Requiring Permanent Stabilization	Time Frame to Apply Erosion Controls (Stabilization)
Any areas that will lie dormant for one (1) year or more.	Within seven (7) days of the most recent disturbance.
Any areas within 50 feet of a surface water of the State and at final grade.	Within two (2) days of reaching final grade.
Any other areas at final grade.	Within seven (7) days of reaching final grade within that area.

Table 2: Temporary Stabilization

Area Requiring Temporary Stabilization	Time Frame to Apply Erosion Controls (Stabilization)
Any disturbed areas within 50 feet of a surface water of the State and not at final grade.	Within two (2) days of the most recent disturbance if the area will remain idle for more than fourteen (14) days.
For all construction activities, any disturbed areas that will be dormant for more than fourteen (14) days but less than one (1) year, and not within 50 feet of a surface water of the State.	Within seven (7) days of the most recent disturbance within the area. For residential subdivisions, disturbed areas must be stabilized at least seven (7) days prior to transfer of permit coverage for the individual lot(s).
Disturbed areas that will be idle over winter.	Prior to the onset of winter weather.

Clearing and Grubbing: Clearing and grubbing is the removal of trees, brush, and other unwanted material in order to develop land for other uses or provide access for site work. Clearing generally describes the cutting and removal of above ground material, while grubbing is the removal of roots, stumps, and other unwanted material below existing grade. Clearing and grubbing includes the proper disposal of materials and the implementation of BMPs in order to minimize exposure of soil to erosion and causing downstream sedimentation.

Construction Entrance: A construction entrance is a method of erosion control that is used to reduce the amount of mud tracked off-site with construction traffic. A construction entrance is a stabilized pad of stone underlain with a geotextile. These entrances are located at points of ingress/egress of construction traffic.

Dust Control: Dust control is a method of erosion control that involves preventing or reducing dust from exposed soils or other sources during land disturbing, demolition, and construction activities to reduce the presence of airborne substances which may present health hazards, traffic safety problems, or harm animal or plant life.

Matting/Temporary Rolled Erosion Control Product (TREC): TRECPs are a method of erosion control which is a degradable manufactured material used to stabilize easily eroded areas while vegetation becomes established. Temporary Rolled Erosion Control Products are degradable products composed of biologically, photo chemically, or otherwise degradable materials. TRECPs consist of erosion control netting, open weave textiles, and erosion control blankets and mattings. These products reduce soil erosion and assist vegetative growth by providing temporary cover from the erosive action of rainfall and runoff while providing soil-seed contact.

Mulching: Mulching is a temporary or permanent method of erosion control used to protect exposed soil or freshly seeded areas from the direct impact of precipitation by providing a temporary surface cover. Mulch also helps establish vegetation by conserving moisture and creating favorable conditions for seeds to germinate. Mulch must be used liberally throughout construction to limit the areas that are bare and susceptible to erosion. Mulch can be used in conjunction with seeding to establish vegetation or by itself to provide erosion control when the season does not allow grass to grow. Mulch and other vegetative practices must be applied on all disturbed portions of construction-sites that will not be re-disturbed for more than fourteen (14) days.

Permanent Seeding: Permanent seeding is a method of erosion control used to permanently stabilize soil on construction sites where land-disturbing activities, exposed soil, and work has been completed or is not scheduled for more than twelve (12) months. Permanent seeding must be applied to any disturbed areas or portions of construction sites at final grade. Permanent seeding must not be delayed on any one portion of the site at final grade while construction on another portion of the site is being completed. Permanent seeding must be completed in phases, if necessary. Permanent vegetation is used to stabilize soil, reduce erosion, prevent sediment pollution, reduce runoff by promoting infiltration, and provide stormwater quality benefits offered by dense grass cover.

Phased Disturbance: Phased disturbance is a method of erosion control that limits the total amount of grading at any one time and sequences operations so that at least half the site is either left as undisturbed vegetation or re-stabilized prior to additional grading operations. This approach actively monitors and manages exposed areas so that erosion is minimized and sediment controls can be more effective in protecting aquatic resources and downstream landowners.

Sodding: Sodding is a method of erosion control that utilizes rolls or mats of turf grass to provide immediate stabilization to bare soils. It is especially useful in highly erosive areas such as drainage

ways and on slopes that will be mowed. Sod may be used where immediate cover is required or preferred and where vegetation will be adequate stabilization such as minor swales, around drop inlets, and lawns.

Temporary Seeding: Temporary seeding is a method of erosion control used to temporarily and quickly stabilize soil on construction sites where land-disturbing activities have been initiated but not completed. Appropriate rapidly growing annual grasses or small grains must be planted on the disturbed areas. Temporary seeding effectively minimizes the area of a construction site prone to erosion and must be used everywhere the sequence of construction operations allows vegetation to be established. Temporary seeding must be applied on exposed soil where additional work (grading, etc.) is not scheduled for more than fourteen (14) days. Mixes to be applied are specific to the time of year the seeding will take place and the location of the Project within the state.

Topsoiling: During grading operations, topsoil and the upper most organic layer of soil will be stripped and stockpiled and then subsequently replaced on the newly graded areas. Topsoil provides a more suitable growing medium than subsoil or on areas with poor moisture, low nutrient levels, undesirable pH, or in the presence of other materials that would inhibit establishment of vegetation. Replacing topsoil helps plant growth by improving the water holding capacity, nutrient content, and consistency of the soils.

3.3 RUNOFF CONTROL PRACTICES

Temporary and permanent runoff control is important on development sites to minimize on-site erosion and to prevent off-site sediment discharge. Runoff control methods likely implemented for this Project include dewatering measures, compost sock check dams, and waterbars. Runoff control measures will be in accordance with Chapter 4 and 5 of the Rainwater and Land Development Manual.

Dewatering Measures. Dewatering consists of providing an area for receiving and treating surface runoff and groundwater pumped from excavation or work areas prior to being released off the site, such as desilting basins or sediment traps. For project areas without these detention features, dewatering typically consists of the use of filter devices (e.g. filter bags) to treat and release water removed from excavation. Filter bags should discharge to an upland location if possible. These practices reduce sediment impacts to downstream water resources.

Compost Sock Check Dam: Compost sock check dams are dams constructed in swales, grassed waterways or diversions comprised of a compost filter sock (staked in place). Compost sock check dams reduce the velocity of concentrated flows thereby reducing erosion within the swale or waterway.

Waterbar. A waterbar is a diversion constructed across the slope of an access road or utility right-of-way. Waterbars are used to reduce concentrated runoff on unpaved road surfaces, thus reducing water accumulation and erosion gullies from occurring. Waterbars divert runoff to road side swales, vegetated areas, or settling ponds.

3.4 SURFACE WATER PROTECTION

The Project area encompasses five (5) streams, six (6) wetlands, and one (1) open water (see Section 2.6 for additional information on delineated water resources). Waters must be protected by avoiding crossing of streams and wetlands where feasible and using sediment and erosion control practices to prevent sediment-laden runoff from reaching the surface waters.

Surface Waters of the State Protection. If construction activities disturb areas adjacent to surface waters of the State, structural practices must be designed and implemented onsite to protect all adjacent surface waters of the State from the impacts of sediment runoff. No structural sediment controls (e.g., the installation of silt fence or a sediment settling pond) must be used in a surface water of the State. For all construction activities immediately adjacent to surface waters of the State, it is recommended that a setback of at least 25 feet, as measured from the ordinary high water mark of the surface water, be maintained in its natural state as a permanent buffer.

Where impacts within this setback area are unavoidable due to the nature of the construction activity (e.g., stream crossings for roads or utilities), the Project must be designed such that the number of crossings and the width of the disturbance within the setback area are minimized.

In order to minimize the amount of disturbance and sedimentation caused by work at wetland crossings, every effort will be made to minimize impacts. Movement across waters will be limited to necessary equipment only. BMPs for vehicle crossing of streams and wetlands will be utilized when practical. Dominion will employ a typical temporary equipment crossing at each crossing location. These crossing methods are found on the typical drawings in Appendices G and H. All wetland crossings will be restored to pre-construction grades, contours, and, when feasible, vegetation type. Dominion will obtain all necessary wetland crossing permits from federal and state regulatory agencies. Summaries of the onsite surface waters and any impacts are provided in Tables 3 and 4.

Surface Water Utility Crossing. Surface water utility crossings include pipeline, power line, or road construction projects that cross streams, rivers, or wetlands. Measures used to minimize damage from the construction of utilities across streams and wetlands start in the planning stages of a project and continue through site restoration.

Temporary Surface Water Crossing. A temporary surface water crossing provides construction traffic temporary access across a surface water while reducing the amount of disturbance and sediment pollution. It is a temporary practice which includes restoring the crossing area after construction. The typical kinds of surface water crossings are: bridges, timber mats, culverts and fords. Each has specific applications and each is designed to minimize surface water damage by leaving wetland areas and stream banks stable and vegetated.

Table 3: Summary of Onsite Streams

Stream ID	Stream Length (lf) within Project Area	Bankfull Width (feet)	Flow Regime	Substrate Type(s)	Designation/ Classification ¹	Crossing Method ²	Impacts - Upstream to Downstream Length (lf)	Impacts- Trench Crossing Length (lf)
Stream 1	289	12	Perennial	Sand, gravel	Class II PHW ³	Open Cut	10	8.5
Stream 2	37	3	Ephemeral	Clay/hardpan, gravel	Class I PHW	Equipment Crossing	37	3 ⁴
Stream 3 (Wetmore Creek)	364	20	Perennial	Gravel, sand	Warmwater Habitat	Open Cut	115	20
Stream 4	60	2	Ephemeral	Clay/hardpan, gravel	Modified Class I PHW	Avoid	0	0
Stream 5	51	3	Ephemeral	Clay/hardpan, leaf pack	Modified Class I PHW	Avoid	0	0

Note:

- 1 Designation determination made using Headwater Habitat Evaluation Index (HHEI) or Qualitative Habitat Evaluation Index (QHEI) scoring methods.
- 2 Project Managers must approve changes to crossing methods.
- 3 Primary Headwater
- 4 Impacts to Stream 2 are associated with construction activity supportive to the nearby trenching; but will not involve trenching
- 5

Table 4: Summary of Onsite Wetlands

Wetland ID	Vegetation Cover Type within the Project Area	Area within ROW (acres)	ORAM ¹ Category	Crossing Method ²	Impact Area (acres)	Impacts Length of Wetland Crossing
Wetland A	PEM/PFO	0.05	Mod. 2	Avoid	0	0
Wetland B	PEM/PFO	0.23	1 or 2 gray zone	Avoid	0	0
Wetland C	PEM	1.53	1	Open Cut	0.613	445
Wetland D	PFO	0.13	1 or 2 gray zone	Avoid	0	0
Wetland E	PFO	0.05	Mod. 2	Open Cut	0.008	35
Wetland F	PEM	0.03	1 or 2 gray zone	Avoid	0	0

Notes:

- 1 Ohio Rapid Assessment Method
- 2 Project Managers must approve changes to crossing methods.

Table 5: Summary of Onsite Open Waters

Open Water ID	Area within ROW (acres)	Crossing Method ¹	Impact Area (acres)	Impacts Length of Open Water Crossing
Open Water A	0.06	Avoid	0	0

Note:

- 1 Project Managers must approve changes to crossing methods.

3.5 WETLAND PRACTICES

Concentrated stormwater runoff from proposed BMPs to natural wetlands must be converted to diffuse flow before the runoff enters the wetlands. The flow must be released such that no erosion occurs downslope. Level spreaders may need to be placed in series, particularly on steep sloped sites, to ensure non-erosive velocities. Other structural BMPs may be used between stormwater features and natural wetlands, in order to protect the natural hydrology, hydroperiod, and wetland flora. If Dominion Energy proposes to discharge to natural wetlands, a hydrologic analysis must be performed. Dominion Energy must attempt to match the pre-development hydroperiods and hydrodynamics that support the wetland. Dominion Energy must assess whether their construction activity will adversely impact the hydrologic flora and fauna of the wetland. Practices such as vegetative buffers, infiltration basins, conservation of forest cover, and the preservation of intermittent streams, depressions, and drainage corridors may be used to maintain wetland hydrology.

3.6 SEDIMENT CONTROL PRACTICES

All Project activities will occur within the areas indicated on site drawings in **Appendix C**. All Sediment Control Devices will match those indicated on the mapping in **Appendix C**. Minor adjustments to control devices (type, location, etc.) deemed necessary to maintain compliance can be made on the project mapping. The location of any laydown and/or material storage areas will be determined in the field upon discussion with the selected construction contractor and will be noted on the project site drawings at that time. The “Site Drawing Checklist” (**Appendix D**) will be completed, verifying the inclusion of these features or minor adjustments. Any necessary mainline to mainline tie-ins (at intersections with streets with no proposed mainline replacement) will also be noted on the drawings. Construction activities for this Project will be limited to the Limit of Disturbance of 8.5 acres. Sediment Control Practices must treat runoff allowing sediments to settle and/or divert flows away from exposed soils or otherwise limit runoff from exposed areas. Structural practices must be used to control erosion and trap sediment from a disturbed site. Methods of control that may be used include, among others: silt fence, storm drain inlet protection, filter socks, and trench plugs. All sediment control practices must be capable of ponding runoff in order to be considered functional. Earth diversion dikes or channels alone are not considered a sediment control practice unless those are used in conjunction with a sediment settling pond. Sediment Controls must be designed, installed, and maintained in accordance with the requirements set forth in Chapter 6 of the Ohio Rainwater and Land Development Manual, and/or Ohio General Permit OHC000005. Dominion Energy discourages the use of haybales unless utilized as a secondary treatment element in conjunction with another erosion and sediment

control(s) and only if approved by Dominion Energy.

Timing. Sediment control structures must be present, as indicated or otherwise deemed to be necessary, and must be functional throughout the course of earth disturbing activity. Sediment basins and perimeter sediment barriers must be implemented prior to grading and within seven (7) days from the start of grubbing. Sediment control structures must continue to function until the up-slope development area is restabilized. As construction progresses and the topography is altered, appropriate controls must be constructed or existing controls altered to address the changing drainage patterns.

Silt Fence. Silt fence is a temporary method of sediment control that is used in sheet-flow areas to encourage the ponding of runoff and settling of sediments. It consists of a geotextile fabric secured to wood or steel posts that have been trenched into the ground. It is installed downslope of the disturbed area, installed along slopes, at bases of slopes on a level contour, and around the perimeter of a site as a final barrier to sediment being carried off site. Maximum drainage area and slopes must be considered when determining the appropriateness of silt fence. Silt fence is removed after permanent vegetation is established.

Silt fence must be installed where indicated on the site drawings and as needed throughout the Project site where construction activity is likely to cause sediment-laden runoff to be carried offsite and into downstream surface waters. After construction is completed and the Project site has been permanently stabilized, silt fence must be removed and disposed of at an appropriate offsite disposal facility.

Placing silt fence in a parallel series does not extend the size of the drainage area. Stormwater diversion practices must be used to keep runoff away from disturbed areas and steep slopes where practicable. Such devices, which include swales, dikes or berms, may receive stormwater runoff from areas up to ten (10) acres.

See the silt fence detail located in **Appendix F** (for additional information on proper installation procedures).

Inlet Protection. Storm drain inlet protection devices remove sediment from stormwater before it enters storm sewers and downstream areas. Inlet protection devices may consist of washed gravel or crushed stone, geotextile fabrics, and other materials that are supported around or across storm drain inlets. Inlet protection is installed to capture some sediment and reduce the maintenance of storm sewers and other underground piping systems prior to the site being stabilized. Due to their poor effectiveness, inlet protection is considered a secondary sediment control to be used in conjunction with other more effective controls. Other erosion and sediment control practices must minimize sediment laden water entering active storm drain systems, unless the storm drain system drains to a sediment settling pond. Generally, inlet protection is limited to areas draining less than one (1) acre; areas of one or more acres will require a sediment settling pond.

Filter Sock. Filter socks are sediment-trapping devices using compost inserted into a flexible, permeable tube. Filter socks trap sediment by filtering water passing through the berm and allowing water to pond, creating a settling of solids. Filter socks may be a preferred alternative

where equipment may drive near or over sediment barriers, as they are not as prone to complete failure as silt fence if this occurs during construction. Driving over filter socks is not recommended; however, if it should occur, the filter sock must be inspected immediately, repaired, and moved back into place as soon as possible. Typically, filter socks can handle the same water flow or slightly more than silt fence. For most applications, standard silt fence is replaced with twelve (12)-inch diameter filter socks.

Trench Plugs. Trench Plugs are required at each side of streams and wetlands crossings completed by trenching, regardless of trench slope. These requirements supplement DEO’s general construction practice for the placement of plugs in trenches on steep slopes. Trench plugs will also be installed if it is determined that flooding at the low point elevation of a pipeline will adversely affect the adjacent property. Installation will be in accordance with the details depicted in **Detail F-5** and **Table 5** below.

Table 6: Required Spacing and Materials for Trench Plugs

Trench Slope (%)	Spacing (ft)	Plug Material
< 5	*	*
5 – 15	500	Sand or Earth** Filled Sacks
15 – 25	300	Sand or Earth** Filled Sacks
25 – 35	200	Sand or Earth** Filled Sacks
35 – 100	100	Sand or Earth** Filled Sacks
> 100	50	Cement Filled Bags (Wetted) or Mortared Stone

* Trench Plugs are required at each side of all stream, river or water-body crossings completed by trenching, regardless of trench slope; otherwise not required.

** Topsoil may not be used to fill sacks.

Modifying Controls. If periodic inspections or other information indicates a control has been used inappropriately or incorrectly, Dominion Energy must replace or modify the control for site conditions.

3.7 POST-CONSTRUCTION STORMWATER MANAGEMENT (PCSM)

The proposed disturbance associated with the Project is temporary; therefore, no permanent stormwater structures will be required. The Project area will be restored to original contours and re-vegetated. No impervious areas will be created for this Project.

3.8 OTHER CONTROLS

In some instances, a non-sediment pollutant source may become present on the Project site and pollution controls may be required.

Non-Sediment Pollutant Controls

Handling of Toxic or Hazardous Materials. All construction personnel, including subcontractors who may use or handle hazardous or toxic materials, must be made aware of the general guidelines regarding management and disposal of toxic or hazardous construction wastes. This can be accomplished by training for construction personnel by the Contractor or by Dominion Energy.

Waste Disposal. Containers (e.g., dumpsters, drums) must be available for the proper collection of all waste material including construction debris, sanitary garbage, petroleum products, and any hazardous materials to be used on-site. Containers must be covered, as required, and not leaking. All waste material must be disposed of at facilities approved by the Ohio EPA for that material. Ensure storage time frames are not exceeded.

Clean Hard Fill. No Construction related waste materials are to be buried on-site. By exception, clean fill (clean bricks, hardened concrete, and soil) may be utilized in a way which does not encroach upon natural wetlands, streams, or floodplains or result in the contamination of waters.

Construction and Demolition Debris (C&DD). C&DD waste will be disposed of in an Ohio EPA permitted C&DD landfill as required by ORC 3714 and approved by Dominion Energy.

Construction Chemical Compounds. Storing, mixing, pumping, transferring or other handling of construction chemicals such as fertilizer, lime, asphalt, concrete drying compounds, and all other potentially hazardous materials must be done in an area away from any waterbody, ditch, or storm drain.

Equipment Fueling and Maintenance. Oil changing, equipment refueling, maintenance on hydraulic systems, etc., must be performed away from waterbodies, ditches, or storm drains, and in an area designated for that purpose. The designated area must be equipped for recycling oil and catching spills. Secondary containment must be provided for all fuel and oil storage tanks. These areas must be inspected every seven (7) days and within 24 hours of a one-half (0.5)-inch or greater rain event to ensure there are no exposed materials which would contaminate stormwater. Site operators must be aware that Spill Prevention Control and Countermeasures (SPCC) requirements may apply. An SPCC plan is required for sites with accumulative aboveground storage of 1,320 gallons or more, or 42,000 gallons of underground storage.

No detergent may be used to wash vehicles. Wash waters will be treated in a sediment basin or alternative control which provides equivalent treatment prior to discharge.

Concrete Wash Water and Wash Outs. Concrete wash water must not be allowed to flow to streams, ditches, storm drains, or any other water conveyance. A lined sump or pit with no potential for discharge must be constructed if needed to contain concrete wash water. Field tile (agricultural drain tiles) or other subsurface drainage structures within ten (10) feet of the concrete sump or wash pit must be cut and plugged. Concrete wash water is wastewater and thus is not permitted to be discharged under the provisions of Ohio EPA's Construction General Permit which only allows the discharge of stormwater. Concrete washout details are located in **Appendix J**. The location for concrete washout will be determined in the field as necessary.

Spill Reporting Requirements. In the event of a spill of a regulated or hazardous material, immediately contact the Dominion Energy ECC assigned to the site or Project. The Dominion Energy ECC (if Dominion Energy ECC not available, other Dominion Energy Environmental staff) will coordinate spill reporting to the appropriate agencies. Spills on pavement must be absorbed with sawdust, kitty litter or other absorbent material. Spills to land require excavation of the contaminated material. Wastes generated from spill cleanup must be disposed of in accordance with applicable Federal, State, and Local waste regulations. Hazardous or industrial wastes including, but not limited to, most solvents, gasoline, oil-based paints, oil, grease, battery acid, muriatic acid, and cement curing compounds require special handling¹. Spills must be reported to Ohio EPA (1-800-282-9378). Spills of 25 gallons or more of petroleum products must be reported to Ohio EPA (1-800-282-9378), the local fire department, and the Local Emergency Planning Committee within thirty (30) minutes of the discovery of the release. All spills (no matter how small), which result in contact with waters of the state, must be reported to Ohio EPA's Hotline. Spills of hazardous substances, extremely hazardous substances, petroleum, and objectionable substances that are of a quantity, type, duration, and in a location as to damage the waters of the state must be immediately reported to the Ohio EPA's Regional Environmental Coordinator.

Contaminated Soils. If substances such as oil, diesel fuel, hydraulic fluid, antifreeze, etc. are spilled, leaked, or released onto the soil, the soil must be dug up and disposed of at a licensed sanitary landfill or other approved petroleum contaminated soil remediation facility (not a construction/demolition debris landfill) which has been approved by Dominion Energy.

Open Burning. Waste disposal by open burning is prohibited by Dominion Energy.

Dust Controls/Suppressants. Dust control is required to prevent nuisance conditions. Dust controls must be used in accordance with the manufacturer's specifications and not be applied in a manner, which would result in a discharge to waters of the state. Isolation distances from bridges, catch basins, and other drainage ways must be observed. Application (excluding water) may not occur when precipitation is imminent as noted in the short term forecast. Used oil may not be applied for dust control. Watering must be done at a rate that prevents dust but does not cause soil erosion. Chemical stabilizers and adhesives must not be used, unless written permission is received from Ohio EPA.

Air Permitting Requirements. All contractors and subcontractors must be made aware that certain activities associated with construction will require air permits. Activities including, but not limited to, mobile concrete batch plants, mobile asphalt plants, concrete crushers, generators, etc., will

¹ The Federal Resource Conservation and Recovery Act (RCRA) requires that all wastes generated by industrial activity, including construction activities, be evaluated to determine if the waste is hazardous, non-hazardous or special wastes. Hazardous waste and special wastes have specific handling and disposal requirements which must be met to comply with RCRA. Additional information regarding the waste evaluation process and the proper handling and disposal requirements for wastes can be found in the following Dominion Guidance Documents: "Hazardous Waste Guidance", "Hazardous Waste Guidance Labeling", "Hazardous Waste Guidance Labeling - Appendix A", "Nonhazardous Waste Management", "Universal Waste Management", "Universal Waste Guidance - Appendix A - Labeling Matrix", and "Used Oil and Oil Filter Management". Consult with the DES ECC assigned to the site or project for advice.

require specific Ohio EPA Air Permits for installation and operation. Dominion Energy must seek authorization from the corresponding district of Ohio EPA for these activities. Notification for Restoration and Demolition must be submitted to Ohio EPA for all commercial sites to determine if asbestos abatement actions are required.

Process Wastewater/Leachate Management. All contractors must be made aware that Ohio EPA's Construction General Permit only allows the discharge of stormwater. Other waste discharges including, but not limited to, vehicle and/or equipment washing, leachate associated with on-site waste disposal, concrete wash outs, etc. are a process wastewater. These types of wastewaters are not authorized for discharge under the General Stormwater Permit associated with Construction Activities. All process wastewaters must be collected and properly disposed at an Dominion Energy approved disposal facility. In the event there are leachate outbreaks (water that has passed through contaminated material and has acquired elevated concentrations of the contaminated material) associated with onsite disposal, measures must be taken to isolate this discharge for collection and proper disposal at an Dominion Energy approved disposal facility. Investigative measures and corrective actions must be implemented to identify and eliminate the source of all leachate outbreaks.

Permit to Install (PTI) Requirements. All contractors and subcontractors must be made aware that a PTI must be submitted and approved by Ohio EPA prior to the construction of all centralized sanitary systems, including sewer extensions, and sewerage systems (except those serving one (1), two (2), and three (3) family dwellings) and potable water lines. The issuance of an Ohio EPA Construction General Stormwater Permit does not authorize the installation of any sewerage system where Ohio EPA has not approved a PTI. If necessary, Dominion Energy will acquire the PTI or Dominion Energy will require the contractor to acquire the PTI.

Compliance with Other Requirements. This plan is consistent with State and/or local waste disposal, sanitary sewer or septic system regulations including provisions prohibiting waste disposal by open burning. Contaminated soils are not expected to be encountered on this Project. If they are encountered within the limits of construction, they will be managed and disposed of properly by trained personnel.

Trench and Groundwater Control. There must be no turbid discharges to surface waters of the State resulting from dewatering activities. If trench or groundwater contains sediment, it must pass through a sediment settling pond or other equally effective sediment control device, prior to being discharged from the construction site. Alternatively, sediment may be removed by settling in place or by dewatering into a sump pit, filter bag, or comparable practice. Groundwater dewatering which does not contain sediment or other pollutants is not required to be treated prior to discharge. However, care must be taken when discharging groundwater to ensure that it does not become pollutant laden by traversing over disturbed soils or other pollutant sources. Discharge of contaminated groundwater is not authorized.

Contaminated Sediment. Where construction activities are to occur on sites with historical contamination, operators must be aware that concentrations of materials that meet other criteria (is not considered a Hazardous Waste, meeting VAP standards, etc.) may still result in stormwater discharges in excess of Ohio Water Quality Standards. Such discharges are not authorized and

may require coverage under a separate individual or general remediation permit. Contaminated soil stockpiles shall be protected from discharges by covering the contaminated soil with a tarp or other such material which will prohibit water from coming in contact with the soils. Contaminated soils can also be removed from the site and disposed of at a Dominion Energy approved facility.

3.9 MAINTENANCE

All temporary and permanent control measures must be maintained and repaired as needed to ensure continued performance of their intended function. All sediment control measures must be maintained in a functional condition until all up slope areas are permanently stabilized. The following maintenance procedures will be conducted to ensure the continued performance of control practices.

- Qualified personnel must inspect all BMPs at least once every seven (7) days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled. Rainfall amounts will be determined by Dominion Energy personnel or a designated representative using National Weather Service or other acceptable resources such as an on-site rain gauge, and determine if the SWP3 has been properly implemented.
- Maintenance or repair of BMPs must be completed by the designated contractor within three (3) days of the date of the inspection that revealed a deficiency. For sediment ponds, repair or maintenance is required within ten (10) days of the date of the inspection.
- Off-site vehicle tracking of sediments and dust generation must be minimized. Temporary construction entrances must be provided where applicable to help reduce vehicle tracking of sediment. Any paved roads adjacent to the site entrance must be swept daily to remove excess mud, dirt, or rock tracked from the site, as necessary.

3.10 INSPECTIONS

The following inspection practices must be followed once site activities have commenced and erosion and sediment control measures have been installed.

- All onsite controls must be inspected by Dominion Energy personnel or a designated representative at least once every seven (7) calendar days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled.
- Inspection frequency may be reduced to at least once every month if the entire site is temporarily stabilized or runoff is unlikely due to weather conditions (e.g., site is covered with snow, ice, or the ground is frozen). A waiver of inspection requirements is available from Ohio EPA until one (1) month before thawing conditions are expected to result in a discharge if all of the following conditions are met: the Project is located in an area where frozen conditions are anticipated to continue for extended periods of time (i.e., more than one (1) month); land disturbance activities have been suspended; and the beginning and

ending dates of the waiver period are documented in the SWP3. Dominion Energy will obtain the waiver at the request of the contractor.

- Once a definable area has reached final stabilization as defined in Section 3.2 Erosion Control Practices, the area must be marked on the SWP3 and no further inspection requirements apply to that portion of the site.
- A Dominion Energy or a designated representative “qualified inspection personnel” must conduct inspections to ensure that the control practices are functional and to evaluate whether the SWP3 is adequate and properly implemented in accordance with the schedule or whether additional control measures are required.
- Following inspection, a checklist must be completed and signed by the qualified inspection personnel representative. The inspection form and checklist is provided in **Appendix K**. The record and certification must be signed in accordance with Ohio Permit OHC000005.
- Inspection reports must be maintained for three (3) years following the submittal of a Notice of Termination.
- For BMPS that require repair or maintenance, BMPs must be repaired or maintained within three (3) days of the inspection; sediment settling ponds must be repaired or maintained within ten (10) days of the inspection.
- For BMPs that are not effective and that another, more appropriate BMP is required, the SWP3 must be amended and the more appropriate BMP must be installed within ten (10) days of the inspection.
- For BMPs depicted on the SWP3 that have not been actually installed onsite, the control practice must be implemented within ten (10) days from the inspection.

4.0 APPROVED STATE OR LOCAL PLANS

This SWP3 must comply, unless exempt, with the lawful requirements of municipalities, counties, and other local agencies regarding discharges of stormwater from construction activities. All erosion and sediment control plans and stormwater management plans approved by local officials must be retained.

5.0 EXCEPTIONS

If specific site conditions prohibit the implementation of any of the erosion and sediment control practices contained in this plan or site specific conditions are such that implementation of any erosion and sediment control practices contained in this plan will result in no environmental benefit, then Dominion Energy must provide justification for rejecting each practice based on site conditions. Dominion Energy may request approval from Ohio EPA and any other applicable regulatory authority to use alternative methods if Dominion Energy can demonstrate that the alternative methods are sufficient to protect the overall integrity of receiving streams and the watershed.

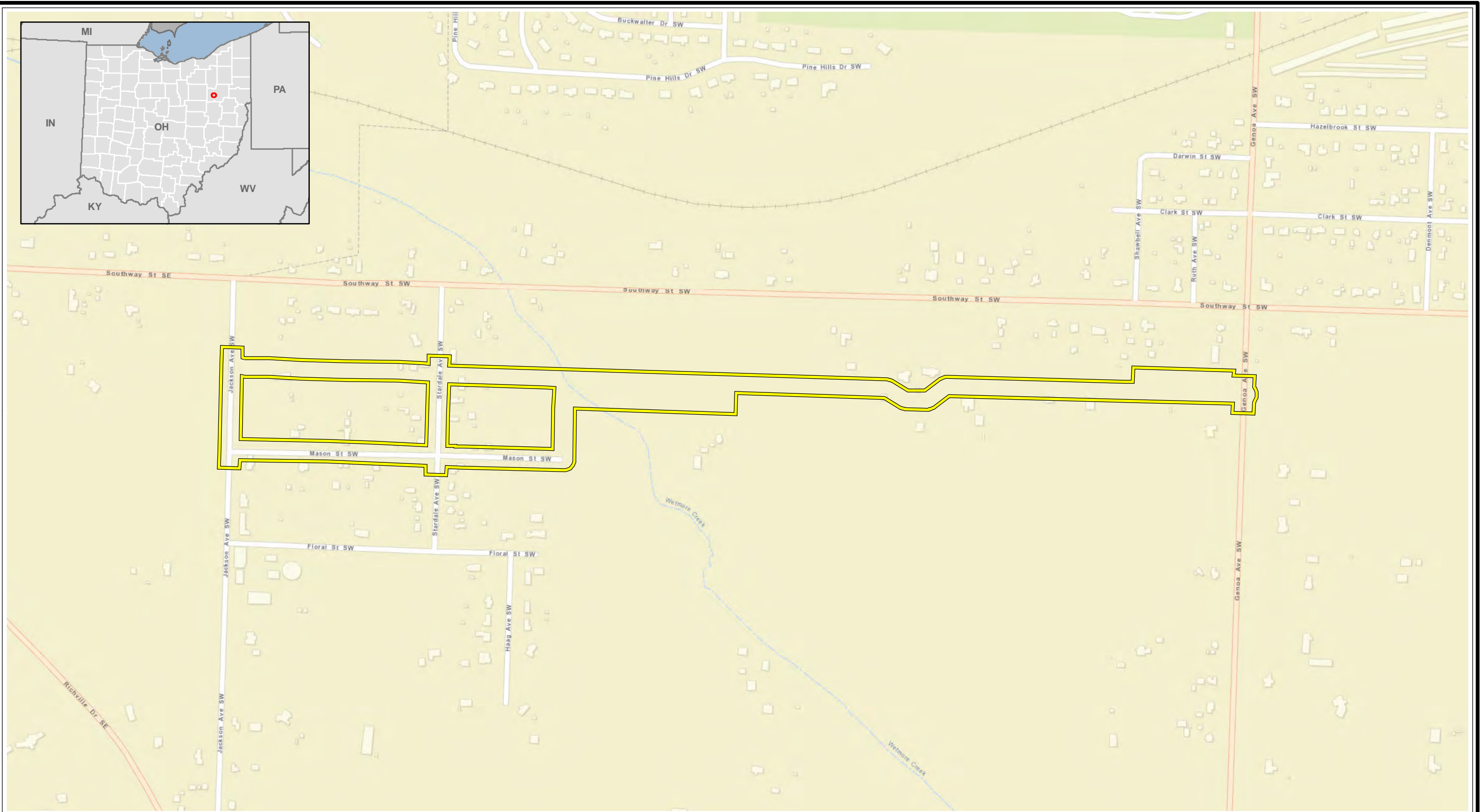
6.0 NOTICE OF TERMINATION REQUIREMENTS


Once a site reaches final stabilization and construction activities have ceased, NPDES permit coverage is terminated by filing a notice of termination (NOT). The NOT must be filed within 45 days of reaching final stabilization. The terms and conditions of this permit must remain in effect until a signed NOT form is submitted. NOT forms must be submitted in accordance with Ohio Permit OHC000005.

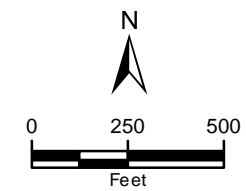
Similarly, a notice of completion must be provided to any municipalities, counties, and other local agencies that require such notice.

APPENDIX A

Site Location Maps



 PIR2350_Study_Area_20221214

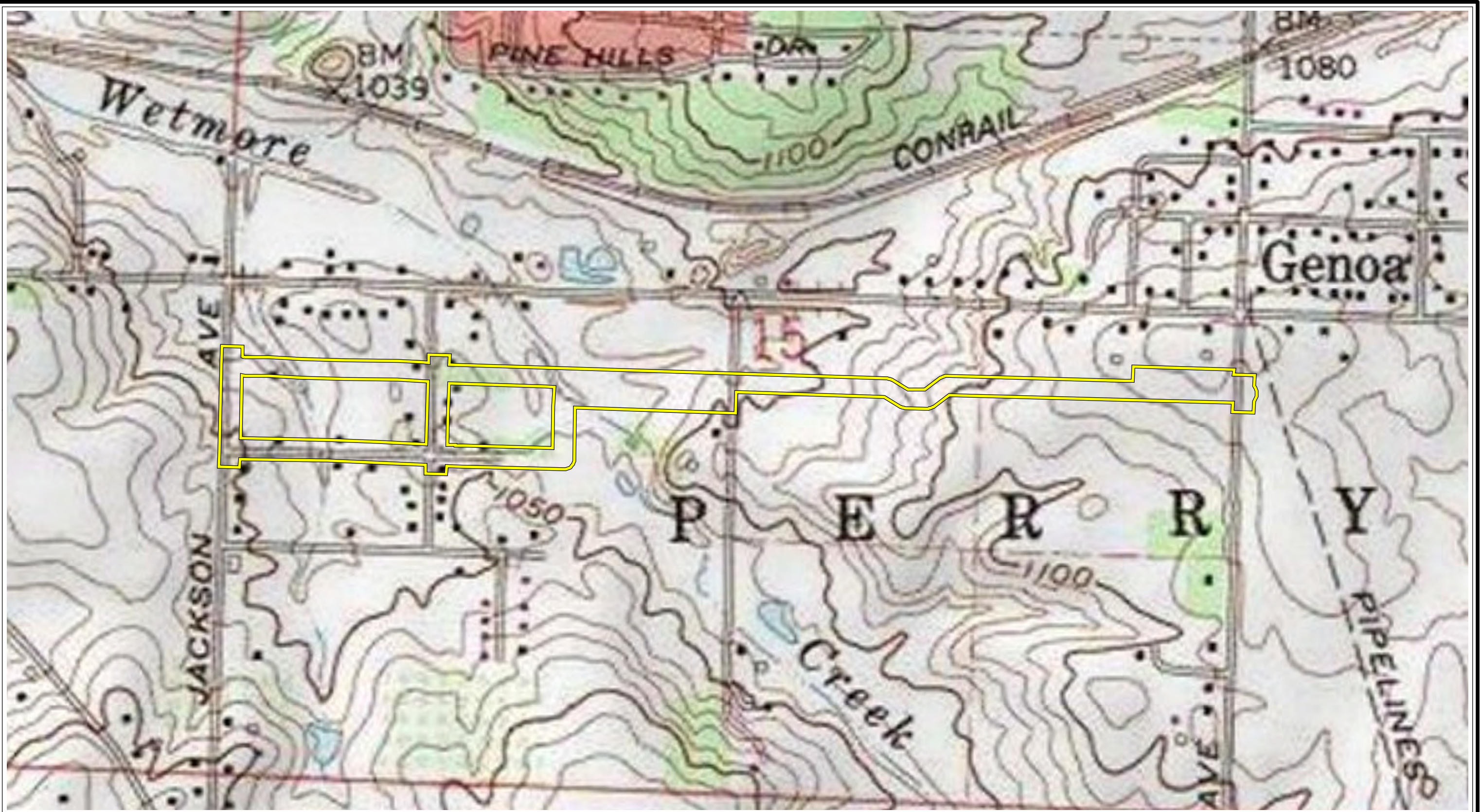



Base Layer: ESRI Street Map 2019

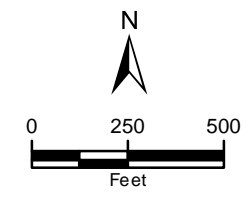
Appendix A - Figure 1 Site Location

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





 Project Study Area

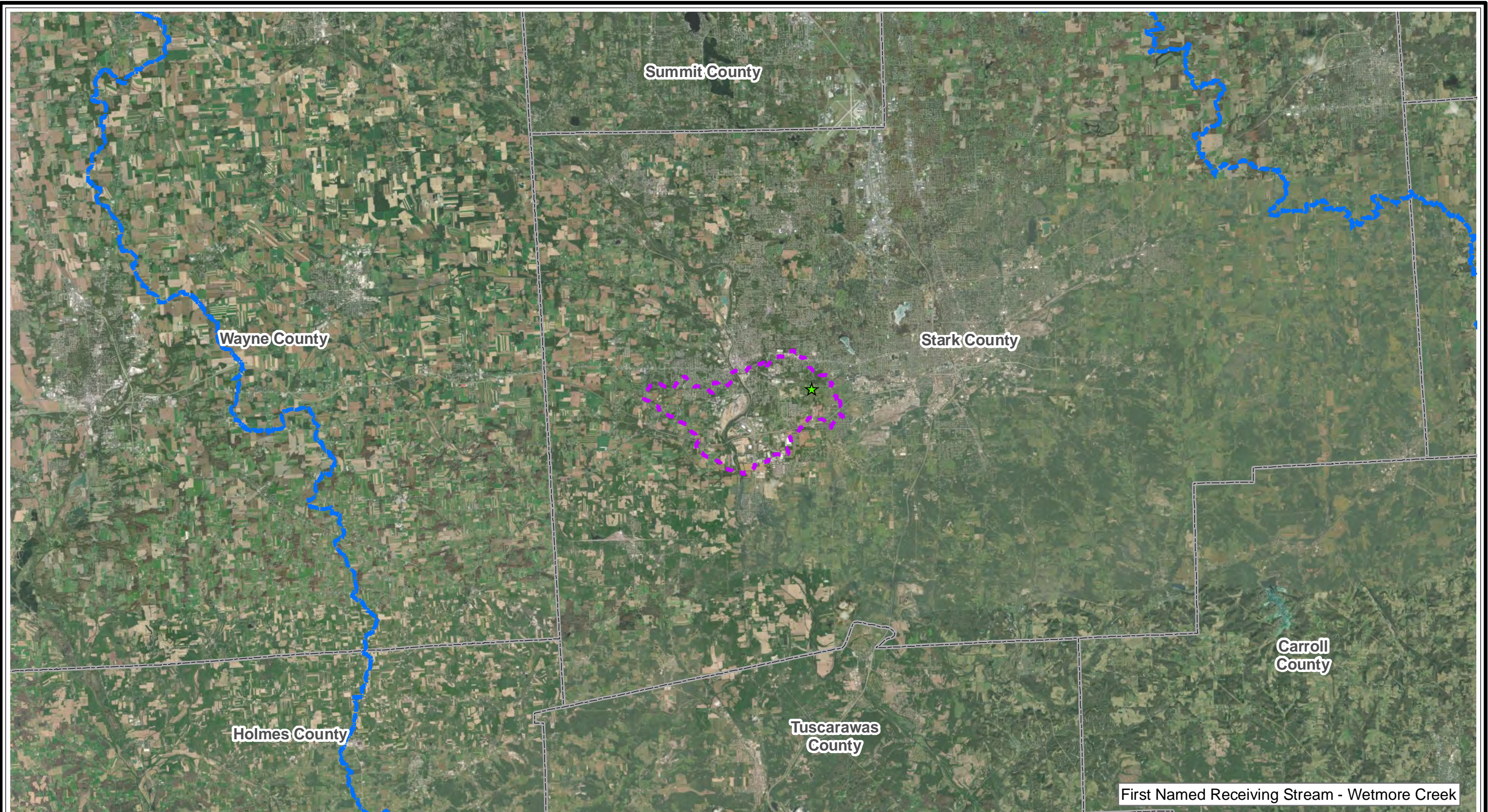







Base Layer: US TopoMaps

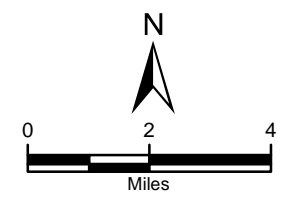
Appendix A - Figure 2
USGS Topographic - Canton West Quadrangle

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





-  Project Study Area - Approx. Location
-  HUC 12 - City of Massillon-Tuscarawas River
-  HUC 8 - Tuscarawas
-  County Boundaries
-  State Boundary



Sources: USGS NAI Aerial

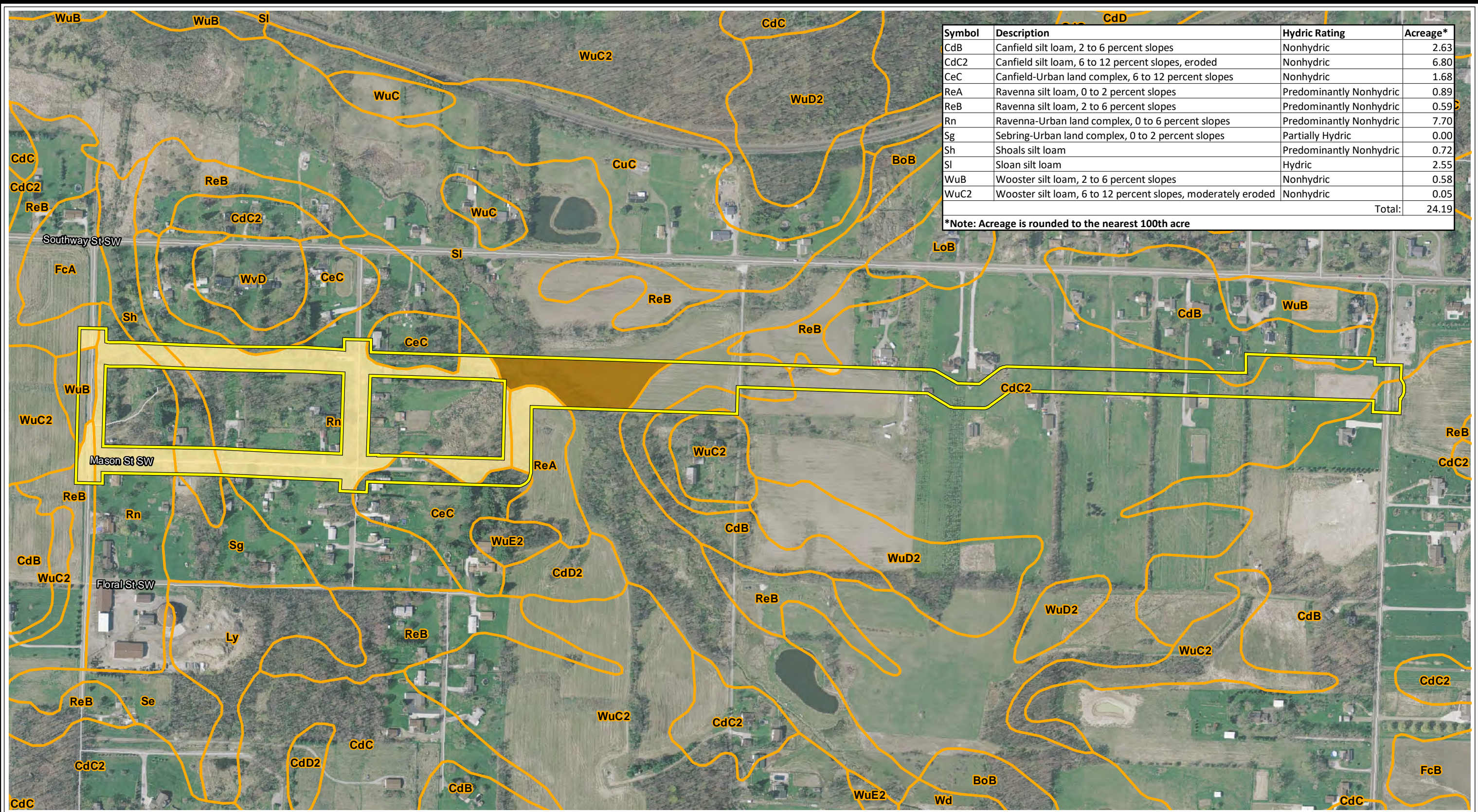
First Named Receiving Stream - Wetmore Creek

Appendix A - Figure 3
Watershed Location Map
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



APPENDIX B

Soil Map and Table

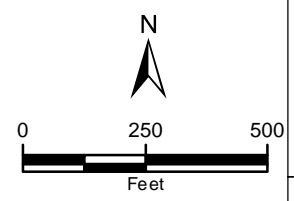


Symbol	Description	Hydric Rating	Acreage*
CdB	Canfield silt loam, 2 to 6 percent slopes	Nonhydric	2.63
CdC2	Canfield silt loam, 6 to 12 percent slopes, eroded	Nonhydric	6.80
CeC	Canfield-Urban land complex, 6 to 12 percent slopes	Nonhydric	1.68
ReA	Ravenna silt loam, 0 to 2 percent slopes	Predominantly Nonhydric	0.89
ReB	Ravenna silt loam, 2 to 6 percent slopes	Predominantly Nonhydric	0.59
Rn	Ravenna-Urban land complex, 0 to 6 percent slopes	Predominantly Nonhydric	7.70
Sg	Sebring-Urban land complex, 0 to 2 percent slopes	Partially Hydric	0.00
Sh	Shoals silt loam	Predominantly Nonhydric	0.72
SI	Sloan silt loam	Hydric	2.55
WuB	Wooster silt loam, 2 to 6 percent slopes	Nonhydric	0.58
WuC2	Wooster silt loam, 6 to 12 percent slopes, moderately eroded	Nonhydric	0.05
Total:			24.19

*Note: Acreage is rounded to the nearest 100th acre

Project Study Area
 Soils (NRCS)

Soils - Hydric Rating
 Hydric
 Partially Hydric
 Predominantly Nonhydric
 Nonhydric



Base Layer: OSIP 2016

**Appendix B - Figure 1
NRCS Soil Survey Units**

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022

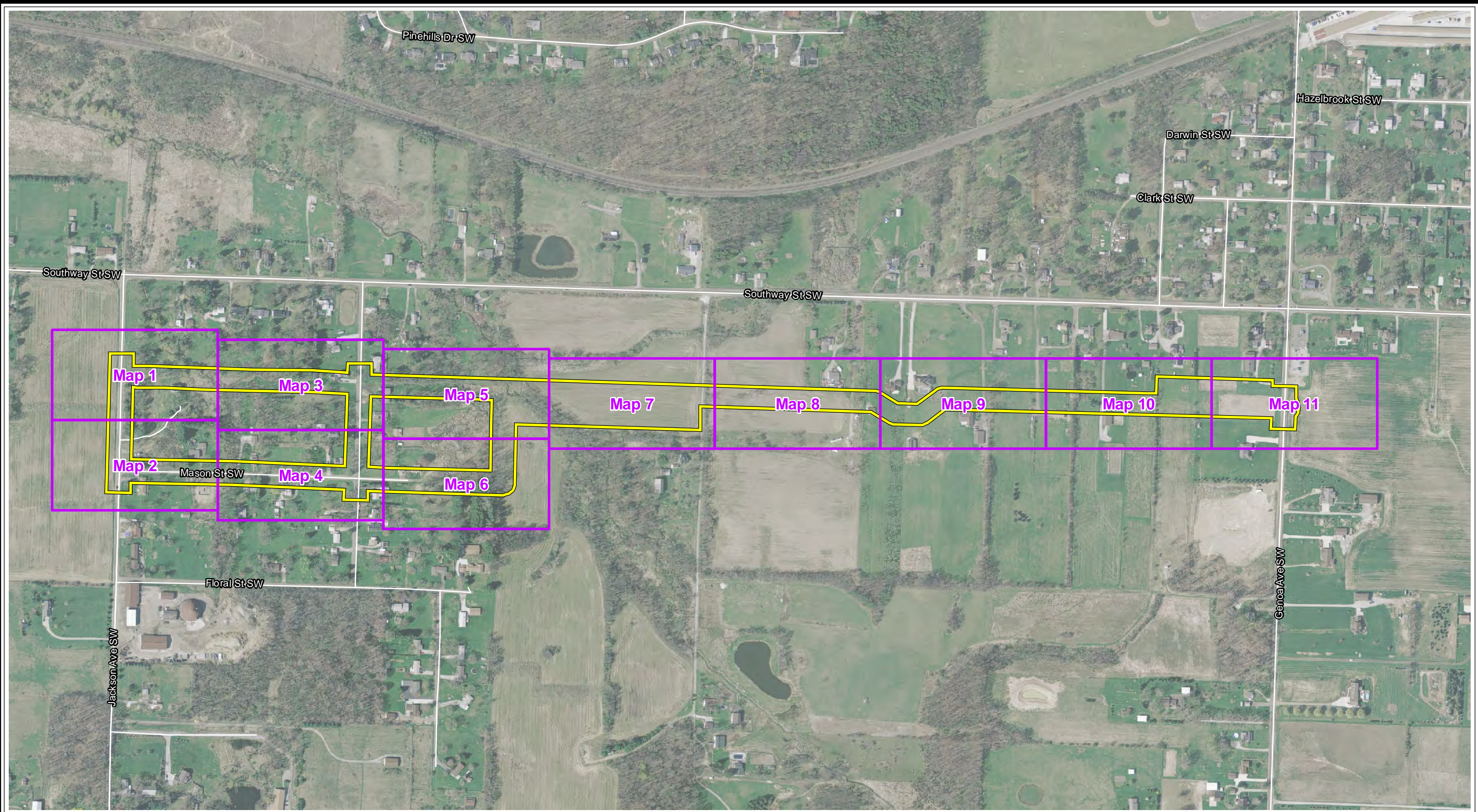


Appendix B - Soil Types and Descriptions

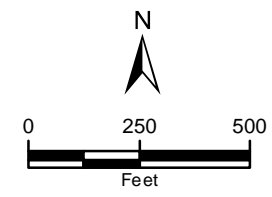
Soil Type	Map Symbol	Slope	Material	Drainage Class	Location	Depth to Water Table (cm)	Depth to Restrictive Feature (cm)	K Factor, Whole Soil (Erosibility)
Ravenna-Urban land complex, 0 to 6 percent slopes	Rn	3%	Till	-	Till plains	23	56	-
Canfield silt loam, 6 to 12 percent slopes, eroded	CdC2	9%	Till	Moderately well drained	Till plains	38	61	0.43
Canfield silt loam, 2 to 6 percent slopes	CdB	4%	Till	Moderately well drained	Till plains	38	66	0.37
Sloan silt loam	Sl	1%	Loamy alluvium	Very poorly drained	Floodplains	8	>200	0.32
Canfield-Urban land complex, 6 to 12 percent slopes	CeC	9%	Till	Moderately well drained	Till plains	38	66	0.37
Ravenna silt loam, 2 to 6 percent slopes	ReB	4%	Till	Somewhat poorly drained	Till plains, depressions	23	56	0.37
Wooster silt loam, 2 to 6 percent slopes	WuB	4%	Till	Well drained	Till plains	122	53	0.43
Shoals silt loam	Sh	1%	Alluvium	Somewhat poorly drained	Floodplains, depressions	31	>200	0.24
Ravenna silt loam, 0 to 2 percent slopes	ReA	1%	Till	Somewhat poorly drained	Till plains, depressions	23	56	0.37
Wooster silt loam, 6 to 12 percent slopes, moderately eroded	WuC2	9%	Till	Well drained	Till plains	122	53	0.43
Sebring-Urban land complex, 0 to 2 percent slopes	Sg	1%	Glaciolacustrine deposits	-	Terraces	2	>200	0.37

APPENDIX C

Detailed Erosion and Sediment Control Location Drawings



- Project Study Area
- Map Extent



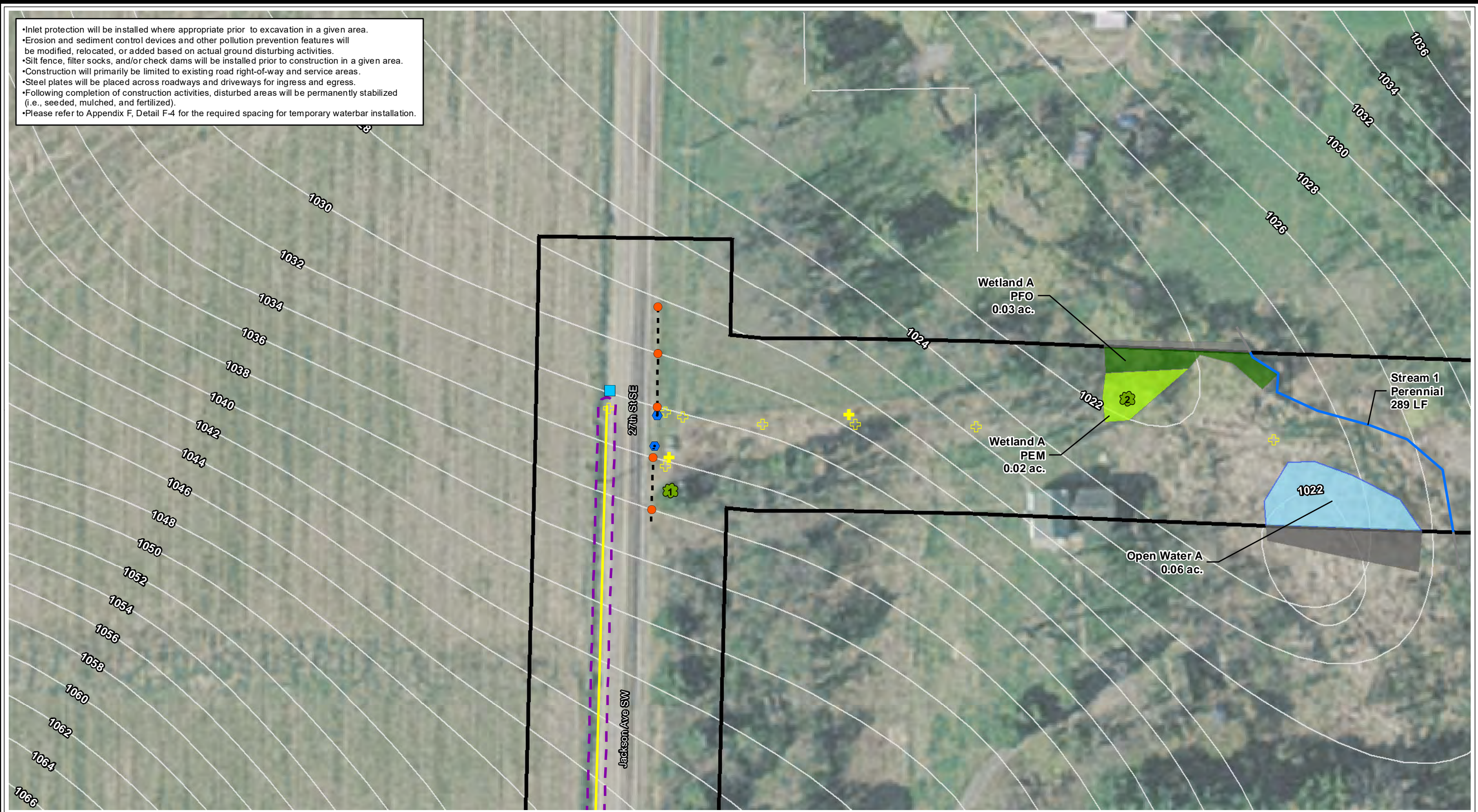
Base Layer: OSIP 2016

Appendix C - Figure 1
Erosion and Sediment Control Map Book

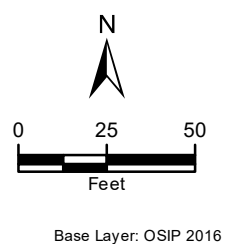
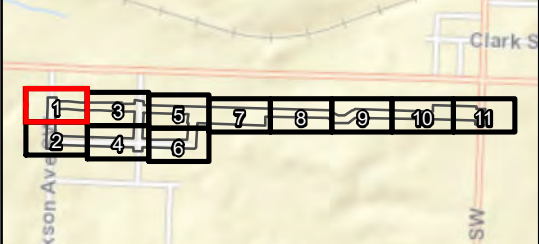
PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



- Inlet protection will be installed where appropriate prior to excavation in a given area.
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- Construction will primarily be limited to existing road right-of-way and service areas.
- Steel plates will be placed across roadways and driveways for ingress and egress.
- Following completion of construction activities, disturbed areas will be permanently stabilized (i.e., seeded, mulched, and fertilized).
- Please refer to Appendix F, Detail F-4 for the required spacing for temporary waterbar installation.



Project Study Area	Filter Fence	Potential Roost Tree On-Site	Delineated PEM Wetland On-Site
Work Corridor	Waterbar	Potential Roost Tree Off-Site	Delineated PFO Wetland On-Site
Proposed Pipeline	2-Foot Contour	Delineated Ephemeral Stream On-Site	Delineated Wetland Off-Site
Culvert	Permanent Pipeline Marker On-Site	Delineated Perennial Stream On-Site	Delineated Waterbody On-Site
Inlet Protection	Permanent Pipeline Marker Off-Site	Delineated Perennial Stream Off-Site	Delineated Waterbody Off-Site
Check dam	Temporary Pipeline Marker On-Site	Impacted Stream	Impacted Wetland
Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	



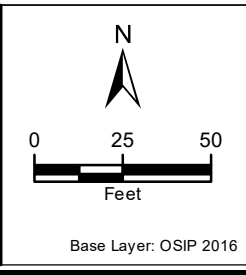
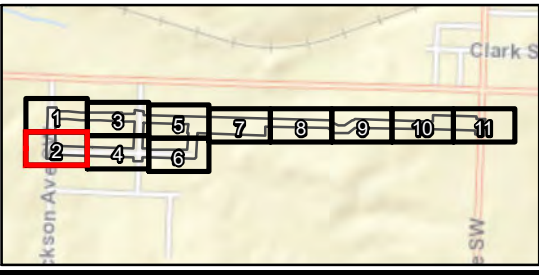
Appendix C - Figure 1
Erosion and Sediment Control Map 1 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



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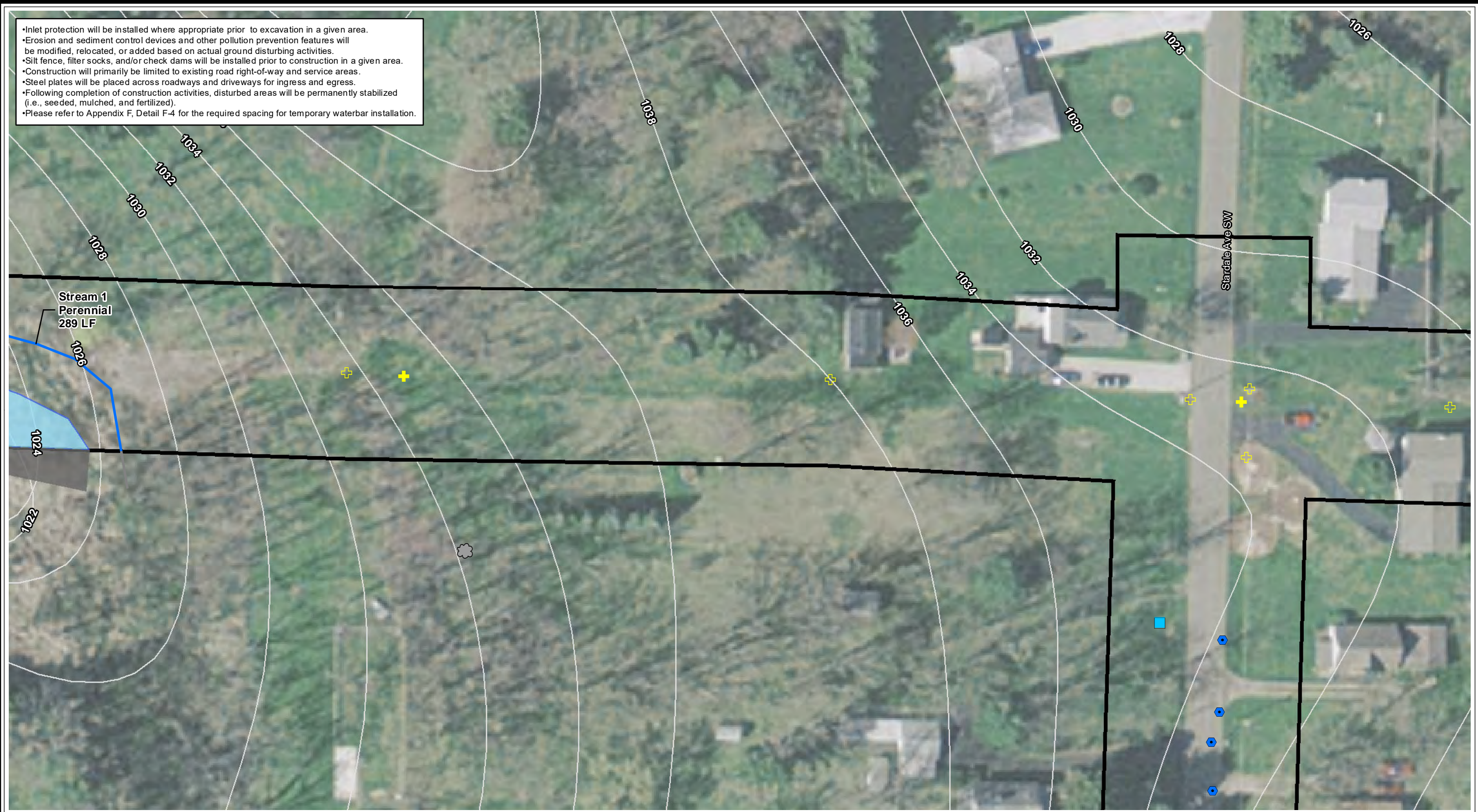


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Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	

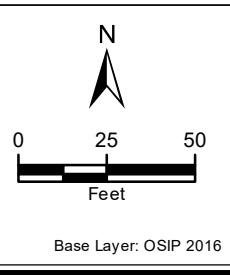
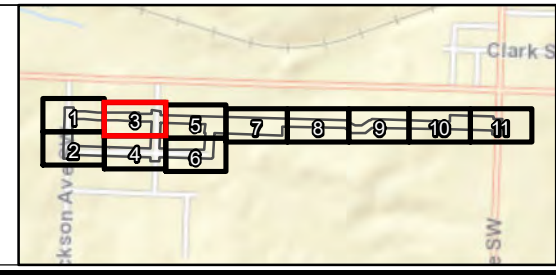


Appendix C - Figure 1
Erosion and Sediment Control Map 2 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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Inlet Protection	Permanent Pipeline Marker Off-Site	Delineated Perennial Stream Off-Site	Delineated Waterbody Off-Site
Check dam	Temporary Pipeline Marker On-Site	Delineated Ditch	Impacted Stream
Trench Plug	Temporary Pipeline Marker Off-Site	Impacted Wetland	



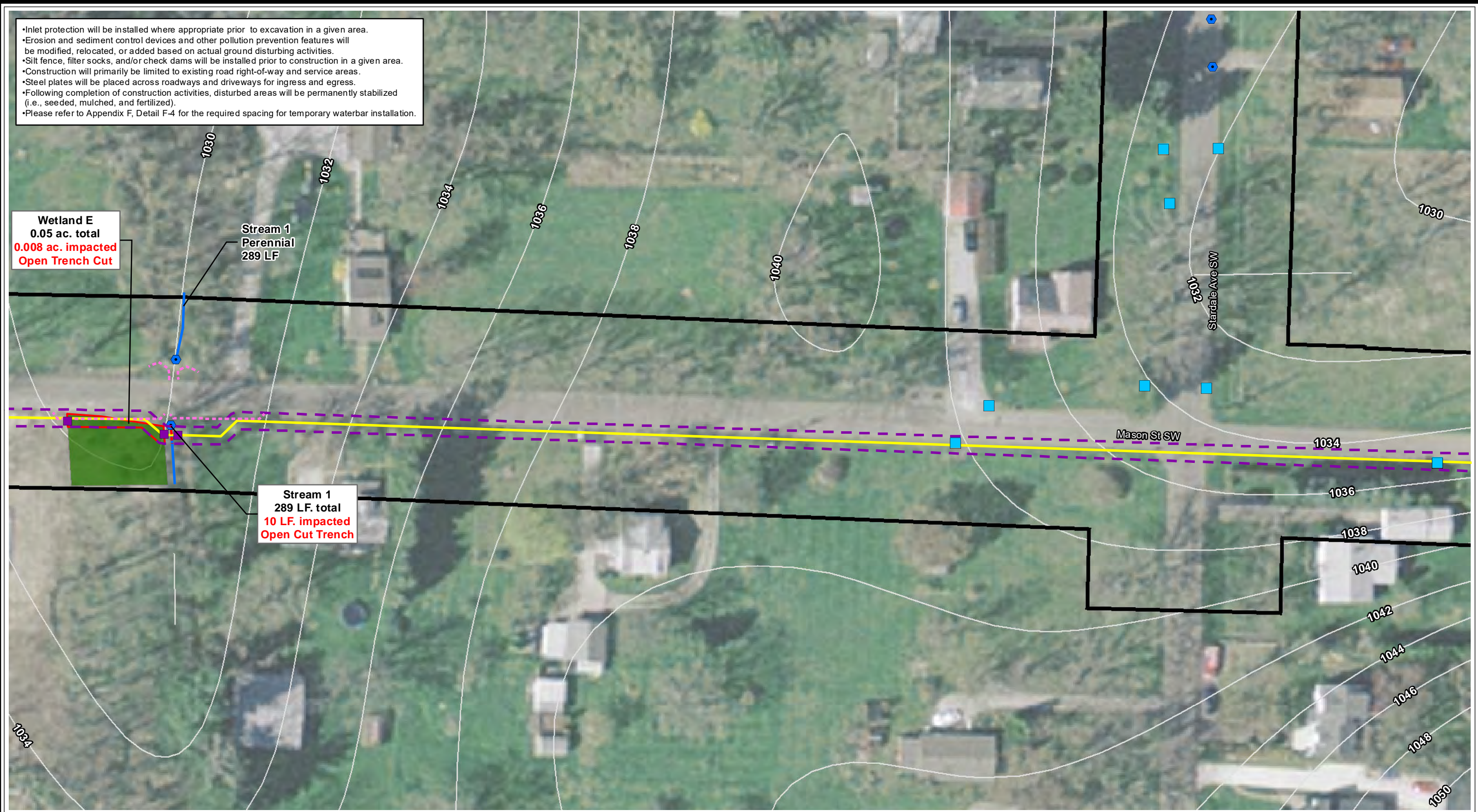
Appendix C - Figure 1
Erosion and Sediment Control Map 3 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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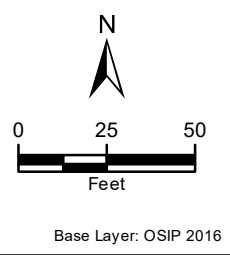
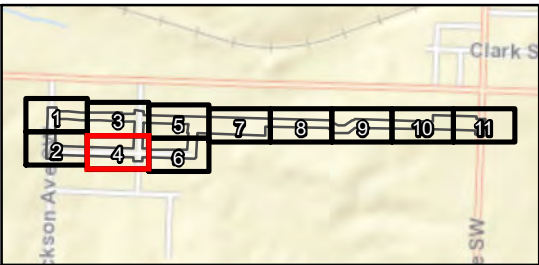
Wetland E
 0.05 ac. total
 0.008 ac. impacted
 Open Trench Cut

Stream 1
 Perennial
 289 LF

Stream 1
 289 LF. total
 10 LF. impacted
 Open Cut Trench

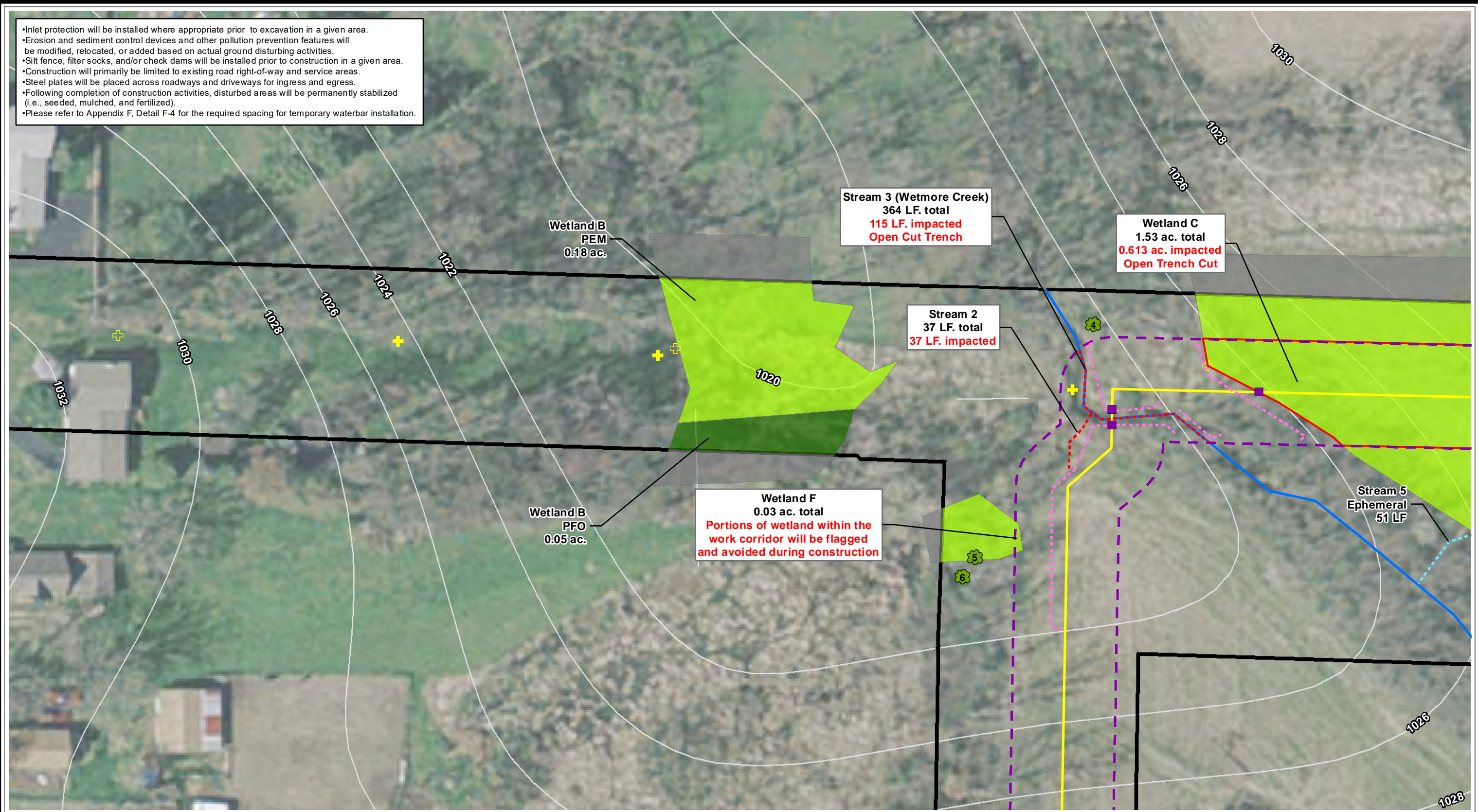


- | | | | |
|--------------------|------------------------------------|--------------------------------------|--------------------------------|
| Project Study Area | Filter Fence | Potential Roost Tree On-Site | Delineated PEM Wetland On-Site |
| Work Corridor | Waterbar | Potential Roost Tree Off-Site | Delineated PFO Wetland On-Site |
| Proposed Pipeline | 2-Foot Contour | Delineated Ephemeral Stream On-Site | Delineated Wetland Off-Site |
| Culvert | Permanent Pipeline Marker On-Site | Delineated Perennial Stream On-Site | Delineated Waterbody On-Site |
| Inlet Protection | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody Off-Site |
| Check dam | Temporary Pipeline Marker On-Site | Delineated Ditch | Impacted Stream |
| Trench Plug | Temporary Pipeline Marker Off-Site | Impacted Wetland | |

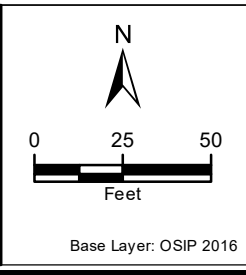
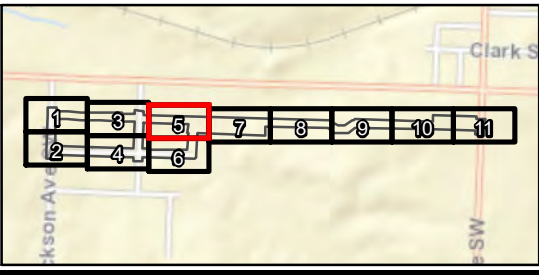


Appendix C - Figure 1
Erosion and Sediment Control Map 4 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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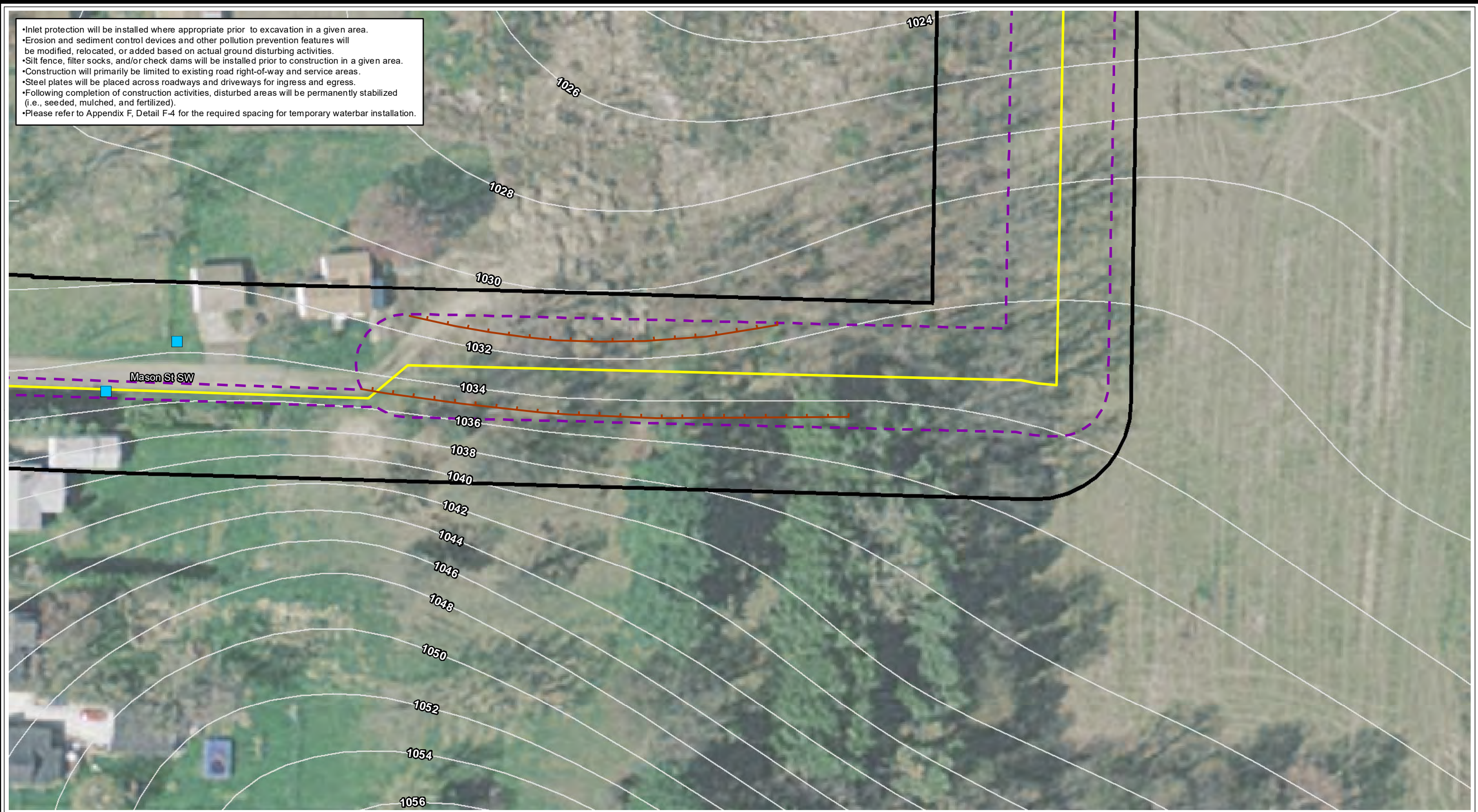


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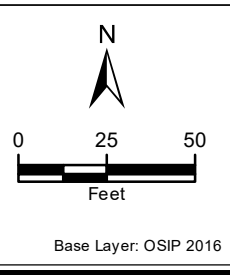
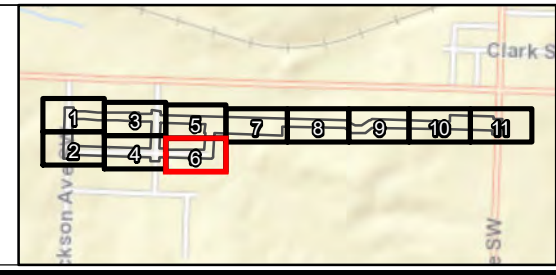


Appendix C - Figure 1
Erosion and Sediment Control Map 5 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023


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Trench Plug	Temporary Pipeline Marker Off-Site	Impacted Wetland	



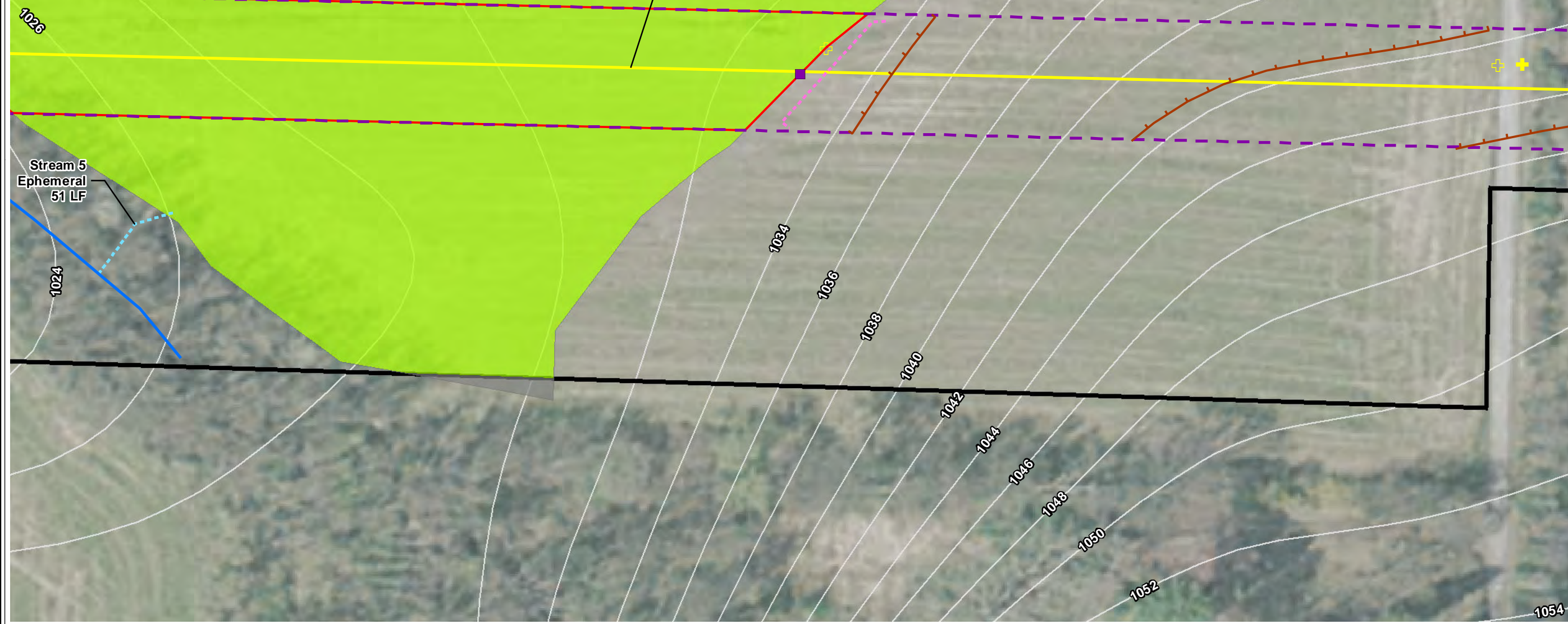
Appendix C - Figure 1
Erosion and Sediment Control Map 6 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



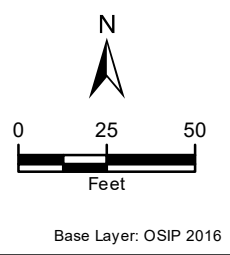
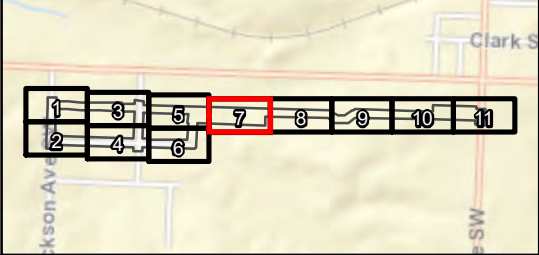
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Wetland C
 1.53 ac. total
 0.613 ac. impacted
 Open Trench Cut

Stream 5
 Ephemeral
 51 LF



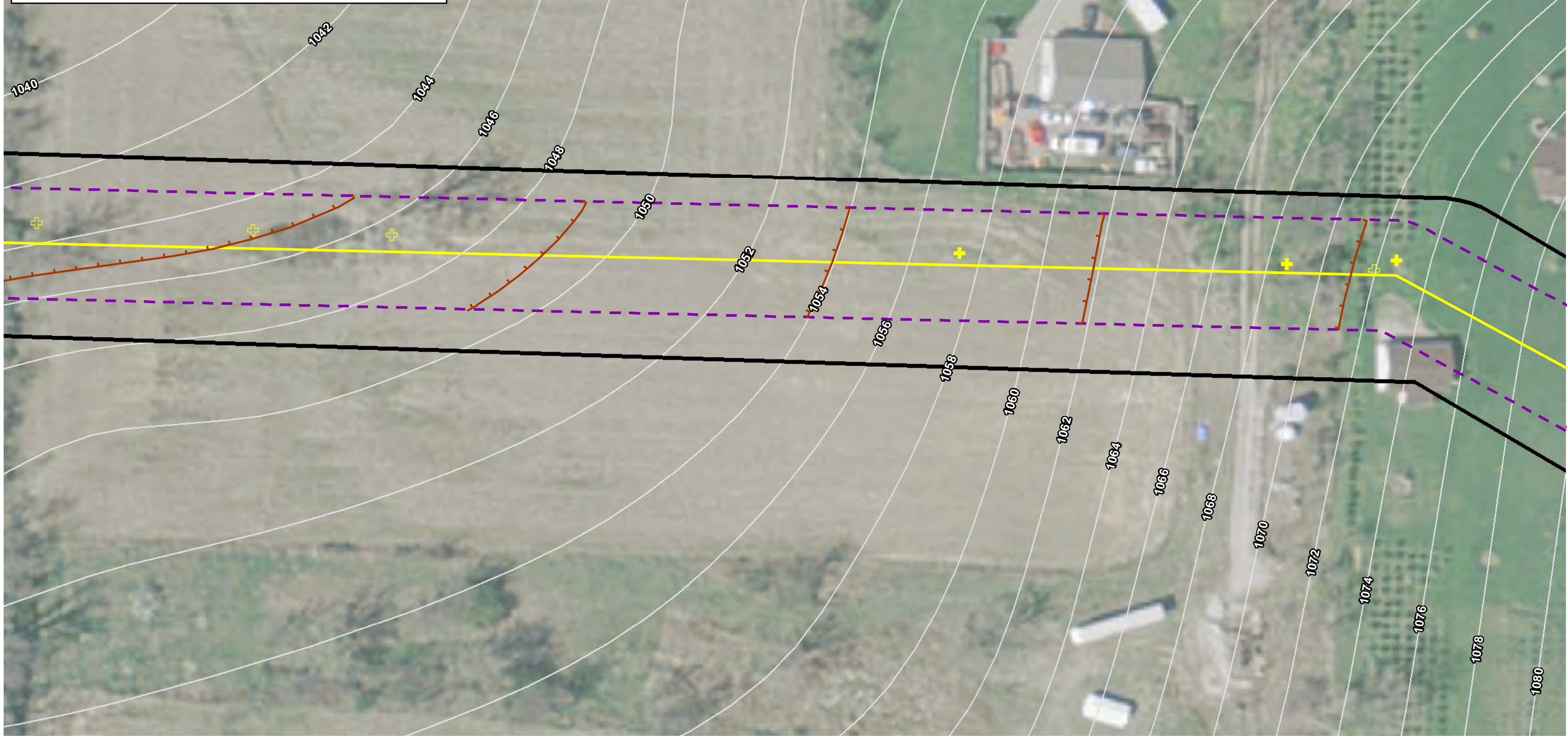
- | | | | |
|--------------------|------------------------------------|--------------------------------------|--------------------------------|
| Project Study Area | Filter Fence | Potential Roost Tree On-Site | Delineated PEM Wetland On-Site |
| Work Corridor | Waterbar | Potential Roost Tree Off-Site | Delineated PFO Wetland On-Site |
| Proposed Pipeline | 2-Foot Contour | Delineated Ephemeral Stream On-Site | Delineated Waterbody On-Site |
| Culvert | Permanent Pipeline Marker On-Site | Delineated Perennial Stream On-Site | Delineated Waterbody Off-Site |
| Inlet Protection | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream Off-Site | Impacted Stream |
| Check dam | Temporary Pipeline Marker On-Site | Delineated Ditch | Impacted Wetland |
| Trench Plug | Temporary Pipeline Marker Off-Site | | |



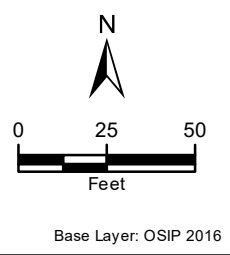
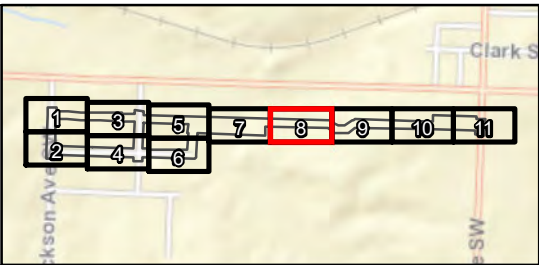
Appendix C - Figure 1
Erosion and Sediment Control Map 7 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023



- Inlet protection will be installed where appropriate prior to excavation in a given area.
- Erosion and sediment control devices and other pollution prevention features will be modified, relocated, or added based on actual ground disturbing activities.
- Silt fence, filter socks, and/or check dams will be installed prior to construction in a given area.
- Construction will primarily be limited to existing road right-of-way and service areas.
- Steel plates will be placed across roadways and driveways for ingress and egress.
- Following completion of construction activities, disturbed areas will be permanently stabilized (i.e., seeded, mulched, and fertilized).
- Please refer to Appendix F, Detail F-4 for the required spacing for temporary waterbar installation.



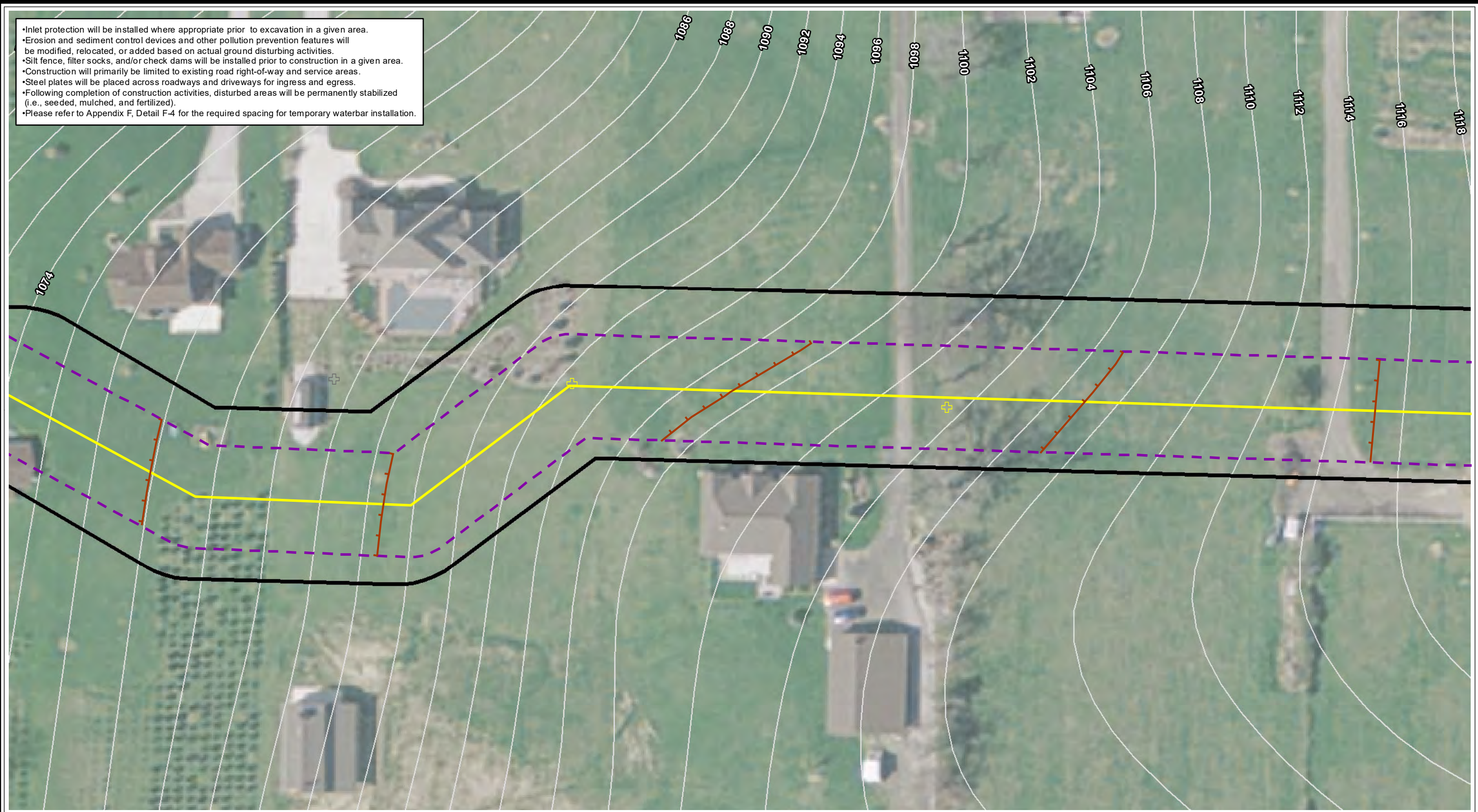
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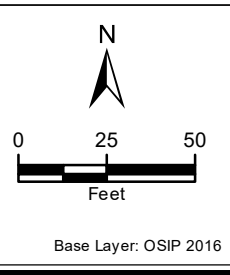
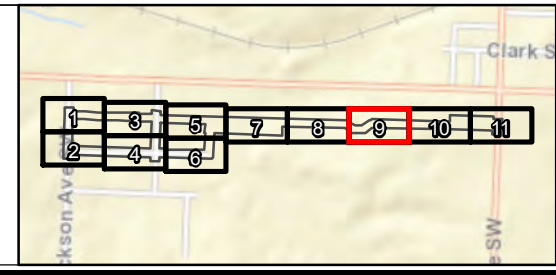
Appendix C - Figure 1
Erosion and Sediment Control Map 8 of 11
 PIR 2350 - Jackson & Genoa
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 Stark County, Ohio
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Check dam	Temporary Pipeline Marker On-Site	Delineated Ditch	Impacted Stream
Trench Plug	Temporary Pipeline Marker Off-Site	Impacted Wetland	



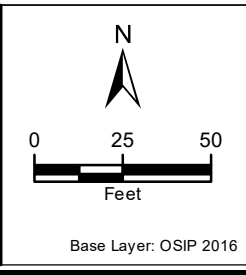
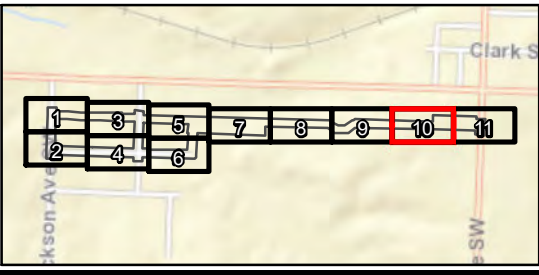
Appendix C - Figure 1
Erosion and Sediment Control Map 9 of 11

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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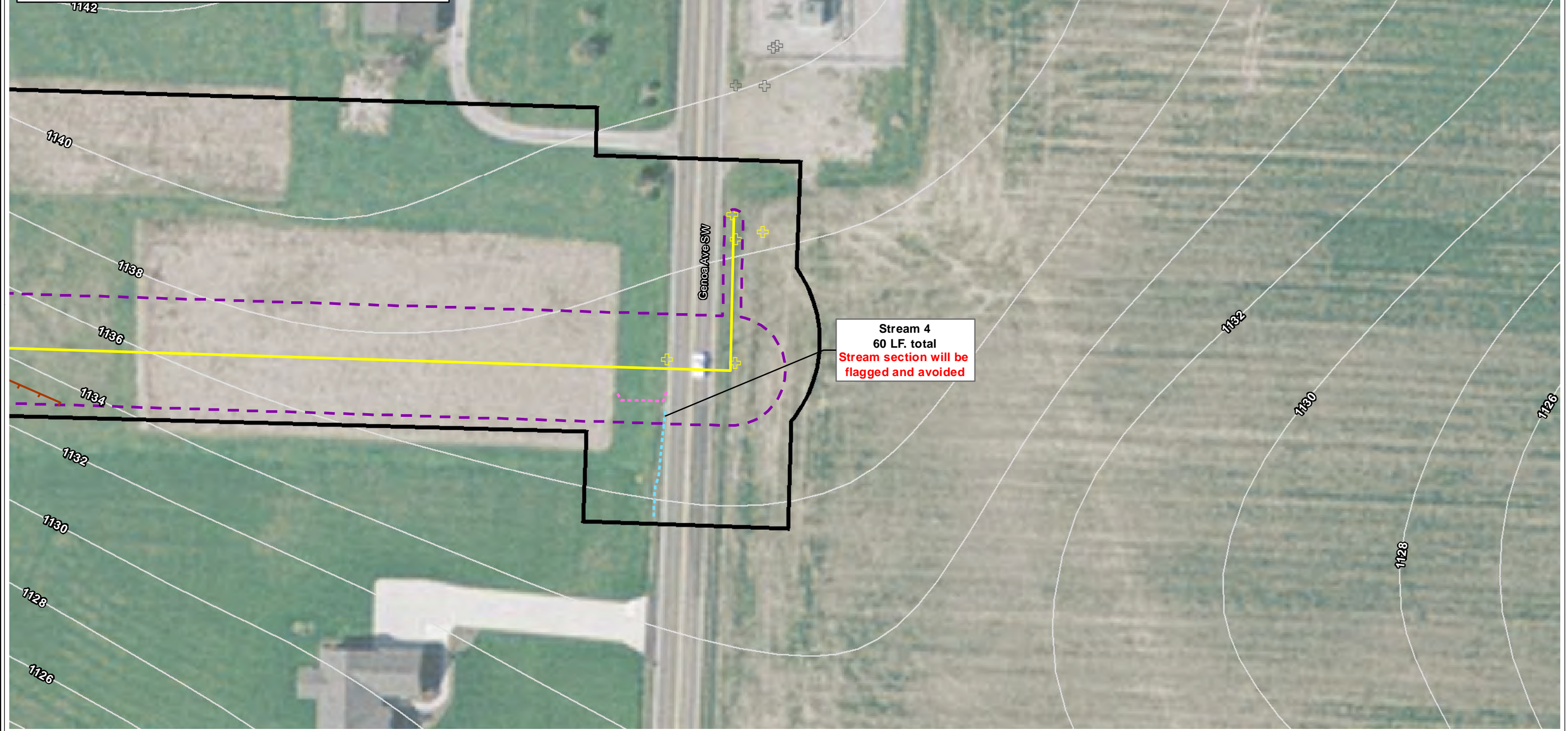


Project Study Area	Filter Fence	Potential Roost Tree On-Site	Delineated PEM Wetland On-Site
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Check dam	Temporary Pipeline Marker On-Site	Impacted Stream	Impacted Wetland
Trench Plug	Temporary Pipeline Marker Off-Site	Delineated Ditch	



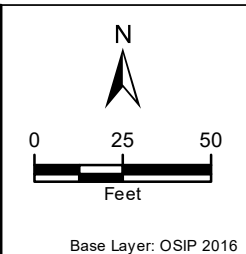
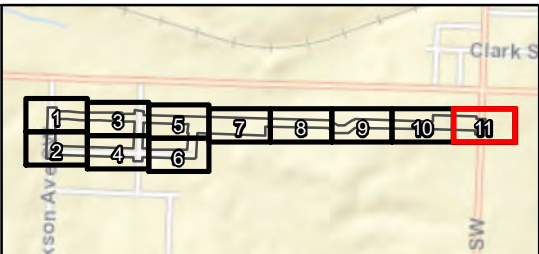
Appendix C - Figure 1
Erosion and Sediment Control Map 10 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

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- Please refer to Appendix F, Detail F-4 for the required spacing for temporary waterbar installation.



Stream 4
60 LF. total
Stream section will be
flagged and avoided

- | | | | |
|--------------------|------------------------------------|--------------------------------------|--------------------------------|
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Appendix C - Figure 1
Erosion and Sediment Control Map 11 of 11
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/12/2023

APPENDIX D

Site Drawing Checklist and Logs

D-1 SITE DRAWING CHECKLIST **

- **Location of solid waste dumpsters**
- **Location designated for waste drums of oil soaked absorbent pads/rags; solids, sludge, or oil collected from pipeline**
- **Locations of sanitary facilities such as Port-a-Jons (update these locations on drawings as project progresses)**
- **Locations of diesel and gasoline storage tanks (secondary containment provided)**
- **Locations of pipe and equipment storage yards**
- **Locations of cement truck washout**

**** *These locations can be hand drawn on the site drawings.***

APPENDIX E

Corrective Action Log



Dominion Construction Stormwater General Permit: Corrective Action Log

Project Name:

State-Specific Corrective Action Requirement*:

Positions Authorized to Document Corrective Action Completion:

Corrective Action #	Inspection Date	Inspector Name(s)	Description of Deficiency	Corrective Action Required	Date Corrective Action is Due*	Agency Notification Required? (Y/N)	Date Corrective Action Performed / Responsible Person

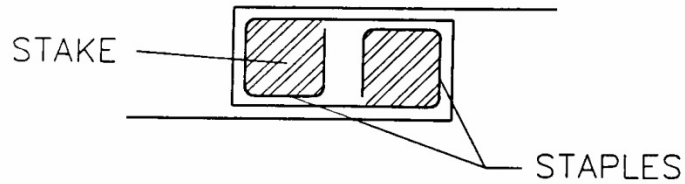
*Corrective action requirements/deadlines are state specific. Thus, refer to your construction stormwater permit. Should the project team not be able to meet the permit deadlines then the stormwater management program authority (e.g. state agency) must be notified.

APPENDIX F

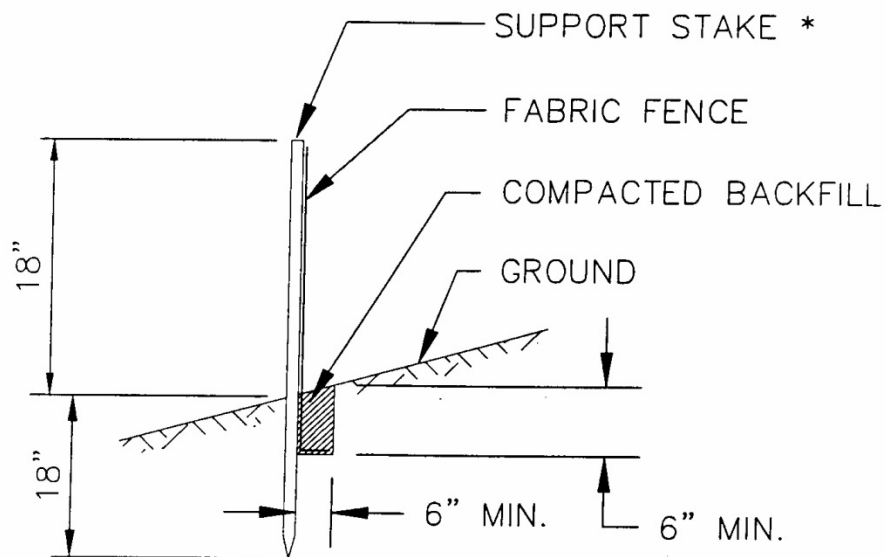
**Typical Upland Erosion and Sediment
Control Plan Drawings**

DETAIL F-1

FILTER FABRIC FENCE DETAIL



JOINING FENCE SECTIONS



*Stakes spaced @ 8' maximum. Use 2"x 2" wood or equivalent steel stakes.

Filter Fabric Fence must be placed at level existing grade. Both ends of the barrier must be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.

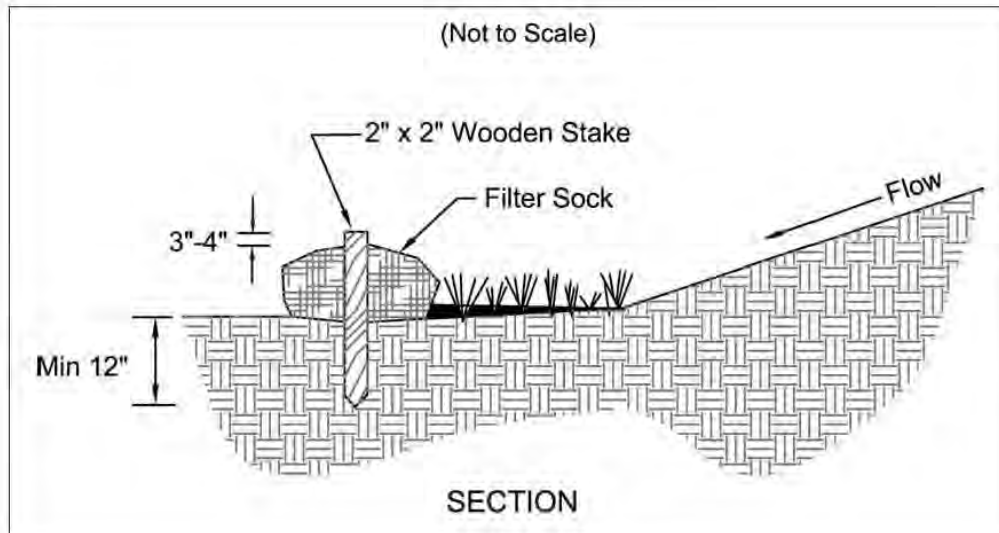
Trench shall be backfilled and compacted to prevent runoff from cutting underneath the fence.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

Any section of Filter fabric fence that has been undermined or topped should be immediately replaced.

DETAIL F-2

FILTER SOCK DETAIL



1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of a particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.

INSTALLATION:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.

5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

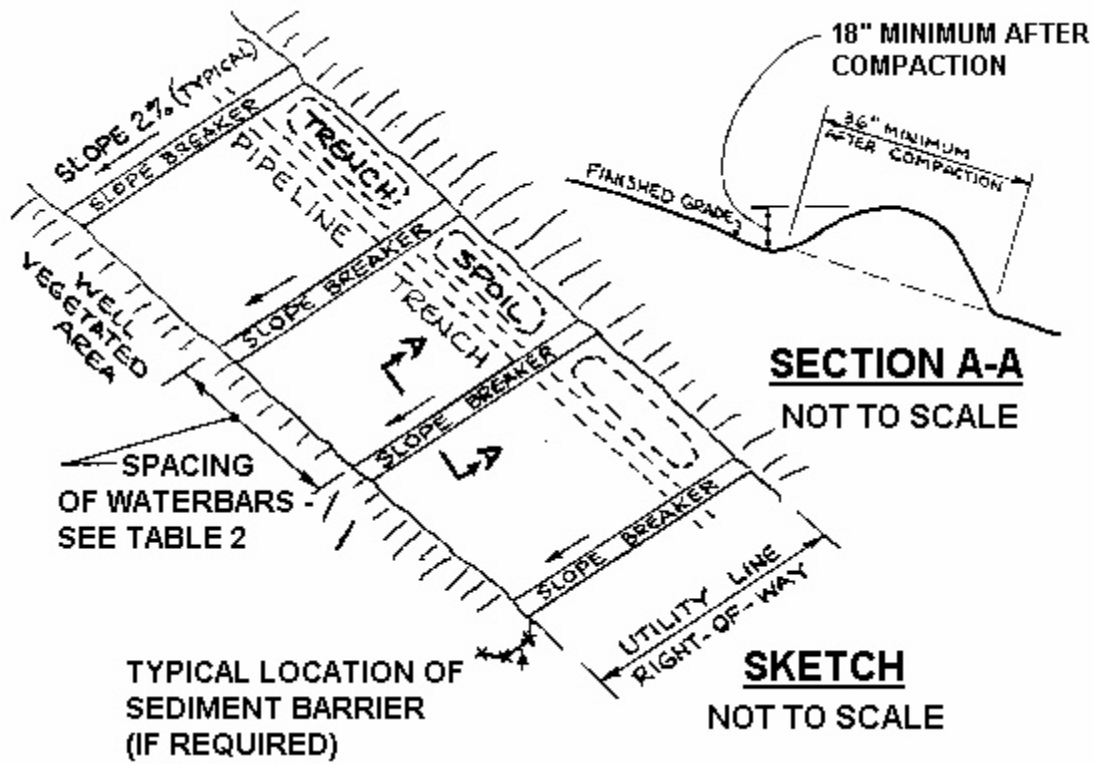
MAINTENANCE:

6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such a way as to facilitate and not obstruct seedings.

Note: Filter socks may not require stakes if used in areas of little to no slope, for short duration, and/or for relatively small disturbances such as sidecast piles from service line tie-ins.

DETAIL F-4

WATERBAR INSTALLATION



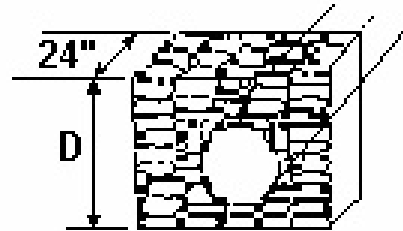
Required Spacing for Temporary and Permanent Waterbars	
Percent Slope	Spacing (FT)
1	400
2	250
5	135
10	80
15	60
20	45

Waterbars should be constructed at a slope of 1% and discharge to a well-vegetated area. Waterbars should not discharge into an open trench. Waterbars should be oriented so that the discharge does not flow back onto the ROW. Obstructions, (e.g. silt fence, rock filters, etc.) should not be placed in any waterbars. Where needed, they should be located below the discharge end of the waterbar.

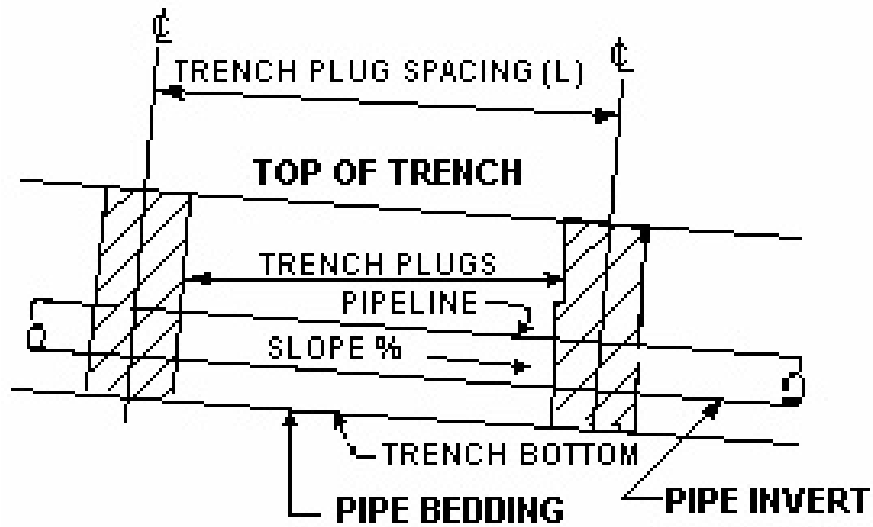
DETAIL F-5

TRENCH PLUG INSTALLATION DETAIL

D - DEPTH TO BOTTOM OF TRENCH



SECTION VIEW
NOT TO SCALE

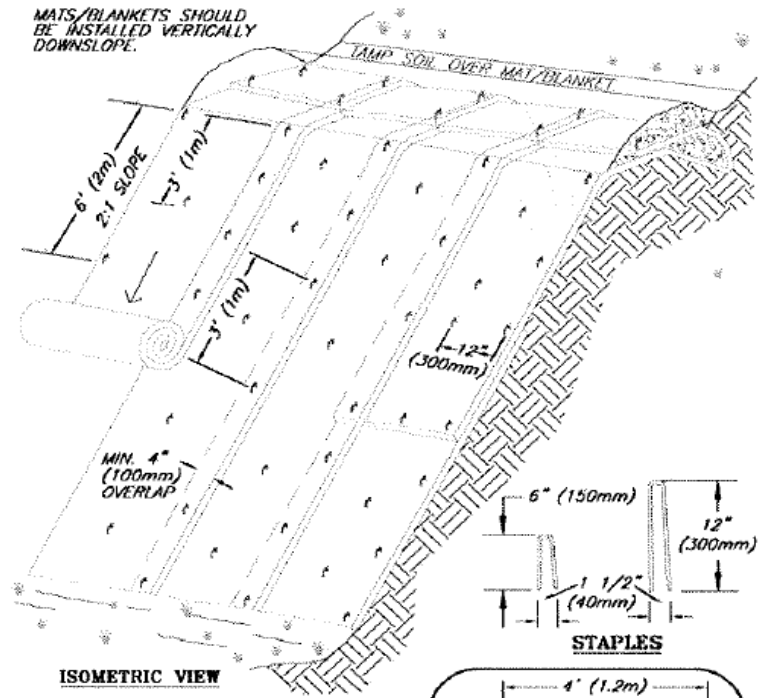


ELEVATION
NOT TO SCALE

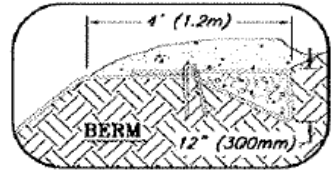
DETAIL F-6

EROSION CONTROL MATTING DETAIL

EROSION CONTROL BLANKET DETAIL



ISOMETRIC VIEW
TYPICAL SLOPE
SOIL STABILIZATION



NOT TO SCALE

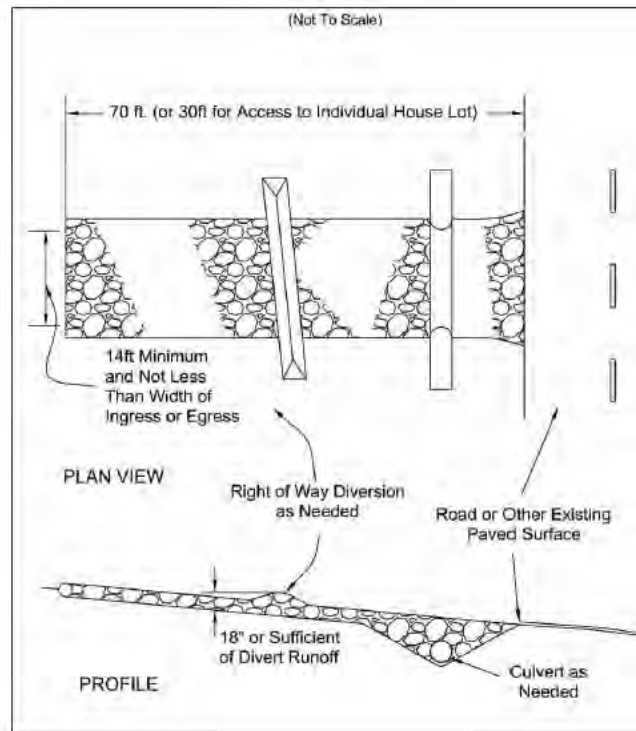
- NOTES:**
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
 2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
 3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKETS & TURF REINFORCEMENT MATS SLOPE INSTALLATION

Refer to manufacturer's lining installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

DETAIL F-7

ROCK CONSTRUCTION ENTRANCE DETAIL



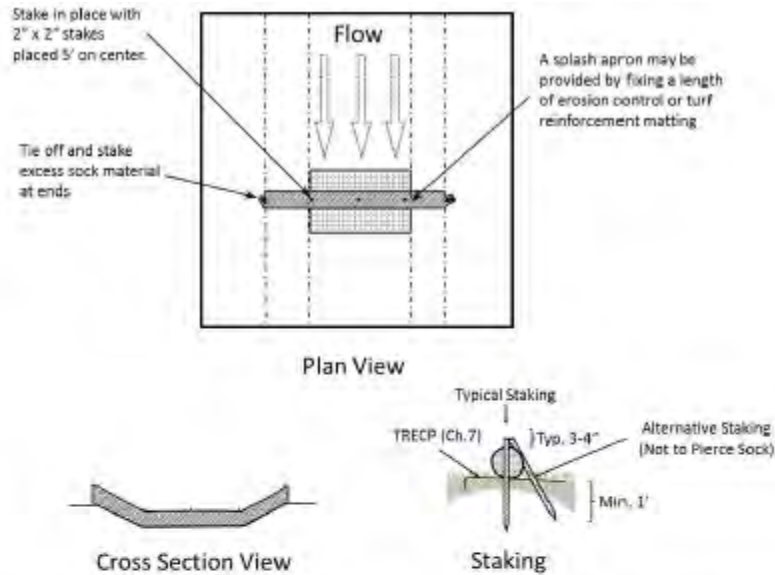
1. Stone Size—ODOT # 2 (1.5-2.5 inch) stone shall be used, or recycled concrete equivalent.
2. Length—The Construction entrance shall be as long as required to stabilize high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).
3. Thickness -The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
4. Width -The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
5. Geotextile -A geotextile shall be laid over the entire area prior to placing stone. It shall be composed of strong rot-proof polymeric fibers and meet the following specifications:
6. Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.
7. Culvert -A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed out onto paved surfaces.
8. Water Bar -A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
9. Maintenance -Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.
10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction-site shall be restricted from muddy areas.
11. Removal—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

Figure 7.4.1

Geotextile Specification for Construction Entrance	
Minimum Tensile Strength	200 lbs.
Minimum Puncture Strength	80 psi.
Minimum Tear Strength	50 lbs.
Minimum Burst Strength	320 psi.
Minimum Elongation	20%
Equivalent Opening Size	EOS < 0.6 mm.
Permittivity	1×10 ⁻³ cm/sec.

DETAIL F-8

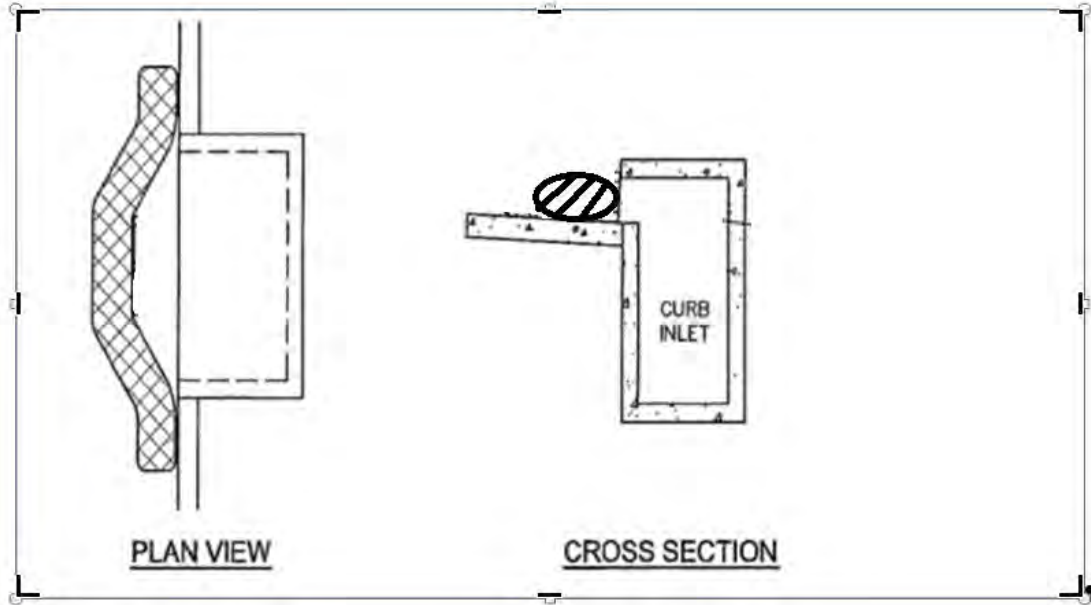
COMPOST SOCK CHECK DAM DETAIL



- Compost sock netting shall use a knitted mesh fabric with 1/8-3/8 inch openings, and compost media with particle sizes 99% < 3 inches, and 60% > 3/8 inches (conforming to media described in Chapter 6 Filter Sock).
- Compost sock check dams shall be used in areas that drain 5 acres or less.
- Sediment shall be removed from behind the sock when it reaches 1/2 the height of the check dam.
- Compost sock check dams shall be constructed with 12, 18, or 24 in diameter compost socks, and shall completely cover the width of the channel. The midpoint of the compost sock check dam shall be a minimum of 6 inches lower than the sides in order to direct flow across the center and away from the channel sides. Filter sock check dams shall be filled to a density such that they shall reach their intended height (diameter). After installation and use, they shall be considered unsuitable and in need of replacement after falling below 80% of their minimum required height (diameter).
- Although no trenching is necessary, compost sock check dams shall be placed on a graded surface where consistent contact with the soil surface is made without bridging over gaps, rills, gullies, stones or other irregularities.
- Place compost sock check dams so that the ends extend to the top of bank. Staking for compost sock check dams shall use 2 inch x 2 inch wooden stakes, placed 5 foot on center. Stake length shall allow them to be driven 12 inches into existing soil and allow at least 2 inches above the sock.
- Space compost sock check dams so that the toe of the upstream dam is at the same elevation or lower elevation as the top of the downstream compost sock check dam (at the center of the channel). This will be influenced by the height of the sock and gradient of the waterway.
- A splash apron may be needed where flows over the sock may erode the channel and undercut the compost sock check dam. Create the apron by fixing a length of Temporary Rolled Erosion Control Product (Erosion Control Matting) or Turf Reinforcement Matting starting upstream of the sock a distance equal to the sock height and extending a length two times the height of the compost sock check dam. See Chapter 7 for information regarding these materials. Materials used should be able to be left in place (e.g. biodegradable/photodegradable TRECP) without creating problems for future mowing or maintenance of the channel.

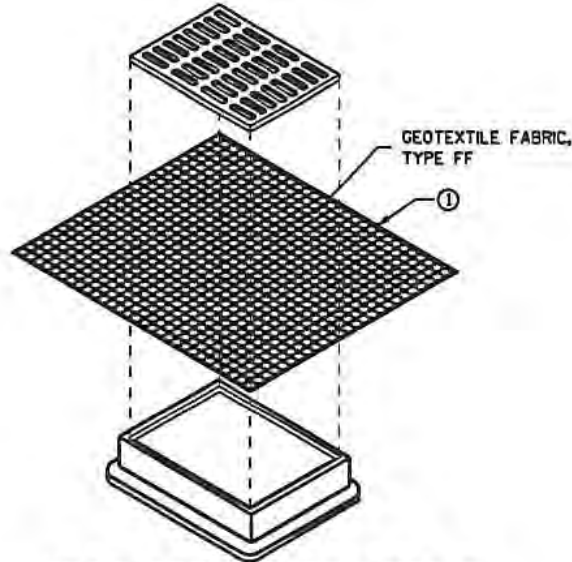
DETAIL F-9A

CURB INLET PROTECTION



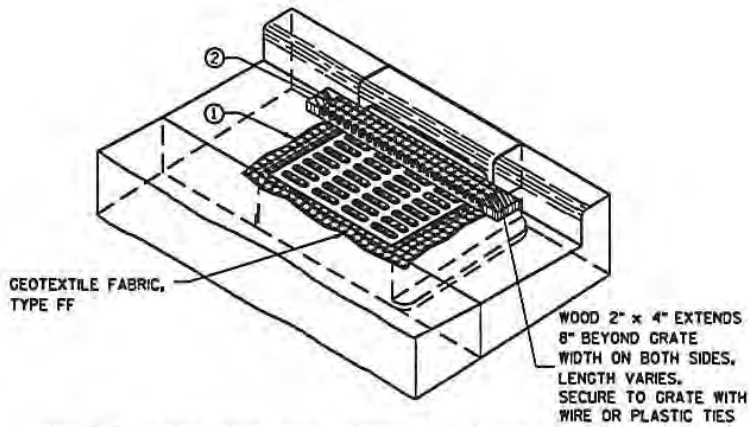
DETAIL F-9B

CURB INLET PROTECTION



**INLET PROTECTION, TYPE B
(WITHOUT CURB BOX)**

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

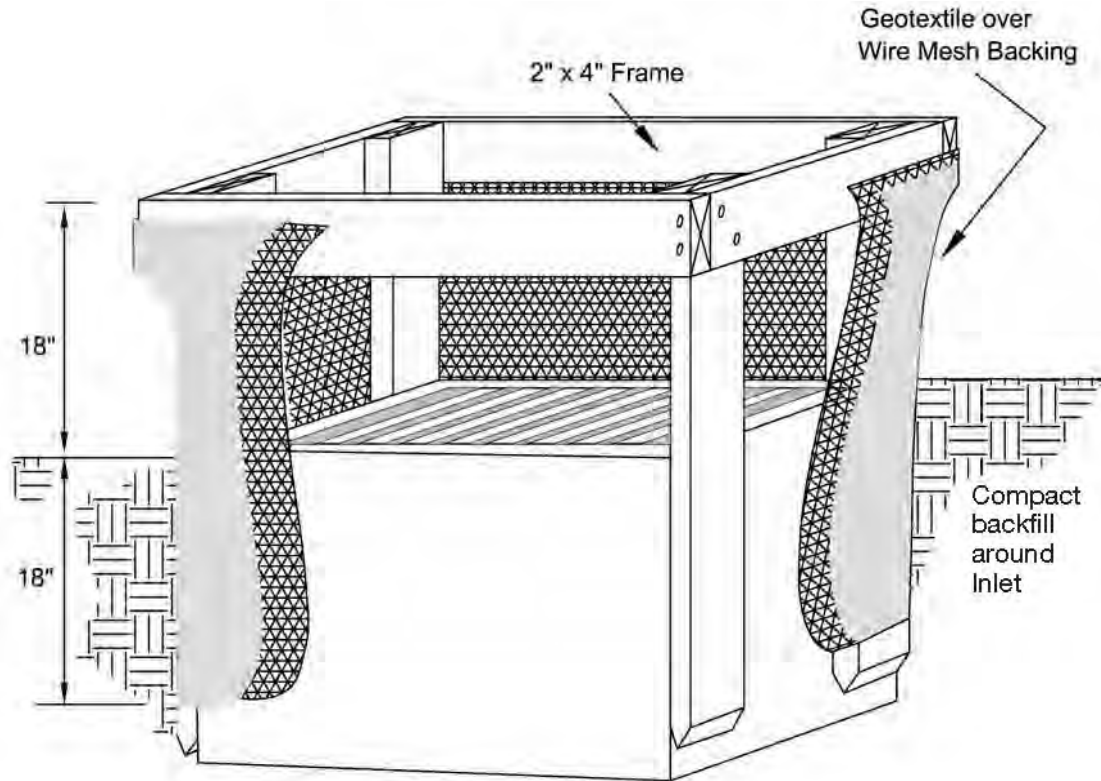
TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

DETAIL F-9C

GEOTEXTILE INLET PROTECTION DETAIL



SECTION

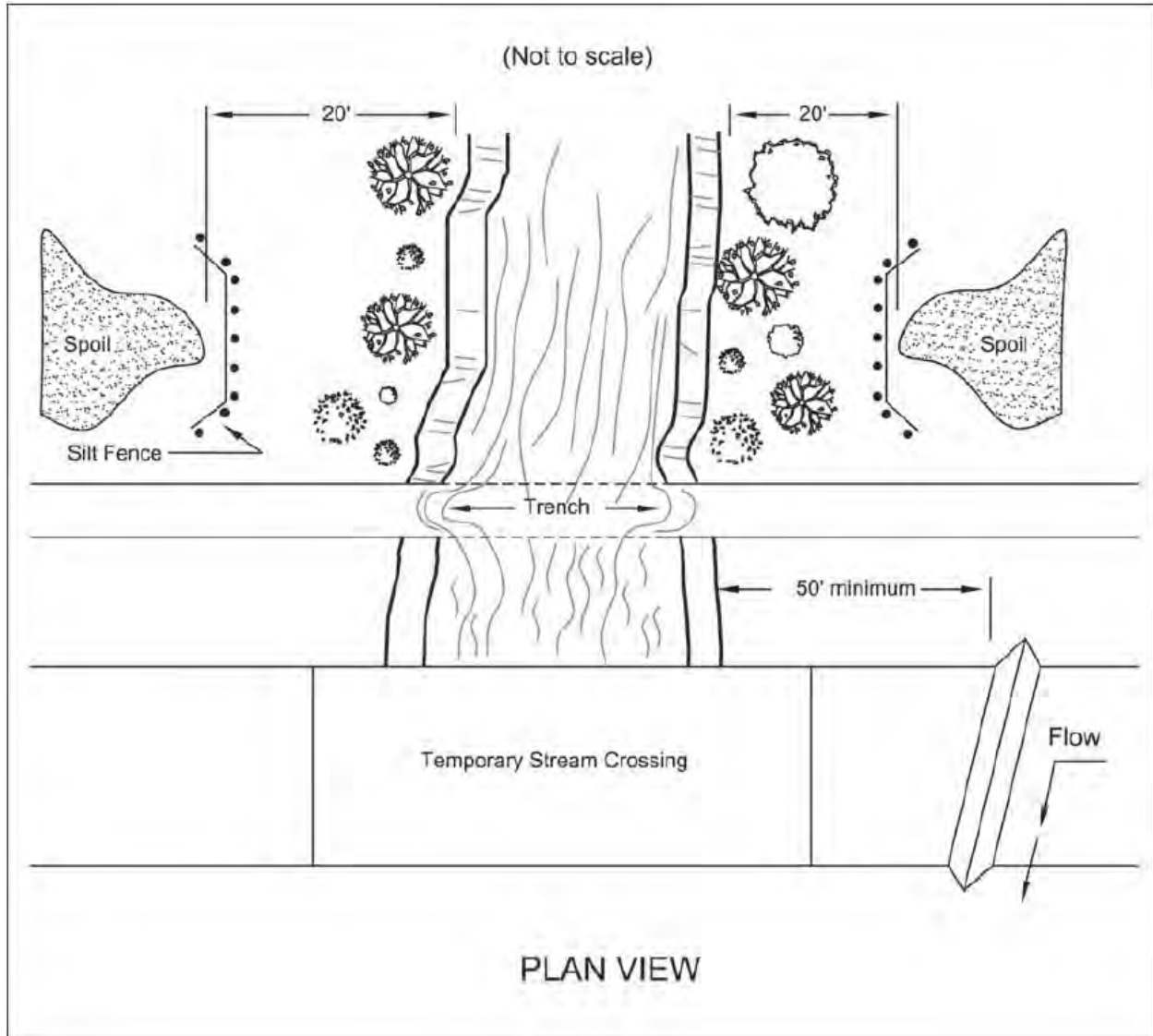
1. Inlet protection shall be constructed either before upslope land disturbance begins or before the inlet becomes functional.
2. The earth around the inlet shall be excavated completely to a depth at least 18 inches.
3. The wooden frame shall be constructed of 2-inch by 4-inch construction grade lumber. The 2-inch by 4-inch posts shall be driven one (1) ft. into the ground at four corners of the inlet and the top portion of 2-inch by 4-inch frame assembled using the overlap joint shown. The top of the frame shall be at least 6 inches below adjacent roads if ponded water will pose a safety hazard to traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile material shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 inches below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.
6. Backfill shall be placed around the inlet in compacted 6inch layers until the earth is even with notch elevation on ends and top elevation on sides.
7. A compacted earth dike or check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression. The top of the dike shall be at least 6 inches higher than the top of the frame.
8. Filter fabric and filter socks can also be used as inlet protection.

APPENDIX G

Typical Stream Crossing Drawings

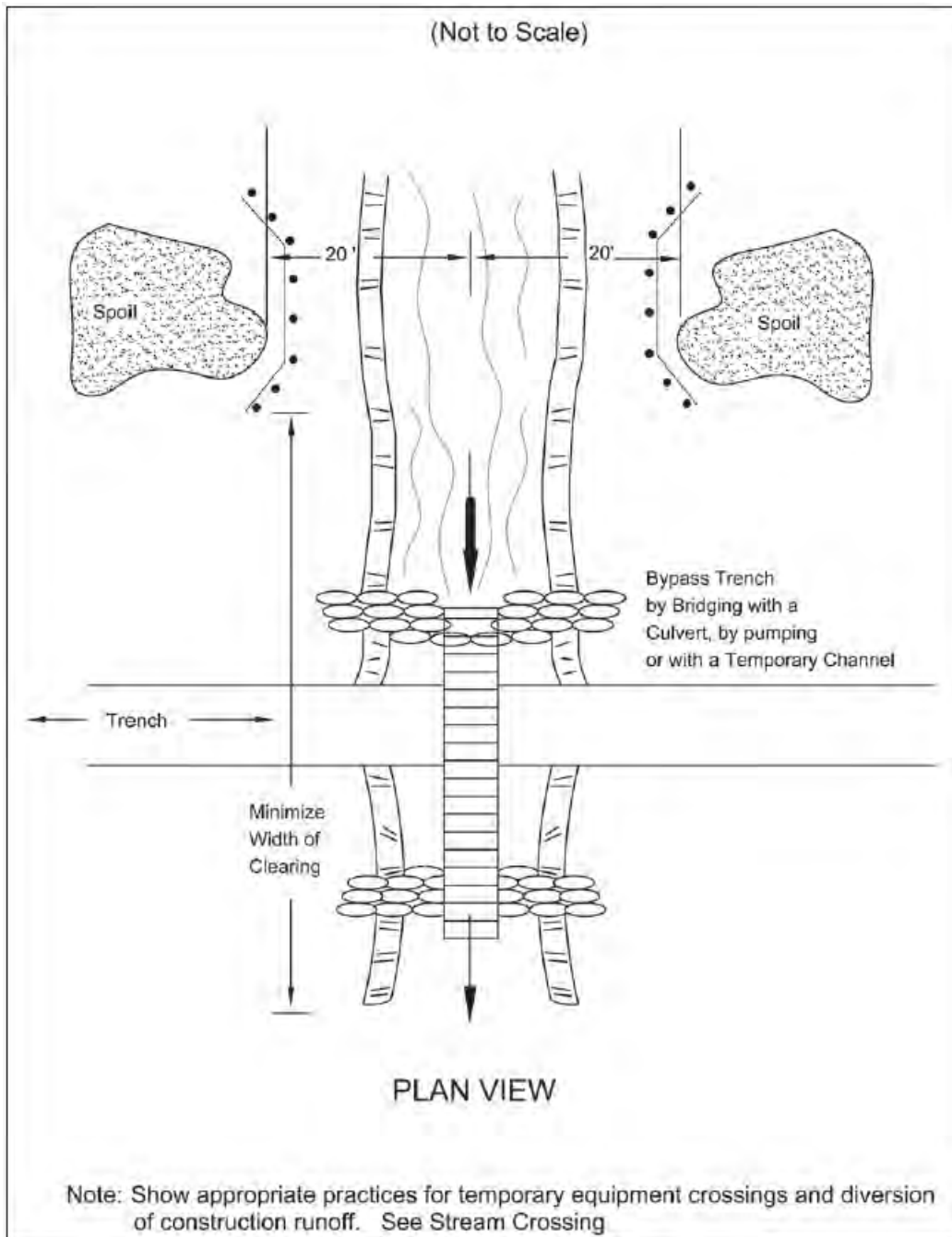
DETAIL G-1

LARGE STREAM UTILITY CROSSING



DETAIL G-2

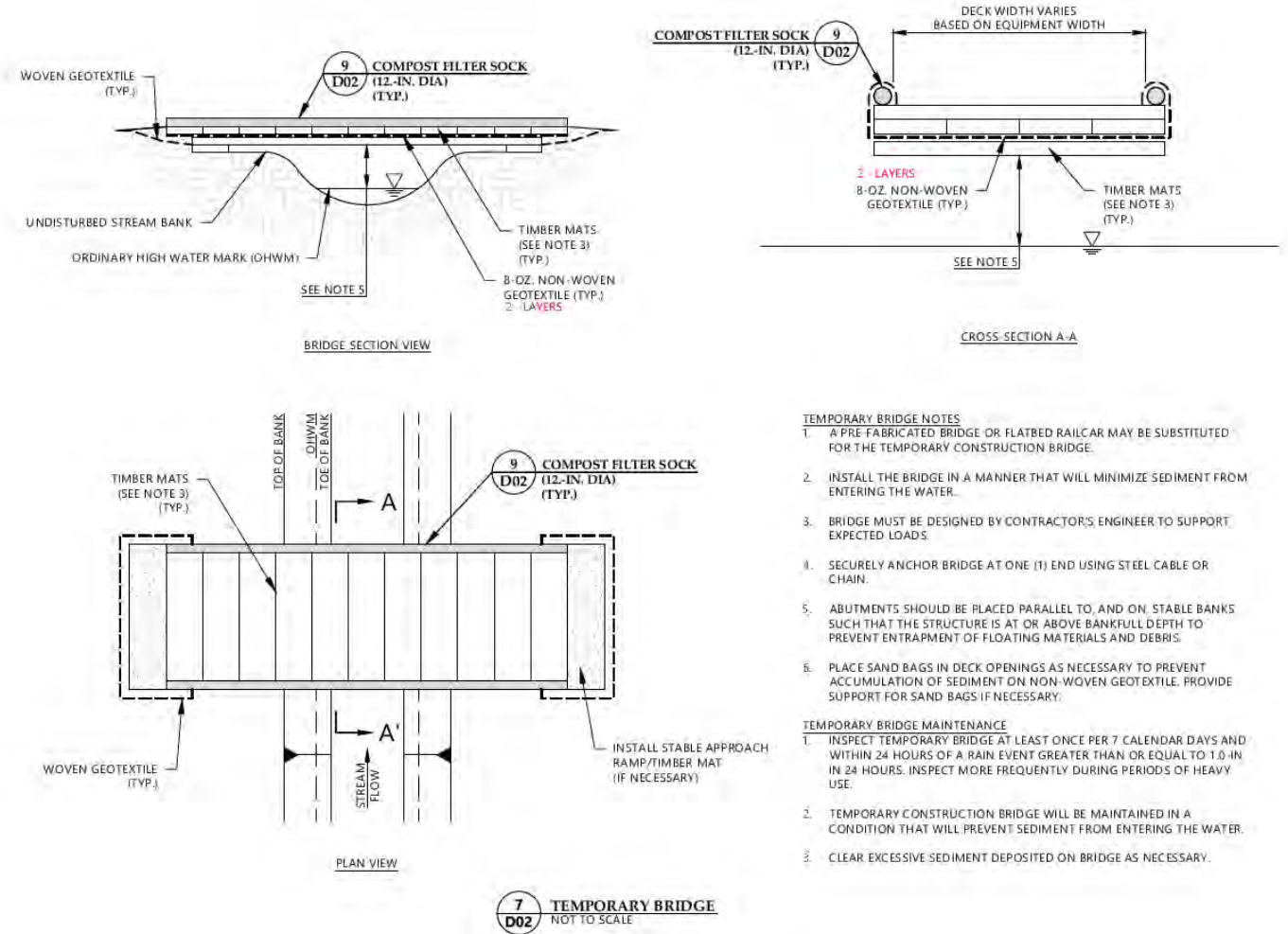
SMALL STREAM UTILITY CROSSING



Notes: A diversion barrier may also be used to direct water away from the pipe trench
Trench plugs will be installed as necessary on each side of water body crossings.

DETAIL G-3

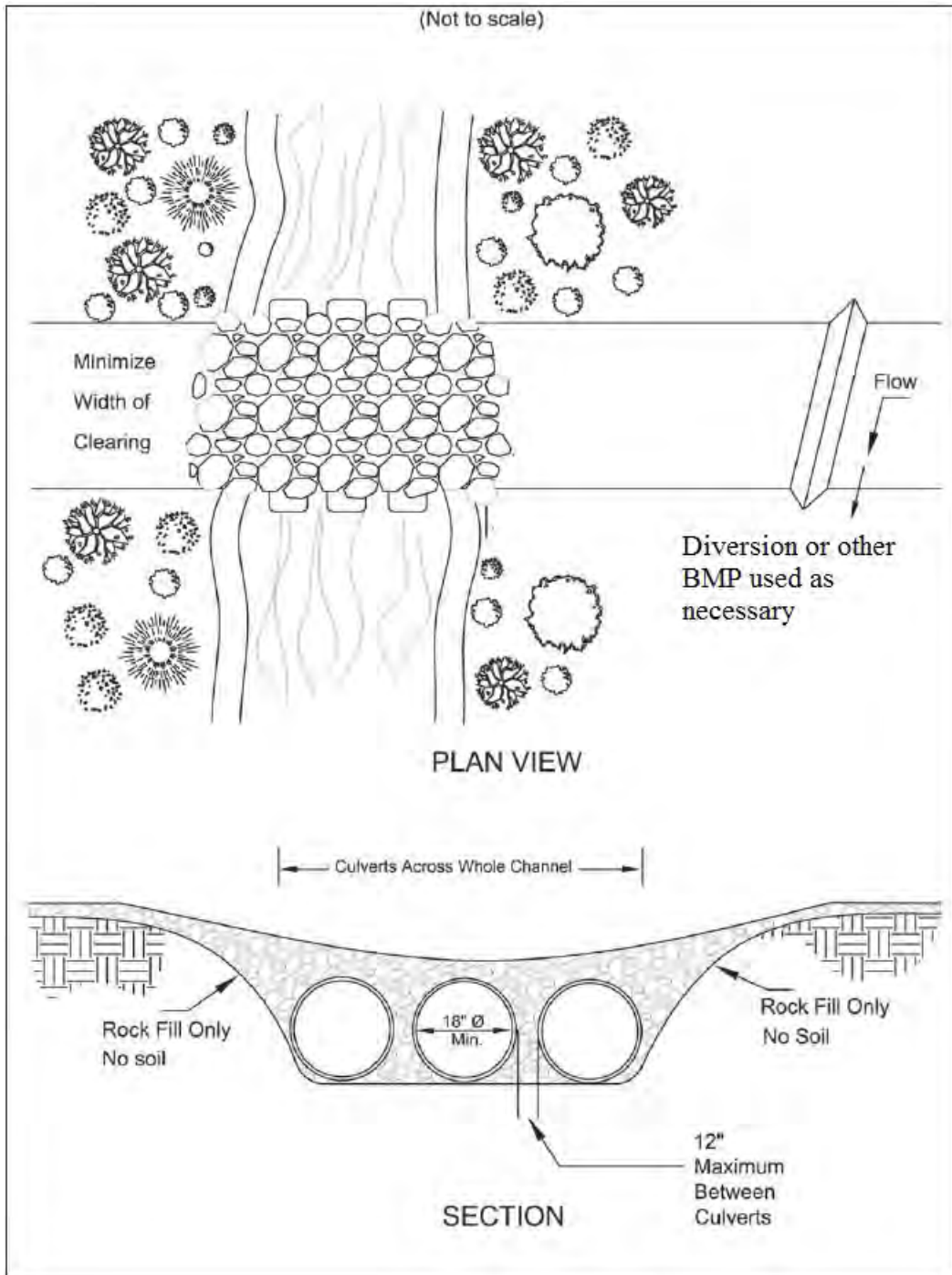
TEMPORARY ACCESS BRIDGE



- Notes:**
1. Culvert Pipes may be utilized instead of footings, piers or other bridge supports.
 2. Bridge will be temporarily removed during high water events.
 3. Bridge to remain until the completion of final restoration.
 4. Filter socks shall surround the bridge structure above the water line; removed during use, and replaced at night.
 5. Ramp approaches can be either graded or dug into the ground. Stone may be used on approaches.

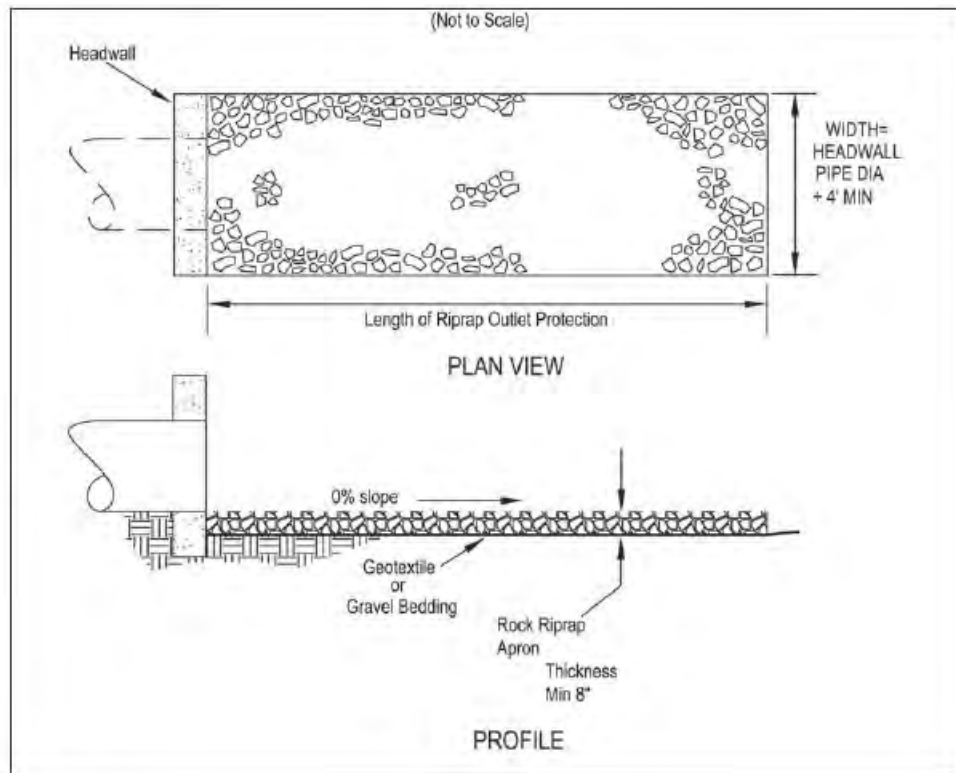
DETAIL G-4

CULVERT (FLUMED) STREAM CROSSING



DETAIL G-5

ROCK OUTLET PROTECTION

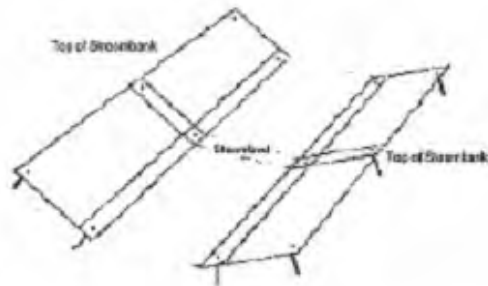


1. Subgrade for the filter or bedding and riprap shall be prepared to the required lines and grades as shown on the plan. The subgrade shall be cleared of all trees, stumps, roots, sod, loose rock, or other material.
2. Riprap shall conform to the grading limits as shown on the plan.
3. Geotextile shall be securely anchored according to manufacturers' recommendations.
4. Geotextile shall be laid with the long dimension parallel to the direction of flow and shall be laid loosely but without wrinkles and creases. Where joints are necessary, strips shall be placed to provide a 12-in. minimum overlap, with the upstream strip overlapping the downstream strip.
5. Gravel bedding shall be ODOT No. 67's or 57's unless shown differently on the drawings.
6. Riprap may be placed by equipment but shall be placed in a manner to prevent slippage or damage to the geotextile.
7. Riprap shall be placed by a method that does not cause segregation of sizes. Extensive pushing with a dozer causes segregation and shall be avoided by delivering riprap near its final location within the channel.
8. Construction shall be sequenced so that outlet protection is placed and functional when the storm drain, culvert, or open channel above it becomes operational.
9. All disturbed areas will be vegetated as soon as practical.

DETAIL G-6

STREAM BANK RESTORATION DETAIL

Erosion Control Mat Details



Refer to matting manufacturer's installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

Stream Rip-Rap Details

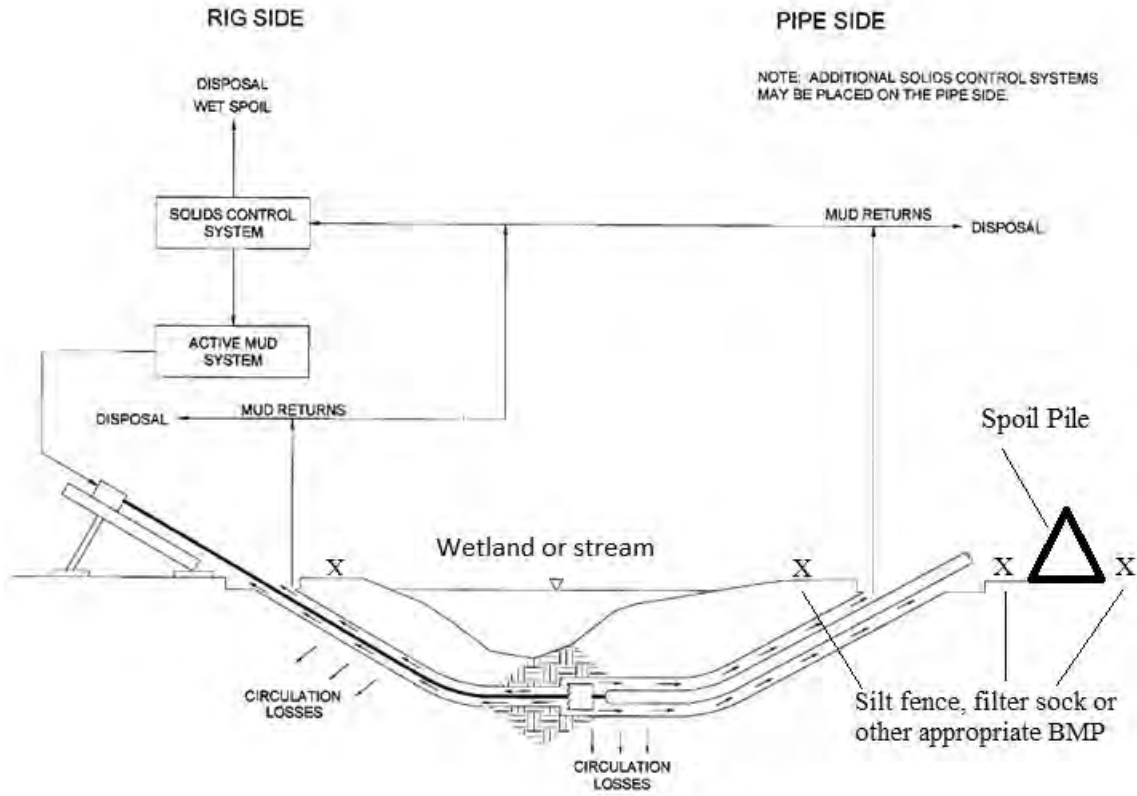


The following guidelines will be used to select riprap size and thickness:

- For channels with water depth > 3 feet, use R-5 at 6" thick.
- For channels with water depth between 2 and 3 feet, use R-4 at 4" thick
- For channels with water depth between 1 and 2 feet, use R-3 at 3" thick
- For channels with water depth < 1 feet, use R-2 at 3" thick

DETAIL G-7

HORIZONTAL DIRECTIONAL DRILL (BORE) OF SURFACE WATER



Specifications
for
Stream Utility Crossing

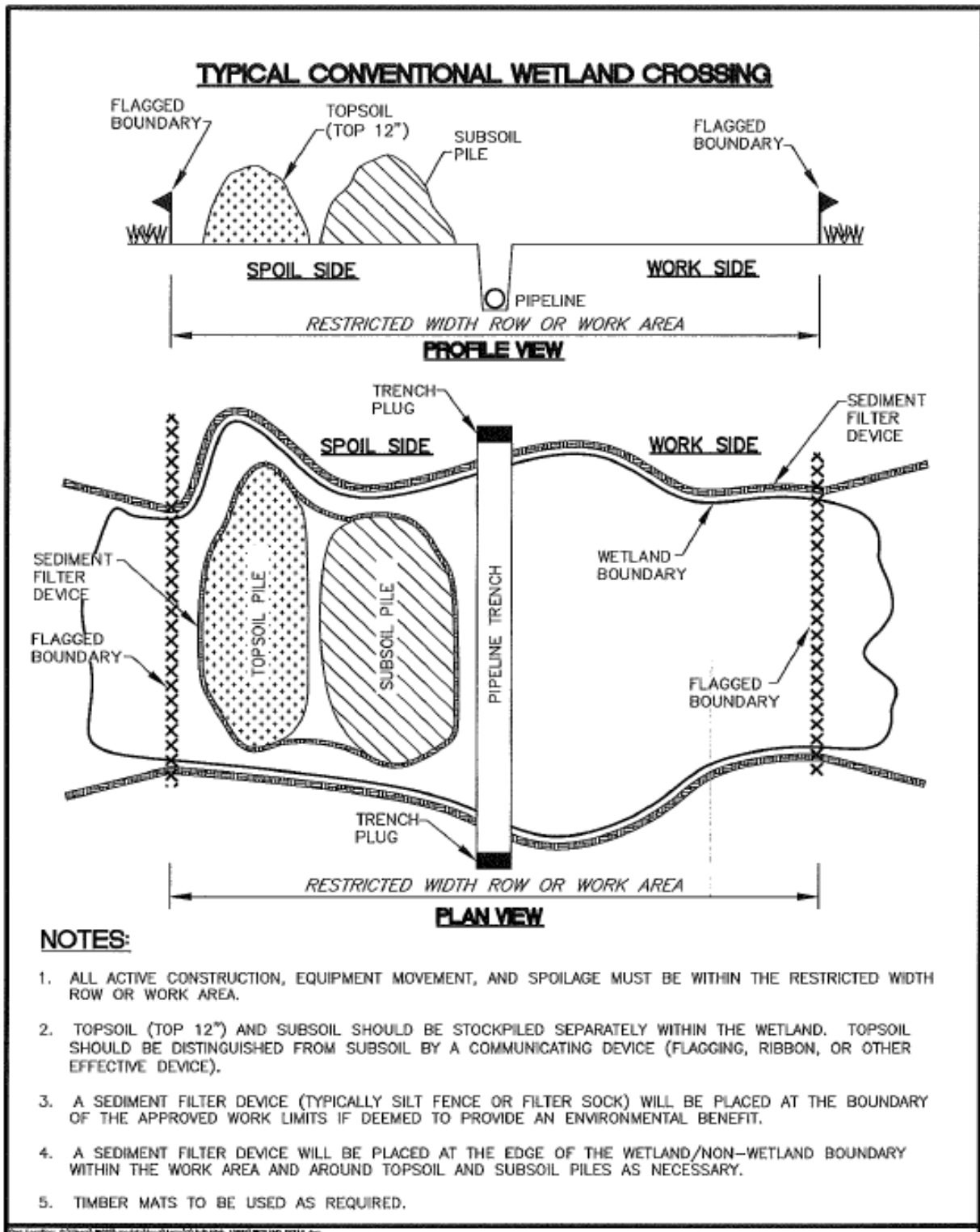
1. When site conditions allow, one of the following shall be used to divert stream flow or keep the flow away from construction activity.
 - Drill or bore the utility lines under the stream channel.
 - Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep flow from moving through the disturbed area. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.
 - Stage construction by confining first one-half of the channel until work there is completed and stabilized, then move to the other side to complete the crossing.
 - Route the stream flow around the work area by bridging the trench with a rigid culvert, pumping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottom and side slopes.
2. Crossing Width -The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself but also clearing done through the vegetation growing on the streambanks.
3. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
4. Material excavated from the trench shall be placed at least 20 ft. from the streambanks.
5. To the extent other constraints allow, stream shall be crossed during periods of low flow.
6. Duration of Construction -The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the streambank.
7. Fill Placed Within the Channel -The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be used to backfill the trench.
8. Streambank Restorations -Streambanks shall be restored to their original line and grade and stabilized with riprap or vegetative bank stabilization.
9. Runoff Control Along the Right-of-Way -To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the stream.
10. Sediment laden water from pumping or dewatering or pumping shall not be discharged directly to a stream. Flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.
11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland through a flat well-vegetated area.
12. Permits -In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

APPENDIX H

Typical Wetland Crossing Drawings

DETAIL H-1

TYPICAL WETLAND CROSSING



DETAIL H-2

WETLAND TIMBER MAT CROSSING



APPENDIX I

NOI Application Documentation



Division of Surface Water - Notice of Intent (NOI) For Coverage Under Ohio Environmental Protection Agency General NPDES Permit

(Read accompanying instructions carefully before completing this form.)

Submission of this NOI constitutes notice that the party identified in Section I of this form intends to be authorized to discharge into state surface waters under Ohio EPA's NPDES general permit program. Becoming a permittee obligates a discharger to comply with the terms and conditions of the permit. Complete all required information as indicated by the instructions. Do not use correction fluid on this form. Forms transmitted by fax will not be accepted. A check for the proper amount must accompany this form and be made payable to "Treasurer, State of Ohio." (See the fee table in Attachment C of the NOI instructions for the appropriate processing fee.)

I. Applicant Information/Mailing Address

Company (Applicant) Name: The East Ohio Gas Co d/b/a Dominion Energy Ohio		
Mailing (Applicant) Address Line: 320 Springside Drive Suite 320		
City: Akron	State : OH	Zip Code: 44333
Country: USA		
Contact Person: Greg Eastridge	Phone: (330) 664-2576	Fax: (330) 664-2669
Contact E-mail Address: gregory.k.eastridge@dominionenergy.com		

II. Facility/Site Location Information

Facility/Site Name: PIR 2350 - Jackson & Genoa		
Facility Address: Jackson Avenue SW		
City: Perry Township	State: OH	Zip Code: 44646
County: Stark		Township: Perry
Facility Contact Person: Eray Tulay	Phone: (330) 664-2492	Fax: (330) 664-2691
Facility Contact E-mail Address: eray.tulay@dominionenergy.com		
Latitude: 40.782068	Longitude: -81.480849	Facility/Map Attachment PIR2350_NOI_SLM_20221214.pdf

Receiving Stream or MS4:

III. General Permit Information

General Permit Number: OHC000005		Coverage Type: New			
Type of Activity: Construction Site Stormwater General Permit		SIC Code(s):			
Existing NPDES Facility Permit Number: 3GC13818*AG		ODNR Coal Mining Application Number:			
If Household Sewage Treatment System, is system for:		New Home Construction:	Replacement of failed existing system:		
Outfall	Design Flow (MGD):	Associated Permit Effluent Table:	Receiving Water :	Latitude	Longitude
Are These Permits Required?		PTI: NO	Individual 401 Water Quality Certification: NO		
Individual NPDES: NO		Isolated Wetland: NO	U.S. Army Corp Nationwide Permit: PENDING		
Proposed Project Start Date(if applicable): March 01, 2023			Estimated Completion Date(if applicable): December 31, 2023		
Total Land Disturbance (Acres): 8.5			MS4 Drainage Area (Sq. Miles):		

SWP3 Attachment(s): <None>

IV. Payment Information

Check #:	For Ohio EPA Use Only	
Check Amount:	Check ID(OFA): _____	ORG #: _____
Date of Check:	Rev ID: _____	DOC #: _____

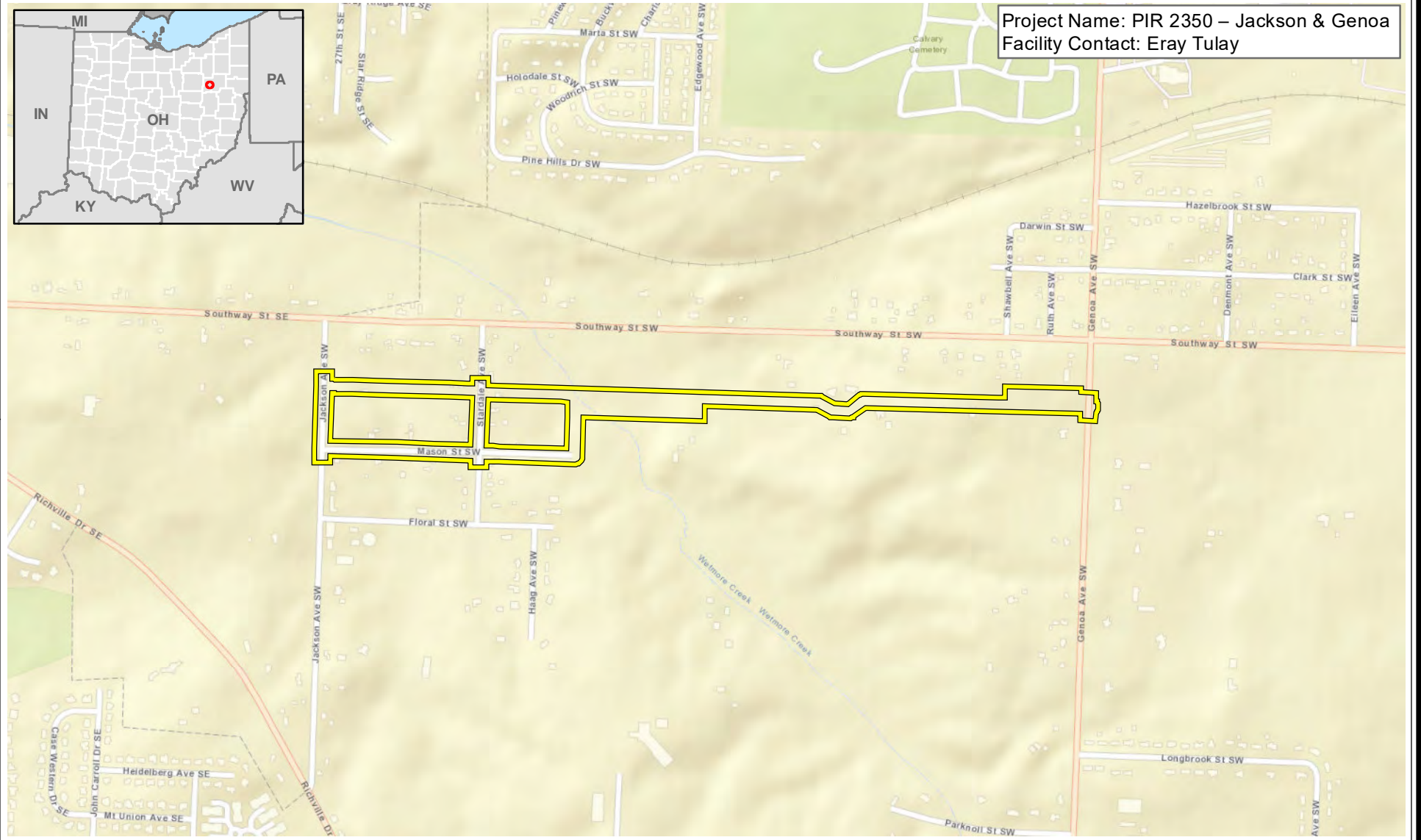
I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.


Applicant Name (printed or typed):	Title:
---	---------------

Signature:	Date:
ADDITIONAL INFORMATION	
<i>Please add any additional comments or attachments below.</i>	



Project Name: PIR 2350 – Jackson & Genoa
Facility Contact: Eray Tulay



 Project Study Area

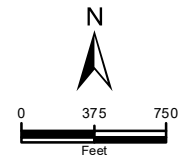


Figure 1
Site Location Map
PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022



Base Layer: ESRI StreetMaps

APPENDIX J

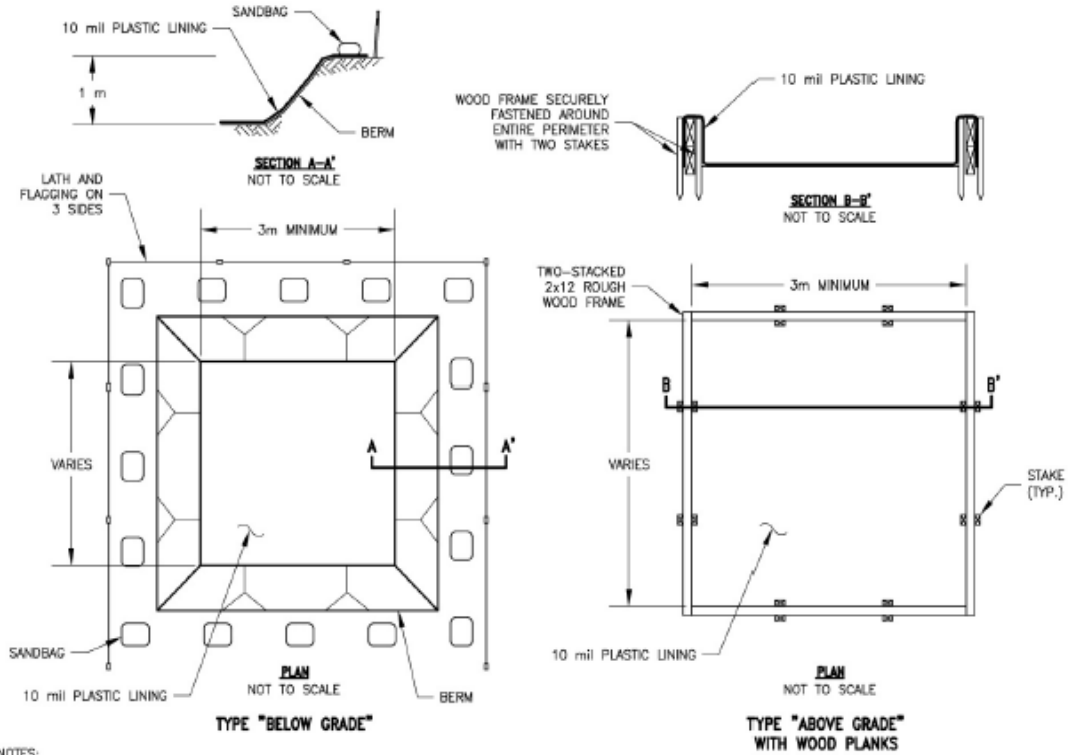
Concrete Washout Typical Detail

DETAIL H-1

Concrete Washout Detail*

Note: This detail to be used in the absence of the following concrete washout BMPs:

1. Washout into a depressional area where new sidewalks will be poured.
2. Washout into a lined pit in the ground with filter socks as perimeter control.



NOTES:

1. ACTUAL LAYOUT DETERMINED IN THE FIELD.
2. THE CONCRETE WASHOUT SIGN (SEE PAGE 6) SHALL BE INSTALLED WITHIN 10 m OF THE TEMPORARY CONCRETE WASH-OUT FACILITY.



Sign Examples



Photograph of the "ABOVE GRADE" concrete washout structure

- * 1. Concrete washout location is subject to change and will be located by the contractor before construction begins.
2. Concrete washout will be installed away from wetlands and streams.
3. Proper removal and disposal of concrete washout material is required once the project is complete.

APPENDIX K

SWP3 Inspection Forms

ECTS Checklist Guidance

Checklist Title: SWP3 Inspection Form

(For Dominion Energy Construction Projects with a SWP3)

THIS CHECKLIST IS TO BE COMPLETED BY AN ENVIRONMENTAL INSPECTOR (EI) CONTRACTED BY DOMINION ENERGY OR A DOMINION ENERGY INSPECTOR DURING SCHEDULED OR UNSCHEDULED SITE INSPECTIONS OF ACTIVE CONSTRUCTION SITES WITH A SWP3.

- **Information at the top of the form.**

- **Site Name:** Note the Project name and/or location of the construction activity.
- **Inspector:** Note the inspector’s name and circle the appropriate title.
- **Qualifications:** Note applicable qualifications.
 - Eight-Hour Stormwater Management During Construction Course - A course administered by numerous third-party trainers.
 - CESSWI - Certified Erosion, Sediment and Stormwater Inspector. A federal certification program administered by EnviroCert International. If “Yes” include certification number.
 - Dominion SWP3 Training - A training module prepared by Dominion Energy Environment and Sustainability for Dominion Energy construction Sites
 - Other – List other applicable qualifications
- **Signature:** Include the signature of the inspector on paper copy maintained at the site.

- **Inspection Documentation Area:**

- **Circle the applicable inspection type:**
 - “Weekly” - Inspection required at least once every seven calendar days during active construction and restoration.
 - “Monthly” - Inspection required after all construction and restoration activity has ceased.
 - “Routine” - Minimum weekly inspection interval
 - “Precipitation Event” - Must be completed at least once every seven (7) calendar days and after any storm event greater than one-half inch of rain per 24-hour period by the end of the next calendar day, excluding weekends and holidays, unless work is scheduled. Rainfall amounts will be determined by Dominion Energy personnel or a designated representative using National Weather Service or other acceptable resources such as an on-site rain gauge.
 - “Other” - Random inspection, Compliance Inspection, Follow-up, etc.
- **Has it rained since last inspection? (Y/N)** Circle as appropriate and note the time started and duration of the previous storm event. If the precipitation amount is known, insert this information here.
- **Current Conditions:** Describe the weather conditions during this inspection. Circle the most appropriate soil condition. “Saturated” = standing water is visible on the ground surface.
- **Features Inspected:** List each feature inspected at the site. The Feature ID must correspond to the site plan submitted with the SWP3 or E&S Control Plan. Record any repairs or maintenance necessary for each device; include an accurate description of the

location of repair and a date when the repair must be completed.

- **Information on second page.**

- **Construction Inspector(s):** Note the inspection date, site name, and inspector's name.
- **Previous Inspections:** Review the previous site inspection form, including action items and dates of completion. Comment on any ongoing activities and its progress. The site has three days from discovery to complete applicable repairs and 10 days from discovery to install new controls if warranted.
- **Necessary Documents:** Confirm the presence of environmental permit, plans, and notices. These must include: a Stormwater Pollution Prevention Plan (SWP3) or Erosion and Sediment (E&S) Control Plan; Construction Permit/Land Disturbance Permit; Notice of Intent (NOI) to begin disturbance; and Notices of Termination.
- **Disturbed Areas:** Any disturbed areas that are anticipated to lie dormant for more than 14 days must be stabilized to prevent potential erosion. Stabilization may include: permanent cover (e.g., building, parking lot, etc.); vegetation (seed and straw), mulch or tack; gravel, stone or rip rap.
- **E/SCDs:** Are Erosion/Sediment Control Devices (E/SCDs) of appropriate design for the areas they are controlling, properly installed and being maintained? The E/SCDs installed must be described in the SWP3 or E&S Control Plan. Furthermore, design details must meet the minimum design details described in the state stormwater control manual. If alternate control methods were installed: notify the site manager and engineer to confirm the controls installed are sufficiently designed; revise the plans accordingly; or remove and replace insufficient controls. The site has three days from discovery to complete applicable repairs and 10 days from discovery to install new controls if warranted.
- **Final Grade:** List any areas at final grade since last inspection. Areas at final grade are not likely to be disturbed again and must be stabilized. See Question # 9 above.
- **Untreated Discharges:** Observations of untreated discharge may include:
 - A sheen indicating petroleum products;
 - Foam or froth indicating a chemical or other discharge;
 - Suspended particles or sludge beneath the surface;
 - Discolored water, including dirty/muddy characteristics of sedimentation;
 - A change in water temperature; and
 - Damaged or stressed vegetation or wildlife.
- **Notification:** Review the inspection findings with a site manager or other responsible person and note this individual.

Checklist Owner: Tara Buzzelli

Local: 8-657-2579

Work: 330-664-2579

Cell: 330-604-8871

Email: Tara.E.Buzzelli@DominionEnergy.com

Email: Gregory.K.Eastridge@DominionEnergy.com

Date of Last Revision: July 2020

Subject Matter Expert: Greg Eastridge

Local: 8-657-2576

Work: 330-664-2576

Cell: 330-571-7855

OHIO SWP3 INSPECTION FORM

Site Name: _____

Date: _____

Environmental Inspection Company: _____

Environmental Inspector: _____

Qualifications: Completed 8-HR Stormwater Management During Construction Course	Y	N
CESSWI	Y	N
Dominion SWP3 Training	Y	N
Other: _____		

Inspector Signature: _____

Weekly

Monthly

Routine Inspection

Precipitation Event >0.5-inch

Other _____

(circle all applicable)

Has it rained since last inspection? *(circle one)*

Yes: Date(s) & Approx. Amount _____

No

Current Conditions: _____

Soil Conditions:

Dry

Wet

Saturated

Frozen

(circle applicable conditions)

Feature ID

BMP, ECD, SCD Applied

Recommendations

Feature ID	BMP, ECD, SCD Applied	Recommendations

BMP: Best Management Practice E/SCD: Erosion/Sediment Control Device SF: Silt Fence SW: Straw Wattle W: Wetland S: Stream
 TM: Timber Mat IP: Inlet Protection WB: Waterbar RCE: Rock Construction Entrance ECM: Erosion Control Matting FS: Filter Sock

Date:

Site:

Stormwater Pollution Prevention Plan Inspection Form

Construction Inspector(s) On Site:

Unresolved issues from previous inspections:

Are the SWP3, NOI and General Permit Letter on-site? Yes No
If no, explain.

List newly disturbed areas likely to lie dormant for more than 14 days:

Have soil stockpiles been placed at least 50 feet from drainageways?

List construction entrances and SCDs used to prevent tracking into roadway:

Are E/SCDs of appropriate design for area they are controlling, properly installed and being maintained?

List any new areas at final grade since last inspection:

Is the inlet protection of appropriate design?

Were any untreated discharges into streams, wetlands or inlets observed? If yes, document location(s):

Note person(s) notified of any inspection finding(s) and expected date of correction:

Notes

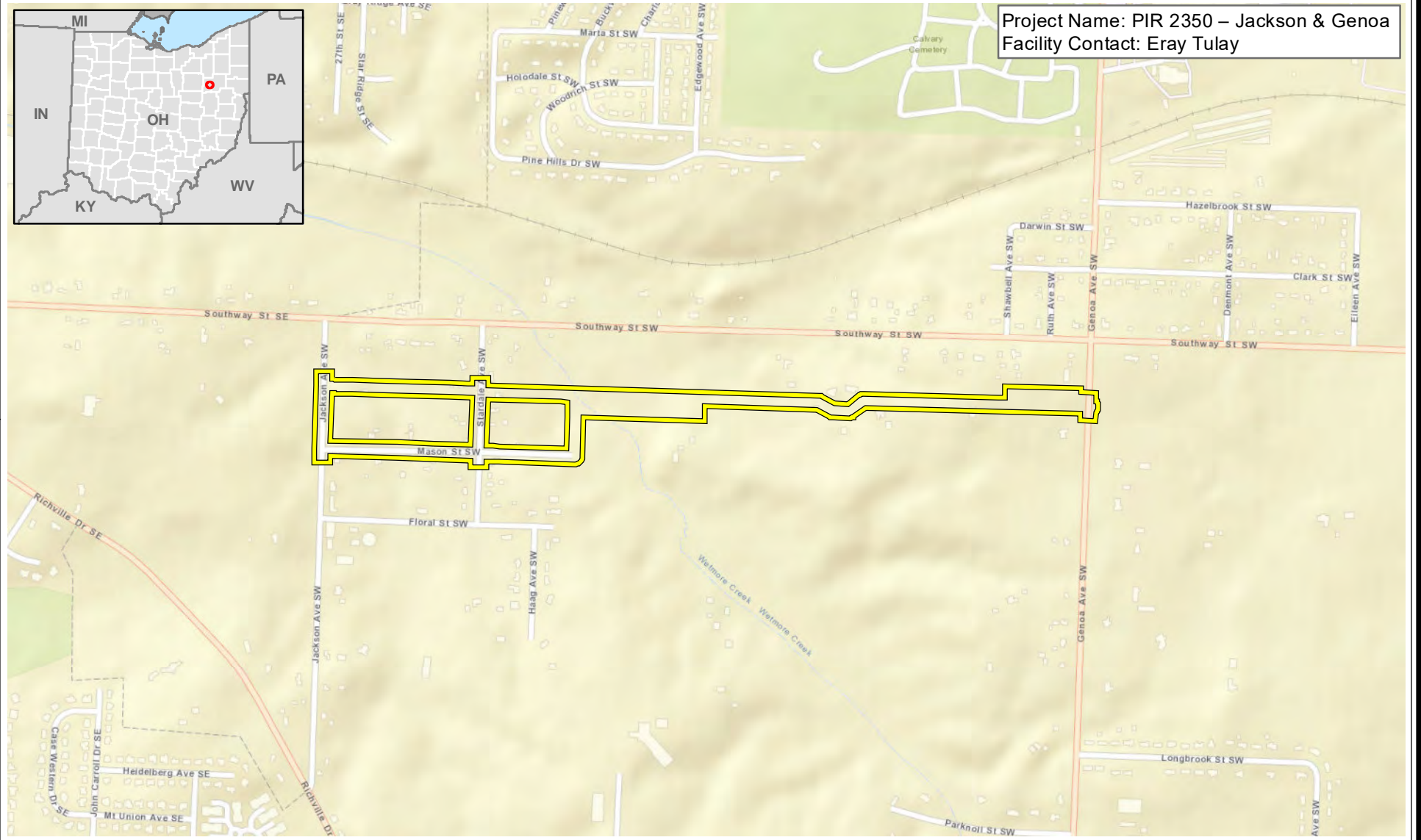
Attachment 3


Ohio EPA General Permit OHC000005 NOI Documentation

Signature:	Date:
ADDITIONAL INFORMATION	
<i>Please add any additional comments or attachments below.</i>	



Project Name: PIR 2350 – Jackson & Genoa
Facility Contact: Eray Tulay



 Project Study Area

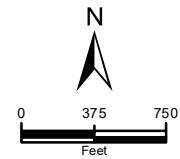


Figure 1
Site Location Map
PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022



Base Layer: ESRI StreetMaps

Attachment 4
Delineation Report



> **Aquatic Resources Delineation Report**
PIR 2350 - Jackson & Genoa
Perry Township, Stark County, Ohio

January 2023
ECT No. 210470-0001

The East Ohio Gas Company, d/b/a Dominion Energy Ohio
320 Springside Drive, Suite 320
Akron, Ohio 4433



161 East Aurora Road
Northfield, OH 44067
www.ectinc.com

Table of Contents

Executive Summary	1
1.0 Introduction and Methodology	2
2.0 Available Mapping and Data.....	5
2.1 Aerial Imagery Review	5
2.2 U.S. Geological Survey Topographic Map.....	5
2.3 National Wetland Inventory and National Hydrography Dataset Map	5
2.4 USDA-NRCS Soils Map	6
2.5 401 Water Quality Certification for Nationwide Permits Eligibility Maps (OHIO).....	6
2.6 FEMA Floodplain Map.....	6
3.0 Results	7
3.1 Wetlands	7
3.2 Streams	9
3.3 Open Waters.....	12
3.4 Upland Conditions.....	12
4.0 Conclusions	13
5.0 References.....	14
Common Wetland Definitions	15

Appendices

Appendix A	Background and Delineation Maps
Appendix B	USACE Regional Delineation Dataforms
Appendix C	Ohio Rapid Assessment Method (ORAM) Dataforms
Appendix D	Photographic Log
Appendix E	Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Forms

List of Tables

Table 1. Ohio Rapid Assessment Method Scoring Breakpoints.....	3
Table 2. Wetland Summary Data.....	8
Table 3. Stream Summary Data	11
Table 4. Open Waters Summary Data	12

List of Acronyms and Abbreviations

CWA	Clean Water Act
DEO	Dominion Energy Ohio
ECT	Environmental Consulting & Technology, Inc.
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
GPS	global positioning system
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	USACE Nationwide Permit
OBL	obligate wetland
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHWM	ordinary high-water mark
ORAM	Ohio Rapid Assessment Method
PHW	Primary Headwater
Project	PIR 2350 - Jackson & Genoa
SFHA	Special Flood Hazard Area
UPL	obligate upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification
WOTUS	Waters of the United States

Executive Summary

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO) contracted Environmental Consulting & Technology, Inc. (ECT), to perform an aquatic resources delineation for the PIR 2350 - Jackson & Genoa (Project) site located in Perry Township, Stark County, Ohio. The Project is also located in the Tuscarawas watershed (Hydrologic Unit Code [HUC] 05040001).

The Project Study Area comprises approximately 50 feet on either side of the existing pipeline within the easement that extends east from Jackson Avenue SW to Genoa Avenue SW; approximately 40 feet from the edge of pavement along segments of Jackson Avenue SW, Stardale Avenue SW, and Mason Street SW; and along a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement (*Site Location* in **Appendix A, Figure 1**). The Project Study Area is dominated by residential development, active agricultural fields, and mature forested areas. The Project Study Area primarily has land cover of maintained lawn, areas of mature woods, and active agricultural fields. ECT conducted field visits to identify, delineate, and characterize wetlands on July 6, 2021, June 2, 2022, and October 27, 2022.

Under Section 404 of the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE). In addition, the Ohio Environmental Protection Agency (OEPA) regulates non-federally jurisdictional wetlands within the state of Ohio. Within regulated areas, a permit is required for activities such as, but not limited to, the placement of fill, dredging of material, draining of surface water, or constructing a structure within a regulated wetland, stream.

Six (6) wetlands (Wetlands A through F), five (5) streams (Streams 1 through 5), and one (1) open water (Open Water A) were identified within the Project Study Area. ECT anticipates that all delineated features will be federally jurisdictional.

1.0 Introduction and Methodology

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO) contracted Environmental Consulting & Technology, Inc. (ECT), to perform an aquatic resources delineation for the PIR 2350 - Jackson & Genoa (Project) site located in Perry Township, Stark County, Ohio. The Project is also located in the Tuscarawas watershed (Hydrologic Unit Code [HUC] 05040001).

Under the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE) and are considered jurisdictional. These can include such bodies of water as lakes, ponds, rivers, tributaries, and wetlands. In addition, the Ohio Environmental Protection Agency (OEPA) is the state regulatory agency that regulates all surface waters determined non-jurisdictional by the USACE. Currently, USACE is interpreting WOTUS consistent with the pre-2015 regulatory definition and practice until further notice. This report summarizes the surface water features identified within the Project Study Area.

Prior to any field work, ECT conducted a preliminary site assessment of existing information and imagery, including aerial photographs, United States Geological Service (USGS) topographic maps, National Wetland Inventory (NWI) maps, soil survey maps, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). The results of this desktop review were used to focus field efforts on protected natural resources that are likely to occur within the Project.

On July 6, 2021, June 2, 2022, and October 27, 2022, ECT conducted field investigations to identify, delineate, and characterize wetlands; and assess water features and streams.

Wetlands within the Project Study Area were delineated following the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (USACE 2012) guidelines. The presence of wetlands is determined based on three (3) parameters: the presence of hydrophytic vegetation (hydrophytes), hydric soils, and wetland hydrology. Potentially jurisdictional wetland boundaries were mapped using a sub-meter GEO7X® series Trimble® and Trimble® R1 global positioning system (GPS) unit and flagged in the field. Wetland data points and corresponding upland points were also mapped with the GEO7X® and series Trimble® and Trimble® R1 GPS unit. USACE regional determination forms were completed for each wetland and its corresponding upland point.

Vegetation was identified by leaves, bark, twigs, stems, reproductive structures, and/or persistent remains from the preceding growing season. The wetland indicator status for vegetation noted during the evaluation was obtained from the USACE 2020 National Wetland Plant List (USACE 2020). Soil was evaluated by digging test pits sufficient to document hydric indicators, up to 20 inches deep. Soil conditions were evaluated using criteria established by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service’s (NRCS) *Field Indicators of Hydric Soils in the United States* (USDA-NRCS 2018) and soil colors were evaluated using a Munsell® color chart. Hydrology was evaluated through direct observation of primary indicators (e.g., standing water and/or saturated soil) and indirectly through observation of secondary hydrology indications.

Ohio Rapid Assessment Method (ORAM), Version 5.0, forms were completed for all identified wetlands to evaluate wetland quality. ORAM measures several metrics including wetland hydrology, size, and habitat alteration. Each metric is scored and then totaled to give a final ORAM score corresponding to an ORAM category (1 through 3). Category 1 wetlands represent low-quality wetlands while Category 3 wetlands are high-quality wetlands. ORAMs were categorized based on the scoring breakpoints in **Table 1**. Wetlands that are classified within the gray zone between two categories are regulated as the higher of the two categories unless additional functional biological assessments are completed that demonstrate lower wetland quality.

Table 1. Ohio Rapid Assessment Method Scoring Breakpoints

ORAM Score	ORAM Category
0 – 29.9	1
30 – 34.9	1 or 2 Gray Zone
35 – 44.9	Modified 2
45 – 59.9	2
60 – 64.9	2 or 3 Gray Zone
65 - 100	3

Source: (Mack 2000).

Delineated streams were identified based on the presence of morphological features such as a defined bed and banks, presence of ordinary high water mark (OHWM), and evidence of water flow. Streams were separated into three (3) flow regimes: perennial, intermittent, and ephemeral. Perennial streams are classified as having regular water flow that can be seen year-round. Intermittent streams flow during certain times of the year; however, during dry periods they may not have any flowing

surface water. Ephemeral streams have brief water flow typically exhibited during periods of rainfall in the immediate vicinity. Streams were also mapped using sub-meter GEO7X® series Trimble® GPS and Trimble® R1 GPS units.

Stream quality assessments were conducted following the OEPA's Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) dependent upon stream size and/or maximum pool depth. Both methodologies assess several stream metrics, such as substrate type, and assign scores for each metric. Totaled scores are used to determine the general quality of streams (OEPA 2006; 2020).

ECT evaluated the potential jurisdictional status for delineated features following the pre-2015 regulatory regime definition of WOTUS.

2.0 Available Mapping and Data

The following sections provide the results of the desktop review of available mapping and data.

2.1 Aerial Imagery Review

Aerial imagery of the Project Study Area was reviewed before the field reconnaissance to identify past and current land use and potential water resources (*Site Location Map*, **Appendix A: Figure 1**). The aerial imagery review indicated that the Project Study Area has been mainly under agricultural and residential use, with very little change, since at least 1994.

2.2 U.S. Geological Survey Topographic Map

The U.S. Geological Survey (USGS) Canton West 7.5-minute quadrangle map (2000) depicts the elevation within the Project Study Area at a range of 1,050 to 1,100 feet above mean sea level (*USGS Topographic Map - Canton West Quadrangle*, **Appendix A: Figure 2**, (USGS 2000)). One (1) stream, Wetmore Creek, is depicted on the USGS topographic map running from north to south through the center of the Project Study Area.

2.3 National Wetland Inventory and National Hydrography Dataset Map

The U.S. Fish and Wildlife Service (USFWS) NWI mapping database and the USGS National Hydrography Dataset (NHD) were reviewed to determine the likely presence, location, size, and type of water resources that may be in the Project Study Area (USFWS 2022; USGS 2022). USFWS generates NWI maps through high-altitude imagery. These maps were used for preliminary analysis only, as these maps may not accurately depict the extent or existence of wetland systems in a specific area, nor do these maps always correctly identify the types of wetlands present. On-site field mapping is required to determine the actual presence of wetlands and their types in the Project Study Area. Similarly, the USGS has developed the NHD that depicts features such as rivers, streams, and lakes based on available topographic maps. However, some topographic maps may not reflect the current topography of an area. Verification of all streams within the Project Study Area is necessary through on-site visits.

Two (2) riverine NWI features are mapped near the western end and through the center of the Project Study Area (*NWI & NHD Features*, **Appendix A: Figure 3**). One (1) NWI feature is also mapped as the named NHD stream, Wetmore Creek.

2.4 USDA-NRCS Soils Map

ECT reviewed the USDA-NRCS soil data for hydric soils that may be present within the Project Study Area. Hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (USDA-NRCS 2018). Eleven (11) soil map types are mapped within the Project Study Area, two (2) of which are hydric soils or non-hydric soils with hydric inclusions. **Appendix A: Figure 4**, presents a soils map showing the soil types and their boundaries within the Project Study Area.

2.5 401 Water Quality Certification for Nationwide Permits Eligibility Maps (OHIO)

The OEPA administers Section 401 of the Clean Water Act within the state of Ohio. As part of the 401 Water Quality Certification (WQC) conditions for the 2022 Nationwide Permits (NWP), OEPA designated high-quality watersheds within the state of Ohio that are ineligible or possibly eligible for WQC under the NWP. Review of the OEPA 401 WQC for NWP Eligibility online map determined that this Project is not located within a protected watershed and is therefore eligible for 401 WQC under the 2022 NWP (*401 WQC for NWP Eligibility Map*, **Appendix A: Figure 5**, (OEPA 2021). Impacts to streams within the Project should not require an Individual 401 or Director's Authorization from OEPA. Note that the WQC conditions are waived for the set of NWP reissued in 2021.

2.6 FEMA Floodplain Map

The Ohio Department of Natural Resources (ODNR) regulates development in FEMA identified floodways and floodplains, also called Special Flood Hazard Areas (SFHAs), under the Flood Control Act and Floodplain Management Rule. FEMA's FIRMs delineate these SFHAs and the risk premium zones applicable to the community (FEMA 2002). A review of the FIRMs indicated that there are no floodplains or floodways within the Project Study Area (FEMA 2022).

3.0 Results

The following sections provide the results of the ECT field delineation.

3.1 Wetlands

During the site reconnaissance, six (6) wetlands (Wetlands A through F) were identified within the Project Study Area and are shown on the *Aquatic Resources Delineation Map* (**Appendix A: Figure 6**). USACE Northcentral and Northeast Region wetland/upland data sheets are provided in **Appendix B**. Completed ORAM, version 5.0, forms are provided in **Appendix C**. The identified wetlands had a predominance of hydrophytic vegetation, soils that exhibited reducing conditions, and observed hydrological characteristics.

Sufficient reducing characteristics were observed within the upper 10 inches of soils, per guidelines set forth by the USDA-NRCS Field Indicators of Hydric Soils in the United States (USDA-NRCS 2018). Wetland C meets the conditions for Depleted Matrix (F3). Wetlands A, B, D, E, and F meet the conditions for the Redox Dark Surface (F6) hydric soil indicator. Wetland B also meets the conditions for Loamy Mucky Mineral (F1).

Hydrology indicators found within the identified wetlands included saturation (A3), algal mat or crust (B4), water-stained leaves (B9), drainage patterns (B10), hydrogen sulfide odor (C1), saturation visible on aerial imagery, (C9) geomorphic position (D2), and FAC-neutral test (D5).

Typical vegetative conditions noted in wetlands within the Project Study Area are described in the following paragraphs. The scientific names and wetland indicator status of vegetation (obligate wetland, OBL; facultative wetland, FACW; facultative, FAC; facultative upland, FACU; and obligate upland, UPL) noted during the delineation follow the common name the first time each plant species is referenced. **Appendix D** presents copies of site photographs depicting conditions at the time of the site investigation. **Table 2** provides details on the identified wetlands within the Project Study Area.

Table 2. Wetland Summary Data

Wetland ID	ORAM Score	ORAM Category	WOTUS ¹	PEM ² in Project Study Area (acres)	PSS ³ in Project Study Area (acres)	PFO ⁴ in Project Study Area (acres)	Total Acres in Project Study Area
A	35.5	Mod. 2	Yes	0.02	0	0.03	0.05
B	30	1 or 2 gray zone	Yes	0.18	0	0.05	0.23
C	21.5	1	Yes	1.53	0	0	1.53
D	33	1 or 2 gray zone	Yes	0	0	0.13	0.13
E	35	Mod. 2	Yes	0	0	0.05	0.05
F	34.5	1 or 2 gray zone	Yes	0.03	0	0.00	0.03
TOTAL				1.73	0	0.29	2.02

Source: ECT, 2022.

¹ Potential jurisdictional status following the pre-2015 regulatory regime definition

² Palustrine emergent

³ Palustrine scrub-shrub

⁴ Palustrine forested

Wetland A is composed of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation communities. The PFO vegetation community is dominated by green ash (*Fraxinus pennsylvanica*, FACW) while the PEM vegetation community is dominated by gray dogwood (*Cornus racemose*, FAC), jewelweed (*Impatiens capensis*, FACW), and lake sedge (*Carex lacustris*, OBL). Wetland A abuts and drains into Stream 1 and extends off-site of the Project Study Area to the north. Wetland A received a score 35.5 on the ORAM, placing it within the Modified 2 category.

Wetland B is a PEM/PFO wetland. The forested vegetation community is dominated by black willow (*Salix nigra*, OBL) and silver maple (*Acer saccharinum*, FACW), and the emergent vegetation community is dominated by reed canary grass (*Phalaris arundinacea*, FACW) and jewelweed. Wetland B continues offsite to the north and south of the Project Study Area and is located east of Stardale Avenue and west of Stream 3 (Wetmore Creek). Based on aerial review of the Project Study Area, Wetland B likely connects to off-site portions of Stream 3 (Wetmore Creek). The residential properties bordering Wetland B appear to mow right up to the wetland boundary. Wetland B received a score of 30 on the ORAM, placing it within Category 1 or 2 gray zone.

Wetland C is a PEM wetland dominated by reed canary grass. Wetland C is located east of Stream 3 (Wetmore Creek) and is predominately surrounded by active agricultural fields. Wetland C continues

offsite to the north and south where it likely connects to an off-site tributary of Stream 3 (Wetmore Creek). Wetland C received a score 21.5 on the ORAM, placing it within Category 1.

Wetland D is a PFO wetland dominated by eastern cottonwood (*Populus deltoides*) and silky dogwood (*Cornus amomum*, FACW) and is predominately surrounded by residential land use. Wetland D continues offsite to the north and is assumed to connect to an offsite aquatic resource. Wetland D received a score of 33 on the ORAM, placing it within Category 1 or 2 gray zone .

Wetland E is a PFO wetland dominated by silver maple (*Acer saccharinum*, FACW), green ash, and jewelweed and is predominately surrounded by residential land use. Wetland E is adjacent and appears to be hydrologically connected to Stream 1. Wetland E received a score of 35, placing it within Modified 2 category .

Wetland F is a PEM wetland dominated by red maple seedlings, yellow bristle-grass (*Setaria pumila*, FAC), Virginia wildrye (*Elymus virginicus*, FACW), and New York Ironweed (*Vernonia noveboracensis*, FACW) and is predominately surrounded by agricultural land and forest. Wetland F is located approximately 100 feet southwest of Stream 2 and Stream 3 (Wetmore Creek). Wetland F received a score of 34.5, placing it within the Category 1 or 2 gray zone.

Based on the hydrologic connections to other aquatic resources as previously described, ECT anticipates that all six (6) wetlands are potentially WOTUS and would be regulated by the USACE.

3.2 Streams

The field reconnaissance completed by ECT identified five (5) streams (Streams 1 through 5) within the Project and are shown on the *Aquatic Resources Delineation Map* (**Appendix A: Figure 6**). The identified streams exhibit morphological features such as a defined bed and banks, OHWM, and evidence of water flow. **Appendix D** presents copies of photographs depicting the water features. **Table 3** provides the stream data. Stream 3 corresponds with Wetmore Creek and Stream 1 corresponds with an unnamed NWI riverine feature/NHD flowline. Stream 3 (Wetmore Creek) has a watershed ≥ 1 square mile and a maximum pool depth ≥ 40 centimeters and was therefore assessed following the QHEI. Streams 1, 2, 4, and 5 have a watershed < 1 square mile and a maximum pool depth of < 40 centimeters and were therefore assessed using the HHEI. Completed OEPA QHEI and HHEI forms are provided in **Appendix E**.

Stream 1 is a perennial stream that flows southeast to northwest through a forested area near the western extent of the Project Study Area where it then flows underneath a section of Mason Street SW. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A and Wetland E. A dam/impoundment has also been constructed between Stream 1 and Open Water A. Stream 1 received a score of 61 on the HHEI, classifying it as a Class II Primary Headwater (PHW).

Stream 2 is an ephemeral stream that flows from south to north through the Project Study Area into Stream 3 (Wetmore Creek). Stream 2 drains an active agricultural field located south of the Project Study Area, greatly impacting sedimentation and nutrient input into the stream. Stream 2 has a natural channel and shows no signs of modification. The dominant substrate in Stream 2 is clay/hardpan and gravel. Stream 2 received a score of 7 on the HHEI form, classifying it as a Class I PHW.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the Project Study Area and is connected to Stream 2. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel. Stream 3 received a score of 67 on the QHEI, meaning that it has the potential to attain the Warmwater Habitat designation.

Stream 4 is an ephemeral stream that runs north to south through the Project Study Area parallel to Genoa Ave SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Stream 4 received a score of 17 on the HHEI form, classifying it as a Modified Class I PHW.

Stream 5 is an ephemeral stream that flows from north to south through the Project Study Area into Stream 3 (Wetmore Creek). Stream 5 drains from Wetland C. Stream 5 shows signs of recovery from previous channelization. The dominant substrates are clay/hardpan and gravel. Stream 5 received a score of 19 on the HHEI, classifying it as a Modified Class I PHW.

Table 3. Stream Summary Data

Stream ID	Associated Waterway	Flow Regime	QHEI/HHEI Score	Class/Designation	WOTUS ¹	Substrate Types	OWHM Width (ft)	Linear Feet
1	Unnamed Tributary	Perennial	61	Class II PHW ²	Yes	Sand/gravel	8.5	289
2	Unnamed Tributary	Ephemeral	7	Class I PHW	Yes	Hardpan/gravel	3	37
3	Wetmore Creek	Perennial	67	Warmwater Habitat	Yes	Gravel/sand	20	364
4	Unnamed Tributary	Ephemeral	17	Modified Class I PHW	Yes	Hardpan/gravel	3	60
5	Unnamed Tributary	Ephemeral	19	Modified Class I PHW	Yes	Hardpan/leaf pack	2	51
Perennial Total								653
Intermittent Total								0
Ephemeral Total								148
TOTAL								801

Source: ECT, 2022

¹ Potential jurisdictional status following the pre-2015 regulatory regime definition.

² Primary Headwater

3.3 Open Waters

One (1) open water, Open Water A, is located within a residential lawn in the western most section of the Project Study Area. Open Water A is surrounded by maintained lawn and was likely constructed in previously upland areas. Open Water A is separated from Stream 1 by an impoundment. **Table 4** provides the data for Open Water A.

Table 4. Open Waters Summary Data

Open Water ID	WOTUS ¹	Acreage
A	Yes	0.06

Source: ECT, 2022

3.4 Upland Conditions

Upland areas of the Project included agricultural fields, mature woods, and residential lawn along the pipeline easement and surrounding residential homes. A map showing the location of vegetation communities within the Project Study Area is included in **Appendix A: Figure 7**.

Agricultural fields: Upland conditions were dominated by agricultural fields with remnants of the prior season's corn crop (*Zea mays*, UPL).

Upland Deciduous Forest: The mature woods are composed primarily of northern red oak, green ash (*Fraxinus pennsylvanica*, FACW), red maple, black walnut (*Juglans nigra*, FACU), sugar maple (*Acer saccharum*, FACU), and American elm (*Ulmus americana*, FACW). Soil in uplands typically consist of 0 to 20 inches of dark gray to brown loam. Soils were generally loamy and lacked the redoximorphic features found in hydric soils. There was no indication of wetland hydrology in upland areas.

Residential Lawn: Maintained lawns and developed areas in eastern portions of the Project Study Area are dominated by Kentucky bluegrass (*Poa pratensis*, FACU) and smooth brome (*Bromus inermis*, UPL).

4.0 Conclusions

ECT conducted an aquatic resources delineation on an approximately 24 -acre site for PIR 2350 - Jackson & Genoa located within Perry Township, Stark County, Ohio. Six (6) wetlands totaling 2.02 acres, five (5) streams totaling 801 linear feet, and one (1) open water totaling 0.06 acres were identified within the Project Study Area. ECT anticipates that all wetlands, streams, and waterbodies are federally jurisdictional under the pre-2015 definition of WOTUS.

ECT's evaluation was performed in accordance with generally accepted procedures for conducting aquatic resource delineations and assessments. ECT's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Official verification of the locations and boundaries of aquatic resources along with their jurisdictional status under Section 404 of the CWA can only be done by the USACE.

5.0 References

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Common Wetland Definitions

Perennial Stream: year-round streams, typically have water year-round. Water comes from upstream tributaries or headwaters as well as precipitation.

Intermittent Streams: have water intermittently throughout the year when upstream waters or groundwater provide enough stream flow. May not have flowing surface water during dry times of the year.

Palustrine Emergent Wetland (PEM): Vegetative classification of a wetland system based on the dominant vegetation, consisting of rooted herbaceous (non-woody) plant species that have parts extending above a water surface with at least 30% aerial coverage.

100-year flood: A flood with a magnitude that has a 1% chance of occurring or being exceeded in any given year.

Floodplain: The area of land adjoining a river or stream that will be inundated by a 100-year flood.

Hydric soil: Soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS 2018).

Hydrophytes: Plant species that grows in water or on a substrate that is at least periodically deficient in oxygen because of excessive water content; plants typically found in wet habitats.

Isolated Wetland: "wetland that is not subject to regulation under the Federal Water Pollution Control Act" as described by OH Revised Code 6111.02.

Palustrine Scrub-Shrub Wetland (PSS): Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants less than 3 inches in diameter but greater than 3 ft but less than 20 ft in height OR where trees and shrubs combined have an aerial coverage no greater than 30%.

Palustrine Forested Wetland (PFO): Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants 3 inches in diameter or greater regardless of height with at least 30% aerial coverage.

Traditional Navigable Water: water body that is presently used or has been previously used in the past for transport by interstate or foreign commerce vessels.

Wetland: Defined by USACE as "...areas that are inundated or saturated by surface or ground water...at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in soil conditions."

Wetland hydrology: Hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season.

Wetland Indicator Status:

OBL: Obligate wetland plant that occurs almost always, 99% of the time, in wetlands under natural conditions, but which rarely occur in non-wetlands.

FACW: Facultative wetland plant that occurs usually, 67% to 99% of the time, in wetlands, but also occurs 1% to 33% of the time in non-wetlands.

FAC: Facultative plant that occurs in both wetlands and non-wetlands 33% to 67% of the time.

FACU: Plant that occurs sometimes, 1% to 33% of the time, in wetlands but occurs more often, 67% to 99% of the time, in non-wetlands.

UPL: Upland plant that occurs very rarely in wetlands, less than 1% of the time

Appendix A Background and Delineation Maps

Figure 1. Site Location

Figure 2 USGWS Topographic – Canton West Quadrangle

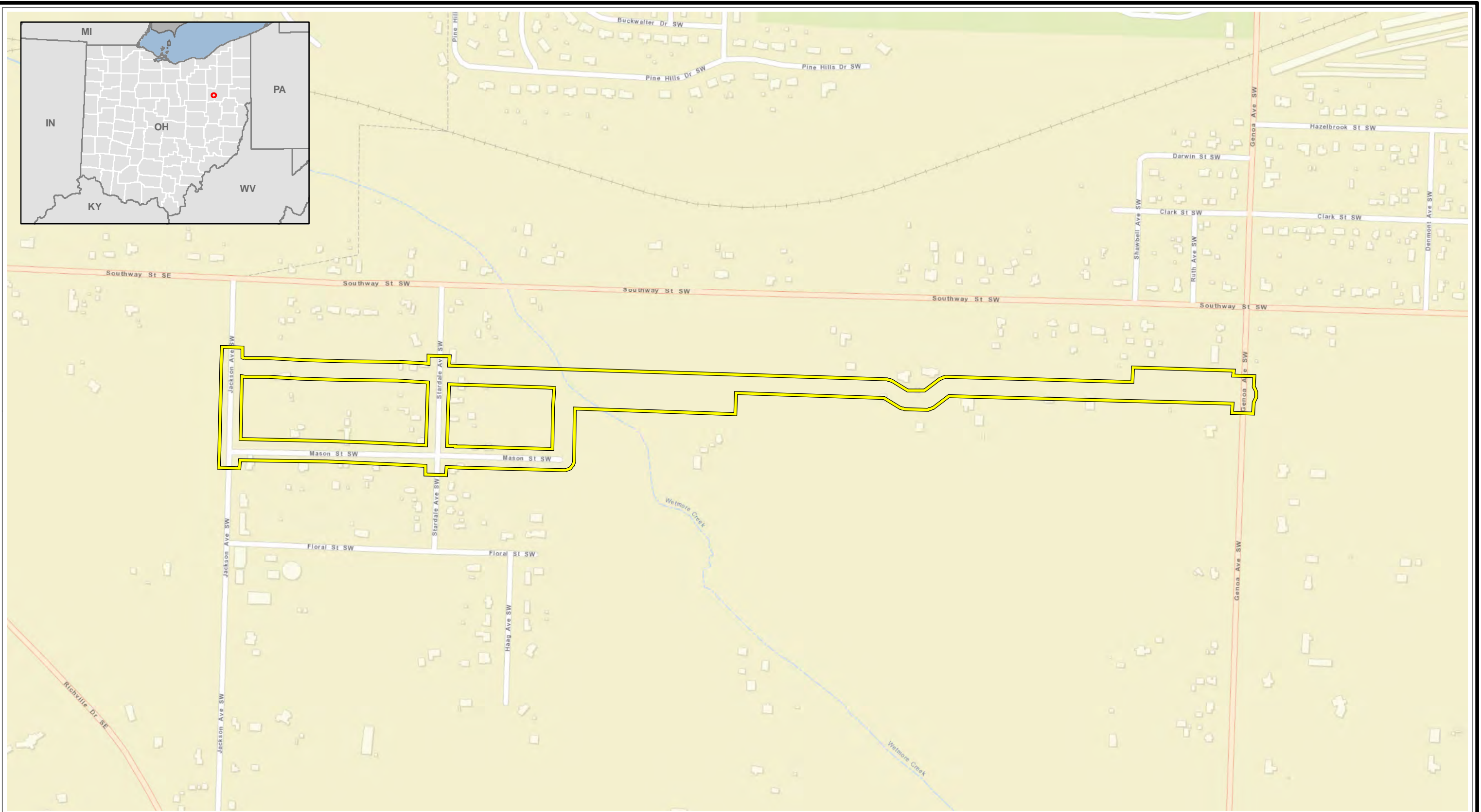
Figure 3 NWI & NHD Features


Figure 4 NRCS Soil Survey Units

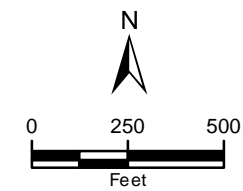
Figure 5 401 WQC Eligibility for NWP's Map

Figure 6 Aquatic Resources Delineation Map

Figure 7 Vegetation Communities Map



 Project Study Area

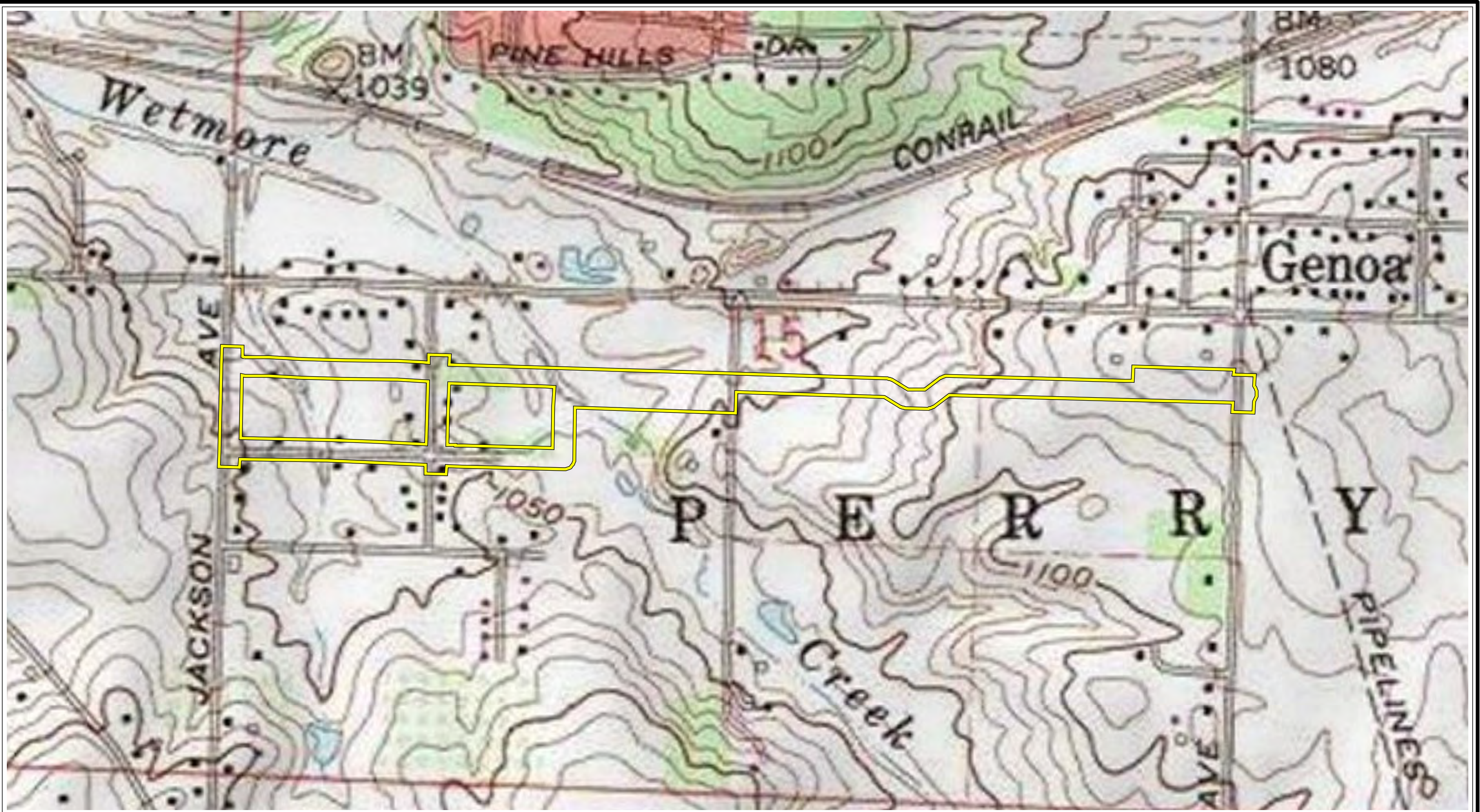



Base Layer: ESRI Street Map 2019

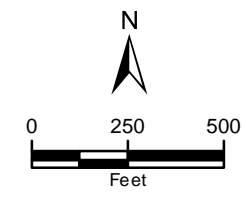
Figure 1
Site Location

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/15/2022





 Project Study Area

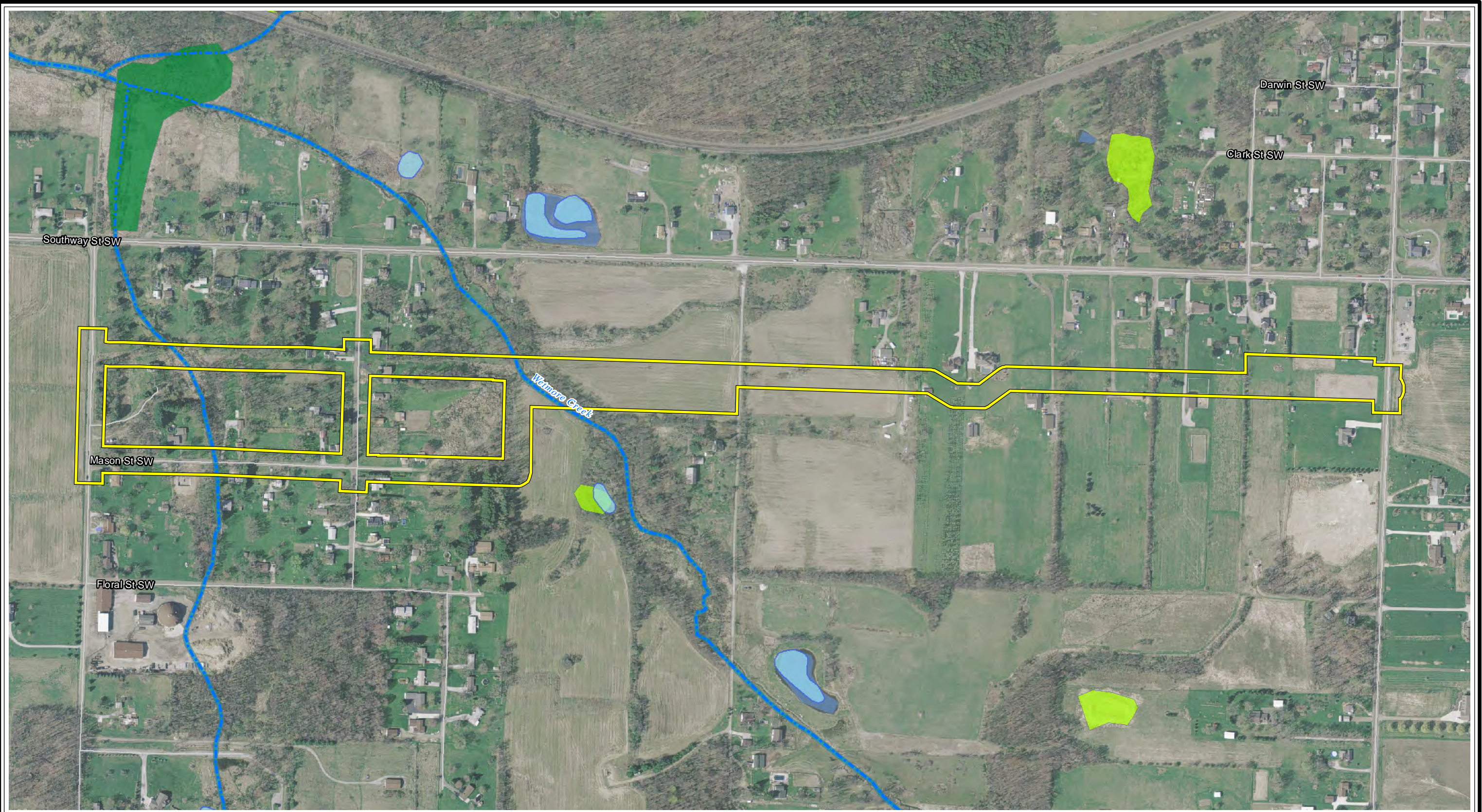


Base Layer: US TopoMaps

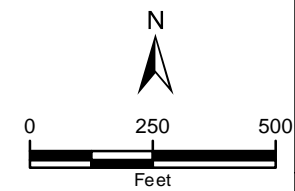
Figure 2
USGS Topographic - Canton West Quadrangle

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022





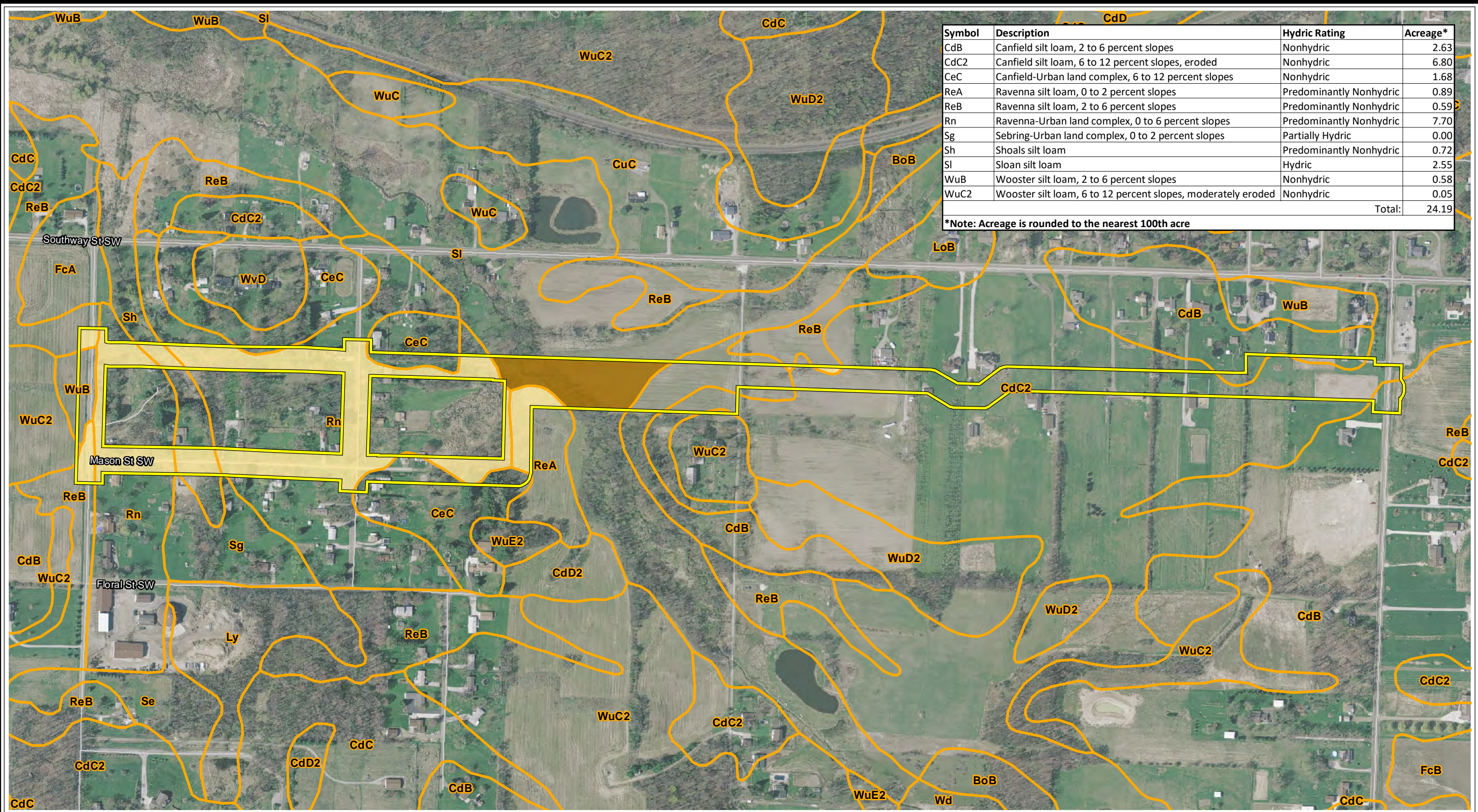
- Project Study Area
- NHD Flowline
- NHD Waterbody
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine



Base Layer: OSIP 2016

Figure 3
NWI & NHD Features
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



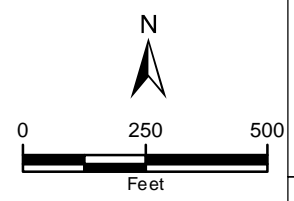


Symbol	Description	Hydric Rating	Acreage*
CdB	Canfield silt loam, 2 to 6 percent slopes	Nonhydic	2.63
CdC2	Canfield silt loam, 6 to 12 percent slopes, eroded	Nonhydic	6.80
CeC	Canfield-Urban land complex, 6 to 12 percent slopes	Nonhydic	1.68
ReA	Ravenna silt loam, 0 to 2 percent slopes	Predominantly Nonhydic	0.89
ReB	Ravenna silt loam, 2 to 6 percent slopes	Predominantly Nonhydic	0.59
Rn	Ravenna-Urban land complex, 0 to 6 percent slopes	Predominantly Nonhydic	7.70
Sg	Sebring-Urban land complex, 0 to 2 percent slopes	Partially Hydric	0.00
Sh	Shoals silt loam	Predominantly Nonhydic	0.72
SI	Sloan silt loam	Hydic	2.55
WuB	Wooster silt loam, 2 to 6 percent slopes	Nonhydic	0.58
WuC2	Wooster silt loam, 6 to 12 percent slopes, moderately eroded	Nonhydic	0.05
Total:			24.19

*Note: Acreage is rounded to the nearest 100th acre

Project Study Area
 Soils (NRCS)

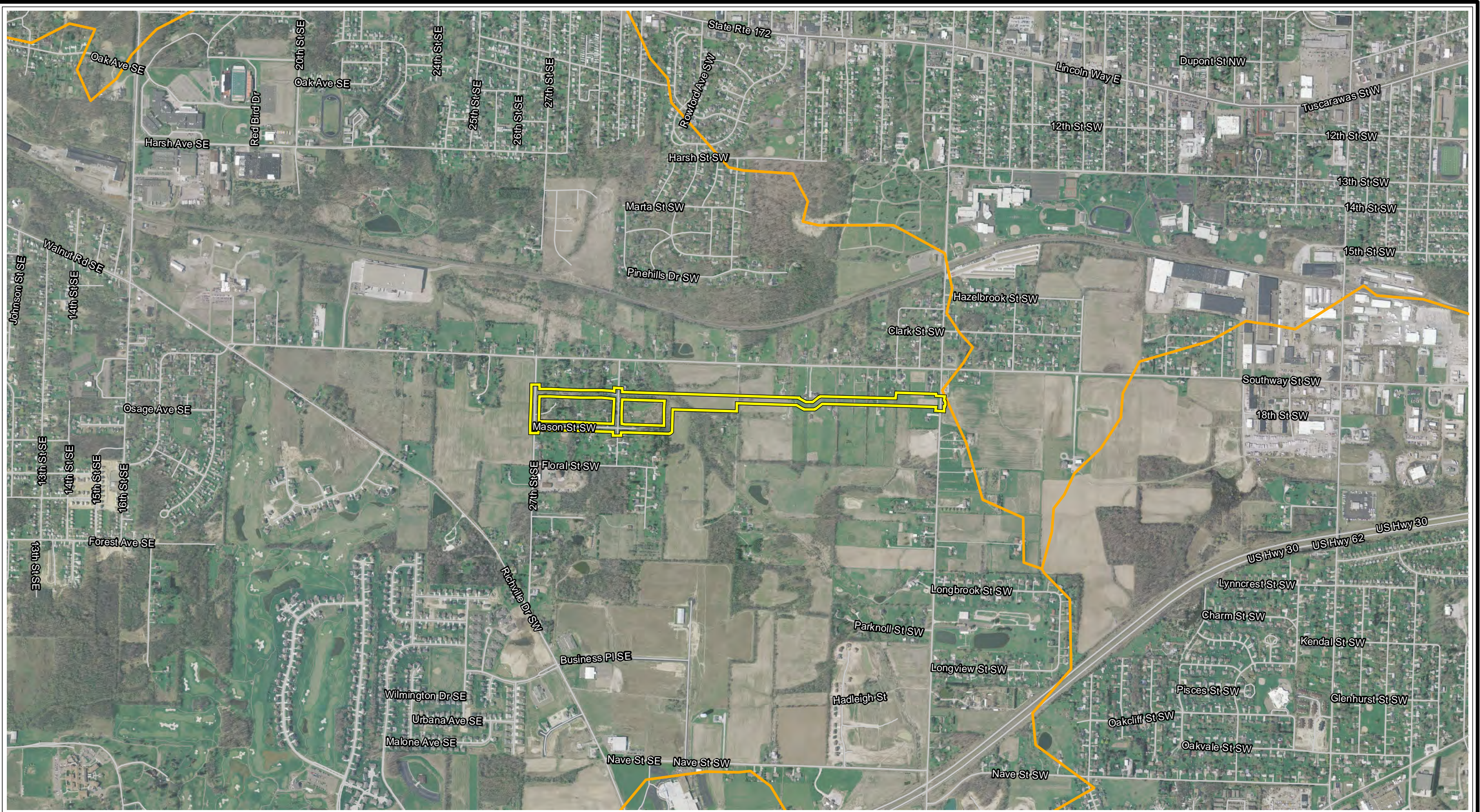
Soils - Hydric Rating
 Hydric
 Partially Hydric
 Predominantly Nonhydic
 Nonhydic



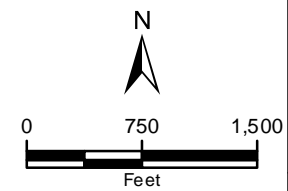
Base Layer: OSIP 2016

Figure 4
NRCS Soil Survey Units
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022





- Project Study Area
- NWP Eligibility
- Eligible

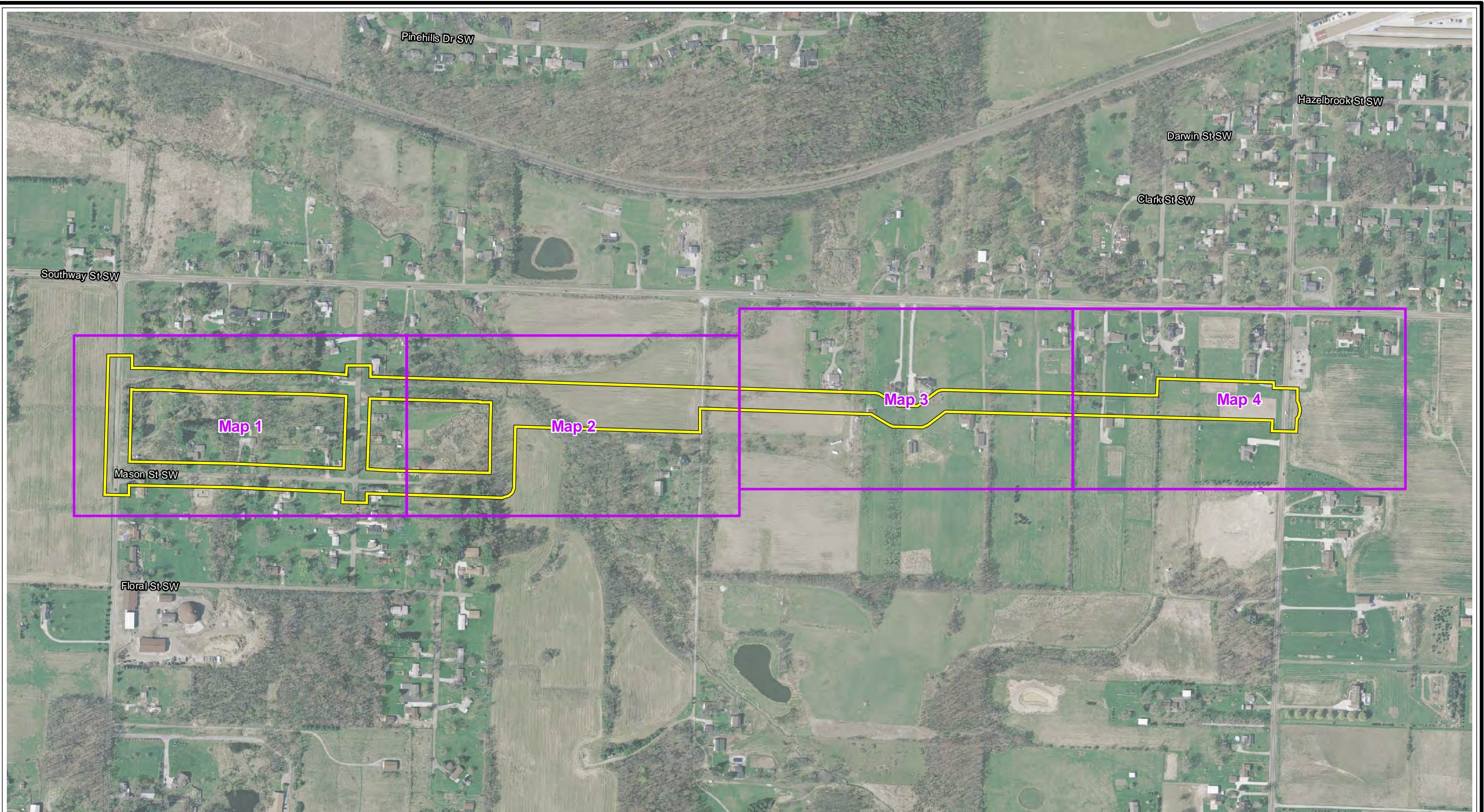




Base Layer: OSIP 2016

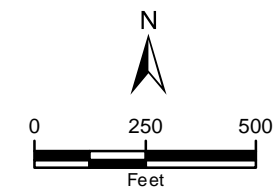
Figure 5
401 WQC Eligibility for NWPs

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/22/2022





 Project Study Area
 Map Extent



Base Layer: OSIP 2016

Figure 6
Aquatic Resources Delineation Map Book

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/3/2023



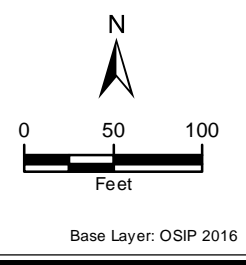
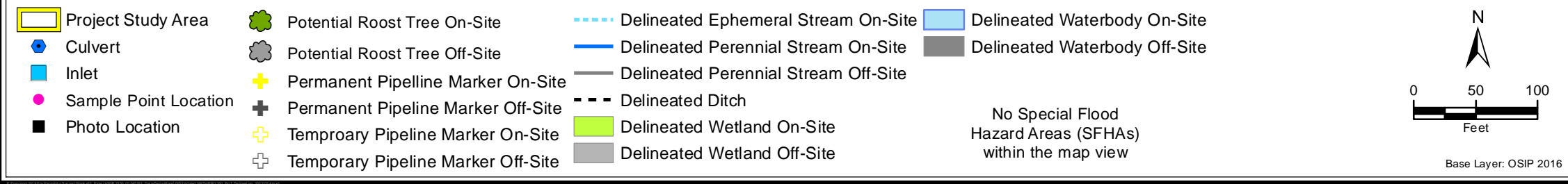
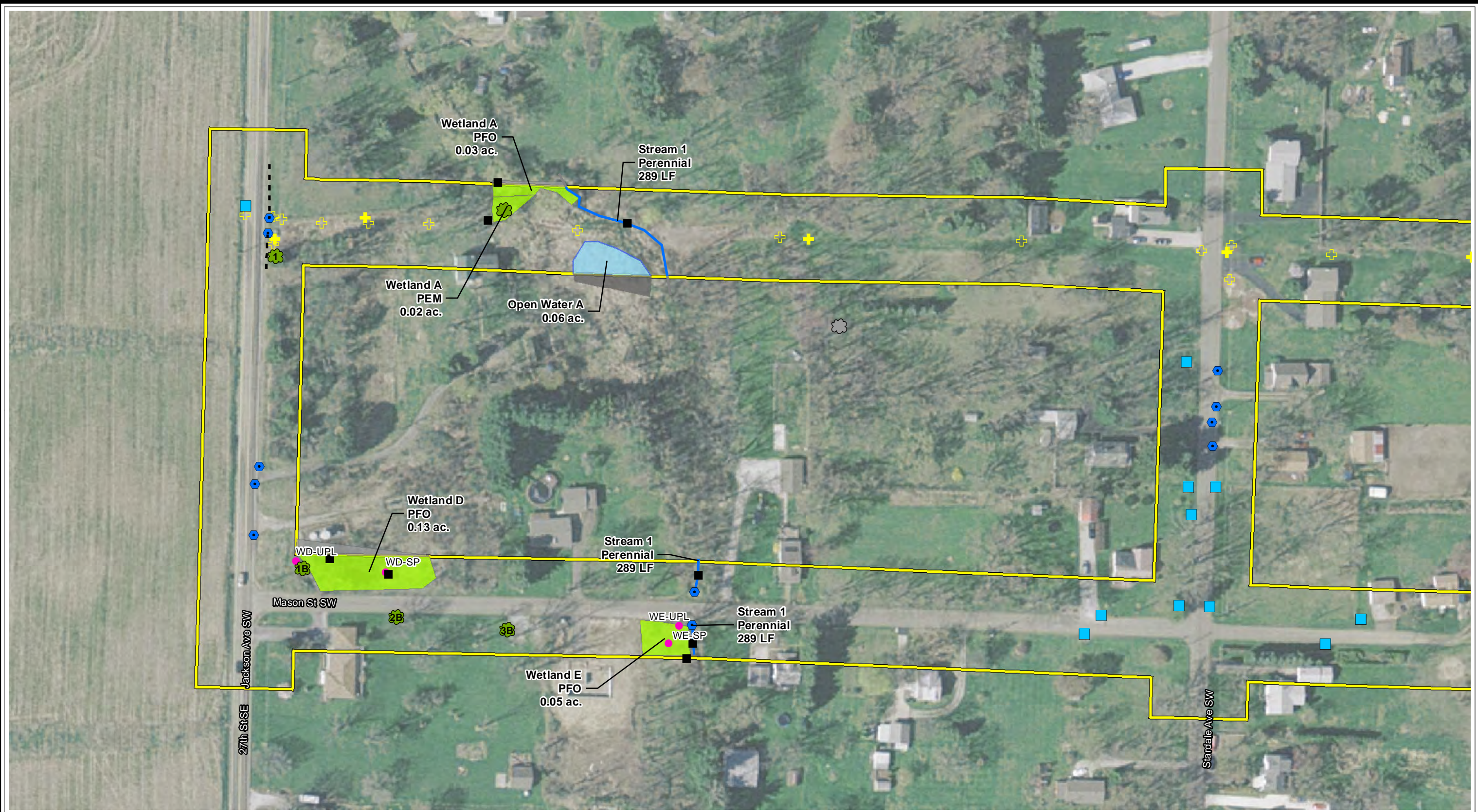


Figure 6
Aquatic Resources Delineation Map 1 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/9/2023

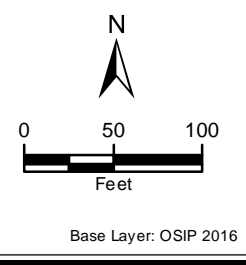
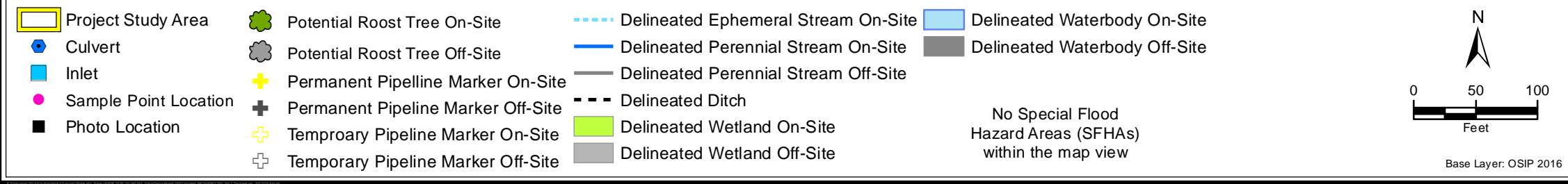
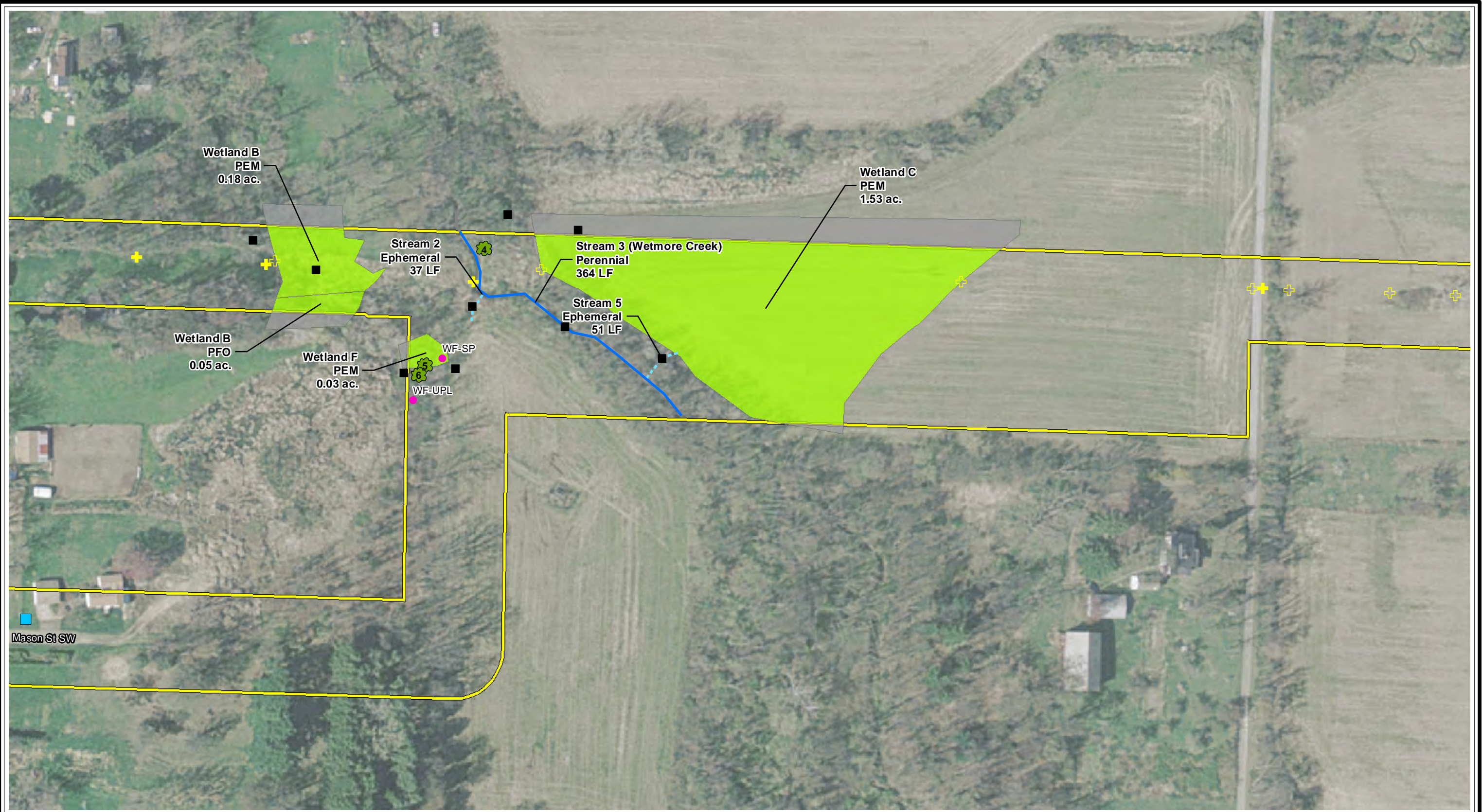


Figure 6
Aquatic Resources Delineation Map 2 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/9/2023

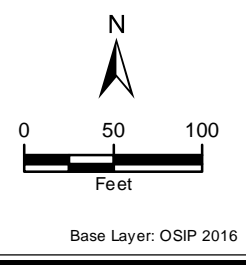
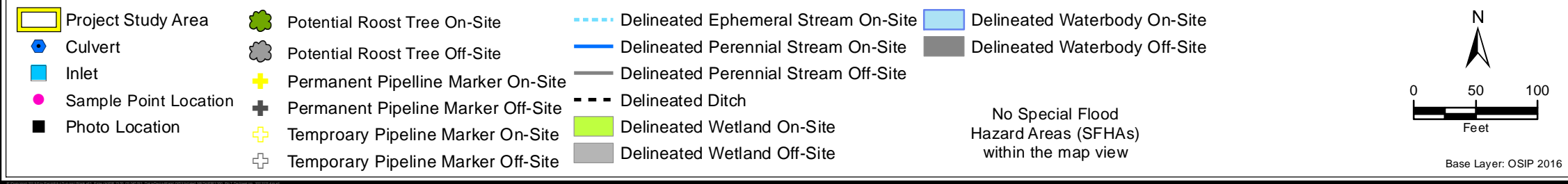
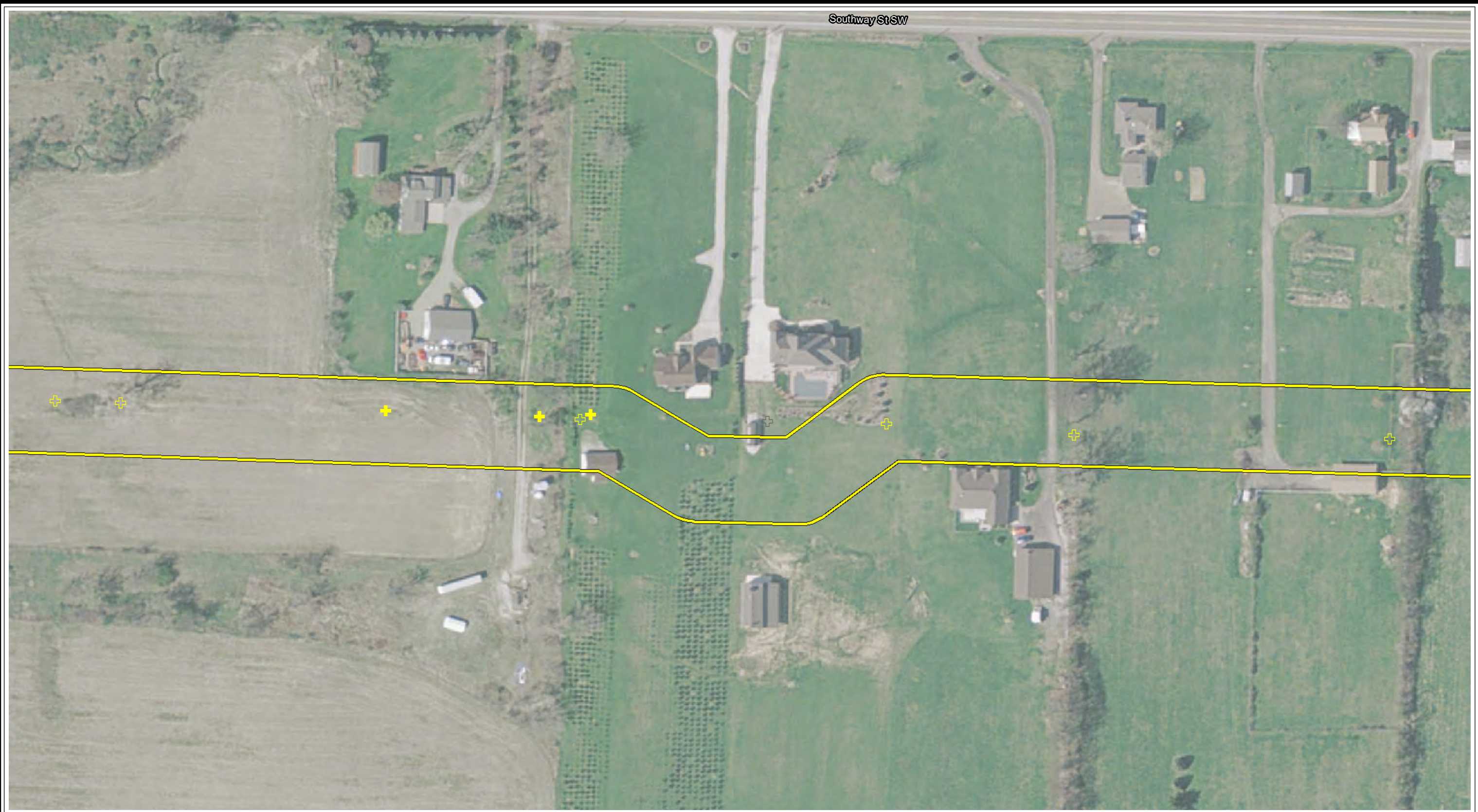


Figure 6
Aquatic Resources Delineation Map 3 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/9/2023

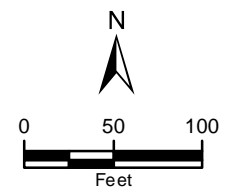


Southway St SW

Stream 4
Ephemeral
60 LF

- | | | | |
|-----------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Potential Roost Tree On-Site | Delineated Ephemeral Stream On-Site | Delineated Waterbody On-Site |
| Culvert | Potential Roost Tree Off-Site | Delineated Perennial Stream On-Site | Delineated Waterbody Off-Site |
| Inlet | Permanent Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | |
| Sample Point Location | Permanent Pipeline Marker Off-Site | Delineated Ditch | |
| Photo Location | Temporary Pipeline Marker On-Site | Delineated Wetland On-Site | |
| | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site | |

No Special Flood Hazard Areas (SFHAs) within the map view

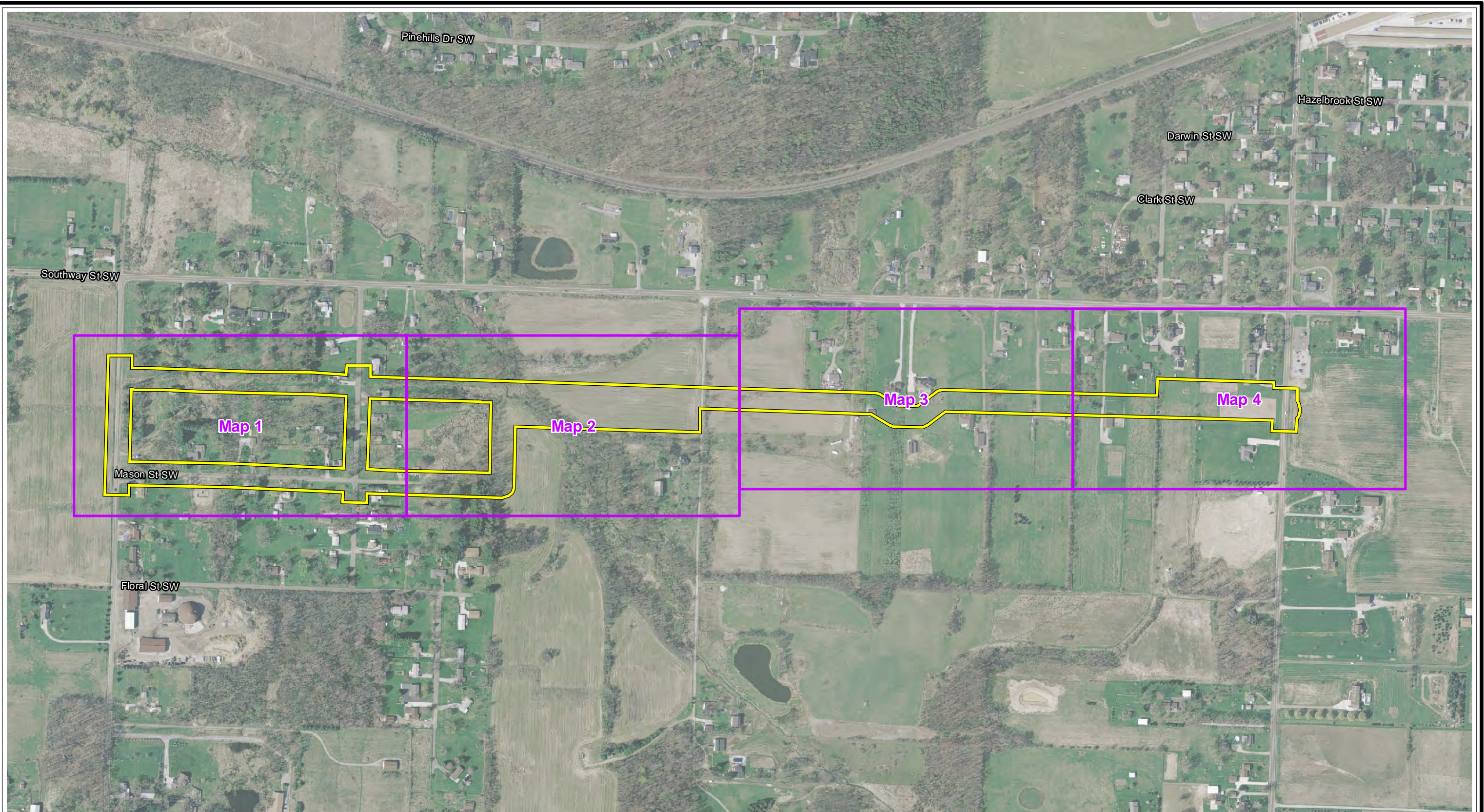


Base Layer: OSIP 2016

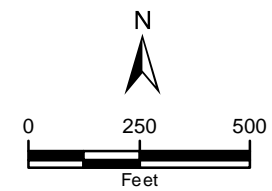
Figure 6
Aquatic Resources Delineation Map 4 of 4

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 1/9/2023





- Project Study Area
- Map Extent

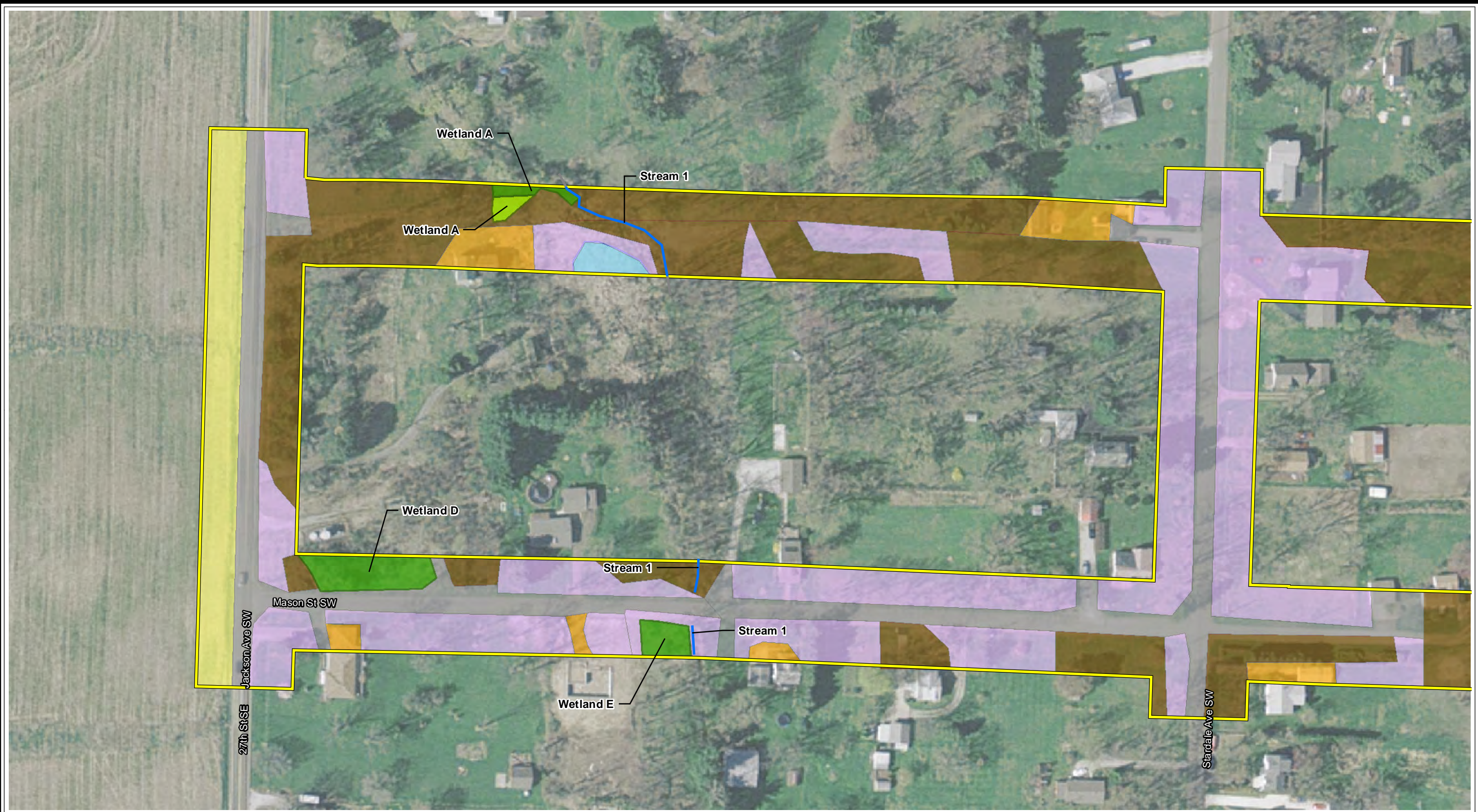


Base Layer: OSIP 2016

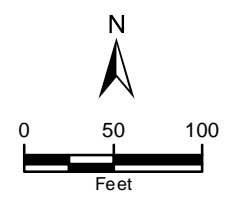
Figure 7
Vegetation Communities Map Book

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/3/2023





- | | | |
|--------------------------|---------------------|------------------------------|
| Project Study Area | Residential Housing | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Residential Lawn | Perennial Stream On-Site |
| Forested Wetland On-Site | Tilled Crop Field | Perennial Stream Off-Site |
| Upland Deciduous Forest | Pavement | Delineated Waterbody On-Site |



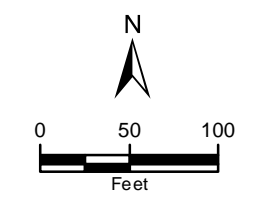
Base Layer: OSIP 2016

Figure 7
Vegetation Communities Map 1 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/5/2023





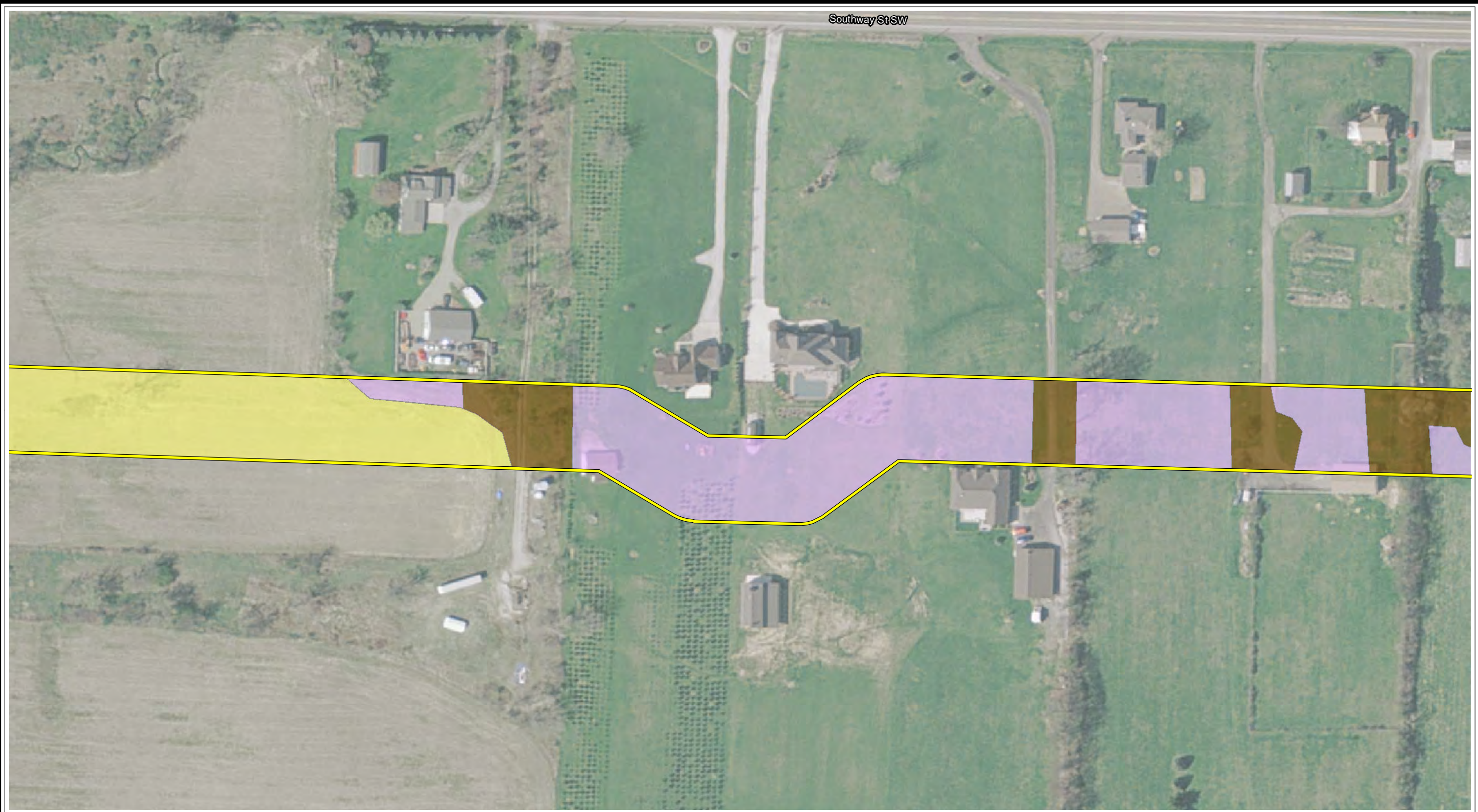
- | | | |
|--------------------------|------------------------------|---------------------------|
| Project Study Area | Residential Lawn | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Tilled Crop Field | Perennial Stream On-Site |
| Forested Wetland On-Site | Pavement | Perennial Stream Off-Site |
| Upland Deciduous Forest | Delineated Waterbody On-Site | |



Base Layer: OSIP 2016

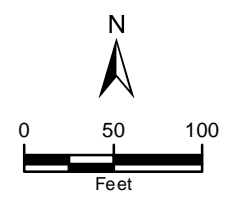
Figure 7
Vegetation Communities Map 2 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/5/2023





Southway St SW

- | | | |
|--------------------------|------------------------------|---------------------------|
| Project Study Area | Residential Lawn | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Tilled Crop Field | Perennial Stream On-Site |
| Forested Wetland On-Site | Delineated Waterbody On-Site | Perennial Stream Off-Site |
| Upland Deciduous Forest | | |

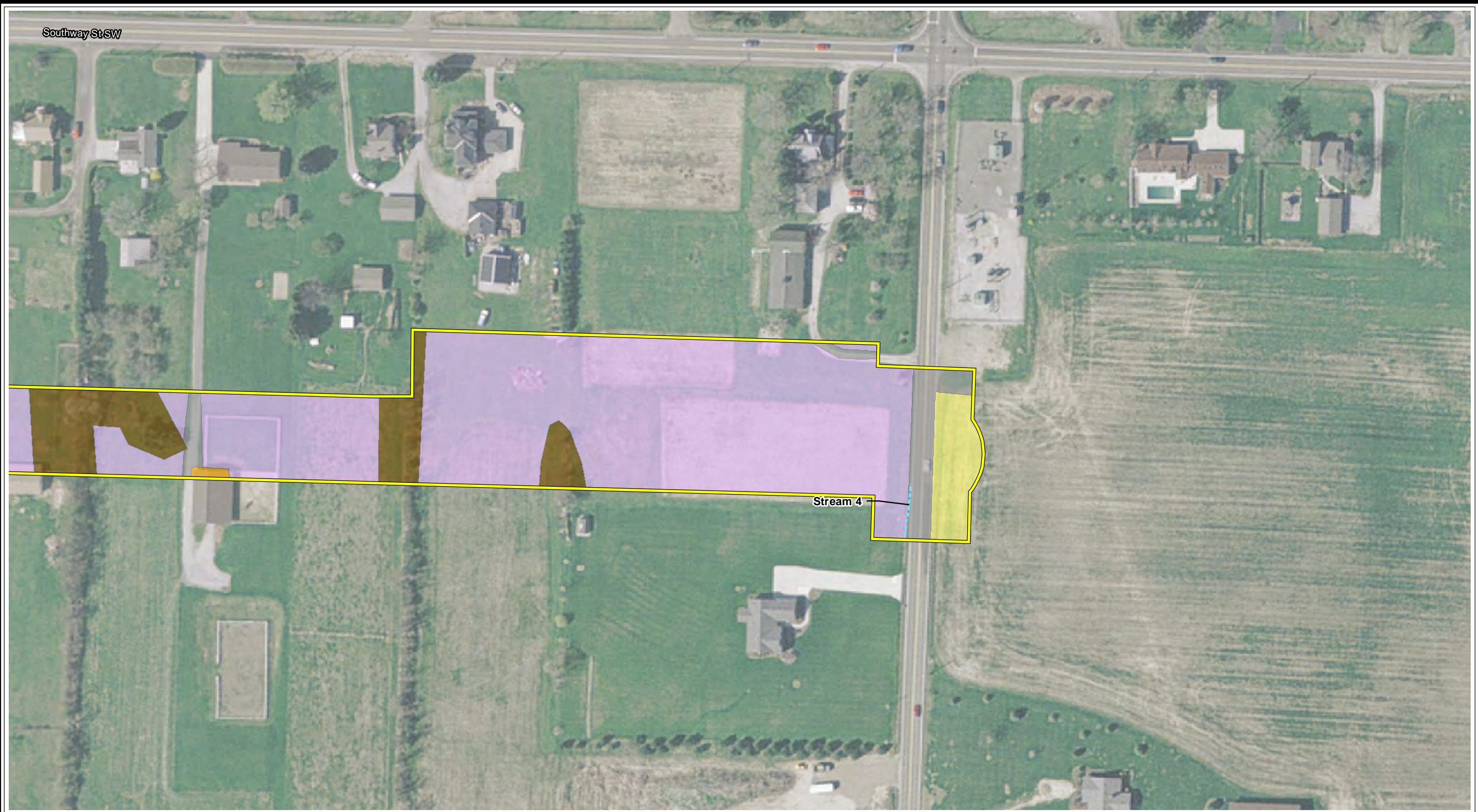


Base Layer: OSIP 2016

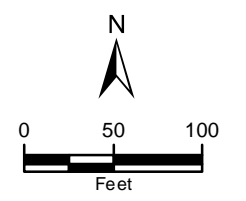
Figure 7
Vegetation Communities Map 3 of 4

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 1/5/2023





- | | | |
|--------------------------|------------------------------|---------------------------|
| Project Study Area | Residential Housing | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Residential Lawn | Perennial Stream On-Site |
| Forested Wetland On-Site | Tilled Crop Field | Perennial Stream Off-Site |
| Upland Deciduous Forest | Pavement | |
| | Delineated Waterbody On-Site | |



Base Layer: OSIP 2016

Figure 7
Vegetation Communities Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/5/2023



Appendix B USACE Regional Delineation Dataforms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WA-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Undulating Slope (%): <0
 Subregion (LRR or MLRA): K Lat: 40.7821585 Long: -81.4845528 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: R4SBC

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: WA-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3</u> (A/B)														
2. <u>Juglans nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>15%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Cornus racemosa</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>37</u></td> <td>x 3 = <u>111</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>118</u> (A)</td> <td><u>275</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.33</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>37</u>	x 3 = <u>111</u>	FACU species <u>11</u>	x 4 = <u>44</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u> (A)	<u>275</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>50</u>	x 2 = <u>100</u>																	
FAC species <u>37</u>	x 3 = <u>111</u>																	
FACU species <u>11</u>	x 4 = <u>44</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>118</u> (A)	<u>275</u> (B)																	
2. <u>Viburnum dentatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Ulmus americana</u>	<u>5</u>		<u>FACW</u>															
4. <u>Prunus serotina</u>	<u>3</u>		<u>FACU</u>															
5. _____																		
6. _____																		
7. _____																		
	<u>33%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Impatiens capensis</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Carex lacustris</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Persicaria virginiana</u>	<u>7</u>		<u>FAC</u>															
4. <u>Cornus amomum</u>	<u>5</u>		<u>FACW</u>															
5. <u>Toxicodendron radicans</u>	<u>5</u>		<u>FAC</u>															
6. <u>Rosa multiflora</u>	<u>3</u>		<u>FACU</u>															
7. _____																		
8. _____																		
9. _____																		
10. _____			<u>FACU</u>															
11. _____																		
12. _____																		
	<u>70%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WA-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 7	10YR 3/1	100					Clay Loam	
7 - 18	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WA-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Undulating Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7860683 Long: -81.4899823 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WA-UPL

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30 ft r</u>)																				
1. <u>Salix nigra</u>	<u>12</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>12%</u> = Total Cover					Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>12</u></td> <td>x 1 = <u>12</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>33</u></td> <td>x 4 = <u>132</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>61</u> (A)</td> <td><u>188</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.08</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>12</u>	x 1 = <u>12</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>3</u>	x 3 = <u>9</u>	FACU species <u>33</u>	x 4 = <u>132</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>61</u> (A)	<u>188</u> (B)	Prevalence Index = B/A = <u>3.08</u>
Total % Cover of:	Multiply by:																			
OBL species <u>12</u>	x 1 = <u>12</u>																			
FACW species <u>10</u>	x 2 = <u>20</u>																			
FAC species <u>3</u>	x 3 = <u>9</u>																			
FACU species <u>33</u>	x 4 = <u>132</u>																			
UPL species <u>3</u>	x 5 = <u>15</u>																			
Column Totals: <u>61</u> (A)	<u>188</u> (B)																			
Prevalence Index = B/A = <u>3.08</u>																				
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																				
1. <u>Prunus sp.</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
5. _____	_____	_____	_____																	
6. _____	_____	_____	_____																	
7. _____	_____	_____	_____																	
<u>5%</u> = Total Cover					Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.															
Herb Stratum (Plot size: <u>5 ft r</u>)																				
1. <u>Rosa multiflora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																
2. <u>Impatiens capensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																	
3. <u>Elaeagnus umbellata</u>	<u>5</u>	_____	_____																	
4. <u>Erigeron annuus</u>	<u>5</u>	_____	<u>FACU</u>																	
5. <u>Parthenocissus quinquefolia</u>	<u>5</u>	_____	<u>FACU</u>																	
6. <u>Geum canadense</u>	<u>3</u>	_____	<u>FAC</u>																	
7. <u>Heracleum sphondylium</u>	<u>3</u>	_____	<u>UPL</u>																	
8. <u>Solidago altissima</u>	<u>3</u>	_____	<u>FACU</u>																	
9. _____	_____	_____	_____																	
10. _____	_____	_____	_____																	
11. _____	_____	_____	_____																	
12. _____	_____	_____	_____																	
<u>49%</u> = Total Cover																				
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																				
1. _____	_____	_____	_____																	
2. _____	_____	_____	_____																	
3. _____	_____	_____	_____																	
4. _____	_____	_____	_____																	
_____ = Total Cover																				
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: WA-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/1	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WB-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR or MLRA): K Lat: 40.7818131 Long: -81.4797926 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>14</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: WB-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer saccharinum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Salix nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>35%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. _____				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u></td> <td>(A) <u>185</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.76</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u>	(A) <u>185</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species <u>80</u>	x 2 = <u>160</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>105</u>	(A) <u>185</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Phalaris arundinacea</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Impatiens capensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Leersia oryzoides</u>	<u>10</u>		<u>OBL</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>70%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
		= Total Cover																
<table style="width:100%; border:none;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%; text-align:center;">Yes <input checked="" type="checkbox"/></td> <td style="width:20%; text-align:center;">No <input type="checkbox"/></td> </tr> </table>					Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>											
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WB-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 2/1	100					Muck	
3 - 18	10YR 3/1	90	5YR 3/3	10	C	M	Mucky Loam/Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WB-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Undulating Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7818802 Long: -81.4797790 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WB-UPL

	Absolute % Cover	Dominant Species?	Indicator Status																	
Tree Stratum (Plot size: <u>30 ft r</u>)																				
1. <u>Juglans nigra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)																
2. <u>Cornus racemosa</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>																	
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>		<u>FACW</u>																	
4. _____																				
5. _____																				
6. _____																				
7. _____																				
	<u>45%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>13</u></td> <td>x 3 = <u>39</u></td> </tr> <tr> <td>FACU species <u>53</u></td> <td>x 4 = <u>212</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>83</u></td> <td>(A) <u>285</u> (B)</td> </tr> <tr> <td colspan="2" style="text-align:center;">Prevalence Index = B/A = <u>3.43</u></td> </tr> </table>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>17</u>	x 2 = <u>34</u>	FAC species <u>13</u>	x 3 = <u>39</u>	FACU species <u>53</u>	x 4 = <u>212</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>83</u>	(A) <u>285</u> (B)	Prevalence Index = B/A = <u>3.43</u>	
Total % Cover of:	Multiply by:																			
OBL species <u>0</u>	x 1 = <u>0</u>																			
FACW species <u>17</u>	x 2 = <u>34</u>																			
FAC species <u>13</u>	x 3 = <u>39</u>																			
FACU species <u>53</u>	x 4 = <u>212</u>																			
UPL species <u>0</u>	x 5 = <u>0</u>																			
Column Totals: <u>83</u>	(A) <u>285</u> (B)																			
Prevalence Index = B/A = <u>3.43</u>																				
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																				
1. _____				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																
2. _____																				
3. _____																				
4. _____																				
5. _____																				
6. _____																				
7. _____																				
		= Total Cover																		
Herb Stratum (Plot size: <u>5 ft r</u>)																				
1. <u>Rosa multiflora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																
2. <u>Geum urbanum</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>NI</u>																	
3. <u>Cornus amomum</u>	<u>7</u>	<input checked="" type="checkbox"/>	<u>FACW</u>																	
4. <u>Impatiens capensis</u>	<u>5</u>		<u>FACW</u>																	
5. <u>Plantago major</u>	<u>5</u>		<u>FACU</u>																	
6. <u>Geum aleppicum</u>	<u>3</u>		<u>FAC</u>																	
7. <u>Parthenocissus quinquefolia</u>	<u>3</u>		<u>FACU</u>																	
8. _____																				
9. _____																				
10. _____																				
11. _____																				
12. _____																				
	<u>46%</u>	= Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																				
1. _____				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																
2. _____																				
3. _____																				
4. _____																				
		= Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																				

SOIL

Sampling Point: WB-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WC-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR or MLRA): K Lat: 40.7819660 Long: -81.4786009 Datum: WGS 84
 Soil Map Unit Name: Sloan silt loam (SI) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland C</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WC-SP

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Poa pratensis</u>	<u>10</u>	<input type="checkbox"/>	<u>FACU</u>	
3. <u>Amphicarpaea bracteata</u>	<u>3</u>	<input type="checkbox"/>	<u>FAC</u>	
4. <u>Cyperus alopecuroides</u>	<u>3</u>	<input type="checkbox"/>	<u></u>	
5. <u>Scirpus atrovirens</u>	<u>3</u>	<input type="checkbox"/>	<u>OBL</u>	
6. <u>Solidago canadensis</u>	<u>3</u>	<input type="checkbox"/>	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>97%</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>3</u>	x 1 = <u>3</u>
FACW species <u>75</u>	x 2 = <u>150</u>
FAC species <u>3</u>	x 3 = <u>9</u>
FACU species <u>13</u>	x 4 = <u>52</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>94</u> (A)	<u>214</u> (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

SOIL

Sampling Point: WC-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/1	95	10YR 4/4	5	D	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WC-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7820011 Long: -81.4789012 Datum: WGS 84
 Soil Map Unit Name: Sloan silt loam (SI) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WC-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.7</u> (A/B)														
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>25%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>14</u></td> <td>x 2 = <u>28</u></td> </tr> <tr> <td>FAC species <u>11</u></td> <td>x 3 = <u>33</u></td> </tr> <tr> <td>FACU species <u>32</u></td> <td>x 4 = <u>128</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>57</u> (A)</td> <td><u>189</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.32</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>14</u>	x 2 = <u>28</u>	FAC species <u>11</u>	x 3 = <u>33</u>	FACU species <u>32</u>	x 4 = <u>128</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>57</u> (A)	<u>189</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>14</u>	x 2 = <u>28</u>																	
FAC species <u>11</u>	x 3 = <u>33</u>																	
FACU species <u>32</u>	x 4 = <u>128</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>57</u> (A)	<u>189</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Elaeagnus umbellata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>NI</u>															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>10%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Rubus occidentalis</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>NI</u>															
3. <u>Rosa multiflora</u>	<u>7</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Toxicodendron radicans</u>	<u>5</u>	_____	<u>FAC</u>															
5. <u>Persicaria virginiana</u>	<u>4</u>	_____	<u>FAC</u>															
6. <u>Geum urbanum</u>	<u>3</u>	_____	<u>NI</u>															
7. <u>Clematis virginiana</u>	<u>2</u>	_____	<u>FAC</u>															
8. <u>Impatiens capensis</u>	<u>2</u>	_____	<u>FACW</u>															
9. <u>Phalaris arundinacea</u>	<u>2</u>	_____	<u>FACW</u>															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>43%</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WC-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WD-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7808902 Long: -81.4850312 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WD-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Populus deltoides</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4</u> (A/B)														
2. <u>Juglans nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>45%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>44</u></td> <td>x 2 = <u>88</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>18</u></td> <td>x 4 = <u>72</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>122</u> (A)</td> <td><u>340</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.79</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>44</u>	x 2 = <u>88</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>18</u>	x 4 = <u>72</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>122</u> (A)	<u>340</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>44</u>	x 2 = <u>88</u>																	
FAC species <u>60</u>	x 3 = <u>180</u>																	
FACU species <u>18</u>	x 4 = <u>72</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>122</u> (A)	<u>340</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Cornus amomum</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. <u>Viburnum dentatum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Lonicera xylosteum</u>	<u>15</u>	<input checked="" type="checkbox"/>	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>70%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Galium trifidum</u>	<u>4</u>	_____	<u>FACW</u>															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
8. _____	_____	_____	_____															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>22%</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
_____ = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WD-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/2	100					Silty Clay Loam	
6 - 20	10YR 3/2	80	10YR 5/4	20	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WD-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7809364 Long: -81.4853834 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WD-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer saccharum</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)														
2. <u>Viburnum dentatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>65%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>565</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.65</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>565</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>55</u>	x 3 = <u>165</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>155</u> (A)	<u>565</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Lonicera morrowii</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Viburnum dentatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>25%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Lonicera morrowii</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Toxicodendron radicans</u>	<u>12</u>		<u>FAC</u>															
4. <u>Geum canadense</u>	<u>10</u>		<u>FAC</u>															
5. <u>Arisaema triphyllum</u>	<u>8</u>		<u>FAC</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>65%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WD-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 4/3	90	7.5YR 4/6	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WE-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7806600 Long: -81.4838533 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland E</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WE-SP

Tree Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status	
1. <u>Acer saccharinum</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)
2. <u>Fraxinus pennsylvanica</u>	<u>15</u>		<u>FACW</u>	
3. <u>Juglans nigra</u>	<u>10</u>		<u>FACU</u>	
4. _____				
5. _____				
6. _____				
7. _____				
<u>85%</u> = Total Cover				Prevalence Index worksheet: Total % Cover of: Multiply by: OBL species <u>0</u> x 1 = <u>0</u> FACW species <u>115</u> x 2 = <u>230</u> FAC species <u>20</u> x 3 = <u>60</u> FACU species <u>18</u> x 4 = <u>72</u> UPL species <u>0</u> x 5 = <u>0</u> Column Totals: <u>153</u> (A) <u>362</u> (B) Prevalence Index = B/A = <u>2.37</u>
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. _____				
3. _____				
4. _____				
5. _____				
6. _____				
7. _____				
<u>10%</u> = Total Cover				
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Impatiens capensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.
2. <u>Solidago gigantea</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
3. <u>Toxicodendron radicans</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	
4. <u>Rosa multiflora</u>	<u>8</u>		<u>FACU</u>	
5. _____				
6. _____				
7. _____				
8. _____				
9. _____				
10. _____				
11. _____				
12. _____				
<u>48%</u> = Total Cover				
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1. <u>Vitis riparia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.
2. _____				
3. _____				
4. _____				
<u>10%</u> = Total Cover				
Remarks: (Include photo numbers here or on a separate sheet.)				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>

SOIL

Sampling Point: WE-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 13	10YR 3/1	95	7.5YR 5/8	5	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: Rocks
 Depth (inches): 13

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon County/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WE-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7807168 Long: -81.4838056 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input type="checkbox"/> FAC-Neutral Test (D5)
--	--

Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? (includes capillary fringe) Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____	Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>
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Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: WE-UPL

Tree Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Acer saccharinum</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
2. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>
3. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 8 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 37.5 (A/B)

65% = Total Cover

Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____
5. _____	_____	_____	_____
6. _____	_____	_____	_____
7. _____	_____	_____	_____

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>0</u>	x 1 = <u>0</u>
FACW species <u>50</u>	x 2 = <u>100</u>
FAC species <u>8</u>	x 3 = <u>24</u>
FACU species <u>42</u>	x 4 = <u>168</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>100</u> (A)	<u>292</u> (B)

Prevalence Index = B/A = 2.92

_____ = Total Cover

Herb Stratum (Plot size: <u>5 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. <u>Lonicera morrowii</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
2. <u>Toxicodendron radicans</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>
3. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
4. <u>Poa annua</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
5. <u>Taraxacum officinale</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>
6. <u>Trifolium douglasii</u>	<u>5</u>	<input checked="" type="checkbox"/>	_____
7. <u>Plantago major</u>	<u>4</u>	_____	<u>FACU</u>
8. _____	_____	_____	_____
9. _____	_____	_____	_____
10. _____	_____	_____	_____
11. _____	_____	_____	_____
12. _____	_____	_____	_____

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

Problematic Hydrophytic Vegetation¹ (Explain)

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

40% = Total Cover

Woody Vine Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status
1. _____	_____	_____	_____
2. _____	_____	_____	_____
3. _____	_____	_____	_____
4. _____	_____	_____	_____

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No

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

SOIL

Sampling Point: WE-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/2	100					Sandy Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 10

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-10-27
 Applicant/Owner: DEO State: Ohio Sampling Point: WF-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.781630 Long: -81.479321 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland F</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WF-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)														
2. <u>Quercus rubra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>35%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>31</u></td> <td>x 4 = <u>124</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>131</u> (A)</td> <td><u>449</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.43</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>35</u>	x 2 = <u>70</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>31</u>	x 4 = <u>124</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>131</u> (A)	<u>449</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>35</u>	x 2 = <u>70</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>31</u>	x 4 = <u>124</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>131</u> (A)	<u>449</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Rubus occidentalis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
2. <u>Setaria pumila</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Panicum dichotomiflorum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
4. <u>Elymus virginicus</u>	<u>10</u>	_____	<u>FACW</u>															
5. <u>Bromus inermis</u>	<u>10</u>	_____	<u>UPL</u>															
6. <u>Vernonia noveboracensis</u>	<u>10</u>	_____	<u>FACW</u>															
7. <u>Rosa multiflora</u>	<u>10</u>	_____	<u>FACU</u>															
8. <u>Erigeron canadensis</u>	<u>6</u>	_____	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>96%</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0%</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WF-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark County Sampling Date: 2022-10-27
 Applicant/Owner: DEO State: Ohio Sampling Point: WF-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.781494 Long: -81.479047 Datum: WGS 84
 Soil Map Unit Name: Ravenna silt loam, 0 to 2 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <h2 style="margin: 0;">Harvested Ag Field</h2>	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WF-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u>Quercus rubra</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B) Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>70</u></td> <td>x 4 = <u>280</u></td> </tr> <tr> <td>UPL species <u>14</u></td> <td>x 5 = <u>70</u></td> </tr> <tr> <td>Column Totals: <u>84</u> (A)</td> <td><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.17</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>70</u>	x 4 = <u>280</u>	UPL species <u>14</u>	x 5 = <u>70</u>	Column Totals: <u>84</u> (A)	<u>350</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>70</u>	x 4 = <u>280</u>																	
UPL species <u>14</u>	x 5 = <u>70</u>																	
Column Totals: <u>84</u> (A)	<u>350</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>45%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. <u>Lonicera morrowii</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain) ¹ Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.														
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>20%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Geum urbanum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height. Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
2. <u>Solidago altissima</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Rubus occidentalis</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>19%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WF-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

Appendix C Ohio Rapid Assessment Method (ORAM) Dataforms

Background Information

Name: H. Mikula, A. Ditez-Oergel	
Date: 07/06/2021	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland A	
Vegetation Communit(ies): PEM PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.782097°, -81.484497°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/07/2021
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland A	
Wetland Size (acres, hectares): 0.045+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 35.5	Category: Modified 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
------------------------	---	-------------------------

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

5	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

9.5	29.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

29.5
subtotal this page

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
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29.5

subtotal first page

0	29.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6	35.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

35.5

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	5	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	6	
	TOTAL SCORE	35.5	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula, A. Dietz-Oergel	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland B	
Vegetation Communit(ies): PEM PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781859°, -81.479709°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/03/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland B	
Wetland Size (acres, hectares): 0.229+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 30	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

8	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

13	23
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

9	32
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

32
subtotal this page

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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32

subtotal first page

0	32
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2	30
----	----

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30

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	2	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	30	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula, A. Dietz-Oergel	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland C	
Vegetation Communit(ies): PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781805°, -81.477290°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/3/2022
National Wetland Inventory Map	See attached
Ohio Wetland Inventory Map	N/A
Soil Survey	See attached
Delineation report/map	Attached

Name of Wetland: Wetland C	
Wetland Size (acres, hectares): 1.078+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 21.5	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.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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3	3
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

2	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

5.5	25.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

25.5
subtotal this page

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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25.5

subtotal first page

0	25.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4	21.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

21.5

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	3	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	5.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	21.5	1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
	✓		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland D	
Vegetation Communit(ies): PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.7808902, -81.4850312
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/02/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland D	
Wetland Size (acres, hectares): 0.13+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 33	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland D

Rater(s): H. Mikula

Date: 06/03/2022

1	1
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	4
---	---

Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

14	18
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

12	30
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

30

subtotal this page

Site: Wetland D	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	33
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

33

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	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	33	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland E	
Vegetation Communit(ies): PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.7806600, -81.4838533
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/03/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland E	
Wetland Size (acres, hectares): 0.05+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 35	Category: Modified 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland E	Rater(s): H. Mikula	Date: 06/03/2022
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	18
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

12	30
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

30
subtotal this page

Site: Wetland E	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5	35
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

35

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	3	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	35	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 10/27/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland F	
Vegetation Communit(ies): PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781492°, -81.479605°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	10/27/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland F	
Wetland Size (acres, hectares): 0.03+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 34.5	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinarum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland F

Rater(s): H. Mikula

Date: 10/27/2022

2	2
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	5
---	---

Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

17.5	22.5
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

9	31.5
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

31.5

subtotal this page

Site: Wetland F	Rater(s): H. Mikula	Date: 10/27/2022
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31.5

subtotal first page

0	31.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	34.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

34.5

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	2	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	17.5	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	34.5	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Appendix D Photographic Log

> **Photographic Log**


Photo #1	
Date: 07/06/2021	
Feature: Residential Area	
Description: Land use within the project area is dominated by residential homes with maintained lawns and isolated trees.	

Photo #2	
Date: 07/06/2021	
Feature: Agricultural Field	
Description: Areas of active agricultural fields planted with corn (<i>Zea mays</i>) are also located within the study area.	

> **Photographic Log**


Photo #3	
Date: 07/06/2021	
Feature: Upland Deciduous Forest	
Description: Woodlots are also located with the PIR 2350 study area. The woodlots are dominated by black walnut (<i>Juglans nigra</i>), green ash (<i>Fraxinus Pennsylvanica</i>), and cherry (<i>Prunus</i> sp.)	

Photo #4	
Date: 07/06/2021	
Feature: Wetland A - North	
Description: Wetland A is a PEM/PFO wetland dominated by green ash, gray dogwood (<i>Cornus racemosa</i>), jewelweed (<i>Impatiens capensis</i>), and lake sedge (<i>Carex lacustris</i>).	

> **Photographic Log**



Photo #5	
Date: 07/06/2021	
Feature: Wetland A - East	
Description: The photo depicts sample point WA-SP facing east.	

Photo #6	
Date: 07/06/2021	
Feature: Wetland A - South	
Description: The photo depicts sample point WA-SP facing south.	

> **Photographic Log**



Photo #7	
Date: 07/06/2021	
Feature: Wetland A - West	
Description: The photo depicts sample point WA-SP facing west.	

Photo #8	
Date: 07/06/2021	
Feature: Wetland B - North	
Description: Wetland B is a PEM/PFO wetland dominated by reed canary grass (<i>Phalaris arundinacea</i>) and jewelweed.	

> **Photographic Log**

Photo #9	
Date: 07/06/2021	
Feature: Wetland B - East	
Description: The photo depicts sample point WB-SP facing east.	

Photo #10	
Date: 07/06/2021	
Feature: Wetland B - South	
Description: The photo depicts sample point WB-SP facing south.	

> **Photographic Log**

Photo #11	
Date: 07/06/2021	
Feature: Wetland B - West	
Description: The photo depicts sample point WB-SP facing west.	

Photo #12	
Date: 07/06/2021	
Feature: Wetland C - North	
Description: Wetland C is a PEM wetland dominated by reed canary grass.	


> **Photographic Log**

Photo #13	
Date: 07/06/2021	
Feature: Wetland C - East	
Description: The photo depicts sample point WC-SP facing east.	

Photo #14	
Date: 07/06/2021	
Feature: Wetland C - South	
Description: The photo depicts sample point WC-SP facing south.	

> **Photographic Log**

Photo #15	
Date: 07/06/2021	
Feature: Wetland C - West	
Description: The photo depicts sample point WC-SP facing west.	

Photo #16	
Date: 07/06/2021	
Feature: Wetland D - North	
Description: Wetland D is an isolated PFO wetland dominated by eastern cottonwood (<i>Populus deltoides</i>) and silky dogwood (<i>Cornus amomum</i>).	

> **Photographic Log**


Photo #17	
Date: 07/06/2021	
Feature: Wetland D - East	
Description: The photo depicts sample point WD-SP facing east.	

Photo #18	
Date: 07/06/2021	
Feature: Wetland D - South	
Description: The photo depicts sample point WD-SP facing south.	

> **Photographic Log**



Photo #19	
Date: 07/06/2021	
Feature: Wetland D - West	
Description: The photo depicts sample point WD-SP facing west.	

Photo #20	
Date: 06/02/2022	
Feature: Wetland E - North	
Description: Wetland E is a PFO wetland dominated by silver maple (<i>Acer saccharinum</i>), green ash (<i>Fraxinus pennsylvanica</i>) and jewelweed (<i>Impatiens capensis</i>) and is predominately.	

> **Photographic Log**


Photo #21	
Date: 06/02/2022	
Feature: Wetland E - East	
Description: The photo depicts sample point WE-SP facing east.	

Photo #22	
Date: 06/02/2022	
Feature: Wetland E - South	
Description: The photo depicts sample point WE-SP facing south.	

> **Photographic Log**



Photo #23	
Date: 06/02/2022	
Feature: Wetland E - West	
Description: The photo depicts sample point WE-SP facing west.	

Photo #24	
Date: 10/27/2022	
Feature: Wetland F - North	
Description: Wetland F is an emergent wetland dominated by red maple (<i>Acer rubrum</i>), yellow bristle-grass (<i>Setaria pumila</i>), and Virginia wildrye (<i>Elymus virginicus</i>)	

> **Photographic Log**


Photo #25	
Date: 10/27/2022	
Feature: Wetland F - East	
Description: The photo depicts sample point WF-SP facing east.	

Photo #26	
Date: 10/27/2022	
Feature: Wetland F - South	
Description: The photo depicts sample point WF-SP facing south.	

> **Photographic Log**


Photo #27	
Date: 10/27/2022	
Feature: Wetland F - West	
Description: The photo depicts sample point WF-SP facing west.	

Photo #28	
Date: 07/06/2021	
Feature: Stream 1 Upstream	
Description: Stream 1 runs through a portion of forested area within the study area. Photo faces upstream portion of Stream 1.	

> **Photographic Log**



Photo #29	
Date: 07/06/2021	
Feature: Stream 1 Downstream	
Description: Photo faces downstream portion of Stream 1.	

Photo #30	
Date: 07/06/2021	
Feature: Stream 1 Substrate	
Description: Substrates of Stream 1 are dominated by sand and gravel.	

> **Photographic Log**

Photo #31	
Date: 07/06/2021	
Feature: Stream 2 Upstream	
Description: Stream 2 runs through a portion of forest within the study area. Stream 2 drains from an adjacent active agricultural field and connects to Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 2.	

Photo #32	
Date: 07/06/2021	
Feature: Stream 2 Downstream	
Description: Photo faces downstream portion of Stream 2.	

> **Photographic Log**

Photo #33	
Date: 07/06/2021	
Feature: Stream 2 Substrate	
Description: Substrates of Stream 2 are dominated by clay/hardpan and gravel.	

Photo #34	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Upstream	
Description: Stream 3 runs through a portion of forest within the study area. Photo faces upstream portion of Stream 3.	

> **Photographic Log**

Photo #35	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Downstream	
Description: Photo faces downstream portion of Stream 3 (Wetmore Creek).	

Photo #36	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Substrate	
Description: Substrates of Stream 3 (Wetmore Creek) are dominated by sand and gravel.	

> **Photographic Log**



Photo #37	
Date: 07/06/2021	
Feature: Stream 4 Upstream	
Description: Stream 4 is a roadside drainage feature that runs parallel to Genoa Ave SW. Stream 4 runs from north to south.	

Photo #38	
Date: 07/06/2021	
Feature: Stream 4 Downstream	
Description: Photo faces downstream portion of Stream 4.	

> **Photographic Log**

Photo #39	
Date: 07/06/2021	
Feature: Stream 4 Substrate	
Description: Substrates of Stream 4 are dominated by clay/hardpan and gravel.	

Photo #40	
Date: 06/02/2022	
Feature: Stream 5 Upstream	
Description: Stream 5 is an ephemeral stream that flows from north to south through the study area into Stream 3 (Wetmore Creek).	

> **Photographic Log**



Photo #41	
Date: 06/02/2022	
Feature: Stream 5 Downstream	
Description: Photo faces downstream portion of Stream 5.	

Photo #42	
Date: 06/02/2022	
Feature: Stream 5 Substrate	
Description: Substrates of Stream 5 are dominated by clay/hardpan and gravel.	

> **Photographic Log**

Photo #43	
Date: 07/06/2021	
Feature: Open Water A	
Description: Open Water A is a pond located in a maintained lawn of a residential home.	

Appendix E Qualitive Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Forms



Primary Headwater Habitat Evaluation Form

61

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 1**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.30**

LENGTH OF STREAM REACH (ft) **176** LAT. **41.78202** LONG. **-81.48410** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Small Drainage Warmwater Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> <input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> %
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> <input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> <input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> <input type="checkbox"/> 15%
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> <input type="checkbox"/> 25%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> <input type="checkbox"/> 40%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **10.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**

TOTAL NUMBER OF SUBSTRATE TYPES: **6**

HHEI Metric Points

Substrate Max = 40

21

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

Pool Depth Max = 30

20

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **2.60**

Bankfull Width Max=30

20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY			
L	R	L	R		
<input checked="" type="checkbox"/>	<input type="checkbox"/> (Per Bank)	<input checked="" type="checkbox"/>	<input type="checkbox"/> (Most Predominant per Bank)	<input type="checkbox"/>	<input type="checkbox"/> Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/> Wide >10m	<input type="checkbox"/>	<input type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/> Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/> Open Pasture, Row Crop
<input type="checkbox"/>	<input checked="" type="checkbox"/> Narrow <5m	<input type="checkbox"/>	<input checked="" type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/> Mining or Construction
<input type="checkbox"/>	<input type="checkbox"/> None	<input type="checkbox"/>	<input type="checkbox"/> Fenced Pasture		

COMMENTS _____

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

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: **Wetmore Creek** Distance from Evaluated Stream **0.23** mi.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order
County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: **06/22/21** Quantity: **0.26**
Photograph Information: **See Attached.**
Elevated Turbidity? (Y/N): N Canopy (% open): **30%**
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) Y If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Y Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) Y Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

7

SITE NAME/LOCATION **Stream 2**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **23** LAT. **40.78166** LONG. **-81.47908** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> <input type="checkbox"/> 95%
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> <input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **0**

TOTAL NUMBER OF SUBSTRATE TYPES: **2**

HHEI Metric Points

Substrate Max = 40

2

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.91**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m		Conservation Tillage	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial	<input type="checkbox"/>
None		Open Pasture, Row Crop	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: **Wetmore Creek** Distance from Evaluated Stream **5.00** ft.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order
County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: **06/22/21** Quantity: **0.26**
Photograph Information: **See Attached.**
Elevated Turbidity? (Y/N): N Canopy (% open): **50%**
Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): Y If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



**Qualitative Habitat Evaluation Index
and Use Assessment Field Sheet**

QHEI Score:

67.0

Stream/Location Stream 3 (Wetmore Creek) / PIR 2350 - Jackson & Genoa, Stark County RM: _____ Date: 6/3/2022
 STORET#: _____ Scorers Full Name & Affiliation: H. Mikula, A. Dietz-Oergel, ECT
 River Code: _____ Lat/Long.: 40.781727°, -81.478963° (NAD 83 decimal) Office verified location

1] SUBSTRATE Check **ONLY Two** substrate **TYPE BOXES**:
estimate % or note every type present

BEST TYPES			OTHER TYPE:			ORIGIN			QUALITY					
<input type="checkbox"/>	<input type="checkbox"/>	BLDR /SLABS [10]	0	0	<input type="checkbox"/>	<input type="checkbox"/>	HARDPAN [4]	0	0	<input checked="" type="checkbox"/>	LIMESTONE [1]	<input type="checkbox"/>	HEAVY [-2]	
<input type="checkbox"/>	<input type="checkbox"/>	BOULDER [9]	2	2	<input type="checkbox"/>	<input type="checkbox"/>	DETRITUS [3]	0	0	<input type="checkbox"/>	OUTWASH [1]	<input type="checkbox"/>	MODERATE [-1]	
<input type="checkbox"/>	<input type="checkbox"/>	COBBLE [8]	5	5	<input type="checkbox"/>	<input type="checkbox"/>	MUCK [2]	0	0	<input type="checkbox"/>	WETLANDS [0]	<input checked="" type="checkbox"/>	NORMAL [0]	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	GRAVEL [7]	47	47	<input type="checkbox"/>	<input type="checkbox"/>	SILT [2]	6	6	<input type="checkbox"/>	HARDPAN [0]	<input type="checkbox"/>	FREE [1]	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	SAND [6]	40	40	<input type="checkbox"/>	<input type="checkbox"/>	ARTIFICIAL [0]	0	0	<input type="checkbox"/>	SANDSTONE [0]	<input type="checkbox"/>	EXTENSIVE [-2]	
<input type="checkbox"/>	<input type="checkbox"/>	BEDROCK [5]	0	0	(Score natural substrates; ignore sludge from point-sources)			<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	RIP/RAP [0]	<input type="checkbox"/>	MODERATE [-1]	
NUMBER OF BEST TYPES:			<input checked="" type="checkbox"/> 4 or more [2]			<input type="checkbox"/> 3 or less [0]			<input type="checkbox"/>			<input checked="" type="checkbox"/>	NORMAL [0]	
Comments									<input type="checkbox"/>			<input type="checkbox"/>	NONE [1]	
											<input type="checkbox"/>	COAL FINES [-2]	Substrate 16.0 Maximum 20	

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent; 1-Very small amounts or if more common of marginal quality; 2-Moderate amounts, but not of highest quality or in small amounts of highest quality; 3-Highest quality in moderate or greater amounts (e.g., very large boulders in deep or fast water, large diameter log that is stable, well developed rootwad in deep/fast water, or deep, well-defined, functional pools.)

1	UNDERCUT BANKS [1]	1	POOLS >70CM [2]	0	OXBOWS/BACKWATERS [1]	
2	OVERHANGING VEGETATION [1]	0	ROOTWADS [1]	0	AQUATIC MACROPHYTES [1]	
1	SHALLOWS (IN SLOW WATER) [1]	1	BOULDERS [1]	1	LOGS or WOODY DEBRIS [1]	
0	ROOTMATS [1]					
Comments						
						Amount 14.0 Maximum 20

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

SINUOSITY	DEVELOPMENT	CHANNELIZATION	STABILITY	
<input checked="" type="checkbox"/> HIGH [4]	<input type="checkbox"/> EXCELLENT [7]	<input checked="" type="checkbox"/> NONE [6]	<input type="checkbox"/> HIGH [3]	
<input type="checkbox"/> MODERATE [3]	<input type="checkbox"/> GOOD [5]	<input type="checkbox"/> RECOVERED [4]	<input checked="" type="checkbox"/> MODERATE [2]	
<input type="checkbox"/> LOW [2]	<input checked="" type="checkbox"/> FAIR [3]	<input type="checkbox"/> RECOVERING [3]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> NONE [1]	<input type="checkbox"/> POOR [1]	<input type="checkbox"/> RECENT OR NO RECOVERY [1]		
Comments				
				Channel Maximum 20 15.0

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

River right looking downstream		L R RIPARIAN WIDTH		L R FLOOD PLAIN QUALITY		L R		
L	R	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
EROSION		WIDE > 50 M [4]		Forest, Swamp [3]		Conservation Tillage [1]		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
NONE / LITTLE [3]		MODERATE 10-50m [3]		Shrub or Old Field [2]		URBAN or INDUSTRIAL [0]		
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
MODERATE [2]		NARROW 5-10m [2]		Fenced Pasture [1]		Mining/Construction [0]		
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Indicate predominant land use(s) past 100m riparian.		
HEAVY / SEVERE [1]		VERY NARROW <5m [1]		Residential, Park, New Field [1]				
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Rowcrop [0]				
		NONE [0]						
Comments								
								Riparian Maximum 10 9.0

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

MAXIMUM DEPTH	CHANNEL WIDTH	CURRENT VELOCITY	
Check ONE (ONLY!)	Check ONE (Or 2 & average)	Check ALL that apply	
<input type="checkbox"/> > 1m [6]	<input type="checkbox"/> POOL WIDTH > RIFFLE WIDTH [2]	<input type="checkbox"/> TORRENTIAL [-1]	
<input type="checkbox"/> 0.7-<1m [4]	<input checked="" type="checkbox"/> POOL WIDTH = RIFFLE WIDTH [1]	<input checked="" type="checkbox"/> SLOW [1]	
<input checked="" type="checkbox"/> 0.4-<0.7m [2]	<input type="checkbox"/> POOL WIDTH < RIFFLE WIDTH [0]	<input type="checkbox"/> VERY FAST [1]	
<input type="checkbox"/> 0.2m-<0.4m [1]		<input type="checkbox"/> FAST [1]	
<input type="checkbox"/> < 0.2m [0]		<input type="checkbox"/> MODERATE [1]	
		<input type="checkbox"/> INTERSTITIAL [-1]	
		<input type="checkbox"/> INTERMITTENT [-2]	
		<input type="checkbox"/> EDDIES [1]	
Comments			
			Pool/Current Maximum 12 4.0

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

RIFFLE DEPTH	RUN DEPTH	RIFFLE / RUN SUBSTRATE	RIFFLE / RUN EMBEDDEDNESS	
<input checked="" type="checkbox"/> BEST AREAS > 10CM [2]	<input checked="" type="checkbox"/> MAXIMUM > 50CM [2]	<input type="checkbox"/> STABLE (e.g., Cobble, Boulder) [2]	<input type="checkbox"/> NONE [2]	
<input type="checkbox"/> BEST AREAS 5-10 CM [1]	<input type="checkbox"/> MAXIMUM < 50CM [1]	<input checked="" type="checkbox"/> MOD. STABLE (e.g., Large Gravel) [1]	<input type="checkbox"/> LOW [1]	
<input type="checkbox"/> BEST AREAS < 5 CM [metric=0]		<input type="checkbox"/> UNSTABLE (e.g. Fine Gravel, Sand) [0]	<input checked="" type="checkbox"/> MODERATE [0]	
			<input type="checkbox"/> EXTENSIVE [-1]	
Comments				
				Riffle/Run Maximum 8 5.0

6] GRADIENT

(44 ft/mi)	%POOL: <input type="text" value="25"/>	%GLIDE: <input type="text" value="25"/>	Gradient Maximum 10 4.0
DRAINAGE AREA (1.25 mi ²)	%RUN: <input type="text" value="25"/>	%RIFFLE: <input type="text" value="25"/>	

Stream & Location: 0

METHOD		SECCHI DEPTH	<i>Comment RE: Reach consistency/ Is reach typical of stream?, Recreation/ Observed - Inferred, Other/ Sampling observations, Concerns, Access directions.</i>
<input type="checkbox"/> BOAT	<input checked="" type="checkbox"/> WADE	1st _____ cm	
<input type="checkbox"/> L. LINE	<input type="checkbox"/> OTHER	pass	_____
		2nd _____ cm	_____
DISTANCE		CANOPY	
<input type="checkbox"/> 0.5 Km	<input type="checkbox"/> 0.2 Km	<input type="checkbox"/> >85%-OPEN	_____
<input type="checkbox"/> 0.15 Km	<input type="checkbox"/> 0.12 Km	<input type="checkbox"/> 55%-<85%	_____
<input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> <10%-CLOSED	<input type="checkbox"/> 30%-<55%	_____
		<input type="checkbox"/> 10%-<30%	_____
_____ meters			_____

Consider maintenance status and basin issues. Write something to aide understanding of overall QHEI score.

Stream Drawing:



Primary Headwater Habitat Evaluation Form

17

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 4**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **22** LAT. **40.78128** LONG. **-81.46607** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="text" value="10%"/>
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="text" value="0%"/>	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="text" value="75%"/>
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="text" value="15%"/>	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="text" value="0%"/>
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="text" value="0%"/>	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="text" value="0%"/>

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A) Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9** TOTAL NUMBER OF SUBSTRATE TYPES: **3**

HHEI Metric Points

Substrate Max = 40

12

A + B

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

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

Pool Depth Max = 30

0

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

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

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

Bankfull Width Max=30

5

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
Moderate 5-10m		Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Narrow <5m		Residential, Park, New Field	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> None		Fenced Pasture	<input type="checkbox"/>
		Conservation Tillage	<input type="checkbox"/>
		Urban or Industrial	<input type="checkbox"/>
		Open Pasture, Row Crop	<input type="checkbox"/>
		Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Distance from Evaluated Stream **0.84** mi.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order
County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): **Y** Date of last precipitation: **06/22/21** Quantity: **0.26**
Photograph Information: **See Attached.**
Elevated Turbidity? (Y/N): **N** Canopy (% open): **100%**
Were samples collected for water chemistry? (Y/N): **N** (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): **Y** If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): **N** (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) **N** Voucher? (Y/N) **N** Salamanders Observed? (Y/N) **N** Voucher? (Y/N) **N**
Frogs or Tadpoles Observed? (Y/N) **N** Voucher? (Y/N) **N** Aquatic Macroinvertebrates Observed? (Y/N) **N** Voucher? (Y/N) **N**
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

19

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **S5**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **43** LAT. **40.78153** LONG. **-81.47827** RIVER CODE _____ RIVER MILE _____

DATE **10/27/22** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> <input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> <input type="checkbox"/> 60%
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> <input type="checkbox"/> 15%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> <input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> <input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

HHEI Metric Points

Substrate Max = 40

14

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)	Wide >10m	(Most Predominant per Bank)	Mature Forest, Wetland
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Moderate 5-10m		Immature Forest, Shrub or Old Field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Narrow <5m		Residential, Park, New Field
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	None		Fenced Pasture
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
			Conservation Tillage
			Urban or Industrial
			Open Pasture, Row Crop
			Mining or Construction

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Distance from Evaluated Stream ft.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N): If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT I

U.S. ARMY CORPS OF ENGINEERS NATIONWIDE PERMIT APPLICATION



January 20, 2023

BY EMAIL

Lee Robinette
Regulatory Chief, Huntington Regulatory District
United States Army Corps of Engineers,
502 Eighth Street
Huntington, WV 25701

RE: The East Ohio Gas Company, Pipeline Infrastructure Replacement Program
Pre-Construction Notification for Nationwide Permit #12
PIR 2350– Jackson & Genoa

Dear Ms. Robinette:

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), herein transmits one (1) electronic copy of a Pre-Construction Notification (PCN) pursuant to a United States Army Corps of Engineers Nationwide Permit 12 for the PIR 2350 – Jackson & Genoa project. PCN is required due to anticipated minor tree cutting within wetlands.

To assist with review of the project, supporting documentation is enclosed:

- Complete Application Form 6082 (including additional sheets)
- Project Site Plan Maps (Attachment A)
- Wetland Delineation Report (Attachment B)
- Preliminary Jurisdictional Determination Request (Attachment C)
- Typical Construction Drawings (Attachment D)
- United States Fish and Wildlife Service and Ohio Department of Natural Resources Coordination (Attachment E)

DEO expects to initiate construction in March 2023 with construction ending in late 2023.

Please review the enclosed materials for completeness and forward your response to the attention of:

Greg Eastridge, Environmental Specialist
320 Springside Drive, Suite 320
Akron, Ohio 44333
gregory.k.eastridge@dominionenergy.com

If you have any questions or need additional information, please contact Greg Eastridge at (330) 664-2576.

Sincerely,

A handwritten signature in black ink, appearing to read 'DRS', with a horizontal line underneath.

Darrell R. Shier
Manager Environmental Services
Authorized Representative

Enclosures

cc: Greg Eastridge

U.S. Army Corps of Engineers (USACE)
NATIONWIDE PERMIT PRE-CONSTRUCTION NOTIFICATION (PCN)

33 CFR 330. The proponent agency is CECW-CO-R.

**Form Approved -
OMB No. 0710-0003
Expires: 02-28-2022**

DATA REQUIRED BY THE PRIVACY ACT OF 1974

Authority Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Regulatory Program of the Corps of Engineers (Corps); Final Rule 33 CFR 320-332.
Principal Purpose Information provided on this form will be used in evaluating the nationwide permit pre-construction notification.
Routine Uses This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public and may be made available as part of the agency coordination process.
Disclosure Submission of requested information is voluntary, however, if information is not provided the permit application cannot be evaluated nor can a permit be issued.

The public reporting burden for this collection of information, 0710-0003, is estimated to average 11 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate or burden reduction suggestions to the Department of Defense, Washington Headquarters Services, at whs.mc-alex.esd.mbx.dd-dod-information-collections@mail.mil. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

PLEASE DO NOT RETURN YOUR RESPONSE TO THE ABOVE EMAIL.

One set of original drawings or good reproducible copies which show the location and character of the proposed activity must be attached to this application (*see sample drawings and/or instructions*) and be submitted to the district engineer having jurisdiction over the location of the proposed activity. An application that is not completed in full will be returned.

(ITEMS 1 THRU 4 TO BE FILLED BY THE CORPS)

1. APPLICATION NO.	2. FIELD OFFICE CODE	3. DATE RECEIVED	4. DATE APPLICATION COMPLETE
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(ITEMS BELOW TO BE FILLED BY APPLICANT)

5. APPLICANT'S NAME First - Frank Middle - Last - Martin Company - The East Ohio Gas Company d/b/a Dominion Energy Ohio Company Title - Contact: Greg Eastridge E-mail Address - gregory.k.eastridge@dominionenergy.com	8. AUTHORIZED AGENT'S NAME AND TITLE (<i>agent is not required</i>) First - Middle - Last - Company - E-mail Address -
6. APPLICANT'S ADDRESS Address- 320 Springside Drive, Suite 320 City - Akron State - Ohio Zip - 44333 Country - USA	9. AGENT'S ADDRESS Address- City - State - Zip - Country -
7. APPLICANT'S PHONE NOs. with AREA CODE a. Residence b. Business c. Fax d. Mobile (330)664-2576 (330)664-2669 (330) 571-7855	10. AGENT'S PHONE NOs. with AREA CODE a. Residence b. Business c. Fax d. Mobile

STATEMENT OF AUTHORIZATION

11. I hereby authorize, _____ to act in my behalf as my agent in the processing of this nationwide permit pre-construction notification and to furnish, upon request, supplemental information in support of this nationwide permit pre-construction notification.

SIGNATURE OF APPLICANT

DATE

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

12. PROJECT NAME or TITLE (*see instructions*)
The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), PIR 2350 - Jackson & Genoa

NAME, LOCATION, AND DESCRIPTION OF PROJECT OR ACTIVITY

13. NAME OF WATERBODY, IF KNOWN <i>(if applicable)</i> Wetmore Creek (Stream 3), 4 tributaries, 6 wetlands, 1 open water	14. PROPOSED ACTIVITY STREET ADDRESS <i>(if applicable)</i> See Attached Map
15. LOCATION OF PROPOSED ACTIVITY <i>(see instructions)</i> Latitude °N Longitude °W 40.782068° -81.480849°	City: State: Zip: Perry Township OH 44646

16. OTHER LOCATION DESCRIPTIONS, IF KNOWN <i>(see instructions)</i>		
State Tax Parcel ID	Municipality Stark County	
Section	Township Perry	Range

17. DIRECTIONS TO THE SITE
Take I-77 N to Exit 99 for Fohl Rd toward Navarre. Turn left onto 252/Fohl St SW. After 1.7mi, turn right onto Beth Ave SW. After 0.7mi, turn left onto 248/Richville Dr SW. After 1.5mi turn left onto OH-627/Richville Dr SW. After 1.8mi, turn right onto Jackson Ave SW. The project begins approx. 0.5mi down Jackson Ave SW at the intersection with Mason St SW.

18. IDENTIFY THE SPECIFIC NATIONWIDE PERMIT(S) YOU PROPOSE TO USE
The PIR 2350 pipeline replacement project has been designed to meet conditions for a Nationwide Permit #12: Oil or Natural Gas Pipeline Activities

19. DESCRIPTION OF PROPOSED NATIONWIDE PERMIT ACTIVITY *(see instructions)*
DEO proposes to replace approximately 3,795 linear feet of natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch pipeline. The existing pipeline is within an existing off-road easement and will be abandoned in place. The new pipe will be replaced partially within the existing easement and partially re-routed within existing road Right of Way and new easement. The new pipe will likely be installed via open trench. Following pipeline installation, pre-construction contours will be restored. Rip-rap may be necessary at stream crossings. See additional sheets for details. The approximate start date for the project is in March 2023 and completion is anticipated for December 2023.

20. DESCRIPTION OF PROPOSED MITIGATION MEASURES *(see instructions)*
To replace the pipe for this project, it is necessary to open cut through Wetlands C, E, Stream 1, and Stream 3 (Wetmore Creek). Stream 2 may also be temporarily impacted by construction activity supportive to the nearby trenching activity. Construction will be limited to a 10 or 15 foot wide construction corridor along road right-of-way (ROW), a 60-foot wide construction corridor within the existing easement, and a new easement to install the new pipeline. All impacts to Streams 1, 2, and 3 (Wetmore Creek), and Wetlands C, and E will be entirely or mostly temporary. After installation of the new pipeline, grades will be restored to pre-construction contours. See additional sheets for details.

21. PURPOSE OF NATIONWIDE PERMIT ACTIVITY *(Describe the reason or purpose of the project, see instructions)*
This project is being implemented under the East Ohio Gas Company's Pipeline Infrastructure Replacement (PIR) Program, a multiyear, proactive program to repair and maintain the East Ohio Gas distribution and transmission pipelines in Ohio. The purpose of the PIR 2350 project is to replace the existing line to maintain the integrity and reliability of the pipe, thus improving safety.

22. QUANTITY OF WETLANDS, STREAMS, OR OTHER TYPES OF WATERS DIRECTLY AFFECTED BY PROPOSED NATIONWIDE PERMIT ACTIVITY <i>(see instructions)</i>		
Acres	Linear Feet	Cubic Yards Dredged or Discharged
0.621 ac-wetland, 0.0022 ac-stream	162 upstream-downstream (31.5ft bank-to-bank)	266.6 cu yd-wetland, 17.5 cu yd-stream

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site.

23. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. *(see instructions)*
N/A

24. If the proposed activity will result in the loss of greater than 1/10-acre of wetlands and requires pre-construction notification, explain how the compensatory mitigation requirement in paragraph (c) of general condition 23 will be satisfied, or explain why the adverse environmental effects are no more than minimal and why compensatory mitigation should not be required for the proposed activity.
No or very minimal permanent impacts are proposed (i.e. rip-rap). No tree/shrub cutting will exceed 0.10 of an acre in any individual

wetland.

25. Is any portion of the nationwide permit activity already complete? Yes No If Yes, describe the completed work:

26. List the name(s) of any species listed as endangered or threatened under the Endangered Species Act that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. (see instructions)
Indiana bat (*Myotis sodalis*) and northern long-eared bat (*M. septentrionalis*). See additional sheets for details.

27. List any historic properties that have the potential to be affected by the proposed NWP activity or include a vicinity map indicating the location of the historic property or properties. (see instructions)
No documented historic or cultural resources are located within or adjacent to the project area. See additional sheets for details.

28. For a proposed NWP activity that will occur in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a "study river" for possible inclusion in the system while the river is in an official study status, identify the Wild and Scenic River or the "study river":
N/A

29. If the proposed NWP activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers federally authorized civil works project, have you submitted a written request for section 408 permission from the Corps district having jurisdiction over that project? Yes No
If "yes", please provide the date your request was submitted to the Corps district:

30. If the terms of the NWP(s) you want to use require additional information to be included in the PCN, please include that information in this space or provide it on an additional sheet of paper marked Block 30. (see instructions)
See additional sheets for details.

31. Pre-construction notification is hereby made for one or more nationwide permit(s) to authorize the work described in this notification. I certify that the information in this pre-construction notification is complete and accurate. I further certify that I possess the authority to undertake the work described herein or am acting as the duly authorized agent of the applicant.

Frank A Martin, P.E. Digitally signed by Frank A Martin, P.E.
Date: 2023.01.19 16:03:54 -05'00'

SIGNATURE OF APPLICANT	DATE	SIGNATURE OF AGENT	DATE
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The pre-construction notification must be signed by the person who desires to undertake the proposed activity (applicant) and, if the statement in Block 11 has been filled out and signed, the authorized agent.

18 U.S.C. Section 1001 provides that: Whoever, in any manner within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals, or covers up any trick, scheme, or disguises a material fact or makes any false, fictitious or fraudulent statements or representations or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statements or entry, shall be fined not more than \$10,000 or imprisoned not more than five years or both.

**Instructions for Preparing a
Department of the Army
Nationwide Permit (NWP) Pre-Construction Notification (PCN)**

Blocks 1 through 4. To be completed by the Corps of Engineers.

Block 5. Applicant's Name. Enter the name and the e-mail address of the responsible party or parties. If the responsible party is an agency, company, corporation, or other organization, indicate the name of the organization and responsible officer and title. If more than one party is associated with the preconstruction notification, please attach a sheet of paper with the necessary information marked Block 5.

Block 6. Address of Applicant. Please provide the full address of the party or parties responsible for the PCN. If more space is needed, attach an extra sheet of paper marked Block 6.

Block 7. Applicant's Telephone Number(s). Please provide the telephone number where you can usually be reached during normal business hours.

Blocks 8 through 11. To be completed, if you choose to have an agent.

Block 8. Authorized Agent's Name and Title. Indicate name of individual or agency, designated by you, to represent you in this process. An agent can be an attorney, builder, contractor, engineer, consultant, or any other person or organization. Note: An agent is not required.

Blocks 9 and 10. Agent's Address and Telephone Number. Please provide the complete mailing address of the agent, along with the telephone number where he / she can be reached during normal business hours.

Block 11. Statement of Authorization. To be completed by the applicant, if an agent is to be employed.

Block 12. Proposed Nationwide Permit Activity Name or Title. Please provide a name identifying the proposed NWP activity, e.g., Windward Marina, Rolling Hills Subdivision, or Smith Commercial Center.

Block 13. Name of Waterbody. Please provide the name (if it has a name) of any stream, lake, marsh, or other waterway to be directly impacted by the NWP activity. If it is a minor (no name) stream, identify the waterbody the minor stream enters.

Block 14. Proposed Activity Street Address. If the proposed NWP activity is located at a site having a street address (not a box number), please enter it in Block 14.

Block 15. Location of Proposed Activity. Enter the latitude and longitude of where the proposed NWP activity is located. Indicate whether the project location provided is the center of the project or whether the project location is provided as the latitude and longitude for each of the "corners" of the project area requiring evaluation. If there are multiple sites, please list the latitude and longitude of each site (center or corners) on a separate sheet of paper and mark as Block 15.

Block 16. Other Location Descriptions. If available, provide the Tax Parcel Identification number of the site, Section, Township, and Range of the site (if known), and / or local Municipality where the site is located.

Block 17. Directions to the Site. Provide directions to the site from a known location or landmark. Include highway and street numbers as well as names. Also provide distances from known locations and any other information that would assist in locating the site. You may also provide a description of the location of the proposed NWP activity, such as lot numbers, tract numbers, or you may choose to locate the proposed NWP activity site from a known point (such as the right descending bank of Smith Creek, one mile downstream from the Highway 14 bridge). If a large river or stream, include the river mile of the proposed NWP activity site if known. If there are multiple locations, please indicate directions to each location on a separate sheet of paper and mark as Block 17.

Block 18. Identify the Specific Nationwide Permit(s) You Propose to Use. List the number(s) of the Nationwide Permit(s) you want to use to authorize the proposed activity (e.g., NWP 29).

Block 19. Description of the Proposed Nationwide Permit Activity. Describe the proposed NWP activity, including the direct and indirect adverse environmental effects the activity would cause. The description of the proposed activity should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal. Identify the materials to be used in construction, as well as the methods by which the work is to be done.

Provide sketches when necessary to show that the proposed NWP activity complies with the terms of the applicable NWP(s). Sketches usually clarify the activity and result in a quicker decision. Sketches should contain sufficient detail to provide an illustrative description of the proposed NWP activity (e.g., a conceptual plan), but do not need to be detailed engineering plans.

The written descriptions and illustrations are an important part of the application. Please describe, in detail, what you wish to do. If more space is needed, attach an extra sheet of paper marked Block 19.

Block 20. Description of Proposed Mitigation Measures. Describe any proposed mitigation measures intended to reduce the adverse environmental effects caused by the proposed NWP activity. The description of any proposed mitigation measures should be sufficiently detailed to allow the district engineer to determine that the adverse environmental effects of the activity will be no more than minimal and to determine the need for compensatory mitigation or additional mitigation measures.

Block 21. Purpose of Nationwide Permit Activity. Describe the purpose and need for the proposed NWP activity. What will it be used for and why? Also include a brief description of any related activities associated with the proposed project. Provide the approximate dates you plan to begin and complete all work.

Block 22. Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by the Proposed Nationwide Permit Activity. For discharges of dredged or fill material into waters of the United States, provide the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained by the proposed NWP activity. For structures or work in navigable waters of the United States subject to Section 10 of the Rivers and Harbors Act of 1899, provide the amount of navigable waters filled, dredged, or occupied by one or more structures (e.g., aids to navigation, mooring buoys) by the proposed NWP activity.

For multiple NWPs, or for separate and distant crossings of waters of the United States authorized by NWPs 12 or 14, attach an extra sheet of paper marked Block 21 to provide the quantities of wetlands, streams, or other types of waters filled, flooded, excavated, or drained (or dredged or occupied by structures, if in waters subject to Section 10 of the Rivers and Harbors Act of 1899) for each NWP. For NWPs 12 and 14, include the amount of wetlands, streams, or other types of waters filled, flooded, excavated, or drained for each separate and distant crossing of waters or wetlands. If more space is needed, attach an extra sheet of paper marked Block 22.

Block 23. Identify Any Other Nationwide Permit(s), Regional General Permit(s), or Individual Permit(s) Used to Authorize Any Part of Proposed Activity or Any Related Activity. List any other NWP(s), regional general permit(s), or individual permit(s) used or intended to be used to authorize any part of the proposed project or any related activity. For linear projects, list other separate and distant crossings of waters and wetlands authorized by NWPs 12 or 14 that do not require PCNs. If more space is needed, attach an extra sheet of paper marked Block 23.

Block 24. Compensatory Mitigation Statement for Losses of Greater Than 1/10-Acre of Wetlands When Pre-Construction Notification is Required. Paragraph (c) of NWP general condition 23 requires compensatory mitigation at a minimum one-for-one replacement ratio will be required for all wetland losses that exceed 1/10-acre and require pre-construction notification, unless the district engineer determines in writing that either some other form of mitigation is more environmentally appropriate or the adverse environmental effects of the proposed NWP activity are no more than minimal without compensatory mitigation, and provides an activity-specific waiver of this requirement. Describe the proposed compensatory mitigation for wetland losses greater than 1/10 acre, or provide an explanation of why the district engineer should not require wetland compensatory mitigation for the proposed NWP activity. If more space is needed, attach an extra sheet of paper marked Block 24.

Block 25. Is Any Portion of the Nationwide Permit Activity Already Complete? Describe any work that has already been completed for the NWP activity.

Block 26. List the Name(s) of Any Species Listed As Endangered or Threatened under the Endangered Species Act that Might be Affected by the Nationwide Permit Activity. If you are not a federal agency, and if any listed species or designated critical habitat might be affected or is in the vicinity of the proposed NWP activity, or if the proposed NWP activity is located in designated critical habitat, list the name(s) of those endangered or threatened species that might be affected by the proposed NWP activity or utilize the designated critical habitat that might be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 7 of the Endangered Species Act.

Block 27. List Any Historic Properties that Have the Potential to be Affected by the Nationwide Permit Activity. If you are not a Federal agency, and if any historic properties have the potential to be affected by the proposed NWP activity, list the name(s) of those historic properties that have the potential to be affected by the proposed NWP activity. If you are a Federal agency, and the proposed NWP activity requires a PCN, you must provide documentation demonstrating compliance with Section 106 of the National Historic Preservation Act.

Block 28. List the Wild and Scenic River or Congressionally Designated Study River if the Nationwide Permit Activity Would Occur in such a River. If the proposed NWP activity will occur in a river in the National Wild and Scenic River System or in a river officially designated by Congress as a "study river" under the Wild and Scenic Rivers Act, provide the name of the river. For a list of Wild and Scenic Rivers and study rivers, please visit <http://www.rivers.gov/>.

Block 29. Nationwide Permit Activities that also Require Permission from the Corps Under 33 U.S.C. 408. If the proposed NWP activity also requires permission from the Corps under 33 U.S.C. 408 because it will temporarily or permanently alter, occupy, or use a Corps federal authorized civil works project, indicate whether you have submitted a written request for section 408 permission from the Corps district having jurisdiction over that project.

Block 30. Other Information Required For Nationwide Permit Pre-Construction Notifications. The terms of some of the Nationwide Permits include additional information requirements for preconstruction notifications:

- * NWP 3, Maintenance –information regarding the original design capacities and configurations of the outfalls, intakes, small impoundments, and canals.
- * NWP 31, Maintenance of Existing Flood Control Facilities –a description of the maintenance baseline and the dredged material disposal site.
- * NWP 33, Temporary Construction, Access, and Dewatering –a restoration plan showing how all temporary fills and structures will be removed and the area restored to pre-project conditions.
- * NWP 44, Mining Activities –if reclamation is required by other statutes, then a copy of the final reclamation plan must be submitted with the pre-construction notification.
- * NWP 45, Repair of Uplands Damaged by Discrete Events –documentation, such as a recent topographic survey or photographs, to justify the extent of the proposed restoration.
- * NWP 48, Commercial Shellfish Aquaculture Activities –(1) a map showing the boundaries of the project area, with latitude and longitude coordinates for each corner of the project area; (2) the name(s) of the species that will be cultivated during the period this NWP is in effect; (3) whether canopy predator nets will be used; (4) whether suspended cultivation techniques will be used; and (5) general water depths in the project area (a detailed survey is not required).
- * NWP 49, Coal Remining Activities –a document describing how the overall mining plan will result in a net increase in aquatic resource functions must be submitted to the district engineer and receive written authorization prior to commencing the activity.
- * NWP 50, Underground Coal Mining Activities –if reclamation is required by other statutes, then a copy of the reclamation plan must be submitted with the pre-construction notification.

If more space is needed, attach an extra sheet of paper marked Block 30.

Block 31. Signature of Applicant or Agent. The PCN must be signed by the person proposing to undertake the NWP activity, and if applicable, the authorized party (agent) that prepared the PCN. The signature of the person proposing to undertake the NWP activity shall be an affirmation that the party submitting the PCN possesses the requisite property rights to undertake the NWP activity (including compliance with special conditions, mitigation, etc.).

DELINEATION OF WETLANDS, OTHER SPECIAL AQUATIC SITES, AND OTHER WATERS

Each PCN must include a delineation of wetlands, other special aquatic sites, and other waters, such as lakes and ponds, and perennial, intermittent, and ephemeral streams, on the project site. Wetland delineations must be prepared in accordance with the current wetland delineation manual and regional supplement published by the Corps. The permittee may ask the Corps to delineate the special aquatic sites and other waters on the project site, but there may be a delay if the Corps does the delineation, especially if the project site is large or contains many wetlands, other special aquatic sites, and other waters. The 45 day PCN review period will not start until the delineation is submitted or has been completed by the Corps.

DRAWINGS AND ILLUSTRATIONS

General Information.

Three types of illustrations are needed to properly depict the work to be undertaken. These illustrations or drawings are identified as a Vicinity Map, a Plan View or a Typical Cross-Section Map. Identify each illustration with a figure or attachment number. For linear projects (e.g. roads, subsurface utility lines, etc.) gradient drawings should also be included. Please submit one original, or good quality copy, of all drawings on 8½x11 inch plain white paper (electronic media may be substituted). Use the fewest number of sheets necessary for your drawings or illustrations. Each illustration should identify the project, the applicant, and the type of illustration (vicinity map, plan view, or cross-section). While illustrations need not be professional (many small, private project illustrations are prepared by hand), they should be clear, accurate, and contain all necessary information.

ADDITIONAL INFORMATION AND REQUIREMENTS

For proposed NWP activities that involve discharges into waters of the United States, water quality certification from the State, Tribe, or EPA must be obtained or waived (see NWP general condition 25). Some States, Tribes, or EPA have issued water quality certification for one or more NWPs. Please check the appropriate Corps district web site to see if water quality certification has already been issued for the NWP(s) you wish to use. For proposed NWP activities in coastal states, state Coastal Zone Management Act consistency concurrence must be obtained, or a presumption of concurrence must occur (see NWP general condition 26). Some States have issued Coastal Zone Management Act consistency concurrences for one or more NWPs. Please check the appropriate Corps district web site to see if Coastal Zone Management Act consistency concurrence has already been issued for the NWP(s) you wish to use.

Preconstruction Notification for Nationwide Permit #12 – Oil and Natural Gas Pipeline Activities

The East Ohio Gas Company, d/b/a Dominion Energy Ohio, Pipeline Infrastructure Replacement (PIR) Program

**PIR 2350 – Jackson & Genoa
Perry Township, Stark County, Ohio**

Application Eng Form 6082: Additional Information

BLOCK 19 – Description of the Proposed Nationwide Permit Activity

The PIR 2350 project is located along the road ROW of Jackson Avenue SW, Mason Street SW, Genoa Avenue SW, an existing sixty (60)-ft wide utility easement which originates at Jackson Avenue SW and extends east to Genoa Avenue SW, and a newly acquired sixty (60)-foot easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement.

Project maps are provided in Attachment A. Pipeline abandonment, installation, tree clearing, and associated construction activities will occur within a fifteen (15)-foot wide construction corridor in road right-of-way (ROW) along Jackson Avenue SW, at ten (10)-foot wide construction corridor in road ROW along Mason Street SW and Genoa Avenue SW, and sixty (60)-foot wide easements as shown on the mapping. The construction activities will require soil disturbance to accommodate areas for trench excavation, side-cast spoil storage, and temporary storage of the new and any removed pipe. All work shall be performed within authorized limits of disturbance. The existing pipeline within the existing easement will be abandoned and minor excavation is expected to perform abandonment work. The replacement pipeline will be installed in a portion of the existing easement, in a newly acquired easement, and along road ROW.

Installation of the replacement pipeline, which includes a portion relocated into new easement and road ROW, cannot occur without temporary discharge into waters of the United States, although construction activities have been adjusted to the maximum extent practicable to avoid and minimize impacts to water resources. The reason for the temporary discharge into these water resources is to allow for the construction activities necessary to safely replace and install the pipeline within the utility easements and/or road ROW. The construction activities involve the temporary excavation of a trench and placement of discharged, excavated material through Streams 1 and 3 (Wetmore Creek) and Wetlands C and E. Stream 2 may also be impacted to by pipeline replacement activities. Additional disturbance in wetlands and streams may result from equipment use within the construction corridors. The project impacts are temporary and will not result in any permanent loss of stream length or wetland area. No permanent relocation of wetlands or water bodies is planned. There will be no permanent changes in grade, ground surface material, waterway drainage, or wetland contours, as all areas disturbed by the project will be restored to pre-construction condition. Portions of Wetland F and Stream 4 located within the work corridor will be flagged and avoided during construction, thus avoiding impacts to these features.

Typically, a trench will be excavated to allow three (3) to five (5) feet of cover over the new pipeline after installation and backfilling. Separation of the topsoil from the subsoil will be performed at water bodies, residential properties, and agricultural lands. The backfill material that will be returned to the trench will consist of the same material removed from the trench, to the extent practicable. Excess soil will be spread onsite, with the exception of agricultural land, wetlands, floodplains, streams, drainage ways, or other environmentally sensitive areas. Following pipeline installation, all disturbed areas will be returned to their original slope and contour, stabilized, and seeded. However, generally, the wetlands will not be seeded as the existing seedbank will provide for natural re-vegetation. These efforts will provide a permanent herbaceous cover to stabilize the disturbed soils. Temporary erosion controls will be maintained until this permanent cover is established.

New impervious surfaces will not be created. Areas that will be affected are located within the existing easement corridor, the newly acquired easement, and/or road ROW. Although the project is located primarily within areas where the vegetation is routinely maintained in a typically herbaceous state, minor tree and shrub clearing will be required. However, tree and shrub clearing will be minimized as much as possible and will be confined to the work and disturbance areas.

As the project crosses streams, rip rap may be necessary to secure stream banks; resulting in very minimal permanent impacts at stream crossings.

BLOCK 20 – Description of Proposed Mitigation Measures

Impacts to wetlands and streams within the project area have been minimized to the greatest extent practicable and will be entirely or mostly temporary (rip-rap, if deemed necessary). Wetlands A, B, D, and F; Streams 4 and 5; and Open Water A are avoided by the proposed pipeline layout.

The forested and scrub/shrub portions of Wetlands A, B, and D have been avoided. The physical disturbance of forested wetland soils will be minimized to a ten (10)-ft wide crossing through forested portions of Wetland E. These avoidance and minimization measures will result in a total of 0.008 acres of permanent conversion to Modified Category 2 forested wetlands for the Project. However, no mitigation is proposed as the total permanent conversion is well below 0.10 of an acre and will have minimal adverse environmental effects.

Project construction activities (e.g., mowing/clearing, grading, trench excavation, spoil storage, backfilling, and restoration) will expose bare soils and increase the potential for erosion and sedimentation. Best Management Practices (BMPs) will be implemented throughout construction to minimize storm water runoff, soil erosion, the transport of sediments from the construction area, and to protect surface waters and wetlands located in and adjacent to the project area. Construction details are included in Attachment D.

BLOCK 22 – Quantity of Wetlands, Streams, or Other Types of Waters Directly Affected by Proposed Nationwide Permit Activity

The type and amount of material to be discharged is associated with excavation of the trench within Wetlands C and E and Streams 1 and 3 (Wetmore Creek). Stream 2 could be disturbed by construction activity supporting the nearby trenching. Disturbed soils will be replaced within the trench after the new pipe is installed. The backfill material that will be returned to the trench will consist of the same material removed from the trench, to the extent practicable. Separation of the topsoil from the subsoil will be performed at wetlands, residential properties, and agricultural lands. Streambed substrate will be separated from the subsoil and backfilled last to restore preconstruction conditions. The soils within the project area are identified in the attached Aquatic Resource Delineation Report (Attachment B; Appendix A).

Impacts from excavation to replace and install the pipeline include temporary disturbance of Wetland C, Wetland E, and Streams 1, 2, and 3 (Wetmore Creek). The use of rip-rap may be necessary at stream crossings to stabilize stream banks. The proposed project will cross through the Wetlands C, Stream 2, and Stream 3 with a maximum disturbance width of sixty (60) feet; and through Wetland E and Stream 1 with a maximum disturbance width of ten (10) feet, as illustrated on the Project Maps in Attachment A. A total of 162 linear feet of streams (31.5 feet bank-to-bank, 0.0022 acre) and 0.621 acre of wetland will be temporarily impacted; however, use of rip-rap may be deemed necessary. See Tables 1, 2, and 3 for itemization of wetland, stream, and open water impacts. Photographs of the streams, wetlands, and open waters are included in the attached Aquatic Resource Delineation Report (Attachment B, Appendix D).

No fill will occur within the 100-year floodplain as no areas of 100-year floodplain occur within the project area, as indicated on the *Aquatic Resources Delineation Map* included in (Attachment B, Appendix A).

Additionally, DEO contractors will comply with BMPs for work in wetlands and water bodies, including NWP provisions and Specific Regional Conditions as follows:

- If material from trench excavation is sidecast into waters of the United States, it will be placed so that it is not dispersed by currents or other forces and it will be backfilled or removed in less than three (3) months.
- In wetlands, the top six (6) to twelve (12) inches of the trench should normally be backfilled with topsoil from the trench. The trench will be backfilled in such a manner as to avoid draining waters of the United States.
- DEO will use existing access routes and the DEO gas line easement for access to the project area. Use of access roads will be limited to the minimum width necessary. Equipment traveling across water bodies and wetlands along the easement access routes will use mats or bridges across the ground/resource as needed to protect the resource from unnecessary disturbance. Appropriate measures must be taken to maintain normal downstream flows and minimize flooding to the maximum extent practicable. Temporary fills must consist of materials, and be placed in a manner, that

will not be eroded by expected high flows. These mats or bridges will be removed upon completion of the construction work. All access roads used solely for construction of the utility line will be removed upon completion of the work.

- Access roads must be the minimum width necessary. Access roads must be constructed so that the length of the road minimizes any adverse effects on waters of the United States and must be as near as possible to pre-construction contours and elevations (e.g., at grade corduroy roads or geotextile/gravel roads). Access roads constructed above pre-construction contours and elevations in waters of the United States must be properly bridged or culverted to maintain surface flows.
- Exposed slopes and stream banks will be stabilized immediately upon completion of the work at each water body.

BLOCK 23 – Other NWPS, Regional General Permits, or Individual Permits

Ohio EPA Water Quality Certification Eligibility

The Ohio EPA has waived its right for conditioning the Water Quality Certifications (WQCs) for the reissued 2021 NWPs, which include NWP 12. As such WQC is considered granted with the NWP authorization and separate coordination with the Ohio EPA is not required.

BLOCK 24 – Compensatory Mitigation

The proposed activities will result in a permanent conversion of forested wetland to emergent wetland, due to construction activities to install the new pipeline. A total of 0.008 acres of forested Wetland E will be converted to emergent wetland. However, no mitigation is proposed as the total permanent conversion is well below 0.10 of an acre and will have minimal adverse environmental effects.

BLOCK 26 - Threatened and Endangered Species

The project area was reviewed for trees that could provide habitat for the federally endangered Indiana bat (*Myotis sodalis*) and/or the federally threatened northern long-eared bat (*M. septentrionalis*). Nine (9) trees were identified within or near the project area with characteristics which may potentially provide habitat for these bats. It will be necessary to remove some of the potential habitat trees. DEO proposes to cut these trees between October 1 and March 31. The locations of these trees are indicated in Attachment A.

DEO initiated coordination with the U.S. Fish & Wildlife Service (USFWS) and the Ohio Department of Natural Resources (ODNR) on December 21, 2022. On January 3, 2023 the USFWS responded that due to the project type, size, location, and the proposed implementation of seasonal tree clearing, that USFWS does anticipate adverse impacts to the Indiana bat or the northern long-eared bat. Additionally, the USFWS does “*not anticipate adverse effects to other federally endangered, threatened, or proposed species, or proposed or designated critical habitat.*” Response for the ODNR is still pending.

Coordination with the USFWS and ODNR regarding threatened and endangered species is included in Attachment E.

BLOCK 27 - OHPO Historic Records

The Ohio History Connection Online Mapping System was searched to identify documented historic and cultural resources within or adjacent to the project area including National Register (NR) listed districts, NR properties, Ohio Historic Inventory structures, Ohio Genealogical Society cemeteries, Archaeological Sites, and Phase 1/2/3 Archaeological Surveys. The mapping system indicated that no historic or cultural resources are located within the project area. Additionally, the project area is dominated by disturbed road ROW, a maintained utility easement, the newly acquired easement, and agricultural fields. It is unlikely that archeological resources eligible for listing on the NR occur within the project area.

Table 1. Wetland Impact Analysis Table.

<i>Wetland</i>	<i>Cowardin Classification</i>	<i>ORAM Category</i>	<i>Within Review Area</i>	<i>Within 10-Foot or 60-Foot Construction Corridors</i>			
			<i>Area (ac)</i>	<i>Impact¹ Area (ac)</i>	<i>Trench Crossing Length (lf)</i>	<i>Trench Crossing Area (ac)</i>	<i>Amount of Discharge (cu yd)²</i>
A	PEM/PFO	Mod. 2	0.05	0.000	0	0.000	0.0
B	PEM/PFO	1 or 2 gray zone	0.23	0.000	0	0.000	0.0
C	PEM	1	1.53	0.613	445	0.031	247.2
D	PFO	1 or 2 gray zone	0.13	0.000	0	0.000	0.0
E	PFO	Mod. 2	0.05	0.008	35	0.002	19.4
F	PEM	1 or 2 gray zone	0.03	0.000	0	0.000	0.0
Total	--	--	2.02	0.621	480	0.033	266.6

¹ All impacts will be temporary and all grades will be restored to pre-construction contours.

² Discharge associated with trench excavation.

Table 2. Stream Impact Analysis Table.

<i>Stream</i>	<i>Flow Regime</i>	<i>OHWM Width (ft)</i>	<i>Within Review Area</i>		<i>Within 10-Foot or 60-Foot Construction Corridors</i>			
			<i>Length (lf)</i>	<i>Area (ac)</i>	<i>Upstream to Downstream Length (lf)</i>	<i>Trench Crossing Length (lf)</i>	<i>Trench Impact Area (ac)¹</i>	<i>Amount of Discharge (cu yd)²</i>
1	Perennial	8.5	289	0.056	10	8.5	0.0006	4.7
2	Ephemeral	3	37	0.003	37	3 ³	0.0002 ³	1.7 ³
3 (Wetmore Creek)	Perennial	20	364	0.167	115	20	0.0014	11.1
4	Ephemeral	3	60	0.004	0	0	0.0000	0.0
5	Ephemeral	2	51	0.002	0	0	0.0000	0.0
Total	--	--	801	0.233	162	31.5	0.0022	17.5

¹ All impacts will be temporary and all grades will be restored to preconstruction contours.

² Discharge associated with trench excavation.

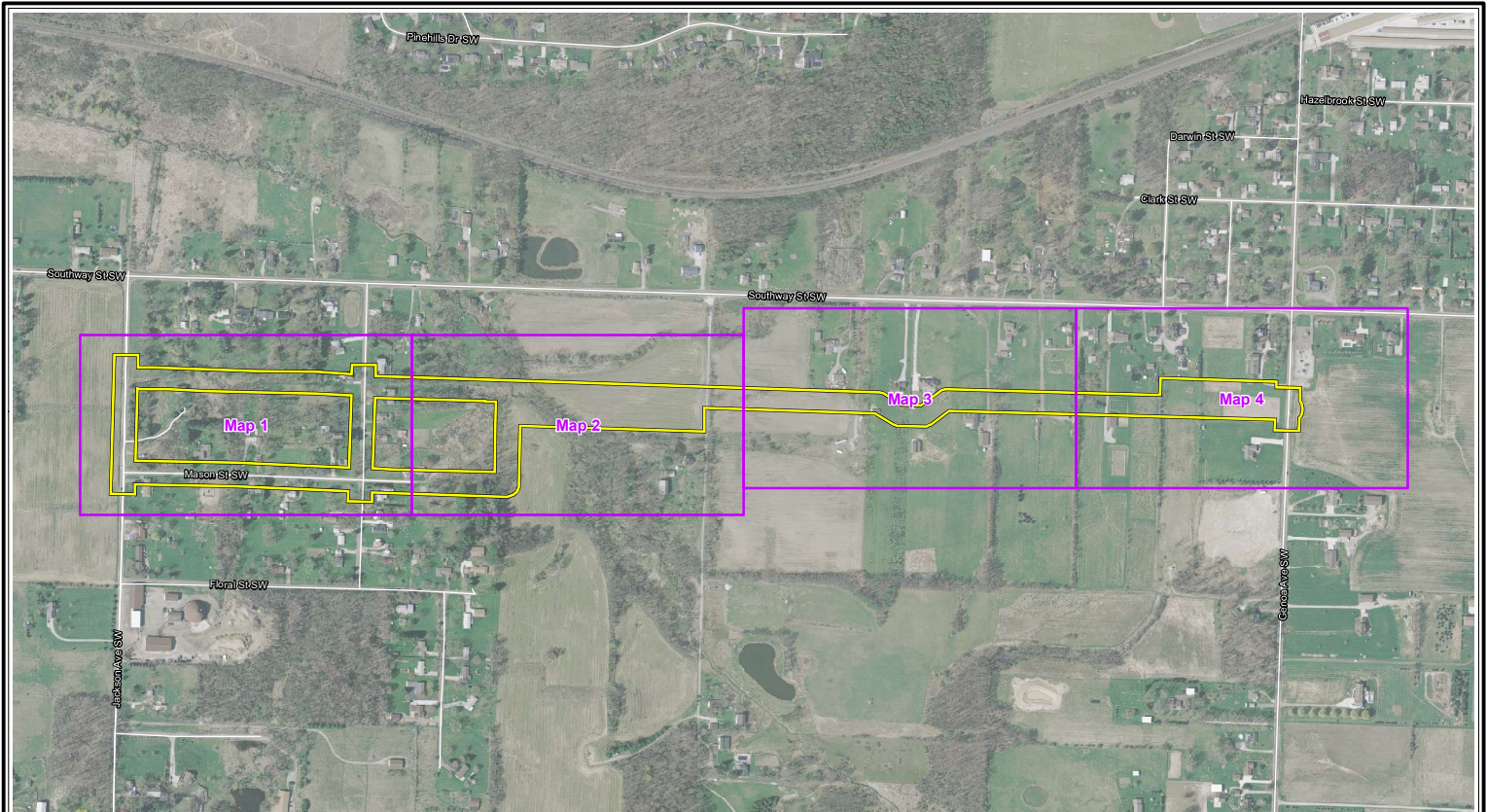
³ Impacts to Stream 2 are associated with construction activity supportive to the nearby trenching; but will not involve trenching

Table 3. Open Water Impact Analysis Table.

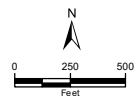
<i>Open Water</i>	<i>Cowardin Classification</i>	<i>Within Review Area</i>	<i>Within 10-Foot or 60-Foot Construction Corridors</i>			
		<i>Area (ac)</i>	<i>Impact Area (ac)</i>	<i>Trench Crossing Length (lf)</i>	<i>Trench Crossing Area (ac)</i>	<i>Amount of Discharge (cu yd)</i>
A	PUB	0.06	0.00	0.00	0.0000	0.0000

Attachment A

Project Site Plan Maps



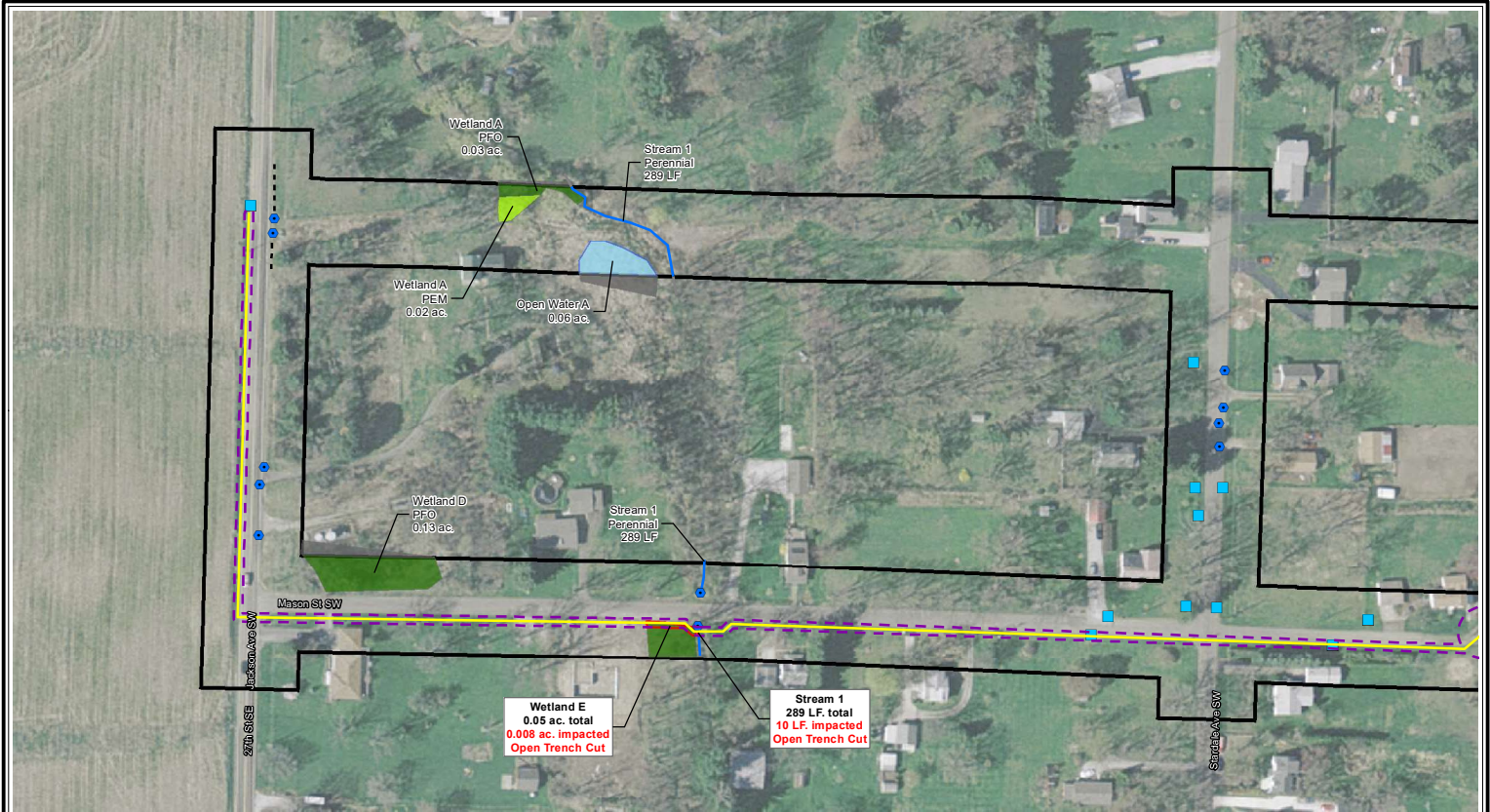
- Project Study Area
- Map Extent



Base Layer: OSP 2016

Figure 1
Impacts Map Book
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/2/2023





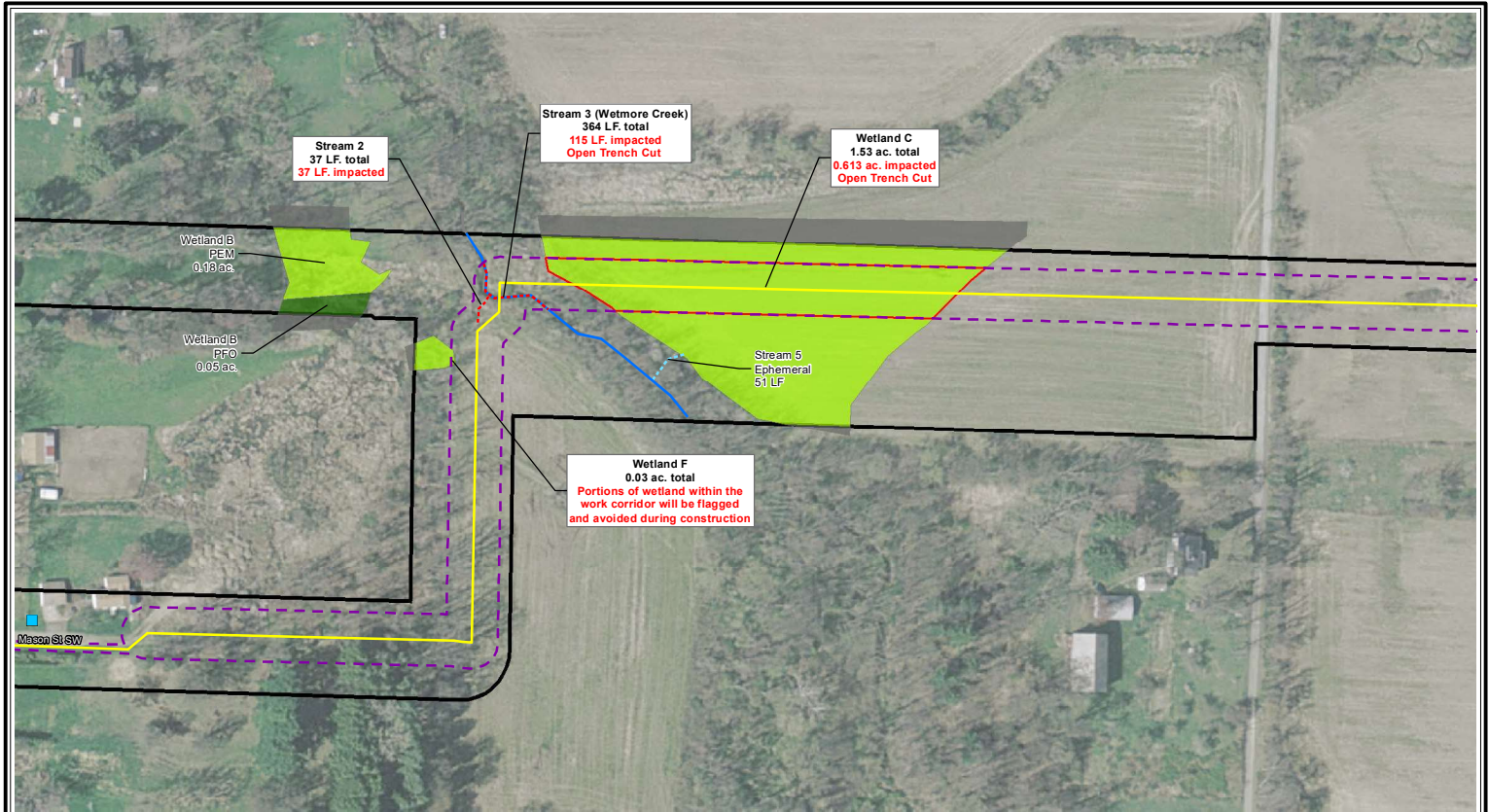
Project Study Area	Impacted Wetland	Delineated PEM Wetland On-Site
Culvert	Delineated Ephemeral Stream On-Site	Delineated PFO Wetland On-Site
Inlet	Delineated Perennial Stream On-Site	Delineated Wetland Off-Site
Proposed Pipeline	Delineated Perennial Stream Off-Site	Delineated Waterbody On-Site
Work Corridor	Delineated Ditch	Delineated Waterbody Off-Site
Impacted Stream		

Figure 1
Impacts Map 1 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/2/2023

N

0 50 100
Feet

Base Layer: OSP 2016



- Project Study Area
- Impacted Wetland
- Delineated PEM Wetland On-Site
- Delineated PFO Wetland On-Site
- Delineated Wetland Off-Site
- Delineated Ephemeral Stream On-Site
- Delineated Perennial Stream On-Site
- Delineated Perennial Stream Off-Site
- Delineated Waterbody On-Site
- Delineated Waterbody Off-Site
- Culvert
- Inlet
- Proposed Pipeline
- Work Corridor
- Delineated Ditch
- Impacted Stream

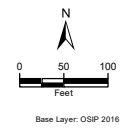


Figure 1
Impacts Map 2 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/2/2023

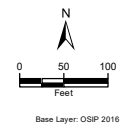
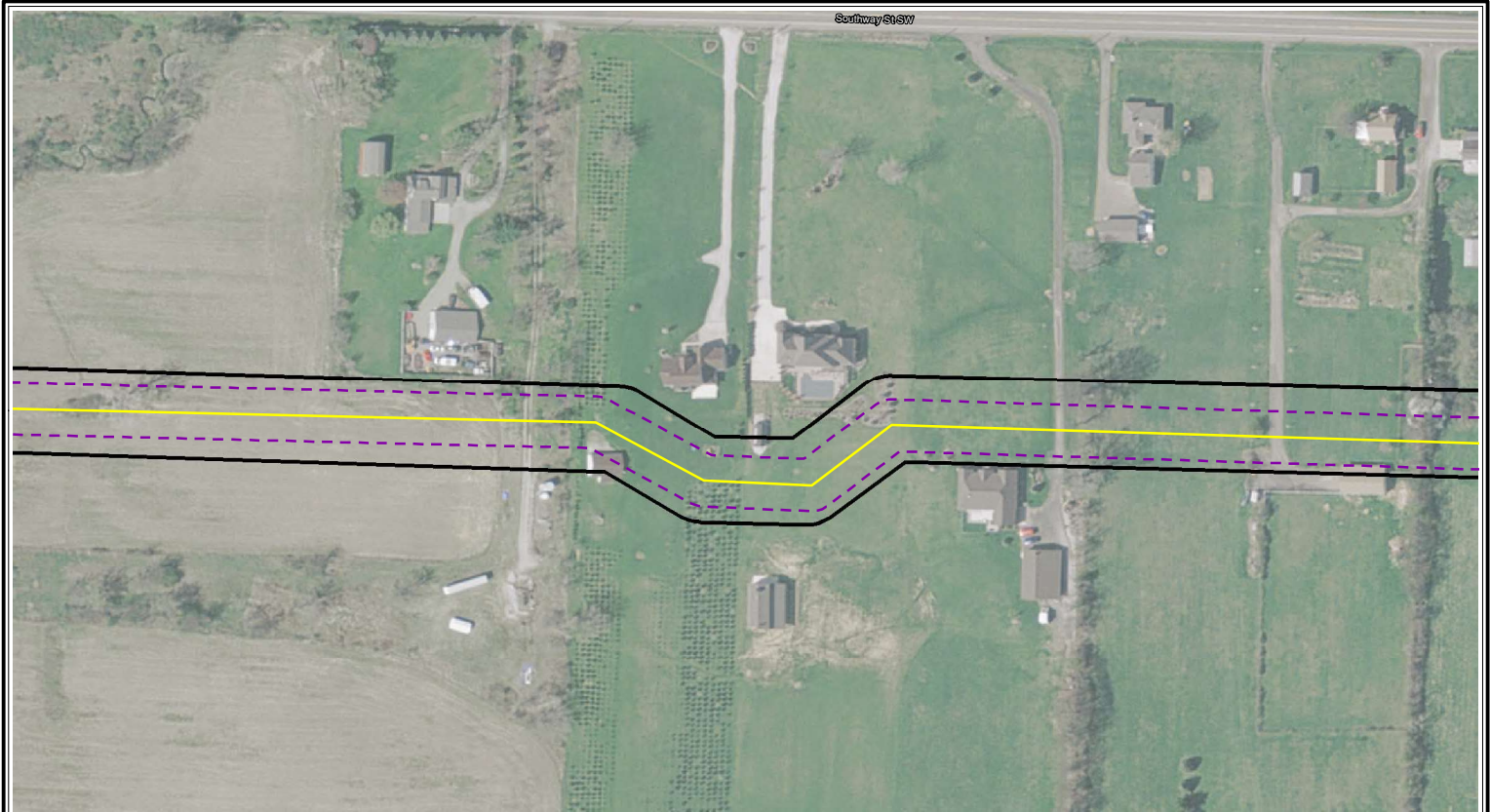

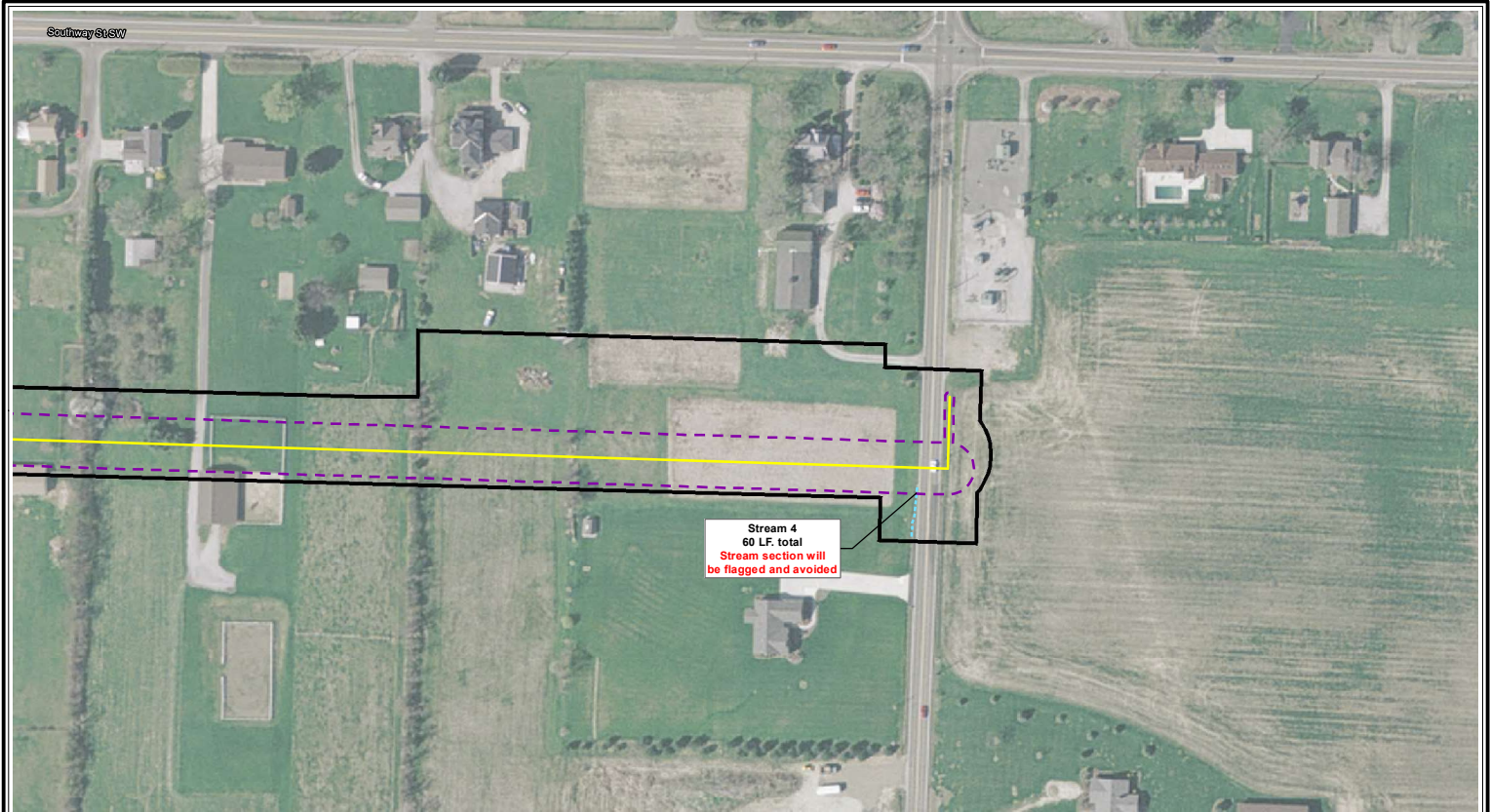


Figure 1
Impacts Map 3 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/2/2023





- Project Study Area
- Impacted Wetland
- Delineated PEM Wetland On-Site
- Delineated PFO Wetland On-Site
- Delineated Wetland Off-Site
- Delineated Waterbody On-Site
- Delineated Waterbody Off-Site
- Culvert
- Inlet
- Impacted Stream
- Delineated Ephemeral Stream On-Site
- Delineated Perennial Stream On-Site
- Delineated Perennial Stream Off-Site
- Delineated Ditch
- Proposed Pipeline
- Work Corridor

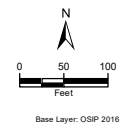


Figure 1
Impacts Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/2/2023

Attachment B

Aquatic Resource Delineation Report



> Aquatic Resources Delineation Report
PIR 2350 - Jackson & Genoa
Perry Township, Stark County, Ohio

January 2023
ECT No. 210470-0001

The East Ohio Gas Company, d/b/a Dominion Energy Ohio
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Table of Contents

Executive Summary	1
1.0 Introduction and Methodology	2
2.0 Available Mapping and Data.....	5
2.1 Aerial Imagery Review	5
2.2 U.S. Geological Survey Topographic Map.....	5
2.3 National Wetland Inventory and National Hydrography Dataset Map	5
2.4 USDA-NRCS Soils Map	6
2.5 401 Water Quality Certification for Nationwide Permits Eligibility Maps (OHIO).....	6
2.6 FEMA Floodplain Map.....	6
3.0 Results	7
3.1 Wetlands	7
3.2 Streams	9
3.3 Open Waters.....	12
3.4 Upland Conditions.....	12
4.0 Conclusions	13
5.0 References.....	14
Common Wetland Definitions	15

Appendices

Appendix A	Background and Delineation Maps
Appendix B	USACE Regional Delineation Dataforms
Appendix C	Ohio Rapid Assessment Method (ORAM) Dataforms
Appendix D	Photographic Log
Appendix E	Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Forms

List of Tables

Table 1. Ohio Rapid Assessment Method Scoring Breakpoints.....	3
Table 2. Wetland Summary Data.....	8
Table 3. Stream Summary Data	11
Table 4. Open Waters Summary Data	12

List of Acronyms and Abbreviations

CWA	Clean Water Act
DEO	Dominion Energy Ohio
ECT	Environmental Consulting & Technology, Inc.
FAC	facultative
FACU	facultative upland
FACW	facultative wetland
FEMA	Federal Emergency Management Agency
FIRM	Federal Insurance Rate Map
GPS	global positioning system
HUC	Hydrologic Unit Code
NHD	National Hydrography Dataset
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWP	USACE Nationwide Permit
OBL	obligate wetland
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHWM	ordinary high-water mark
ORAM	Ohio Rapid Assessment Method
PHW	Primary Headwater
Project	PIR 2350 - Jackson & Genoa
SFHA	Special Flood Hazard Area
UPL	obligate upland
USACE	U.S. Army Corps of Engineers
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQC	Water Quality Certification
WOTUS	Waters of the United States

Executive Summary

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO) contracted Environmental Consulting & Technology, Inc. (ECT), to perform an aquatic resources delineation for the PIR 2350 - Jackson & Genoa (Project) site located in Perry Township, Stark County, Ohio. The Project is also located in the Tuscarawas watershed (Hydrologic Unit Code [HUC] 05040001).

The Project Study Area comprises approximately 50 feet on either side of the existing pipeline within the easement that extends east from Jackson Avenue SW to Genoa Avenue SW; approximately 40 feet from the edge of pavement along segments of Jackson Avenue SW, Stardale Avenue SW, and Mason Street SW; and along a newly acquired easement which originates at the eastern terminus of Mason Street SW and proceeds east and then north to join the existing easement (*Site Location* in **Appendix A, Figure 1**). The Project Study Area is dominated by residential development, active agricultural fields, and mature forested areas. The Project Study Area primarily has land cover of maintained lawn, areas of mature woods, and active agricultural fields. ECT conducted field visits to identify, delineate, and characterize wetlands on July 6, 2021, June 2, 2022, and October 27, 2022.

Under Section 404 of the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE). In addition, the Ohio Environmental Protection Agency (OEPA) regulates non-federally jurisdictional wetlands within the state of Ohio. Within regulated areas, a permit is required for activities such as, but not limited to, the placement of fill, dredging of material, draining of surface water, or constructing a structure within a regulated wetland, stream.

Six (6) wetlands (Wetlands A through F), five (5) streams (Streams 1 through 5), and one (1) open water (Open Water A) were identified within the Project Study Area. ECT anticipates that all delineated features will be federally jurisdictional.

1.0 Introduction and Methodology

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO) contracted Environmental Consulting & Technology, Inc. (ECT), to perform an aquatic resources delineation for the PIR 2350 - Jackson & Genoa (Project) site located in Perry Township, Stark County, Ohio. The Project is also located in the Tuscarawas watershed (Hydrologic Unit Code [HUC] 05040001).

Under the 1972 Clean Water Act (CWA), Waters of the United States (WOTUS) are regulated by the U.S. Army Corps of Engineers (USACE) and are considered jurisdictional. These can include such bodies of water as lakes, ponds, rivers, tributaries, and wetlands. In addition, the Ohio Environmental Protection Agency (OEPA) is the state regulatory agency that regulates all surface waters determined non-jurisdictional by the USACE. Currently, USACE is interpreting WOTUS consistent with the pre-2015 regulatory definition and practice until further notice. This report summarizes the surface water features identified within the Project Study Area.

Prior to any field work, ECT conducted a preliminary site assessment of existing information and imagery, including aerial photographs, United States Geological Service (USGS) topographic maps, National Wetland Inventory (NWI) maps, soil survey maps, and Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (FIRMs). The results of this desktop review were used to focus field efforts on protected natural resources that are likely to occur within the Project.

On July 6, 2021, June 2, 2022, and October 27, 2022, ECT conducted field investigations to identify, delineate, and characterize wetlands; and assess water features and streams.

Wetlands within the Project Study Area were delineated following the *1987 U.S. Army Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987) and *Regional Supplement to the Army Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Region* (USACE 2012) guidelines. The presence of wetlands is determined based on three (3) parameters: the presence of hydrophytic vegetation (hydrophytes), hydric soils, and wetland hydrology. Potentially jurisdictional wetland boundaries were mapped using a sub-meter GEO7X[®] series Trimble[®] and Trimble[®] R1 global positioning system (GPS) unit and flagged in the field. Wetland data points and corresponding upland points were also mapped with the GEO7X[®] and series Trimble[®] and Trimble[®] R1 GPS unit. USACE regional determination forms were completed for each wetland and its corresponding upland point.

Vegetation was identified by leaves, bark, twigs, stems, reproductive structures, and/or persistent remains from the preceding growing season. The wetland indicator status for vegetation noted during the evaluation was obtained from the USACE 2020 National Wetland Plant List (USACE 2020). Soil was evaluated by digging test pits sufficient to document hydric indicators, up to 20 inches deep. Soil conditions were evaluated using criteria established by the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service’s (NRCS) *Field Indicators of Hydric Soils in the United States* (USDA-NRCS 2018) and soil colors were evaluated using a Munsell® color chart. Hydrology was evaluated through direct observation of primary indicators (e.g., standing water and/or saturated soil) and indirectly through observation of secondary hydrology indications.

Ohio Rapid Assessment Method (ORAM), Version 5.0, forms were completed for all identified wetlands to evaluate wetland quality. ORAM measures several metrics including wetland hydrology, size, and habitat alteration. Each metric is scored and then totaled to give a final ORAM score corresponding to an ORAM category (1 through 3). Category 1 wetlands represent low-quality wetlands while Category 3 wetlands are high-quality wetlands. ORAMs were categorized based on the scoring breakpoints in **Table 1**. Wetlands that are classified within the gray zone between two categories are regulated as the higher of the two categories unless additional functional biological assessments are completed that demonstrate lower wetland quality.

Table 1. Ohio Rapid Assessment Method Scoring Breakpoints

ORAM Score	ORAM Category
0 - 29.9	1
30 - 34.9	1 or 2 Gray Zone
35 - 44.9	Modified 2
45 - 59.9	2
60 - 64.9	2 or 3 Gray Zone
65 - 100	3

Source: (Mack 2000).

Delineated streams were identified based on the presence of morphological features such as a defined bed and banks, presence of ordinary high water mark (OHWM), and evidence of water flow. Streams were separated into three (3) flow regimes: perennial, intermittent, and ephemeral. Perennial streams are classified as having regular water flow that can be seen year-round. Intermittent streams flow during certain times of the year; however, during dry periods they may not have any flowing

surface water. Ephemeral streams have brief water flow typically exhibited during periods of rainfall in the immediate vicinity. Streams were also mapped using sub-meter GEO7X® series Trimble® GPS and Trimble® R1 GPS units.

Stream quality assessments were conducted following the OEPA's Qualitative Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) dependent upon stream size and/or maximum pool depth. Both methodologies assess several stream metrics, such as substrate type, and assign scores for each metric. Totaled scores are used to determine the general quality of streams (OEPA 2006; 2020).

ECT evaluated the potential jurisdictional status for delineated features following the pre-2015 regulatory regime definition of WOTUS.

2.0 Available Mapping and Data

The following sections provide the results of the desktop review of available mapping and data.

2.1 Aerial Imagery Review

Aerial imagery of the Project Study Area was reviewed before the field reconnaissance to identify past and current land use and potential water resources (*Site Location Map*, **Appendix A: Figure 1**). The aerial imagery review indicated that the Project Study Area has been mainly under agricultural and residential use, with very little change, since at least 1994.

2.2 U.S. Geological Survey Topographic Map

The U.S. Geological Survey (USGS) Canton West 7.5-minute quadrangle map (2000) depicts the elevation within the Project Study Area at a range of 1,050 to 1,100 feet above mean sea level (*USGS Topographic Map - Canton West Quadrangle*, **Appendix A: Figure 2**, (USGS 2000)). One (1) stream, Wetmore Creek, is depicted on the USGS topographic map running from north to south through the center of the Project Study Area.

2.3 National Wetland Inventory and National Hydrography Dataset Map

The U.S. Fish and Wildlife Service (USFWS) NWI mapping database and the USGS National Hydrography Dataset (NHD) were reviewed to determine the likely presence, location, size, and type of water resources that may be in the Project Study Area (USFWS 2022; USGS 2022). USFWS generates NWI maps through high-altitude imagery. These maps were used for preliminary analysis only, as these maps may not accurately depict the extent or existence of wetland systems in a specific area, nor do these maps always correctly identify the types of wetlands present. On-site field mapping is required to determine the actual presence of wetlands and their types in the Project Study Area. Similarly, the USGS has developed the NHD that depicts features such as rivers, streams, and lakes based on available topographic maps. However, some topographic maps may not reflect the current topography of an area. Verification of all streams within the Project Study Area is necessary through on-site visits.

Two (2) riverine NWI features are mapped near the western end and through the center of the Project Study Area (*NWI & NHD Features*, **Appendix A: Figure 3**). One (1) NWI feature is also mapped as the named NHD stream, Wetmore Creek.

2.4 USDA-NRCS Soils Map

ECT reviewed the USDA-NRCS soil data for hydric soils that may be present within the Project Study Area. Hydric soils form under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper part of the soil (USDA-NRCS 2018). Eleven (11) soil map types are mapped within the Project Study Area, two (2) of which are hydric soils or non-hydric soils with hydric inclusions. **Appendix A: Figure 4**, presents a soils map showing the soil types and their boundaries within the Project Study Area.

2.5 401 Water Quality Certification for Nationwide Permits Eligibility Maps (OHIO)

The OEPA administers Section 401 of the Clean Water Act within the state of Ohio. As part of the 401 Water Quality Certification (WQC) conditions for the 2022 Nationwide Permits (NWP), OEPA designated high-quality watersheds within the state of Ohio that are ineligible or possibly eligible for WQC under the NWPs. Review of the OEPA 401 WQC for NWPs Eligibility online map determined that this Project is not located within a protected watershed and is therefore eligible for 401 WQC under the 2022 NWPs (*401 WQC for NWP Eligibility Map*, **Appendix A: Figure 5**, (OEPA 2021). Impacts to streams within the Project should not require an Individual 401 or Director's Authorization from OEPA. Note that the WQC conditions are waived for the set of NWPs reissued in 2021.

2.6 FEMA Floodplain Map

The Ohio Department of Natural Resources (ODNR) regulates development in FEMA identified floodways and floodplains, also called Special Flood Hazard Areas (SFHAs), under the Flood Control Act and Floodplain Management Rule. FEMA's FIRMs delineate these SFHAs and the risk premium zones applicable to the community (FEMA 2002). A review of the FIRMs indicated that there are no floodplains or floodways within the Project Study Area (FEMA 2022).

3.0 Results

The following sections provide the results of the ECT field delineation.

3.1 Wetlands

During the site reconnaissance, six (6) wetlands (Wetlands A through F) were identified within the Project Study Area and are shown on the *Aquatic Resources Delineation Map* (**Appendix A: Figure 6**). USACE Northcentral and Northeast Region wetland/upland data sheets are provided in **Appendix B**. Completed ORAM, version 5.0, forms are provided in **Appendix C**. The identified wetlands had a predominance of hydrophytic vegetation, soils that exhibited reducing conditions, and observed hydrological characteristics.

Sufficient reducing characteristics were observed within the upper 10 inches of soils, per guidelines set forth by the USDA-NRCS Field Indicators of Hydric Soils in the United States (USDA-NRCS 2018). Wetland C meets the conditions for Depleted Matrix (F3). Wetlands A, B, D, E, and F meet the conditions for the Redox Dark Surface (F6) hydric soil indicator. Wetland B also meets the conditions for Loamy Mucky Mineral (F1).

Hydrology indicators found within the identified wetlands included saturation (A3), algal mat or crust (B4), water-stained leaves (B9), drainage patterns (B10), hydrogen sulfide odor (C1), saturation visible on aerial imagery, (C9) geomorphic position (D2), and FAC-neutral test (D5).

Typical vegetative conditions noted in wetlands within the Project Study Area are described in the following paragraphs. The scientific names and wetland indicator status of vegetation (obligate wetland, OBL; facultative wetland, FACW; facultative, FAC; facultative upland, FACU; and obligate upland, UPL) noted during the delineation follow the common name the first time each plant species is referenced. **Appendix D** presents copies of site photographs depicting conditions at the time of the site investigation. **Table 2** provides details on the identified wetlands within the Project Study Area.

Table 2. Wetland Summary Data

Wetland ID	ORAM Score	ORAM Category	WOTUS ¹	PEM ² in Project Study Area (acres)	PSS ³ in Project Study Area (acres)	PFO ⁴ in Project Study Area (acres)	Total Acres in Project Study Area
A	35.5	Mod. 2	Yes	0.02	0	0.03	0.05
B	30	1 or 2 gray zone	Yes	0.18	0	0.05	0.23
C	21.5	1	Yes	1.53	0	0	1.53
D	33	1 or 2 gray zone	Yes	0	0	0.13	0.13
E	35	Mod. 2	Yes	0	0	0.05	0.05
F	34.5	1 or 2 gray zone	Yes	0.03	0	0.00	0.03
TOTAL				1.73	0	0.29	2.02

Source: ECT, 2022.

¹ Potential jurisdictional status following the pre-2015 regulatory regime definition

² Palustrine emergent

³ Palustrine scrub-shrub

⁴ Palustrine forested

Wetland A is composed of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation communities. The PFO vegetation community is dominated by green ash (*Fraxinus pennsylvanica*, FACW) while the PEM vegetation community is dominated by gray dogwood (*Cornus racemose*, FAC), jewelweed (*Impatiens capensis*, FACW), and lake sedge (*Carex lacustris*, OBL). Wetland A abuts and drains into Stream 1 and extends off-site of the Project Study Area to the north. Wetland A received a score 35.5 on the ORAM, placing it within the Modified 2 category.

Wetland B is a PEM/PFO wetland. The forested vegetation community is dominated by black willow (*Salix nigra*, OBL) and silver maple (*Acer saccharinum*, FACW), and the emergent vegetation community is dominated by reed canary grass (*Phalaris arundinacea*, FACW) and jewelweed. Wetland B continues offsite to the north and south of the Project Study Area and is located east of Stardale Avenue and west of Stream 3 (Wetmore Creek). Based on aerial review of the Project Study Area, Wetland B likely connects to off-site portions of Stream 3 (Wetmore Creek). The residential properties bordering Wetland B appear to mow right up to the wetland boundary. Wetland B received a score of 30 on the ORAM, placing it within Category 1 or 2 gray zone.

Wetland C is a PEM wetland dominated by reed canary grass. Wetland C is located east of Stream 3 (Wetmore Creek) and is predominately surrounded by active agricultural fields. Wetland C continues

offsite to the north and south where it likely connects to an off-site tributary of Stream 3 (Wetmore Creek). Wetland C received a score 21.5 on the ORAM, placing it within Category 1.

Wetland D is a PFO wetland dominated by eastern cottonwood (*Populus deltoides*) and silky dogwood (*Cornus amomum*, FACW) and is predominately surrounded by residential land use. Wetland D continues offsite to the north and is assumed to connect to an offsite aquatic resource. Wetland D received a score of 33 on the ORAM, placing it within Category 1 or 2 gray zone .

Wetland E is a PFO wetland dominated by silver maple (*Acer saccharinum*, FACW), green ash, and jewelweed and is predominately surrounded by residential land use. Wetland E is adjacent and appears to be hydrologically connected to Stream 1. Wetland E received a score of 35, placing it within Modified 2 category .

Wetland F is a PEM wetland dominated by red maple seedlings, yellow bristle-grass (*Setaria pumila*, FAC), Virginia wildrye (*Elymus virginicus*, FACW), and New York Ironweed (*Vernonia noveboracensis*, FACW) and is predominately surrounded by agricultural land and forest. Wetland F is located approximately 100 feet southwest of Stream 2 and Stream 3 (Wetmore Creek). Wetland F received a score of 34.5, placing it within the Category 1 or 2 gray zone.

Based on the hydrologic connections to other aquatic resources as previously described, ECT anticipates that all six (6) wetlands are potentially WOTUS and would be regulated by the USACE.

3.2 **Streams**

The field reconnaissance completed by ECT identified five (5) streams (Streams 1 through 5) within the Project and are shown on the *Aquatic Resources Delineation Map* (**Appendix A: Figure 6**). The identified streams exhibit morphological features such as a defined bed and banks, OHWM, and evidence of water flow. **Appendix D** presents copies of photographs depicting the water features. **Table 3** provides the stream data. Stream 3 corresponds with Wetmore Creek and Stream 1 corresponds with an unnamed NWI riverine feature/NHD flowline. Stream 3 (Wetmore Creek) has a watershed ≥ 1 square mile and a maximum pool depth ≥ 40 centimeters and was therefore assessed following the QHEI. Streams 1, 2, 4, and 5 have a watershed < 1 square mile and a maximum pool depth of < 40 centimeters and were therefore assessed using the HHEI. Completed OEPA QHEI and HHEI forms are provided in **Appendix E**.

Stream 1 is a perennial stream that flows southeast to northwest through a forested area near the western extent of the Project Study Area where it then flows underneath a section of Mason Street SW. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A and Wetland E. A dam/impoundment has also been constructed between Stream 1 and Open Water A. Stream 1 received a score of 61 on the HHEI, classifying it as a Class II Primary Headwater (PHW).

Stream 2 is an ephemeral stream that flows from south to north through the Project Study Area into Stream 3 (Wetmore Creek). Stream 2 drains an active agricultural field located south of the Project Study Area, greatly impacting sedimentation and nutrient input into the stream. Stream 2 has a natural channel and shows no signs of modification. The dominant substrate in Stream 2 is clay/hardpan and gravel. Stream 2 received a score of 7 on the HHEI form, classifying it as a Class I PHW.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the Project Study Area and is connected to Stream 2. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel. Stream 3 received a score of 67 on the QHEI, meaning that it has the potential to attain the Warmwater Habitat designation.

Stream 4 is an ephemeral stream that runs north to south through the Project Study Area parallel to Genoa Ave SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Stream 4 received a score of 17 on the HHEI form, classifying it as a Modified Class I PHW.

Stream 5 is an ephemeral stream that flows from north to south through the Project Study Area into Stream 3 (Wetmore Creek). Stream 5 drains from Wetland C. Stream 5 shows signs of recovery from previous channelization. The dominant substrates are clay/hardpan and gravel. Stream 5 received a score of 19 on the HHEI, classifying it as a Modified Class I PHW.

Table 3. Stream Summary Data

Stream ID	Associated Waterway	Flow Regime	QHEI/HHEI Score	Class/Designation	WOTUS ¹	Substrate Types	OWHM Width (ft)	Linear Feet
1	Unnamed Tributary	Perennial	61	Class II PHW ²	Yes	Sand/gravel	8.5	289
2	Unnamed Tributary	Ephemeral	7	Class I PHW	Yes	Hardpan/gravel	3	37
3	Wetmore Creek	Perennial	67	Warmwater Habitat	Yes	Gravel/sand	20	364
4	Unnamed Tributary	Ephemeral	17	Modified Class I PHW	Yes	Hardpan/gravel	3	60
5	Unnamed Tributary	Ephemeral	19	Modified Class I PHW	Yes	Hardpan/leaf pack	2	51
Perennial Total								653
Intermittent Total								0
Ephemeral Total								148
TOTAL								801

Source: ECT, 2022

¹ Potential jurisdiction status following the pre-2015 regulatory regime definition.

² Primary Headwater

3.3 Open Waters

One (1) open water, Open Water A, is located within a residential lawn in the western most section of the Project Study Area. Open Water A is surrounded by maintained lawn and was likely constructed in previously upland areas. Open Water A is separated from Stream 1 by an impoundment. **Table 4** provides the data for Open Water A.

Table 4. Open Waters Summary Data

Open Water ID	WOTUS ¹	Acreage
A	Yes	0.06

Source: ECT, 2022

3.4 Upland Conditions

Upland areas of the Project included agricultural fields, mature woods, and residential lawn along the pipeline easement and surrounding residential homes. A map showing the location of vegetation communities within the Project Study Area is included in **Appendix A: Figure 7**.

Agricultural fields: Upland conditions were dominated by agricultural fields with remnants of the prior season's corn crop (*Zea mays*, UPL).

Upland Deciduous Forest: The mature woods are composed primarily of northern red oak, green ash (*Fraxinus pennsylvanica*, FACW), red maple, black walnut (*Juglans nigra*, FACU), sugar maple (*Acer saccharum*, FACU), and American elm (*Ulmus americana*, FACW). Soil in uplands typically consist of 0 to 20 inches of dark gray to brown loam. Soils were generally loamy and lacked the redoximorphic features found in hydric soils. There was no indication of wetland hydrology in upland areas.

Residential Lawn: Maintained lawns and developed areas in eastern portions of the Project Study Area are dominated by Kentucky bluegrass (*Poa pratensis*, FACU) and smooth brome (*Bromus inermis*, UPL).

4.0 Conclusions

ECT conducted an aquatic resources delineation on an approximately 24 -acre site for PIR 2350 - Jackson & Genoa located within Perry Township, Stark County, Ohio. Six (6) wetlands totaling 2.02 acres, five (5) streams totaling 801 linear feet, and one (1) open water totaling 0.06 acres were identified within the Project Study Area. ECT anticipates that all wetlands, streams, and waterbodies are federally jurisdictional under the pre-2015 definition of WOTUS.

ECT's evaluation was performed in accordance with generally accepted procedures for conducting aquatic resource delineations and assessments. ECT's conclusion reflects our professional opinion based on conditions present at the time of the evaluation. Official verification of the locations and boundaries of aquatic resources along with their jurisdictional status under Section 404 of the CWA can only be done by the USACE.

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Common Wetland Definitions

Perennial Stream: year-round streams, typically have water year-round. Water comes from upstream tributaries or headwaters as well as precipitation.

Intermittent Streams: have water intermittently throughout the year when upstream waters or groundwater provide enough stream flow. May not have flowing surface water during dry times of the year.

Palustrine Emergent Wetland (PEM): Vegetative classification of a wetland system based on the dominant vegetation, consisting of rooted herbaceous (non-woody) plant species that have parts extending above a water surface with at least 30% aerial coverage.

100-year flood: A flood with a magnitude that has a 1% chance of occurring or being exceeded in any given year.

Floodplain: The area of land adjoining a river or stream that will be inundated by a 100-year flood.

Hydric soil: Soil that is saturated, flooded, or ponded long enough during the growing season to develop anaerobic conditions in the upper part (USDA-NRCS 2018).

Hydrophytes: Plant species that grows in water or on a substrate that is at least periodically deficient in oxygen because of excessive water content; plants typically found in wet habitats.

Isolated Wetland: "wetland that is not subject to regulation under the Federal Water Pollution Control Act" as described by OH Revised Code 6111.02.

Palustrine Scrub-Shrub Wetland (PSS): Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants less than 3 inches in diameter but greater than 3 ft but less than 20 ft in height OR where trees and shrubs combined have an aerial coverage no greater than 30%.

Palustrine Forested Wetland (PFO): Vegetative classification of a wetland system based on the dominant vegetation consisting of woody plants 3 inches in diameter or greater regardless of height with at least 30% aerial coverage.

Traditional Navigable Water: water body that is presently used or has been previously used in the past for transport by interstate or foreign commerce vessels.

Wetland: Defined by USACE as "...areas that are inundated or saturated by surface or ground water...at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in soil conditions."

Wetland hydrology: Hydrologic characteristics of areas that are periodically inundated or have soils saturated to the surface at some time during the growing season.

Wetland Indicator Status:

OBL: Obligate wetland plant that occurs almost always, 99% of the time, in wetlands under natural conditions, but which rarely occur in non-wetlands.

FACW: Facultative wetland plant that occurs usually, 67% to 99% of the time, in wetlands, but also occurs 1% to 33% of the time in non-wetlands.

FAC: Facultative plant that occurs in both wetlands and non-wetlands 33% to 67% of the time.

FACU: Plant that occurs sometimes, 1% to 33% of the time, in wetlands but occurs more often, 67% to 99% of the time, in non-wetlands.

UPL: Upland plant that occurs very rarely in wetlands, less than 1% of the time

Appendix A Background and Delineation Maps

Figure 1. Site Location

Figure 2 USGWS Topographic – Canton West Quadrangle

Figure 3 NWI & NHD Features

Figure 4 NRCS Soil Survey Units

Figure 5 401 WQC Eligibility for NWP's Map

Figure 6 Aquatic Resources Delineation Map

Figure 7 Vegetation Communities Map

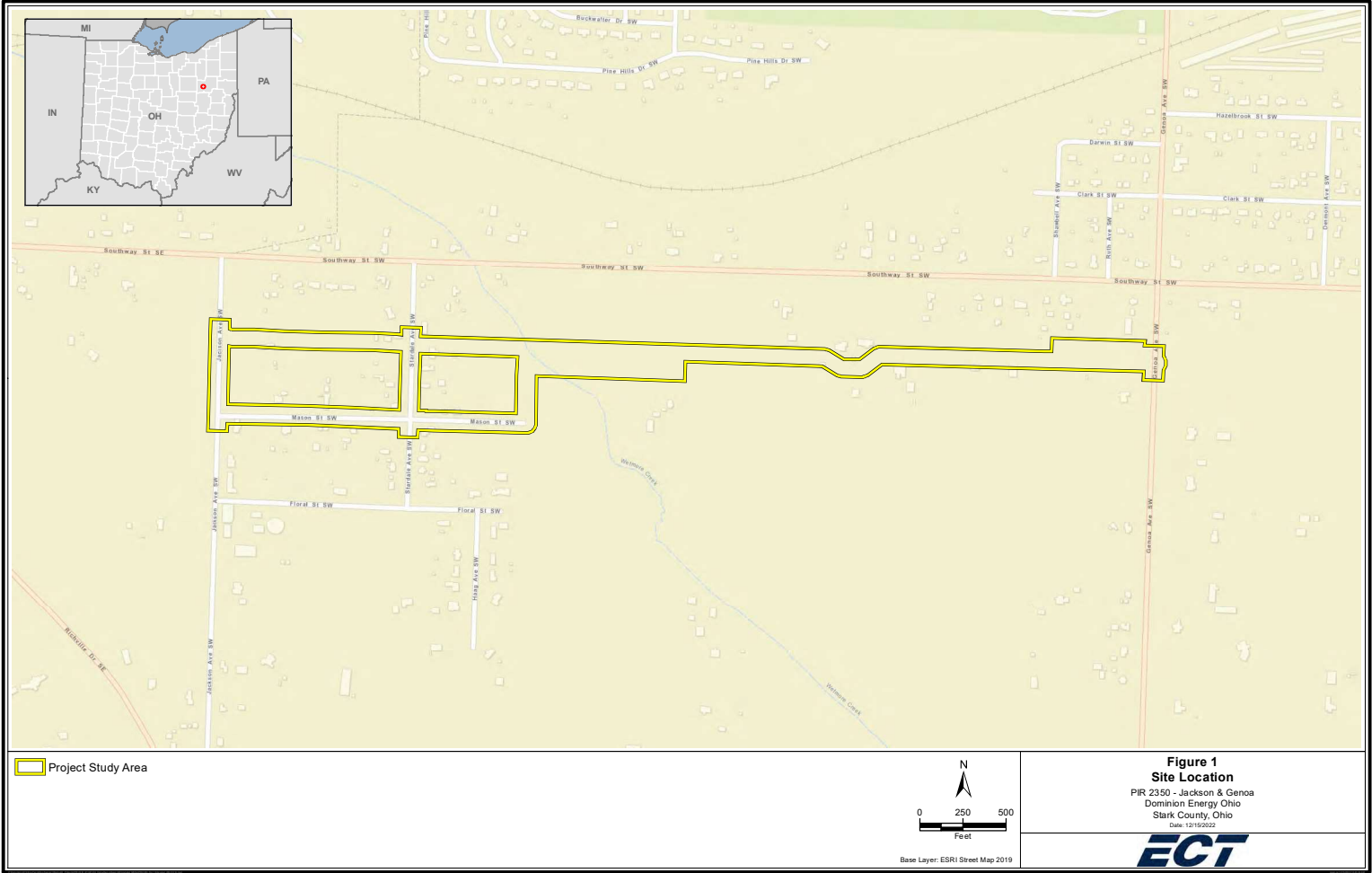
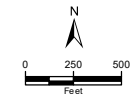
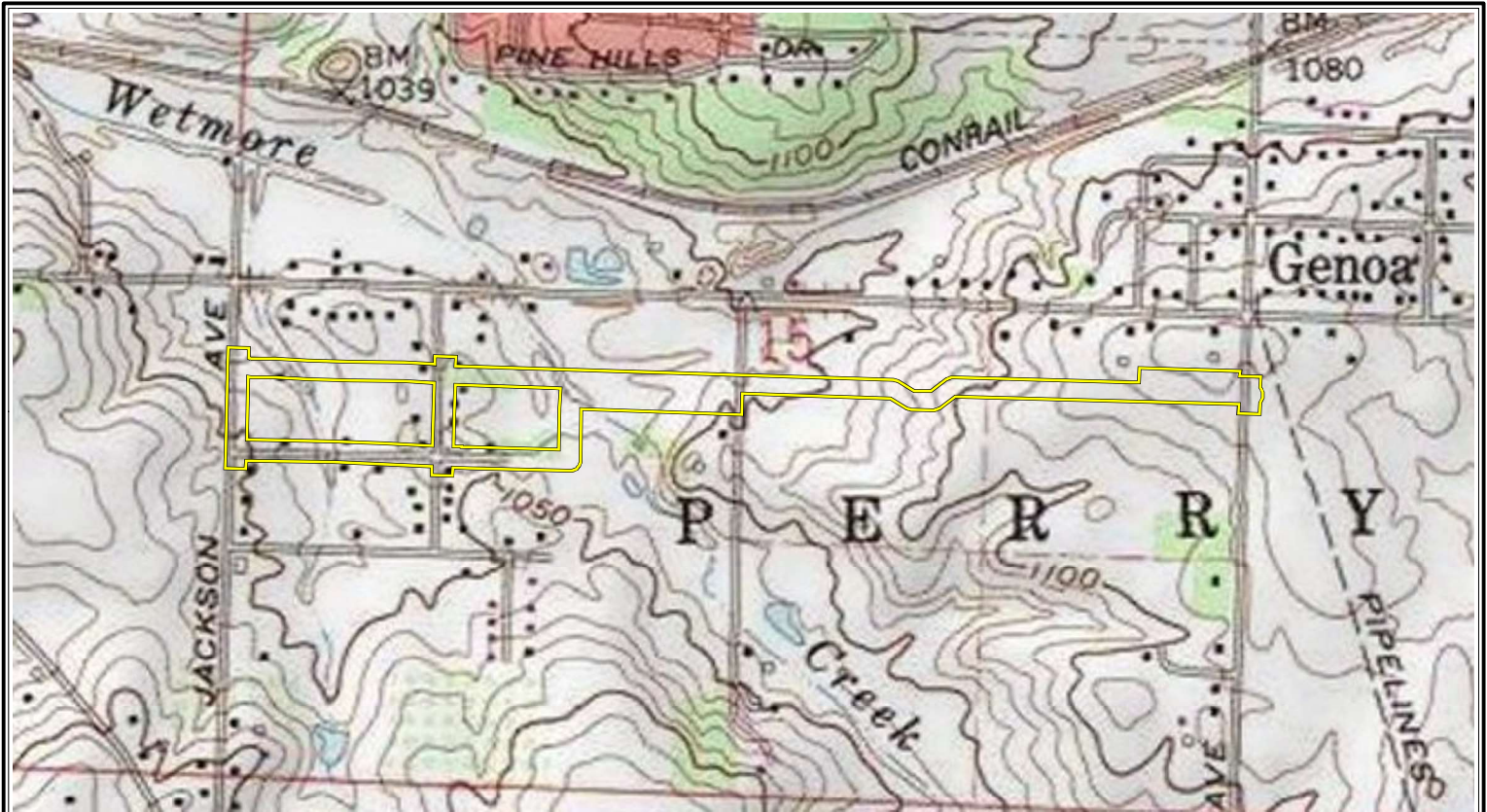



Figure 1
Site Location
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Slank County, Ohio
 Date 12/15/2022



Base Layer: ESRI Street Map 2019



 Project Study Area

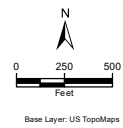
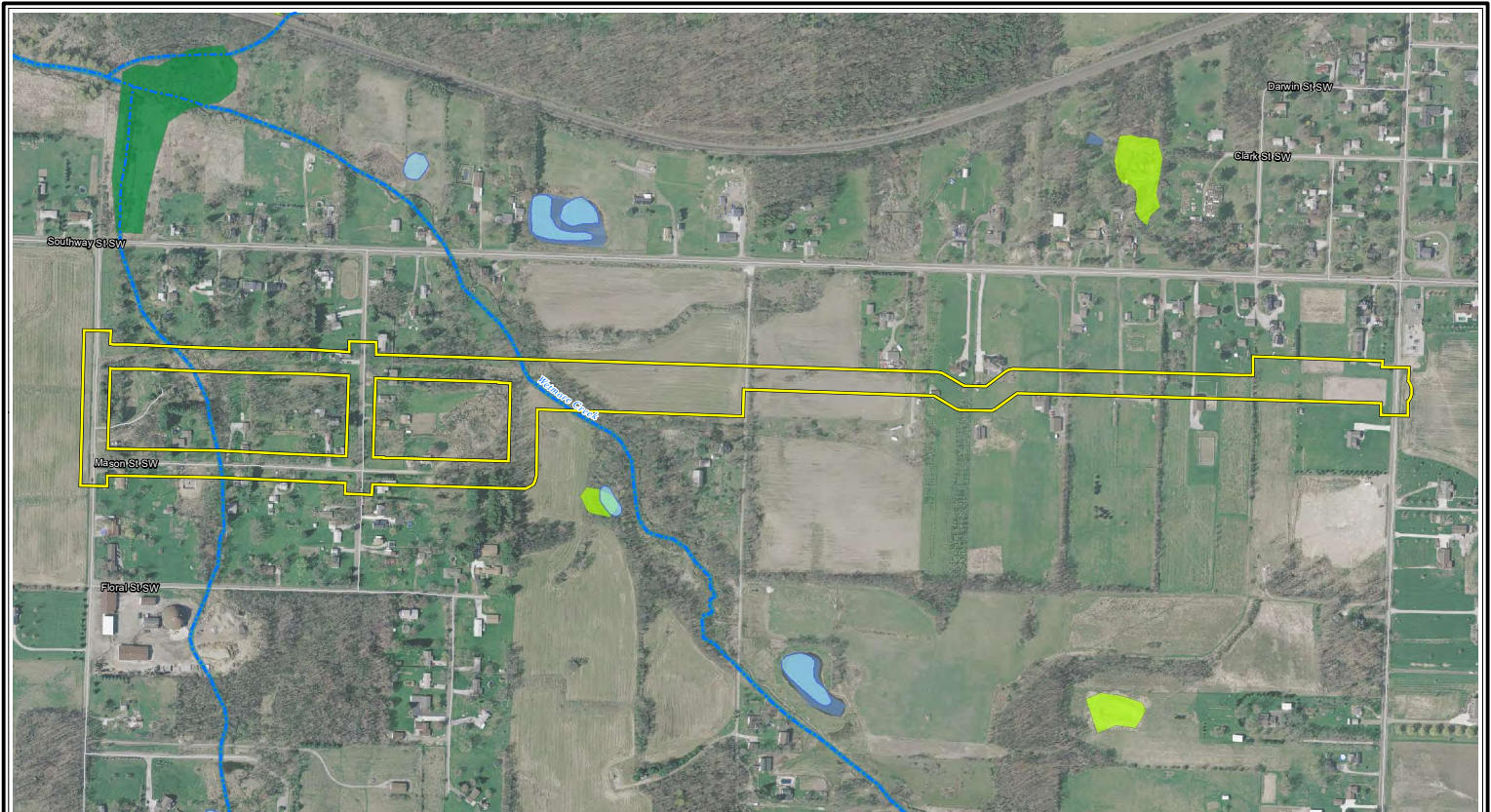
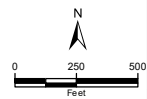


Figure 2
USGS Topographic - Canton West Quadrangle
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022





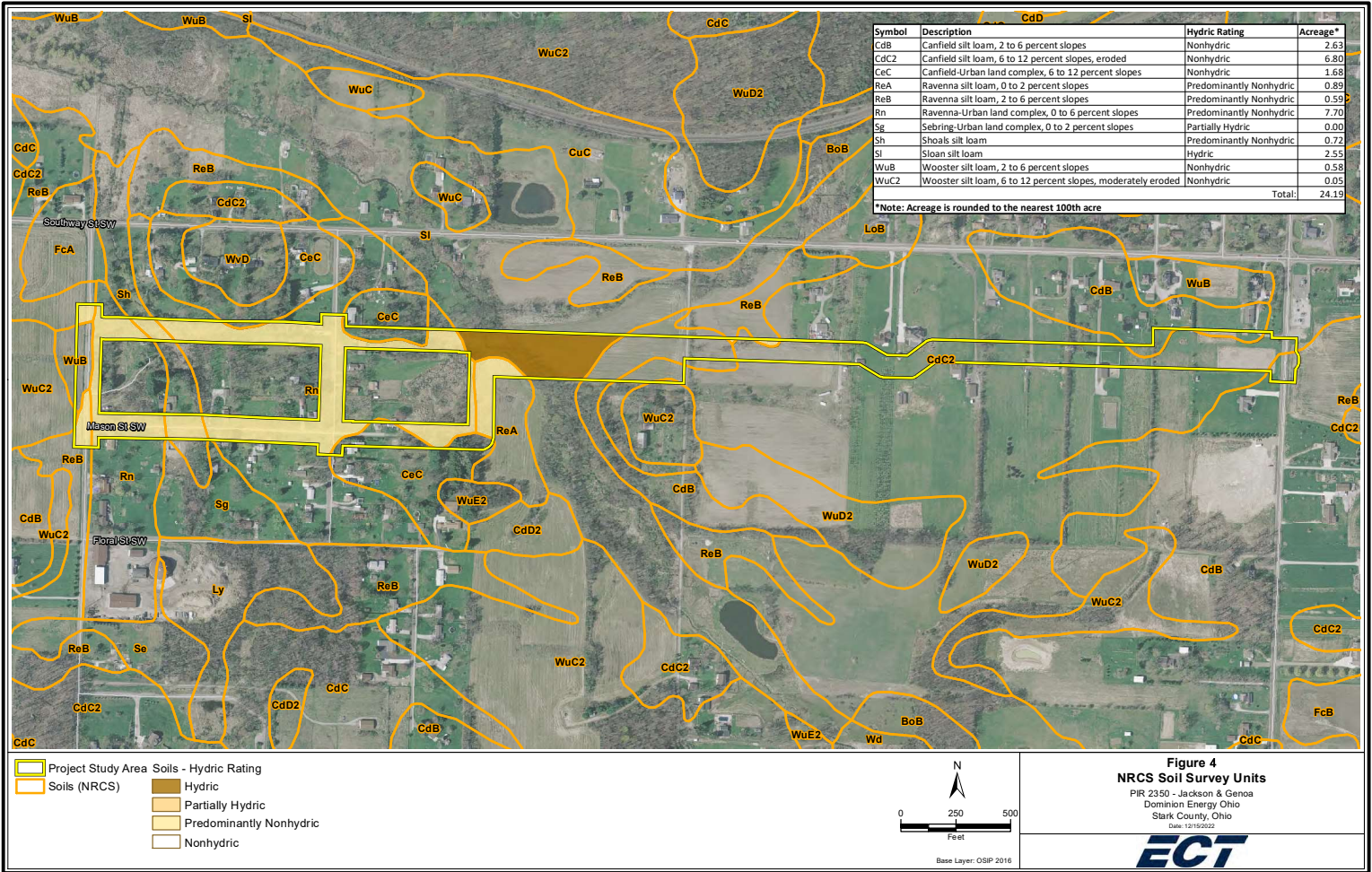
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- NHD Waterbody
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Riverine

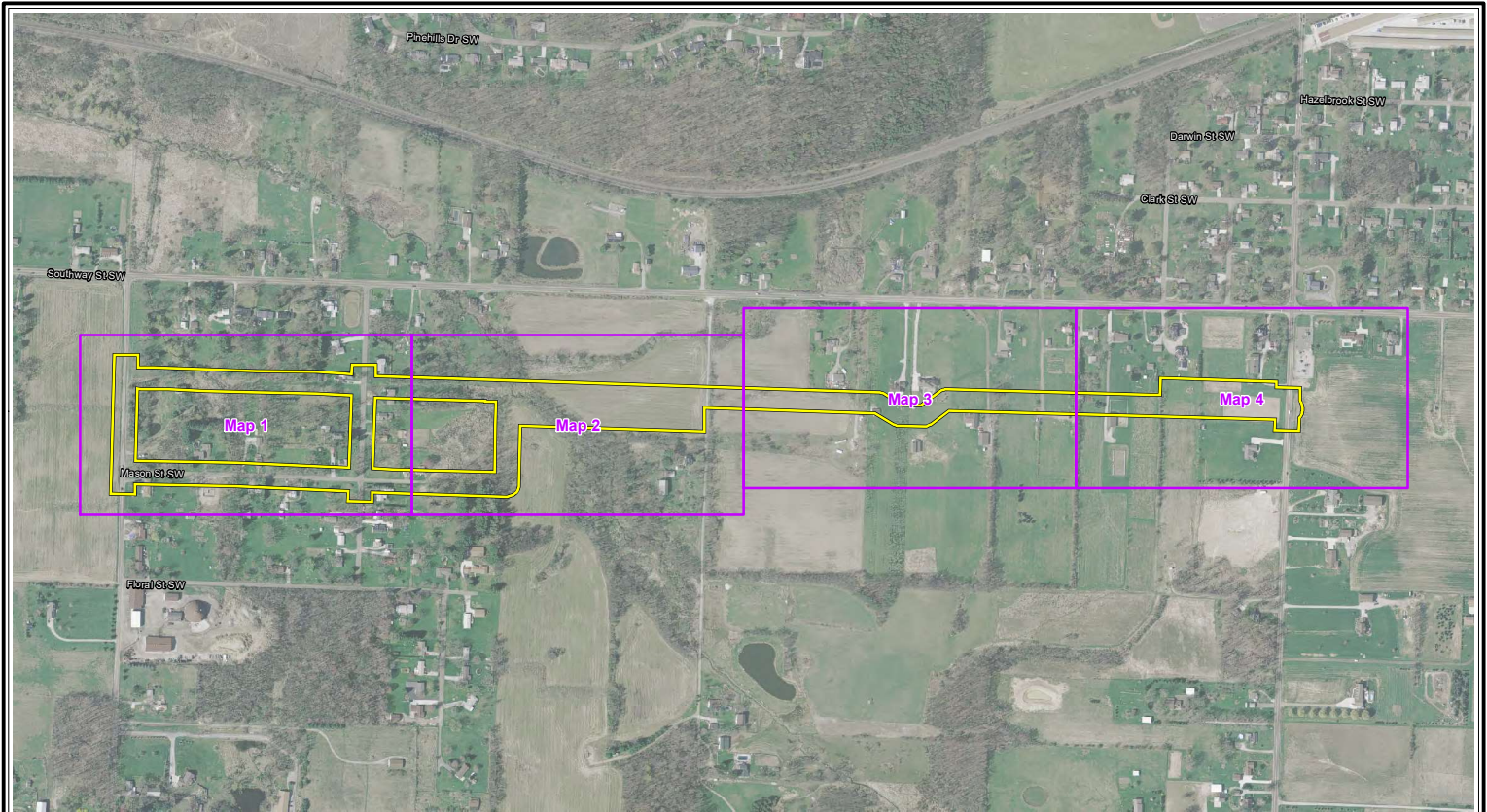


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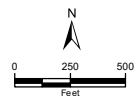
Figure 3
NWI & NHD Features
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022







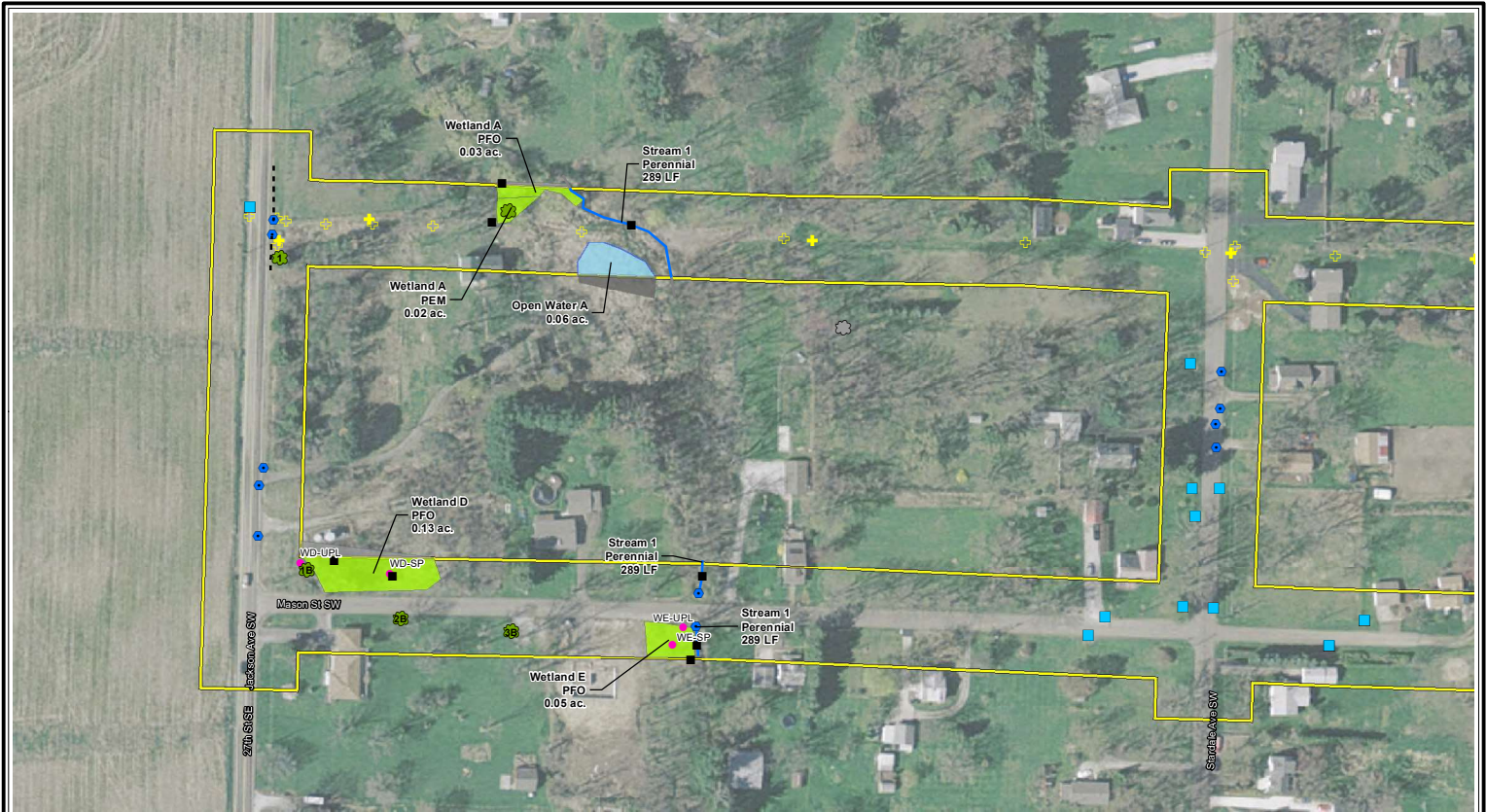
- Project Study Area
- Map Extent



Base Layer: OSP 2016

Figure 6
Aquatic Resources Delineation Map Book
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/20/23





- | | | | |
|-----------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Potential Roost Tree On-Site | Delineated Ephemeral Stream On-Site | Delineated Waterbody On-Site |
| Culvert | Potential Roost Tree Off-Site | Delineated Perennial Stream On-Site | Delineated Waterbody Off-Site |
| Inlet | Permanent Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | |
| Sample Point Location | Permanent Pipeline Marker Off-Site | Delineated Ditch | |
| Photo Location | Temporary Pipeline Marker On-Site | Delineated Wetland On-Site | |
| | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site | |

No Special Flood Hazard Areas (SFHAs) within the map view

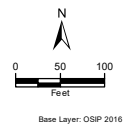
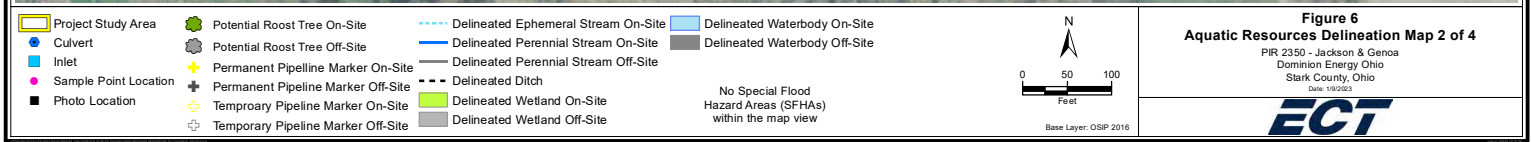
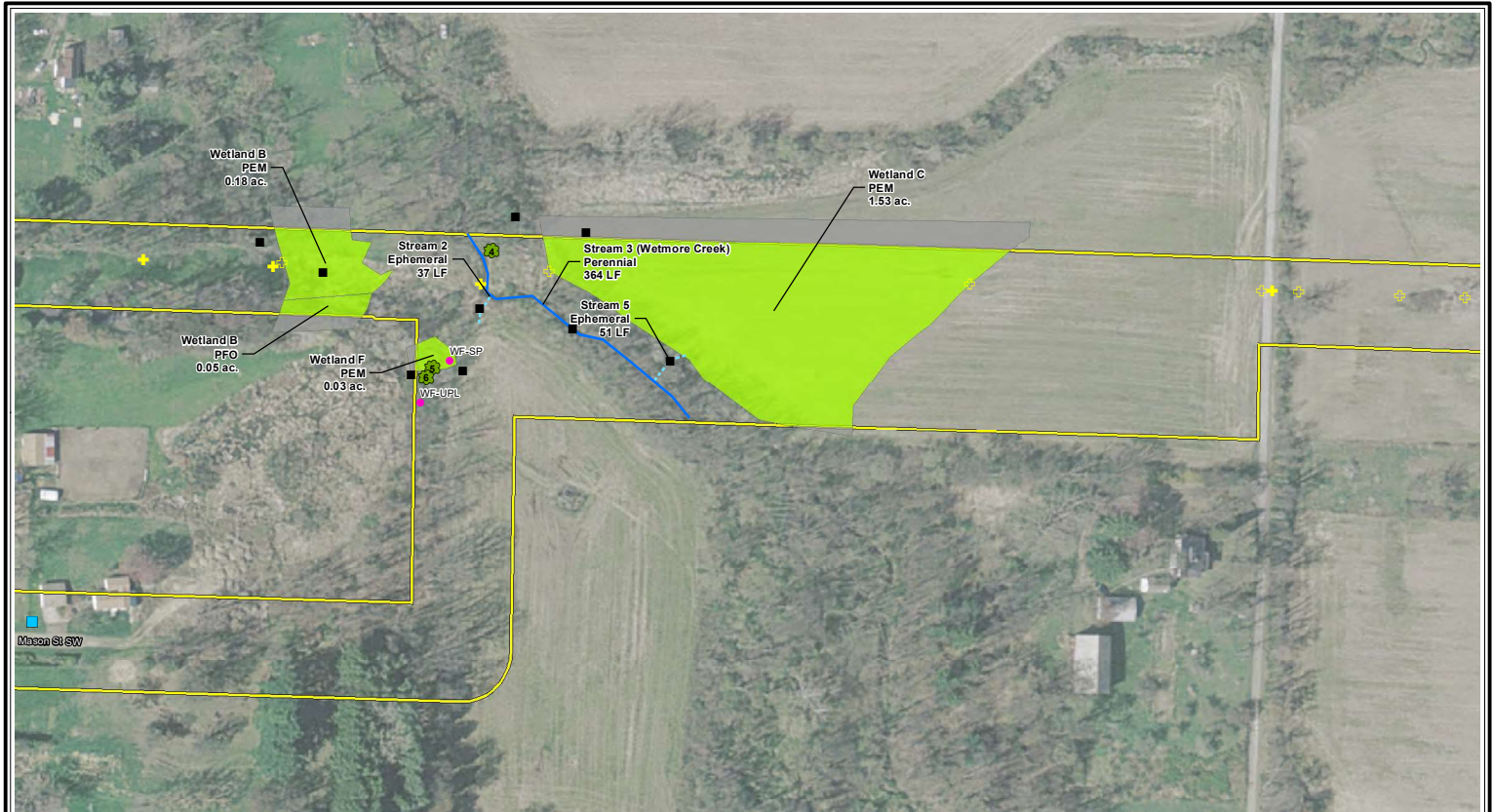


Figure 6
Aquatic Resources Delineation Map 1 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/19/2023



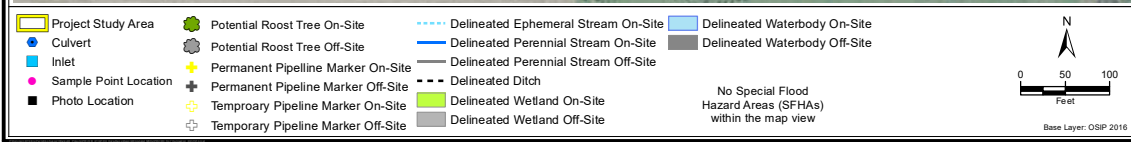
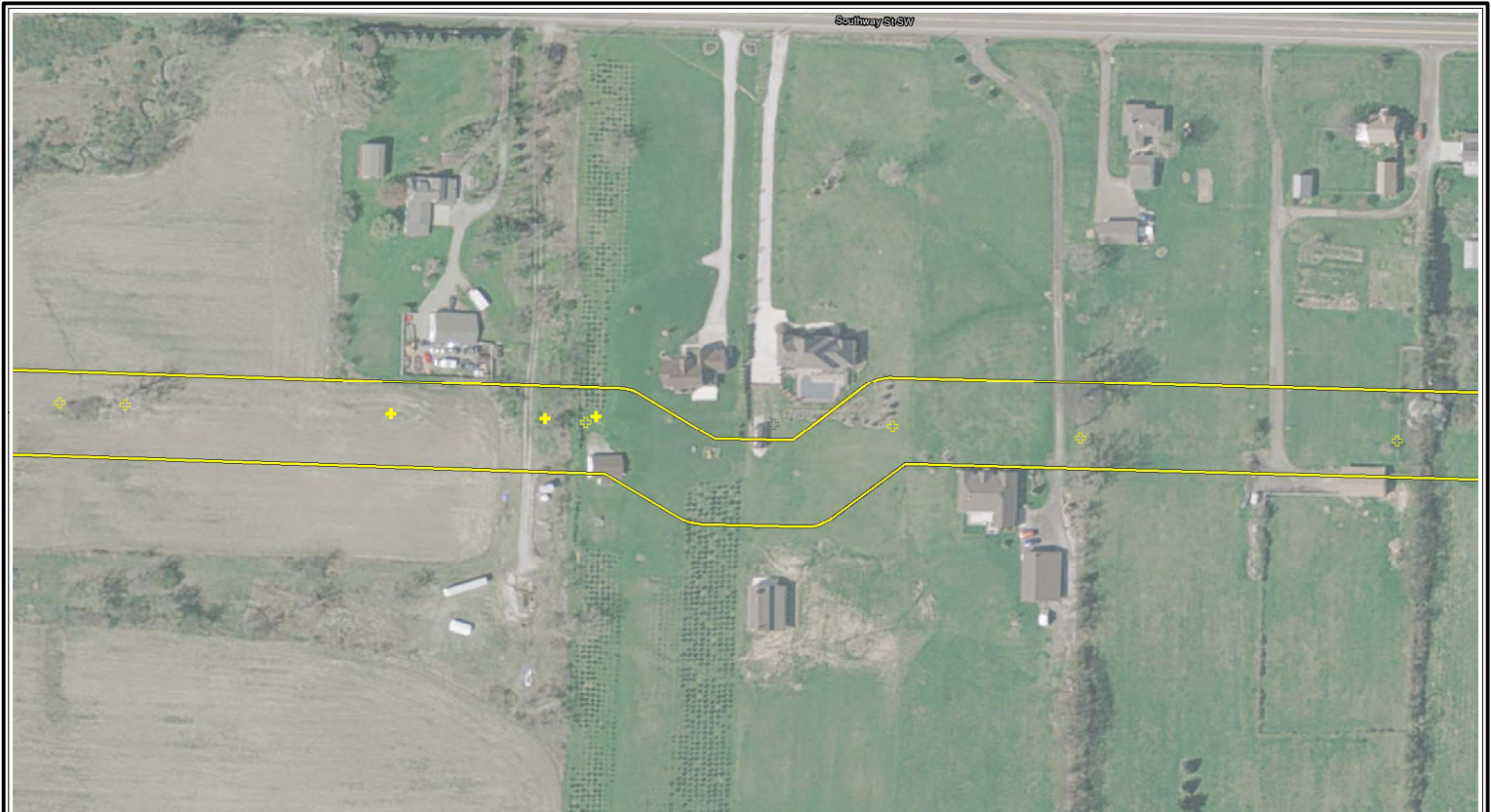
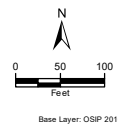


Figure 6
Aquatic Resources Delineation Map 3 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/19/2023



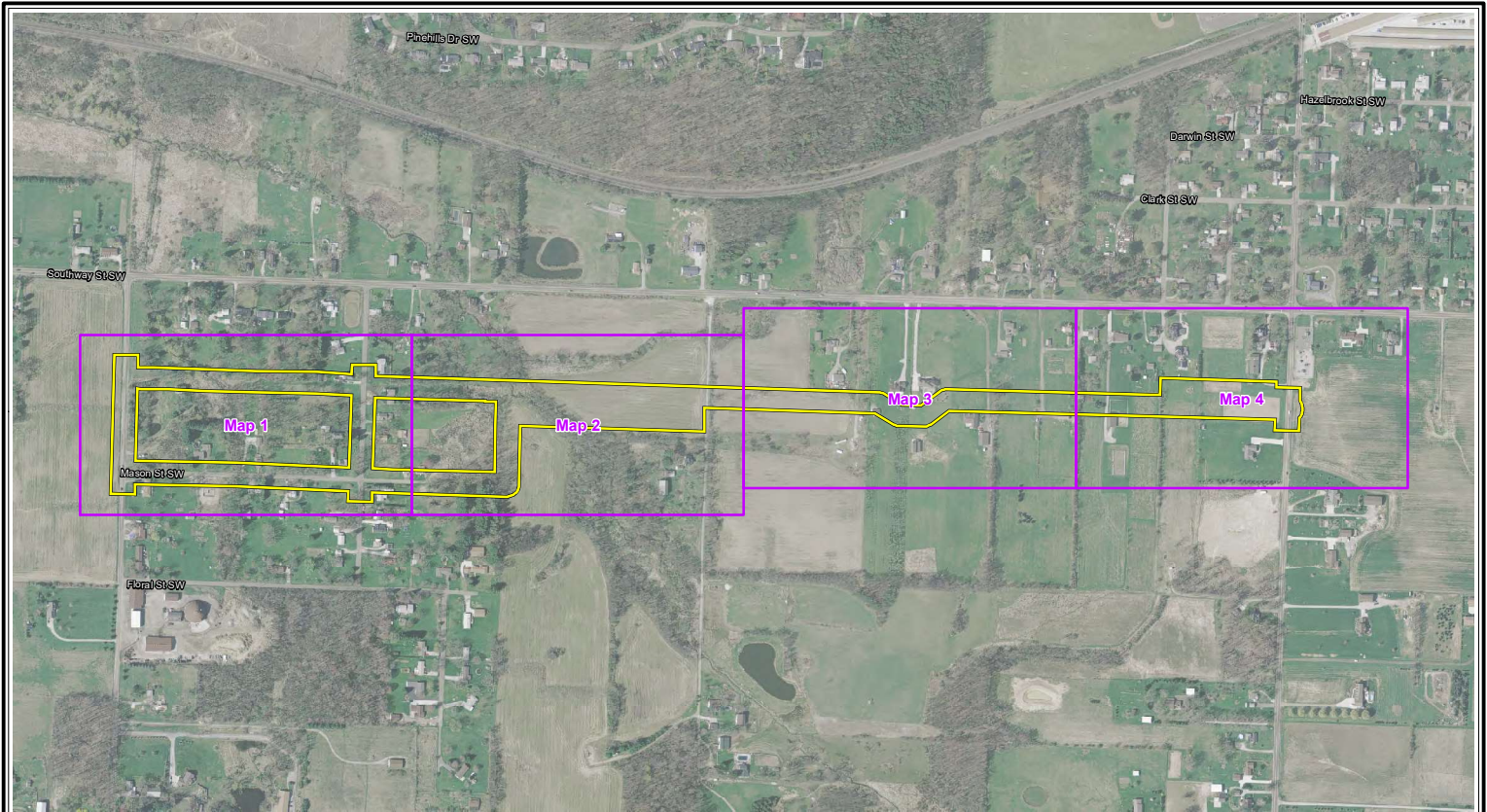
- | | | | |
|-----------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Potential Roost Tree On-Site | Delineated Ephemeral Stream On-Site | Delineated Waterbody On-Site |
| Culvert | Potential Roost Tree Off-Site | Delineated Perennial Stream On-Site | Delineated Waterbody Off-Site |
| Inlet | Permanent Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | |
| Sample Point Location | Permanent Pipeline Marker Off-Site | Delineated Ditch | |
| Photo Location | Temporary Pipeline Marker On-Site | Delineated Wetland On-Site | |
| | Temporary Pipeline Marker Off-Site | Delineated Wetland Off-Site | |

No Special Flood Hazard Areas (SFHAs) within the map view

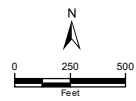


Base Layer: OSP 2016

Figure 6
Aquatic Resources Delineation Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/19/2023



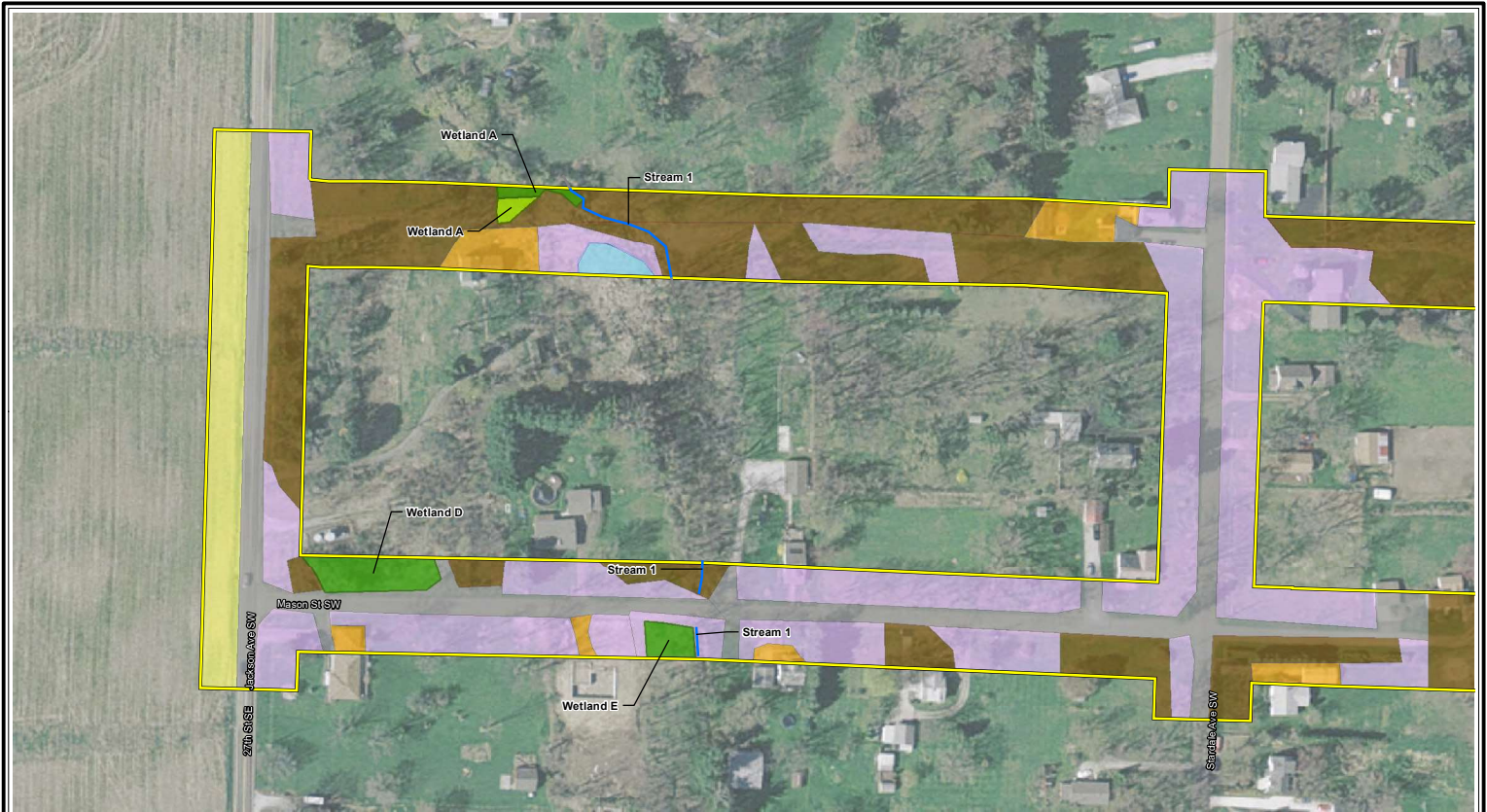
- Project Study Area
- Map Extent



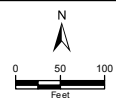
Base Layer: OSP 2016

Figure 7
Vegetation Communities Map Book
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 1/20/23





- | | | |
|------------------------------|---------------------|---------------------------|
| Project Study Area | Residential Housing | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Residential Lawn | Perennial Stream On-Site |
| Forested Wetland On-Site | Tilled Crop Field | Perennial Stream Off-Site |
| Upland Deciduous Forest | Pavement | |
| Delineated Waterbody On-Site | | |



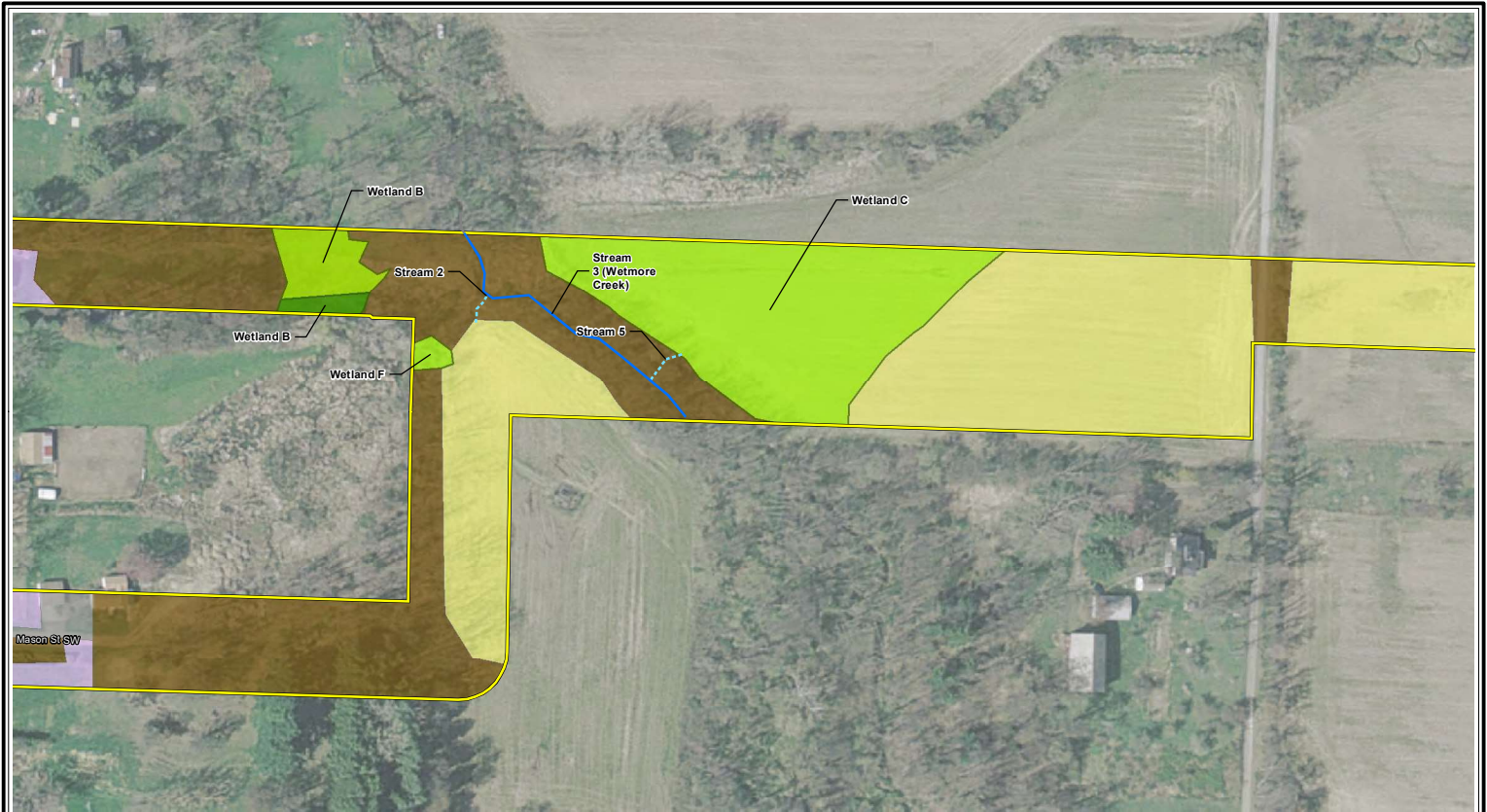
Base Layer: OSP 2016

Figure 7
Vegetation Communities Map 1 of 4

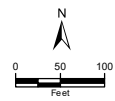
PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio

Date: 11/20/23





- | | | |
|--------------------------|------------------------------|---------------------------|
| Project Study Area | Residential Lawn | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Tilled Crop Field | Perennial Stream On-Site |
| Forested Wetland On-Site | Pavement | Perennial Stream Off-Site |
| Upland Deciduous Forest | Delineated Waterbody On-Site | |



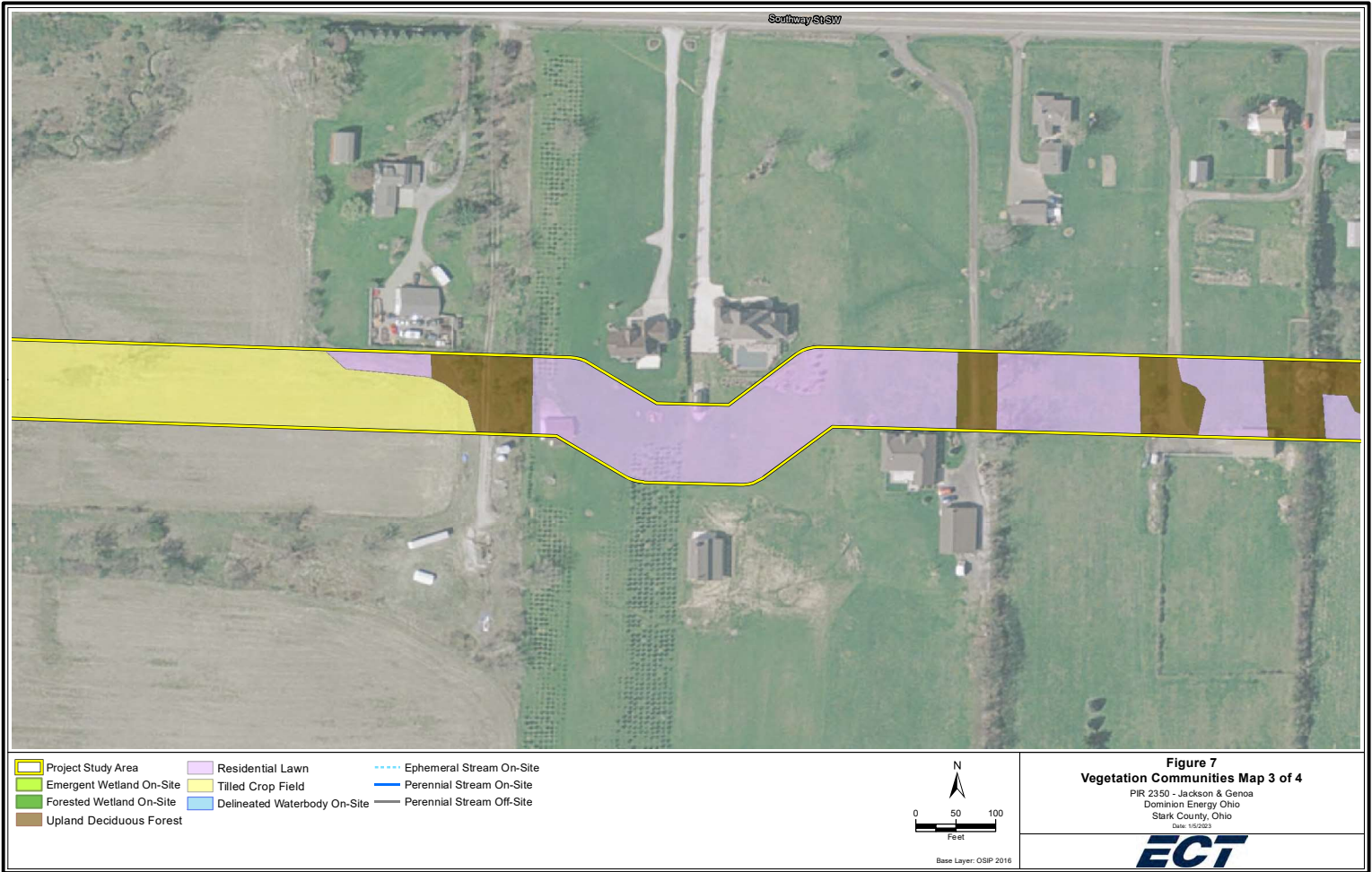
Base Layer: OSP 2016

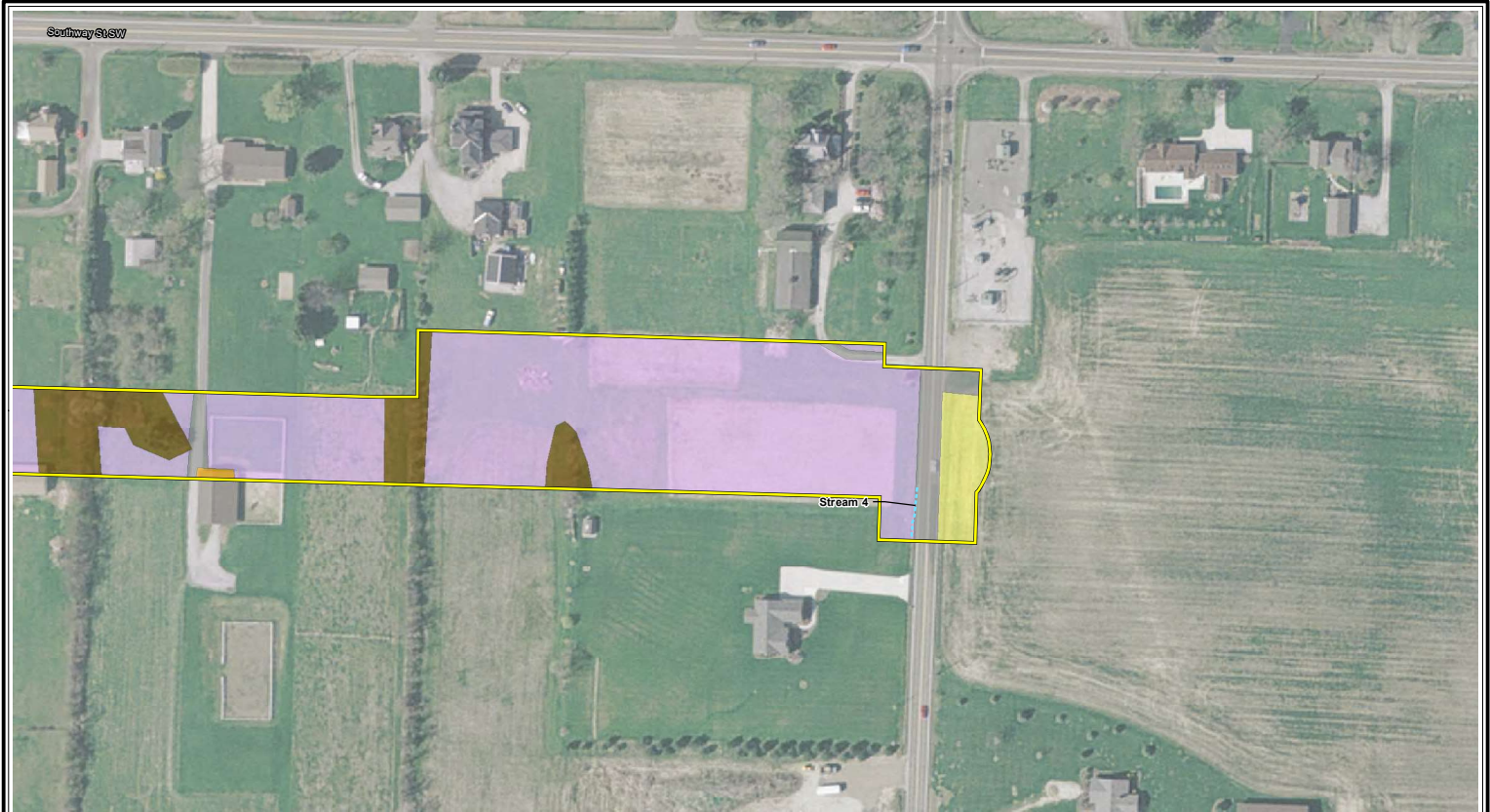
Figure 7
Vegetation Communities Map 2 of 4

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio

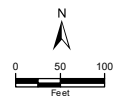
Date: 11/20/23







- | | | |
|--------------------------|---------------------|------------------------------|
| Project Study Area | Residential Housing | Ephemeral Stream On-Site |
| Emergent Wetland On-Site | Residential Lawn | Perennial Stream On-Site |
| Forested Wetland On-Site | Tilled Crop Field | Perennial Stream Off-Site |
| Upland Deciduous Forest | Pavement | Delineated Waterbody On-Site |



Base Layer: OSP 2016

Figure 7
Vegetation Communities Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 11/20/23



Appendix B USACE Regional Delineation Dataforms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WA-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): Undulating Slope (%): <0
 Subregion (LRR or MLRA): K Lat: 40.7821585 Long: -81.4845528 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: R4SBC

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland A</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living Roots (C3) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Recent Iron Reduction in Tilled Soils (C6) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> <input type="checkbox"/> Surface Soil Cracks (B6) <input checked="" type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): _____ Saturation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>10</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: WA-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>83.3</u> (A/B)														
2. <u>Juglans nigra</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>15%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>20</u></td> <td>x 1 = <u>20</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>37</u></td> <td>x 3 = <u>111</u></td> </tr> <tr> <td>FACU species <u>11</u></td> <td>x 4 = <u>44</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>118</u></td> <td>(A) <u>275</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.33</u>	Total % Cover of:	Multiply by:	OBL species <u>20</u>	x 1 = <u>20</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>37</u>	x 3 = <u>111</u>	FACU species <u>11</u>	x 4 = <u>44</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>118</u>	(A) <u>275</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>20</u>	x 1 = <u>20</u>																	
FACW species <u>50</u>	x 2 = <u>100</u>																	
FAC species <u>37</u>	x 3 = <u>111</u>																	
FACU species <u>11</u>	x 4 = <u>44</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>118</u>	(A) <u>275</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Cornus racemosa</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. <u>Viburnum dentatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Ulmus americana</u>	<u>5</u>		<u>FACW</u>															
4. <u>Prunus serotina</u>	<u>3</u>		<u>FACU</u>															
5. _____																		
6. _____																		
7. _____																		
	<u>33%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Impatiens capensis</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Carex lacustris</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. <u>Persicaria virginiana</u>	<u>7</u>		<u>FAC</u>															
4. <u>Cornus amomum</u>	<u>5</u>		<u>FACW</u>															
5. <u>Toxicodendron radicans</u>	<u>5</u>		<u>FAC</u>															
6. <u>Rosa multiflora</u>	<u>3</u>		<u>FACU</u>															
7. _____																		
8. _____																		
9. _____																		
10. _____			<u>FACU</u>															
11. _____																		
12. _____																		
	<u>70%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WA-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 7	10YR 3/1	100					Clay Loam	
7 - 18	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WA-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Undulating Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7860683 Long: -81.4899823 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WA-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Salix nigra</u>	<u>12</u>	<input checked="" type="checkbox"/>	<u>OBL</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>50</u> (A/B)														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	<u>12%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Prunus sp.</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>12</u></td> <td>x 1 = <u>12</u></td> </tr> <tr> <td>FACW species <u>10</u></td> <td>x 2 = <u>20</u></td> </tr> <tr> <td>FAC species <u>3</u></td> <td>x 3 = <u>9</u></td> </tr> <tr> <td>FACU species <u>33</u></td> <td>x 4 = <u>132</u></td> </tr> <tr> <td>UPL species <u>3</u></td> <td>x 5 = <u>15</u></td> </tr> <tr> <td>Column Totals: <u>61</u> (A)</td> <td><u>188</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.08</u>	Total % Cover of:	Multiply by:	OBL species <u>12</u>	x 1 = <u>12</u>	FACW species <u>10</u>	x 2 = <u>20</u>	FAC species <u>3</u>	x 3 = <u>9</u>	FACU species <u>33</u>	x 4 = <u>132</u>	UPL species <u>3</u>	x 5 = <u>15</u>	Column Totals: <u>61</u> (A)	<u>188</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>12</u>	x 1 = <u>12</u>																	
FACW species <u>10</u>	x 2 = <u>20</u>																	
FAC species <u>3</u>	x 3 = <u>9</u>																	
FACU species <u>33</u>	x 4 = <u>132</u>																	
UPL species <u>3</u>	x 5 = <u>15</u>																	
Column Totals: <u>61</u> (A)	<u>188</u> (B)																	
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
	<u>5%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Rosa multiflora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Impatiens capensis</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Elaeagnus umbellata</u>	<u>5</u>	_____	_____															
4. <u>Erigeron annuus</u>	<u>5</u>	_____	<u>FACU</u>															
5. <u>Parthenocissus quinquefolia</u>	<u>5</u>	_____	<u>FACU</u>															
6. <u>Geum canadense</u>	<u>3</u>	_____	<u>FAC</u>															
7. <u>Heracleum sphondylium</u>	<u>3</u>	_____	<u>UPL</u>															
8. <u>Solidago altissima</u>	<u>3</u>	_____	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
	<u>49%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____	_____	_____	_____	Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
	_____ = Total Cover																	
Remarks: (Include photo numbers here or on a separate sheet.)																		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														

SOIL

Sampling Point: WA-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 3/1	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WB-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR or MLRA): K Lat: 40.7818131 Long: -81.4797926 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland B</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

Wetland Hydrology Indicators: <u>Primary Indicators (minimum of one is required; check all that apply)</u> ___ Surface Water (A1) <input checked="" type="checkbox"/> Water-Stained Leaves (B9) ___ High Water Table (A2) ___ Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) ___ Marl Deposits (B15) ___ Water Marks (B1) <input checked="" type="checkbox"/> Hydrogen Sulfide Odor (C1) ___ Sediment Deposits (B2) ___ Oxidized Rhizospheres on Living Roots (C3) ___ Drift Deposits (B3) ___ Presence of Reduced Iron (C4) ___ Algal Mat or Crust (B4) ___ Recent Iron Reduction in Tilled Soils (C6) ___ Iron Deposits (B5) ___ Thin Muck Surface (C7) ___ Inundation Visible on Aerial Imagery (B7) ___ Other (Explain in Remarks) ___ Sparsely Vegetated Concave Surface (B8)	<u>Secondary Indicators (minimum of two required)</u> ___ Surface Soil Cracks (B6) ___ Drainage Patterns (B10) ___ Moss Trim Lines (B16) ___ Dry-Season Water Table (C2) ___ Crayfish Burrows (C8) <input checked="" type="checkbox"/> Saturation Visible on Aerial Imagery (C9) ___ Stunted or Stressed Plants (D1) ___ Geomorphic Position (D2) ___ Shallow Aquitard (D3) ___ Microtopographic Relief (D4) <input checked="" type="checkbox"/> FAC-Neutral Test (D5)
Field Observations: Surface Water Present? Yes _____ No <input checked="" type="checkbox"/> Depth (inches): _____ Water Table Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>14</u> Saturation Present? Yes <input checked="" type="checkbox"/> No _____ Depth (inches): <u>0</u> (includes capillary fringe)	Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: 	
Remarks:	

VEGETATION – Use scientific names of plants.

Sampling Point: WB-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer saccharinum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>4</u> (A) Total Number of Dominant Species Across All Strata: <u>4</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Salix nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>OBL</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>35%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>25</u></td> <td>x 1 = <u>25</u></td> </tr> <tr> <td>FACW species <u>80</u></td> <td>x 2 = <u>160</u></td> </tr> <tr> <td>FAC species <u>0</u></td> <td>x 3 = <u>0</u></td> </tr> <tr> <td>FACU species <u>0</u></td> <td>x 4 = <u>0</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>105</u></td> <td>(A) <u>185</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>1.76</u>	Total % Cover of:	Multiply by:	OBL species <u>25</u>	x 1 = <u>25</u>	FACW species <u>80</u>	x 2 = <u>160</u>	FAC species <u>0</u>	x 3 = <u>0</u>	FACU species <u>0</u>	x 4 = <u>0</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>105</u>	(A) <u>185</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>25</u>	x 1 = <u>25</u>																	
FACW species <u>80</u>	x 2 = <u>160</u>																	
FAC species <u>0</u>	x 3 = <u>0</u>																	
FACU species <u>0</u>	x 4 = <u>0</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>105</u>	(A) <u>185</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Phalaris arundinacea</u>	<u>40</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Hydrophytic Vegetation Indicators: <input checked="" type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Impatiens capensis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Leersia oryzoides</u>	<u>10</u>		<u>OBL</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>70%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
		= Total Cover																
<table style="width:100%; border:none;"> <tr> <td style="width:60%;">Hydrophytic Vegetation Present?</td> <td style="width:20%; text-align:center;">Yes <input checked="" type="checkbox"/></td> <td style="width:20%; text-align:center;">No <input type="checkbox"/></td> </tr> </table>					Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>											
Hydrophytic Vegetation Present?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WB-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 3	10YR 2/1	100					Muck	
3 - 18	10YR 3/1	90	5YR 3/3	10	C	M	Mucky Loam/Clay	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WB-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Hillslope Local relief (concave, convex, none): Undulating Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7818802 Long: -81.4797790 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/> Hydric Soil Present? Yes _____ No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes _____ No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes _____ No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WB-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Juglans nigra</u>	<u>30</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>40</u> (A/B)														
2. <u>Cornus racemosa</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Fraxinus pennsylvanica</u>	<u>5</u>		<u>FACW</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>45%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>17</u></td> <td>x 2 = <u>34</u></td> </tr> <tr> <td>FAC species <u>13</u></td> <td>x 3 = <u>39</u></td> </tr> <tr> <td>FACU species <u>53</u></td> <td>x 4 = <u>212</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>83</u> (A)</td> <td><u>285</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.43</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>17</u>	x 2 = <u>34</u>	FAC species <u>13</u>	x 3 = <u>39</u>	FACU species <u>53</u>	x 4 = <u>212</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>83</u> (A)	<u>285</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>17</u>	x 2 = <u>34</u>																	
FAC species <u>13</u>	x 3 = <u>39</u>																	
FACU species <u>53</u>	x 4 = <u>212</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>83</u> (A)	<u>285</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
		= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Rosa multiflora</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Geum urbanum</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>NI</u>															
3. <u>Cornus amomum</u>	<u>7</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
4. <u>Impatiens capensis</u>	<u>5</u>		<u>FACW</u>															
5. <u>Plantago major</u>	<u>5</u>		<u>FACU</u>															
6. <u>Geum aleppicum</u>	<u>3</u>		<u>FAC</u>															
7. <u>Parthenocissus quinquefolia</u>	<u>3</u>		<u>FACU</u>															
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>46%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
		= Total Cover																
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WB-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/1	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: _____ Sampling Point: WC-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): <1
 Subregion (LRR or MLRA): K Lat: 40.7819660 Long: -81.4786009 Datum: WGS 84
 Soil Map Unit Name: Sloan silt loam (SI) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____ Hydric Soil Present? Yes <input checked="" type="checkbox"/> No _____ Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No _____	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No _____ If yes, optional Wetland Site ID: <u>Wetland C</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WC-SP

	Absolute % Cover	Dominant Species?	Indicator Status	
Tree Stratum (Plot size: <u>30 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
5. _____	_____	_____	_____	
6. _____	_____	_____	_____	
7. _____	_____	_____	_____	
	_____ = Total Cover			
Herb Stratum (Plot size: <u>5 ft r</u>)				
1. <u>Phalaris arundinacea</u>	<u>75</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	
2. <u>Poa pratensis</u>	<u>10</u>	_____	<u>FACU</u>	
3. <u>Amphicarpaea bracteata</u>	<u>3</u>	_____	<u>FAC</u>	
4. <u>Cyperus alopecuroides</u>	<u>3</u>	_____	_____	
5. <u>Scirpus atrovirens</u>	<u>3</u>	_____	<u>OBL</u>	
6. <u>Solidago canadensis</u>	<u>3</u>	_____	<u>FACU</u>	
7. _____	_____	_____	_____	
8. _____	_____	_____	_____	
9. _____	_____	_____	_____	
10. _____	_____	_____	_____	
11. _____	_____	_____	_____	
12. _____	_____	_____	_____	
	<u>97%</u> = Total Cover			
Woody Vine Stratum (Plot size: <u>30 ft r</u>)				
1. _____	_____	_____	_____	
2. _____	_____	_____	_____	
3. _____	_____	_____	_____	
4. _____	_____	_____	_____	
	_____ = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet.)				

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species <u>3</u>	x 1 = <u>3</u>
FACW species <u>75</u>	x 2 = <u>150</u>
FAC species <u>3</u>	x 3 = <u>9</u>
FACU species <u>13</u>	x 4 = <u>52</u>
UPL species <u>0</u>	x 5 = <u>0</u>
Column Totals: <u>94</u> (A)	<u>214</u> (B)

Prevalence Index = B/A = 2.28

Hydrophytic Vegetation Indicators:

1 - Rapid Test for Hydrophytic Vegetation

2 - Dominance Test is >50%

3 - Prevalence Index is ≤3.0¹

___ 4 - Morphological Adaptations¹ (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation¹ (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? Yes No _____

SOIL

Sampling Point: WC-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 5/1	95	10YR 4/4	5	D	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2021-07-06
 Applicant/Owner: DEO State: Ohio Sampling Point: WC-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland, Flat Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7820011 Long: -81.4789012 Datum: WGS 84
 Soil Map Unit Name: Sloan silt loam (SI) NWI classification: N/A

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

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

Hydrophytic Vegetation Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WC-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>1</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>16.7</u> (A/B)														
2. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>25%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Elaeagnus umbellata</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>NI</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>14</u></td> <td>x 2 = <u>28</u></td> </tr> <tr> <td>FAC species <u>11</u></td> <td>x 3 = <u>33</u></td> </tr> <tr> <td>FACU species <u>32</u></td> <td>x 4 = <u>128</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>57</u> (A)</td> <td><u>189</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.32</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>14</u>	x 2 = <u>28</u>	FAC species <u>11</u>	x 3 = <u>33</u>	FACU species <u>32</u>	x 4 = <u>128</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>57</u> (A)	<u>189</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>14</u>	x 2 = <u>28</u>																	
FAC species <u>11</u>	x 3 = <u>33</u>																	
FACU species <u>32</u>	x 4 = <u>128</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>57</u> (A)	<u>189</u> (B)																	
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>10%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Rubus occidentalis</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>NI</u>															
3. <u>Rosa multiflora</u>	<u>7</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Toxicodendron radicans</u>	<u>5</u>		<u>FAC</u>															
5. <u>Persicaria virginiana</u>	<u>4</u>		<u>FAC</u>															
6. <u>Geum urbanum</u>	<u>3</u>		<u>NI</u>															
7. <u>Clematis virginiana</u>	<u>2</u>		<u>FAC</u>															
8. <u>Impatiens capensis</u>	<u>2</u>		<u>FACW</u>															
9. <u>Phalaris arundinacea</u>	<u>2</u>		<u>FACW</u>															
10. _____																		
11. _____																		
12. _____																		
	<u>43%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WC-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 18	10YR 4/2	100					Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WD-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.7808902 Long: -81.4850312 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland D</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WD-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Populus deltoides</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>5</u> (A) Total Number of Dominant Species Across All Strata: <u>7</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>71.4</u> (A/B)														
2. <u>Juglans nigra</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>45%</u>	= Total Cover		Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>44</u></td> <td>x 2 = <u>88</u></td> </tr> <tr> <td>FAC species <u>60</u></td> <td>x 3 = <u>180</u></td> </tr> <tr> <td>FACU species <u>18</u></td> <td>x 4 = <u>72</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>122</u> (A)</td> <td><u>340</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.79</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>44</u>	x 2 = <u>88</u>	FAC species <u>60</u>	x 3 = <u>180</u>	FACU species <u>18</u>	x 4 = <u>72</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>122</u> (A)	<u>340</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>44</u>	x 2 = <u>88</u>																	
FAC species <u>60</u>	x 3 = <u>180</u>																	
FACU species <u>18</u>	x 4 = <u>72</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>122</u> (A)	<u>340</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Cornus amomum</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. <u>Viburnum dentatum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Lonicera xylosteum</u>	<u>15</u>	<input checked="" type="checkbox"/>																
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>70%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Fraxinus pennsylvanica</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Toxicodendron radicans</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Galium trifidum</u>	<u>4</u>		<u>FACW</u>															
5. _____																		
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>22%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>														
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WD-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 6	10YR 3/2	100					Silty Clay Loam	
6 - 20	10YR 3/2	80	10YR 5/4	20	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WD-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7809364 Long: -81.4853834 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 to 6 percent slopes (Rn) 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WD-UPL

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer saccharum</u>	<u>50</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>33.3</u> (A/B)														
2. <u>Viburnum dentatum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>65%</u>	= Total Cover																
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Lonicera morrowii</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:center;">Total % Cover of:</td> <td style="width:50%; text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>0</u></td> <td>x 2 = <u>0</u></td> </tr> <tr> <td>FAC species <u>55</u></td> <td>x 3 = <u>165</u></td> </tr> <tr> <td>FACU species <u>100</u></td> <td>x 4 = <u>400</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>155</u> (A)</td> <td><u>565</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.65</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>0</u>	x 2 = <u>0</u>	FAC species <u>55</u>	x 3 = <u>165</u>	FACU species <u>100</u>	x 4 = <u>400</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>155</u> (A)	<u>565</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>0</u>	x 2 = <u>0</u>																	
FAC species <u>55</u>	x 3 = <u>165</u>																	
FACU species <u>100</u>	x 4 = <u>400</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>155</u> (A)	<u>565</u> (B)																	
2. <u>Viburnum dentatum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
	<u>25%</u>	= Total Cover																
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Parthenocissus quinquefolia</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
2. <u>Lonicera morrowii</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. <u>Toxicodendron radicans</u>	<u>12</u>		<u>FAC</u>															
4. <u>Geum canadense</u>	<u>10</u>		<u>FAC</u>															
5. <u>Arisaema triphyllum</u>	<u>8</u>		<u>FAC</u>															
6. _____																		
7. _____																		
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
	<u>65%</u>	= Total Cover																
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
2. _____																		
3. _____																		
4. _____																		
				Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>														
_____ = Total Cover																		
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WD-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 4/3	90	7.5YR 4/6	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WE-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Floodplain Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7806600 Long: -81.4838533 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland E</u>
Remarks: (Explain alternative procedures here or in a separate report.) 	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WE-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Acer saccharinum</u>	<u>60</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>6</u> (A) Total Number of Dominant Species Across All Strata: <u>6</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>100</u> (A/B)														
2. <u>Fraxinus pennsylvanica</u>	<u>15</u>		<u>FACW</u>															
3. <u>Juglans nigra</u>	<u>10</u>		<u>FACU</u>															
4. _____	_____		_____															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
<u>85%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align: right;">Total % Cover of:</td> <td style="width:50%; text-align: left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>115</u></td> <td>x 2 = <u>230</u></td> </tr> <tr> <td>FAC species <u>20</u></td> <td>x 3 = <u>60</u></td> </tr> <tr> <td>FACU species <u>18</u></td> <td>x 4 = <u>72</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>153</u> (A)</td> <td><u>362</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.37</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>115</u>	x 2 = <u>230</u>	FAC species <u>20</u>	x 3 = <u>60</u>	FACU species <u>18</u>	x 4 = <u>72</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>153</u> (A)	<u>362</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>115</u>	x 2 = <u>230</u>																	
FAC species <u>20</u>	x 3 = <u>60</u>																	
FACU species <u>18</u>	x 4 = <u>72</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>153</u> (A)	<u>362</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. <u>Fraxinus pennsylvanica</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. _____	_____		_____															
3. _____	_____		_____															
4. _____	_____		_____															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
<u>10%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Impatiens capensis</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
2. <u>Solidago gigantea</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Toxicodendron radicans</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
4. <u>Rosa multiflora</u>	<u>8</u>		<u>FACU</u>															
5. _____	_____		_____															
6. _____	_____		_____															
7. _____	_____		_____															
8. _____	_____		_____															
9. _____	_____		_____															
10. _____	_____		_____															
11. _____	_____		_____															
12. _____	_____		_____															
<u>48%</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. <u>Vitis riparia</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
2. _____	_____		_____															
3. _____	_____		_____															
4. _____	_____		_____															
<u>10%</u> = Total Cover				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WE-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 13	10YR 3/1	95	7.5YR 5/8	5	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (**LRR R, MLRA 149B**)
- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: Rocks
 Depth (inches): 13

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon County/Stark Sampling Date: 2022-06-03
 Applicant/Owner: DEO State: Ohio Sampling Point: WE-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Flat Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.7807168 Long: -81.4838056 Datum: WGS 84
 Soil Map Unit Name: Shoals silt loam (Sh) 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WE-UPL

Tree Stratum (Plot size: <u>30 ft r</u>)	Absolute % Cover	Dominant Species?	Indicator Status															
1. <u>Acer saccharinum</u>	<u>35</u>	<input checked="" type="checkbox"/>	<u>FACW</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>8</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>37.5</u> (A/B)														
2. <u>Fraxinus pennsylvanica</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
3. <u>Juglans nigra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. _____																		
5. _____																		
6. _____																		
7. _____																		
<u>65%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>50</u></td> <td>x 2 = <u>100</u></td> </tr> <tr> <td>FAC species <u>8</u></td> <td>x 3 = <u>24</u></td> </tr> <tr> <td>FACU species <u>42</u></td> <td>x 4 = <u>168</u></td> </tr> <tr> <td>UPL species <u>0</u></td> <td>x 5 = <u>0</u></td> </tr> <tr> <td>Column Totals: <u>100</u> (A)</td> <td><u>292</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>2.92</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>50</u>	x 2 = <u>100</u>	FAC species <u>8</u>	x 3 = <u>24</u>	FACU species <u>42</u>	x 4 = <u>168</u>	UPL species <u>0</u>	x 5 = <u>0</u>	Column Totals: <u>100</u> (A)	<u>292</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>50</u>	x 2 = <u>100</u>																	
FAC species <u>8</u>	x 3 = <u>24</u>																	
FACU species <u>42</u>	x 4 = <u>168</u>																	
UPL species <u>0</u>	x 5 = <u>0</u>																	
Column Totals: <u>100</u> (A)	<u>292</u> (B)																	
_____ = Total Cover																		
Sapling/Shrub Stratum (Plot size: <u>15 ft r</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
5. _____																		
6. _____																		
7. _____																		
_____ = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input checked="" type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5 ft r</u>)																		
1. <u>Lonicera morrowii</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
2. <u>Toxicodendron radicans</u>	<u>8</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Parthenocissus quinquefolia</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
4. <u>Poa annua</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
5. <u>Taraxacum officinale</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
6. <u>Trifolium douglasii</u>	<u>5</u>	<input checked="" type="checkbox"/>																
7. <u>Plantago major</u>	<u>4</u>		<u>FACU</u>															
8. _____																		
9. _____																		
10. _____																		
11. _____																		
12. _____																		
<u>40%</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Woody Vine Stratum (Plot size: <u>30 ft r</u>)																		
1. _____																		
2. _____																		
3. _____																		
4. _____																		
_____ = Total Cover					Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____													
Remarks: (Include photo numbers here or on a separate sheet.)																		

SOIL

Sampling Point: WE-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 10	10YR 4/2	100					Sandy Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- Histosol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)
- Polyvalue Below Surface (S8) (LRR R, MLRA 149B)
- Thin Dark Surface (S9) (LRR R, MLRA 149B)
- Loamy Mucky Mineral (F1) (LRR K, L)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils³:

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

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

Restrictive Layer (if observed):

Type: Gravel
 Depth (inches): 10

Hydric Soil Present? Yes No

Remarks:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark Sampling Date: 2022-10-27
 Applicant/Owner: DEO State: Ohio Sampling Point: WF-SP
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave Slope (%): 1
 Subregion (LRR or MLRA): K Lat: 40.781630 Long: -81.479321 Datum: WGS 84
 Soil Map Unit Name: Ravenna-Urban land complex, 0 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 <input checked="" type="checkbox"/> No <input type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> If yes, optional Wetland Site ID: <u>Wetland F</u>
Remarks: (Explain alternative procedures here or in a separate report.)	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WF-SP

	Absolute % Cover	Dominant Species?	Indicator Status															
Tree Stratum (Plot size: <u>30</u>)																		
1. <u>Acer rubrum</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FAC</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>3</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>60</u> (A/B)														
2. <u>Quercus rubra</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACU</u>															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>35%</u> = Total Cover				Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%; text-align:right;">Total % Cover of:</td> <td style="width:50%; text-align:left;">Multiply by:</td> </tr> <tr> <td>OBL species <u>0</u></td> <td>x 1 = <u>0</u></td> </tr> <tr> <td>FACW species <u>35</u></td> <td>x 2 = <u>70</u></td> </tr> <tr> <td>FAC species <u>35</u></td> <td>x 3 = <u>105</u></td> </tr> <tr> <td>FACU species <u>31</u></td> <td>x 4 = <u>124</u></td> </tr> <tr> <td>UPL species <u>30</u></td> <td>x 5 = <u>150</u></td> </tr> <tr> <td>Column Totals: <u>131</u> (A)</td> <td><u>449</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>3.43</u>	Total % Cover of:	Multiply by:	OBL species <u>0</u>	x 1 = <u>0</u>	FACW species <u>35</u>	x 2 = <u>70</u>	FAC species <u>35</u>	x 3 = <u>105</u>	FACU species <u>31</u>	x 4 = <u>124</u>	UPL species <u>30</u>	x 5 = <u>150</u>	Column Totals: <u>131</u> (A)	<u>449</u> (B)
Total % Cover of:	Multiply by:																	
OBL species <u>0</u>	x 1 = <u>0</u>																	
FACW species <u>35</u>	x 2 = <u>70</u>																	
FAC species <u>35</u>	x 3 = <u>105</u>																	
FACU species <u>31</u>	x 4 = <u>124</u>																	
UPL species <u>30</u>	x 5 = <u>150</u>																	
Column Totals: <u>131</u> (A)	<u>449</u> (B)																	
Sapling/Shrub Stratum (Plot size: <u>15</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
5. _____	_____	_____	_____															
6. _____	_____	_____	_____															
7. _____	_____	_____	_____															
<u>0%</u> = Total Cover				Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input checked="" type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)														
Herb Stratum (Plot size: <u>5</u>)																		
1. <u>Rubus occidentalis</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>UPL</u>															
2. <u>Setaria pumila</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FAC</u>															
3. <u>Panicum dichotomiflorum</u>	<u>15</u>	<input checked="" type="checkbox"/>	<u>FACW</u>															
4. <u>Elymus virginicus</u>	<u>10</u>	_____	<u>FACW</u>															
5. <u>Bromus inermis</u>	<u>10</u>	_____	<u>UPL</u>															
6. <u>Vernonia noveboracensis</u>	<u>10</u>	_____	<u>FACW</u>															
7. <u>Rosa multiflora</u>	<u>10</u>	_____	<u>FACU</u>															
8. <u>Erigeron canadensis</u>	<u>6</u>	_____	<u>FACU</u>															
9. _____	_____	_____	_____															
10. _____	_____	_____	_____															
11. _____	_____	_____	_____															
12. _____	_____	_____	_____															
<u>96%</u> = Total Cover																		
Woody Vine Stratum (Plot size: <u>30</u>)																		
1. _____	_____	_____	_____															
2. _____	_____	_____	_____															
3. _____	_____	_____	_____															
4. _____	_____	_____	_____															
<u>0%</u> = Total Cover				Definitions of Vegetation Strata: Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall. Herb – All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines – All woody vines greater than 3.28 ft in height.														
Remarks: (Include photo numbers here or on a separate sheet.)																		
				Hydrophytic Vegetation Present? Yes <input checked="" type="checkbox"/> No _____														

SOIL

Sampling Point: WF-SP

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: PIR 2350 City/County: Massillon/Stark County Sampling Date: 2022-10-27
 Applicant/Owner: DEO State: Ohio Sampling Point: WF-UPL
 Investigator(s): H. Mikula Section, Township, Range: S15 T10N R9W
 Landform (hillslope, terrace, etc.): Upland Local relief (concave, convex, none): None Slope (%): 0
 Subregion (LRR or MLRA): K Lat: 40.781494 Long: -81.479047 Datum: WGS 84
 Soil Map Unit Name: Ravenna silt loam, 0 to 2 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 <input type="checkbox"/> No <input checked="" type="checkbox"/> Hydric Soil Present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Wetland Hydrology Present? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Is the Sampled Area within a Wetland? Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> If yes, optional Wetland Site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <h3 style="margin: 0;">Harvested Ag Field</h3>	

HYDROLOGY

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

VEGETATION – Use scientific names of plants.

Sampling Point: WF-UPL

	Absolute % Cover	Dominant Species?	Indicator Status																													
Tree Stratum (Plot size: <u>30</u>)																																
1. <u>Quercus rubra</u>	<u>45</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Dominance Test worksheet: Number of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A) Total Number of Dominant Species Across All Strata: <u>5</u> (B) Percent of Dominant Species That Are OBL, FACW, or FAC: <u>0</u> (A/B)																												
2. _____																																
3. _____																																
4. _____																																
5. _____																																
6. _____																																
7. _____																																
	<u>45%</u>	= Total Cover																														
Sapling/Shrub Stratum (Plot size: <u>15</u>)																																
1. <u>Lonicera morrowii</u>	<u>20</u>	<input checked="" type="checkbox"/>	<u>FACU</u>	Prevalence Index worksheet: <table style="width:100%; border:none;"> <tr> <td style="width:50%;"></td> <td style="text-align:center;">Total % Cover of:</td> <td style="width:50%;"></td> <td style="text-align:center;">Multiply by:</td> </tr> <tr> <td>OBL species</td> <td style="text-align:center;"><u>0</u></td> <td>x 1 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACW species</td> <td style="text-align:center;"><u>0</u></td> <td>x 2 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FAC species</td> <td style="text-align:center;"><u>0</u></td> <td>x 3 =</td> <td style="text-align:center;"><u>0</u></td> </tr> <tr> <td>FACU species</td> <td style="text-align:center;"><u>70</u></td> <td>x 4 =</td> <td style="text-align:center;"><u>280</u></td> </tr> <tr> <td>UPL species</td> <td style="text-align:center;"><u>14</u></td> <td>x 5 =</td> <td style="text-align:center;"><u>70</u></td> </tr> <tr> <td>Column Totals:</td> <td style="text-align:center;"><u>84</u></td> <td>(A)</td> <td style="text-align:center;"><u>350</u> (B)</td> </tr> </table> Prevalence Index = B/A = <u>4.17</u>		Total % Cover of:		Multiply by:	OBL species	<u>0</u>	x 1 =	<u>0</u>	FACW species	<u>0</u>	x 2 =	<u>0</u>	FAC species	<u>0</u>	x 3 =	<u>0</u>	FACU species	<u>70</u>	x 4 =	<u>280</u>	UPL species	<u>14</u>	x 5 =	<u>70</u>	Column Totals:	<u>84</u>	(A)	<u>350</u> (B)
	Total % Cover of:		Multiply by:																													
OBL species	<u>0</u>	x 1 =	<u>0</u>																													
FACW species	<u>0</u>	x 2 =	<u>0</u>																													
FAC species	<u>0</u>	x 3 =	<u>0</u>																													
FACU species	<u>70</u>	x 4 =	<u>280</u>																													
UPL species	<u>14</u>	x 5 =	<u>70</u>																													
Column Totals:	<u>84</u>	(A)	<u>350</u> (B)																													
2. _____																																
3. _____																																
4. _____																																
5. _____																																
6. _____																																
7. _____																																
	<u>20%</u>	= Total Cover																														
Herb Stratum (Plot size: <u>5</u>)																																
1. <u>Geum urbanum</u>	<u>10</u>	<input checked="" type="checkbox"/>	<u>UPL</u>	Hydrophytic Vegetation Indicators: <input type="checkbox"/> 1 - Rapid Test for Hydrophytic Vegetation <input type="checkbox"/> 2 - Dominance Test is >50% <input type="checkbox"/> 3 - Prevalence Index is ≤3.0 ¹ <input type="checkbox"/> 4 - Morphological Adaptations ¹ (Provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic Hydrophytic Vegetation ¹ (Explain)																												
2. <u>Solidago altissima</u>	<u>5</u>	<input checked="" type="checkbox"/>	<u>FACU</u>																													
3. <u>Rubus occidentalis</u>	<u>4</u>	<input checked="" type="checkbox"/>	<u>UPL</u>																													
4. _____																																
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7. _____																																
8. _____																																
9. _____																																
10. _____																																
11. _____																																
12. _____																																
	<u>19%</u>	= Total Cover																														
Woody Vine Stratum (Plot size: <u>30</u>)																																
1. _____																																
2. _____																																
3. _____																																
4. _____																																
		_____ = Total Cover																														
Hydrophytic Vegetation Present? Yes _____ No <input checked="" type="checkbox"/>																																
Remarks: (Include photo numbers here or on a separate sheet.)																																

SOIL

Sampling Point: WF-UPL

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

Depth (inches)	Matrix		Redox Features				Texture	Remarks
	Color (moist)	%	Color (moist)	%	Type ¹	Loc ²		
0 - 20	10YR 3/1	90	10YR 4/4	10	C	M	Clay Loam	
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								
-								

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

²Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

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

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

Indicators for Problematic Hydric Soils³:

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

³Indicators 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:

Appendix C Ohio Rapid Assessment Method (ORAM) Dataforms

Background Information

Name: H. Mikula, A. Ditez-Oergel	
Date: 07/06/2021	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland A	
Vegetation Communit(ies): PEM PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.782097°, -81.484497°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/07/2021
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland A	
Wetland Size (acres, hectares): 0.045+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 35.5	Category: Modified 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
------------------------	---	-------------------------

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

5	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

9.5	29.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

29.5
subtotal this page

Site: Wetland A	Rater(s): H. Mikula, A. Ditez-Oergel	Date: 07/06/2021
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29.5

subtotal first page

0	29.5
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

6	35.5
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- 0 Vegetated hummucks/tussucks
- 1 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

35.5

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	5	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	9.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	6	
	TOTAL SCORE	35.5	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula, A. Dietz-Oergel	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland B	
Vegetation Communit(ies): PEM PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781859°, -81.479709°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/03/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland B	
Wetland Size (acres, hectares): 0.229+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 30	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glauca</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

8	10
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

13	23
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

9	32
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

32
subtotal this page

Site: Wetland B	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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32

subtotal first page

0	32
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-2	30
----	----

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

30

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	2	
	Metric 2. Buffers and surrounding land use	8	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	-2	
	TOTAL SCORE	30	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula, A. Dietz-Oergel	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com; adietz-oergel@ectinc.com	
Name of Wetland: Wetland C	
Vegetation Communit(ies): PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781805°, -81.477290°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/3/2022
National Wetland Inventory Map	See attached
Ohio Wetland Inventory Map	N/A
Soil Survey	See attached
Delineation report/map	Attached

Name of Wetland: Wetland C	
Wetland Size (acres, hectares): 1.078+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 21.5	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.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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3	3
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

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

2	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

15	20
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

5.5	25.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

- 4a. Substrate disturbance. Score one or double check and average.
- None or none apparent (4)
 - Recovered (3)
 - Recovering (2)
 - Recent or no recovery (1)
- 4b. Habitat development. Select only one and assign score.
- Excellent (7)
 - Very good (6)
 - Good (5)
 - Moderately good (4)
 - Fair (3)
 - Poor to fair (2)
 - Poor (1)
- 4c. Habitat alteration. Score one or double check and average.
- None or none apparent (9)
 - Recovered (6)
 - Recovering (3)
 - Recent or no recovery (1)

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

25.5
subtotal this page

Site: Wetland C	Rater(s): H. Mikula, A. Dietz-Oergel	Date: 06/03/2022
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25.5

subtotal first page

0	25.5
max 10 pts.	subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

-4	21.5
max 20 pts.	subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

21.5

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	3	
	Metric 2. Buffers and surrounding land use	2	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	5.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-4	
	TOTAL SCORE	21.5	1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
	<input checked="" type="checkbox"/>		

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland D	
Vegetation Communit(ies): PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.7808902, -81.4850312
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/02/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland D	
Wetland Size (acres, hectares): 0.13+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 33	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland D

Rater(s): H. Mikula

Date: 06/03/2022

1	1
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	4
---	---

Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

14	18
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

12	30
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

30

subtotal this page

Site: Wetland D	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	33
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

33

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	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	33	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 06/03/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland E	
Vegetation Communit(ies): PFO	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.7806600, -81.4838533
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	06/03/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland E	
Wetland Size (acres, hectares): 0.05+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 35	Category: Modified 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccus</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland E

Rater(s): H. Mikula

Date: 06/03/2022

0	0
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	3
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Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

15	18
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

12	30
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

30

subtotal this page

Site: Wetland E	Rater(s): H. Mikula	Date: 06/03/2022
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30

subtotal first page

0	30
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max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5	35
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max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

35

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	3	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	5	
	TOTAL SCORE	35	Category based on score breakpoints Modified 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10</p>	YES	NO <input checked="" type="checkbox"/>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
<p>Did you answer "Yes" to any of the following questions:</p> <p>Narrative Rating Nos. 1, 8b, 9b, 9e, 11</p>	YES	NO <input checked="" type="checkbox"/>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
<p>Did you answer "Yes" to</p> <p>Narrative Rating No. 5</p>	YES	NO <input checked="" type="checkbox"/>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
<p>Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?</p>	YES <input checked="" type="checkbox"/>	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.
<p>Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?</p>	YES	NO <input checked="" type="checkbox"/>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
<p>Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?</p>	YES	NO <input checked="" type="checkbox"/>	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
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✓

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name: H. Mikula	
Date: 10/27/2022	
Affiliation: Environmental Consulting and Technology	
Address: 161 E Aurora Rd, Northfield, OH 44067	
Phone Number: (216) 518-2807	
e-mail address: hmikula@ectinc.com	
Name of Wetland: Wetland F	
Vegetation Communit(ies): PEM	
HGM Class(es): Depressional	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. Attached.	
Lat/Long or UTM Coordinate	40.781492°, -81.479605°
USGS Quad Name	Canton West
County	Stark
Township	Massillon
Section and Subsection	S15 T10N R9W
Hydrologic Unit Code	0504000112
Site Visit	10/27/2022
National Wetland Inventory Map	See Attached.
Ohio Wetland Inventory Map	N/A
Soil Survey	See Attached.
Delineation report/map	Attached

Name of Wetland: Wetland F	
Wetland Size (acres, hectares): 0.03+	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Attached.	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 34.5	Category: 2

Scoring Boundary Worksheet

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

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	✓	
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 <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO ✓ Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	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	Oak Opening species	wet prairie species
<i>Lythrum salicaria</i>	<i>Zygadenus elegans</i> var. <i>glaucus</i>	<i>Calla palustris</i>	<i>Carex cryptolepis</i>	<i>Calamagrostis canadensis</i>
<i>Myriophyllum spicatum</i>	<i>Cacalia plantaginea</i>	<i>Carex atlantica</i> var. <i>capillacea</i>	<i>Carex lasiocarpa</i>	<i>Calamagrostis stricta</i>
<i>Najas minor</i>	<i>Carex flava</i>	<i>Carex echinata</i>	<i>Carex stricta</i>	<i>Carex atherodes</i>
<i>Phalaris arundinacea</i>	<i>Carex sterilis</i>	<i>Carex oligosperma</i>	<i>Cladium mariscoides</i>	<i>Carex buxbaumii</i>
<i>Phragmites australis</i>	<i>Carex stricta</i>	<i>Carex trisperma</i>	<i>Calamagrostis stricta</i>	<i>Carex pellita</i>
<i>Potamogeton crispus</i>	<i>Deschampsia caespitosa</i>	<i>Chamaedaphne calyculata</i>	<i>Calamagrostis canadensis</i>	<i>Carex sartwellii</i>
<i>Ranunculus ficaria</i>	<i>Eleocharis rostellata</i>	<i>Decodon verticillatus</i>	<i>Quercus palustris</i>	<i>Gentiana andrewsii</i>
<i>Rhamnus frangula</i>	<i>Eriophorum viridicarinatum</i>	<i>Eriophorum virginicum</i>		<i>Helianthus grosseserratus</i>
<i>Typha angustifolia</i>	<i>Gentianopsis</i> spp.	<i>Larix laricina</i>		<i>Liatris spicata</i>
<i>Typha xglauca</i>	<i>Lobelia kalmii</i>	<i>Nemopanthus mucronatus</i>		<i>Lysimachia quadriflora</i>
	<i>Parnassia glauca</i>	<i>Scheuchzeria palustris</i>		<i>Lythrum alatum</i>
	<i>Potentilla fruticosa</i>	<i>Sphagnum</i> spp.		<i>Pycnanthemum virginianum</i>
	<i>Rhamnus alnifolia</i>	<i>Vaccinium macrocarpon</i>		<i>Silphium terebinthinaceum</i>
	<i>Rhynchospora capillacea</i>	<i>Vaccinium corymbosum</i>		<i>Sorghastrum nutans</i>
	<i>Salix candida</i>	<i>Vaccinium oxycoccos</i>		<i>Spartina pectinata</i>
	<i>Salix myricoides</i>	<i>Woodwardia virginica</i>		<i>Solidago riddellii</i>
	<i>Salix serissima</i>	<i>Xyris difformis</i>		
	<i>Solidago ohioensis</i>			
	<i>Tofieldia glutinosa</i>			
	<i>Triglochin maritimum</i>			
	<i>Triglochin palustre</i>			

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

Site: Wetland F

Rater(s): H. Mikula

Date: 10/27/2022

2	2
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Metric 1. Wetland Area (size).

max 6 pts. subtotal

Select one size class and assign score.

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

3	5
---	---

Metric 2. Upland buffers and surrounding land use.

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)
- VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

17.5	22.5
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Metric 3. Hydrology.

max 30 pts. subtotal

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

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

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)
- <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

9	31.5
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Metric 4. Habitat Alteration and Development.

max 20 pts. subtotal

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

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

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

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

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

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

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

31.5

subtotal this page

Site: Wetland F	Rater(s): H. Mikula	Date: 10/27/2022
------------------------	----------------------------	-------------------------

31.5

subtotal first page

0	31.5
---	------

max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

3	34.5
---	------

max 20 pts. subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

34.5

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	2	
	Metric 2. Buffers and surrounding land use	3	
	Metric 3. Hydrology	17.5	
	Metric 4. Habitat	9	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	3	
	TOTAL SCORE	34.5	Category based on score breakpoints 1 or 2 Gray Zone

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	Category 2	Category 3
------------	------------	------------	------------

✓

End of Ohio Rapid Assessment Method for Wetlands.

Appendix D Photographic Log

> **Photographic Log**


Photo #1	
Date: 07/06/2021	
Feature: Residential Area	
Description: Land use within the project area is dominated by residential homes with maintained lawns and isolated trees.	

Photo #2	
Date: 07/06/2021	
Feature: Agricultural Field	
Description: Areas of active agricultural fields planted with corn (<i>Zea mays</i>) are also located within the study area.	

> **Photographic Log**


Photo #3	
Date: 07/06/2021	
Feature: Upland Deciduous Forest	
Description: Woodlots are also located with the PIR 2350 study area. The woodlots are dominated by black walnut (<i>Juglans nigra</i>), green ash (<i>Fraxinus Pennsylvanica</i>), and cherry (<i>Prunus</i> sp.)	

Photo #4	
Date: 07/06/2021	
Feature: Wetland A - North	
Description: Wetland A is a PEM/PFO wetland dominated by green ash, gray dogwood (<i>Cornus racemosa</i>), jewelweed (<i>Impatiens capensis</i>), and lake sedge (<i>Carex lacustris</i>).	

> **Photographic Log**



Photo #5	
Date: 07/06/2021	
Feature: Wetland A - East	
Description: The photo depicts sample point WA-SP facing east.	

Photo #6	
Date: 07/06/2021	
Feature: Wetland A - South	
Description: The photo depicts sample point WA-SP facing south.	

> **Photographic Log**



Photo #7	
Date: 07/06/2021	
Feature: Wetland A - West	
Description: The photo depicts sample point WA-SP facing west.	

Photo #8	
Date: 07/06/2021	
Feature: Wetland B - North	
Description: Wetland B is a PEM/PFO wetland dominated by reed canary grass (<i>Phalaris arundinacea</i>) and jewelweed.	

> **Photographic Log**


Photo #9	
Date: 07/06/2021	
Feature: Wetland B - East	
Description: The photo depicts sample point WB-SP facing east.	

Photo #10	
Date: 07/06/2021	
Feature: Wetland B - South	
Description: The photo depicts sample point WB-SP facing south.	

> **Photographic Log**

Photo #11	
Date: 07/06/2021	
Feature: Wetland B - West	
Description: The photo depicts sample point WB-SP facing west.	

Photo #12	
Date: 07/06/2021	
Feature: Wetland C - North	
Description: Wetland C is a PEM wetland dominated by reed canary grass.	

> **Photographic Log**

Photo #13	
Date: 07/06/2021	
Feature: Wetland C - East	
Description: The photo depicts sample point WC-SP facing east.	

Photo #14	
Date: 07/06/2021	
Feature: Wetland C - South	
Description: The photo depicts sample point WC-SP facing south.	

> **Photographic Log**



Photo #15	
Date: 07/06/2021	
Feature: Wetland C - West	
Description: The photo depicts sample point WC-SP facing west.	

Photo #16	
Date: 07/06/2021	
Feature: Wetland D - North	
Description: Wetland D is an isolated PFO wetland dominated by eastern cottonwood (<i>Populus deltoides</i>) and silky dogwood (<i>Cornus amomum</i>).	

> **Photographic Log**



Photo #17	
Date: 07/06/2021	
Feature: Wetland D - East	
Description: The photo depicts sample point WD-SP facing east.	

Photo #18	
Date: 07/06/2021	
Feature: Wetland D - South	
Description: The photo depicts sample point WD-SP facing south.	

> **Photographic Log**

Photo #19	
Date: 07/06/2021	
Feature: Wetland D - West	
Description: The photo depicts sample point WD-SP facing west.	

Photo #20	
Date: 06/02/2022	
Feature: Wetland E - North	
Description: Wetland E is a PFO wetland dominated by silver maple (<i>Acer saccharinum</i>), green ash (<i>Fraxinus pennsylvanica</i>) and jewelweed (<i>Impatiens capensis</i>) and is predominately.	

> **Photographic Log**


Photo #21	
Date: 06/02/2022	
Feature: Wetland E - East	
Description: The photo depicts sample point WE-SP facing east.	

Photo #22	
Date: 06/02/2022	
Feature: Wetland E - South	
Description: The photo depicts sample point WE-SP facing south.	

> **Photographic Log**




Photo #23	
Date: 06/02/2022	
Feature: Wetland E - West	
Description: The photo depicts sample point WE-SP facing west.	

Photo #24	
Date: 10/27/2022	
Feature: Wetland F - North	
Description: Wetland F is an emergent wetland dominated by red maple (<i>Acer rubrum</i>), yellow bristle-grass (<i>Setaria pumila</i>), and Virginia wildrye (<i>Elymus virginicus</i>)	

> **Photographic Log**

Photo #25	
Date: 10/27/2022	
Feature: Wetland F - East	
Description: The photo depicts sample point WF-SP facing east.	

Photo #26	
Date: 10/27/2022	
Feature: Wetland F - South	
Description: The photo depicts sample point WF-SP facing south.	

> **Photographic Log**


Photo #27	
Date: 10/27/2022	
Feature: Wetland F - West	
Description: The photo depicts sample point WF-SP facing west.	

Photo #28	
Date: 07/06/2021	
Feature: Stream 1 Upstream	
Description: Stream 1 runs through a portion of forested area within the study area. Photo faces upstream portion of Stream 1.	

> **Photographic Log**

Photo #29	
Date: 07/06/2021	
Feature: Stream 1 Downstream	
Description: Photo faces downstream portion of Stream 1.	

Photo #30	
Date: 07/06/2021	
Feature: Stream 1 Substrate	
Description: Substrates of Stream 1 are dominated by sand and gravel.	

> **Photographic Log**

Photo #31	
Date: 07/06/2021	
Feature: Stream 2 Upstream	
Description: Stream 2 runs through a portion of forest within the study area. Stream 2 drains from an adjacent active agricultural field and connects to Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 2.	

Photo #32	
Date: 07/06/2021	
Feature: Stream 2 Downstream	
Description: Photo faces downstream portion of Stream 2.	

> **Photographic Log**

Photo #33	
Date: 07/06/2021	
Feature: Stream 2 Substrate	
Description: Substrates of Stream 2 are dominated by clay/hardpan and gravel.	

Photo #34	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Upstream	
Description: Stream 3 runs through a portion of forest within the study area. Photo faces upstream portion of Stream 3.	

> **Photographic Log**

Photo #35	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Downstream	
Description: Photo faces downstream portion of Stream 3 (Wetmore Creek).	

Photo #36	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Substrate	
Description: Substrates of Stream 3 (Wetmore Creek) are dominated by sand and gravel.	


> **Photographic Log**

Photo #37	
Date: 07/06/2021	
Feature: Stream 4 Upstream	
Description: Stream 4 is a roadside drainage feature that runs parallel to Genoa Ave SW. Stream 4 runs from north to south.	

Photo #38	
Date: 07/06/2021	
Feature: Stream 4 Downstream	
Description: Photo faces downstream portion of Stream 4.	

> **Photographic Log**

Photo #39	
Date: 07/06/2021	
Feature: Stream 4 Substrate	
Description: Substrates of Stream 4 are dominated by clay/hardpan and gravel.	

Photo #40	
Date: 06/02/2022	
Feature: Stream 5 Upstream	
Description: Stream 5 is an ephemeral stream that flows from north to south through the study area into Stream 3 (Wetmore Creek).	

> **Photographic Log**



Photo #41	
Date: 06/02/2022	
Feature: Stream 5 Downstream	
Description: Photo faces downstream portion of Stream 5.	

Photo #42	
Date: 06/02/2022	
Feature: Stream 5 Substrate	
Description: Substrates of Stream 5 are dominated by clay/hardpan and gravel.	

> **Photographic Log**

Photo #43	
Date: 07/06/2021	
Feature: Open Water A	
Description: Open Water A is a pond located in a maintained lawn of a residential home.	

Appendix E Qualitive Habitat Evaluation Index (QHEI) and Headwater Habitat Evaluation Index (HHEI) Forms



Primary Headwater Habitat Evaluation Form

61

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 1**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.30**

LENGTH OF STREAM REACH (ft) **176** LAT. **41.78202** LONG. **-81.48410** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Small Drainage Warmwater Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> %
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 15%
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 25%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input checked="" type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 40%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **10.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **15**

TOTAL NUMBER OF SUBSTRATE TYPES: **6**

HHEI Metric Points

Substrate Max = 40

21

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

Pool Depth Max = 30

20

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **2.60**

Bankfull Width Max=30

20

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ☆NOTE: River Left (L) and Right (R) as looking downstream ☆

RIPARIAN WIDTH

FLOODPLAIN QUALITY

L	R	(Per Bank)	L	R	(Most Predominant per Bank)	L	R	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	Wide >10m	<input checked="" type="checkbox"/>	<input type="checkbox"/>	Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/>	Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial
<input type="checkbox"/>	<input checked="" type="checkbox"/>	Narrow <5m	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	Open Pasture, Row Crop
<input type="checkbox"/>	<input type="checkbox"/>	None	<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction

COMMENTS _____

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

<input checked="" type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input checked="" type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

WWH Name: Distance from Evaluated Stream mi.
 CWH Name: Distance from Evaluated Stream
 EWH Name: Distance from Evaluated Stream

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order
County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:
Photograph Information:
Elevated Turbidity? (Y/N): Canopy (% open):
Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:
Field Measures: Temp (°C) Dissolved Oxygen (mg/l) pH (S.U.) Conductivity (µmhos/cm)
Is the sampling reach representative of the stream (Y/N) If not, please explain:

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)
Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)
Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)
Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) :

7

SITE NAME/LOCATION **Stream 2**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **23** LAT. **40.78166** LONG. **-81.47908** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 0%	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 95%
<input type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **0**

TOTAL NUMBER OF SUBSTRATE TYPES: **2**

HHEI Metric Points

Substrate Max = 40

2

A + B

Pool Depth Max = 30

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.91**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ⚡NOTE: River Left (L) and Right (R) as looking downstream⚡

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m			<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>
None			<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

<input checked="" type="checkbox"/> WWH Name: Wetmore Creek	Distance from Evaluated Stream	5.00 ft.
<input type="checkbox"/> CWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> EWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>

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

USGS Quadrangle Name: **Canton West** NRCS Soil Map Page: NRCS Soil Map Stream Order

County: **Stark** Township / City: **Perry Township**

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: **06/22/21** Quantity: **0.26**

Photograph Information: **See Attached.**

Elevated Turbidity? (Y/N): N Canopy (% open): **50%**

Were samples collected for water chemistry? (Y/N): N (Note lab sample no. or id. and attach results) Lab Number:

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

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

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Qualitative Habitat Evaluation Index and Use Assessment Field Sheet

QHEI Score: 67.0

Stream/Location: Stream 3 (Wetmore Creek) / PIR 2350 - Jackson & Genoa, Stark County
STORET#:
River Code:
Lat/Long.: 40.781727°, -81.478963°
Scorers Full Name & Affiliation: H. Mikula, A. Dietz-Oergel, ECT
Date: 6/3/2022

1] SUBSTRATE Check ONLY Two substrate TYPE BOXES: estimate % or note every type present

Table with columns: BEST TYPES, OTHER TYPES, ORIGIN, QUALITY. Includes checkboxes for BLDR/SLABS, BOULDER, COBBLE, GRAVEL, SAND, BEDROCK, etc. and a final score box for Substrate: 16.0

2] INSTREAM COVER Indicate presence 0 to 3: 0-Absent, 1-Very small amounts or if more common of marginal quality, 2-Moderate amounts, but not of highest quality or in small amounts of highest quality, 3-Highest quality in moderate or greater amounts

Table with columns: UNDERCUT BANKS, OVERHANGING VEGETATION, SHALLOWS, ROOTMATS, POOLS >70CM, ROOTWADS, BOULDERS, OXBOWS/BACKWATERS, AQUATIC MACROPHYTES, LOGS or WOODY DEBRIS. Includes checkboxes and a final score box for Cover: 14.0

3] CHANNEL MORPHOLOGY Check ONE in each category (Or 2 & average)

Table with columns: SINUOSITY, DEVELOPMENT, CHANNELIZATION, STABILITY. Includes checkboxes for HIGH, MODERATE, LOW, NONE and a final score box for Channel: 15.0

4] BANK EROSION AND RIPARIAN ZONE Check ONE in each category for EACH BANK (Or 2 per bank & average)

Table with columns: EROSION, RIPARIAN WIDTH, FLOOD PLAIN QUALITY. Includes checkboxes for NONE/LITTLE, MODERATE, HEAVY/SEVERE, WIDE, MODERATE, NARROW, VERY NARROW, NONE and a final score box for Riparian: 9.0

5] POOL / GLIDE AND RIFFLE / RUN QUALITY

Table with columns: MAXIMUM DEPTH, CHANNEL WIDTH, CURRENT VELOCITY. Includes checkboxes for depth, width, and velocity categories and a final score box for Pool/Current: 4.0

Indicate for functional riffles; Best areas must be large enough to support a population of riffle-obligate species:

Table with columns: RIFFLE DEPTH, RUN DEPTH, RIFFLE / RUN SUBSTRATE, RIFFLE / RUN EMBEDDEDNESS. Includes checkboxes for riffle characteristics and a final score box for Riffle/Run: 5.0

6] GRADIENT

Form for GRADIENT with fields for DRAINAGE AREA, %POOL, %GLIDE, %RUN, %RIFFLE, and a final score box for Gradient: 4.0



Primary Headwater Habitat Evaluation Form

17

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **Stream 4**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **22** LAT. **40.78128** LONG. **-81.46607** RIVER CODE _____ RIVER MILE _____

DATE **07/06/21** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> %
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> %	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> %	<input checked="" type="checkbox"/> <input type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 75%
<input type="checkbox"/> <input checked="" type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 15%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> %	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**

TOTAL NUMBER OF SUBSTRATE TYPES: **3**

HHEI Metric Points

Substrate Max = 40

12

A + B

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **30**

Pool Depth Max = 30

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ⚡NOTE: River Left (L) and Right (R) as looking downstream⚡

RIPARIAN WIDTH		FLOODPLAIN QUALITY					
L	R	L	R				
<input type="checkbox"/>	<input type="checkbox"/> (Per Bank)	<input type="checkbox"/>	<input type="checkbox"/> (Most Predominant per Bank)	<input type="checkbox"/>	<input type="checkbox"/> L	<input type="checkbox"/>	<input type="checkbox"/> R
<input type="checkbox"/>	<input type="checkbox"/> Wide >10m	<input type="checkbox"/>	<input type="checkbox"/> Mature Forest, Wetland	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Conservation Tillage
<input type="checkbox"/>	<input type="checkbox"/> Moderate 5-10m	<input type="checkbox"/>	<input type="checkbox"/> Immature Forest, Shrub or Old Field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Urban or Industrial
<input type="checkbox"/>	<input type="checkbox"/> Narrow <5m	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> Residential, Park, New Field	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Open Pasture, Row Crop
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> None	<input type="checkbox"/>	<input type="checkbox"/> Fenced Pasture	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/> Mining or Construction

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input checked="" type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

<input checked="" type="checkbox"/> WWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text" value="0.84"/>	mi.
<input type="checkbox"/> CWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>	
<input type="checkbox"/> EWH Name:	<input type="text"/>	Distance from Evaluated Stream	<input type="text"/>	

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order

County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:

Photograph Information:

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

Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:

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

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

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)

Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)

Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 



Primary Headwater Habitat Evaluation Form

19

HHEI Score (sum of metrics 1, 2, 3) :

SITE NAME/LOCATION **S5**

SITE NUMBER **PIR 2350** RIVER BASIN _____ DRAINAGE AREA (mi²) **0.01**

LENGTH OF STREAM REACH (ft) **43** LAT. **40.78153** LONG. **-81.47827** RIVER CODE _____ RIVER MILE _____

DATE **10/27/22** SCORER **H. Mikula** COMMENTS **Modified Ephemeral Stream**

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

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

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

TYPE	PERCENT	TYPE	PERCENT
<input type="checkbox"/> <input type="checkbox"/> BLDR SLABS [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> SILT [3 pt]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BOULDER (>256 mm) [16 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> LEAF PACK/WOODY DEBRIS [3 pts]	<input type="checkbox"/> 10%
<input type="checkbox"/> <input type="checkbox"/> BEDROCK [16 pt]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input type="checkbox"/> FINE DETRITUS [3 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> COBBLE (65-256 mm) [12 pts]	<input type="checkbox"/> 0%	<input type="checkbox"/> <input checked="" type="checkbox"/> CLAY or HARDPAN [0 pt]	<input type="checkbox"/> 60%
<input checked="" type="checkbox"/> <input type="checkbox"/> GRAVEL (2-64 mm) [9 pts]	<input type="checkbox"/> 15%	<input type="checkbox"/> <input type="checkbox"/> MUCK [0 pts]	<input type="checkbox"/> 0%
<input type="checkbox"/> <input type="checkbox"/> SAND (<2 mm) [6 pts]	<input type="checkbox"/> 5%	<input type="checkbox"/> <input type="checkbox"/> ARTIFICIAL [3 pts]	<input type="checkbox"/> 0%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock **0.00%** (A)

Substrate Percentage Check **100%** (B)

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: **9**

TOTAL NUMBER OF SUBSTRATE TYPES: **5**

HHEI Metric Points

Substrate Max = 40

14

A + B

Pool Depth Max = 30

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

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

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): **0**

0

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

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

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters): **0.60**

Bankfull Width Max=30

5

This information must also be completed

RIPARIAN ZONE AND FLOODPLAIN QUALITY ⚡NOTE: River Left (L) and Right (R) as looking downstream⚡

RIPARIAN WIDTH		FLOODPLAIN QUALITY	
L	R	L	R
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
(Per Bank)		(Most Predominant per Bank)	
Wide >10m		Mature Forest, Wetland	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Immature Forest, Shrub or Old Field	<input type="checkbox"/>
Moderate 5-10m		Residential, Park, New Field	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Fenced Pasture	<input type="checkbox"/>
Narrow <5m		Conservation Tillage	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Urban or Industrial	<input type="checkbox"/>
None		Open Pasture, Row Crop	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	Mining or Construction	<input type="checkbox"/>

COMMENTS _____

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

<input type="checkbox"/> Stream Flowing	<input type="checkbox"/> Moist Channel, isolated pools, no flow (Intermittent)
<input type="checkbox"/> Subsurface flow with isolated pools (Interstitial)	<input checked="" type="checkbox"/> Dry channel, no water (Ephemeral)

COMMENTS _____

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

<input type="checkbox"/> None	<input type="checkbox"/> 1.0	<input type="checkbox"/> 2.0	<input type="checkbox"/> 3.0
<input checked="" type="checkbox"/> 0.5	<input type="checkbox"/> 1.5	<input type="checkbox"/> 2.5	<input type="checkbox"/> >3

STREAM GRADIENT ESTIMATE

Flat (0.5 ft/100 ft) Flat to Moderate Moderate (2 ft/100 ft) Moderate to Severe Severe (10 ft/100 ft)

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

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

DOWNSTREAM DESIGNATED USE(S)

<input checked="" type="checkbox"/> WWH Name: Wetmore Creek	Distance from Evaluated Stream	<input type="text" value="0.00"/> ft.
<input type="checkbox"/> CWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>
<input type="checkbox"/> EWH Name: <input type="text"/>	Distance from Evaluated Stream	<input type="text"/>

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

USGS Quadrangle Name: NRCS Soil Map Page: NRCS Soil Map Stream Order

County: Township / City:

MISCELLANEOUS

Base Flow Conditions? (Y/N): Date of last precipitation: Quantity:

Photograph Information:

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

Were samples collected for water chemistry? (Y/N): (Note lab sample no. or id. and attach results) Lab Number:

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

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

Additional comments/description of pollution impacts:

BIOTIC EVALUATION

Performed? (Y/N): (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) Voucher? (Y/N) Salamanders Observed? (Y/N) Voucher? (Y/N)

Frogs or Tadpoles Observed? (Y/N) Voucher? (Y/N) Aquatic Macroinvertebrates Observed? (Y/N) Voucher? (Y/N)

Comments Regarding Biology:

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

Include important landmarks and other features of interest for site evaluation and a narrative description of the stream's location
See attached Figures for stream drawing.

FLOW 

Attachment C

Preliminary Jurisdictional Determination Form

Appendix 1 - REQUEST FOR CORPS JURISDICTIONAL DETERMINATION (JD)

To: Huntington District, USACE

I am requesting a JD on property located at: Jackson Avenue SW
(Street Address)

City/Township/Parish: Perry Township County: Stark County State: Ohio

Acreage of Parcel/Review Area for JD: 24 acres

Section: n/a Township: Perry Range: n/a

Latitude (decimal degrees): 40.782068° Longitude (decimal degrees): -81.480849°

(For linear projects, please include the center point of the proposed alignment.)

Please attach a survey/plat map and vicinity map identifying location and review area for the JD.

I currently own this property. I plan to purchase this property.

I am an agent/consultant acting on behalf of the requestor.

Other (please explain): I represent a utility company with easement rights on this property.

Reason for request: (check as many as applicable)

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all aquatic resources.

I intend to construct/develop a project or perform activities on this parcel which would be designed to avoid all jurisdictional aquatic resources under Corps authority.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps, and the JD would be used to avoid and minimize impacts to jurisdictional aquatic resources and as an initial step in a future permitting process.

I intend to construct/develop a project or perform activities on this parcel which may require authorization from the Corps; this request is accompanied by my permit application and the JD is to be used in the permitting process.

I intend to construct/develop a project or perform activities in a navigable water of the U.S. which is included on the district Section 10 list and/or is subject to the ebb and flow of the tide.

A Corps JD is required in order to obtain my local/state authorization.

I intend to contest jurisdiction over a particular aquatic resource and request the Corps confirm that jurisdiction does/does not exist over the aquatic resource on the parcel.

I believe that the site may be comprised entirely of dry land.

Other: _____

Type of determination being requested:

I am requesting an approved JD.

I am requesting a preliminary JD.

I am requesting a "no permit required" letter as I believe my proposed activity is not regulated.

I am unclear as to which JD I would like to request and require additional information to inform my decision.

By signing below, you are indicating that you have the authority, or are acting as the duly authorized agent of a person or entity with such authority, to and do hereby grant Corps personnel right of entry to legally access the site if needed to perform the JD. Your signature shall be an affirmation that you possess the requisite property rights to request a JD on the subject property.

*Signature: Frank A Martin, P.E. Digitally signed by Frank A Martin, P.E.
Date: 2023.01.19 15:24 -05'00'

Typed or printed name: Frank Martin, Director, Gas Operations

Company name: The East Ohio Gas Company, d/b/a Dominion Energy Ohio

Address: 320 Springside Drive, Suite 320

Akron, Ohio 44333

Daytime phone no.: contact: Greg Eastridge (330.664.2576)

Email address: gregory.k.eastridge@dominionenergy.com

***Authorities:** Rivers and Harbors Act, Section 10, 33 USC 403; Clean Water Act, Section 404, 33 USC 1344; Marine Protection, Research, and Sanctuaries Act, Section 103, 33 USC 1413; Regulatory Program of the U.S. Army Corps of Engineers; Final Rule for 33 CFR Parts 320-332.

Principal Purpose: The information that you provide will be used in evaluating your request to determine whether there are any aquatic resources within the project area subject to federal jurisdiction under the regulatory authorities referenced above.

Routine Uses: This information may be shared with the Department of Justice and other federal, state, and local government agencies, and the public, and may be made available as part of a public notice as required by federal law. Your name and property location where federal jurisdiction is to be determined will be included in the approved jurisdictional determination (AJD), which will be made available to the public on the District's website and on the Headquarters USACE website.

Disclosure: Submission of requested information is voluntary; however, if information is not provided, the request for an AJD cannot be evaluated nor can an AJD be issued.

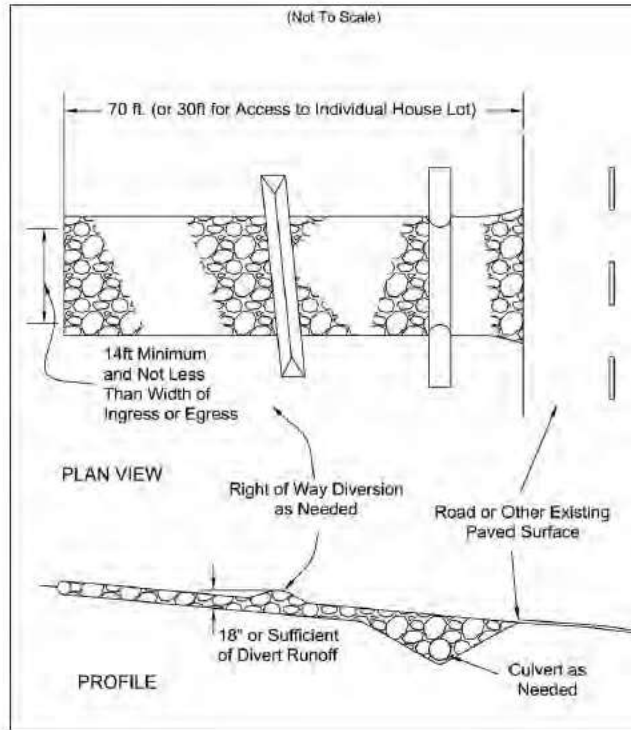
<i>Site Number</i>	<i>Latitude</i>	<i>Longitude</i>	<i>Cowardin Class</i>	<i>Estimated Amount of aquatic resource in review area (acres or linear feet)</i>	<i>Class of Aquatic Resource</i>
Wetland A	40.7821585	-81.4845528	PEM/PFO	0.05 ac	Non-section 10 – Wetland
Wetland B	40.7818131	-81.4797926	PEM/PFO	0.23 ac	Non-section 10 – Wetland
Wetland C	40.7819660	-81.4786009	PEM	1.53 ac	Non-section 10 – Wetland
Wetland D	40.7808902	-81.4850312	PFO	0.13 ac	Non-section 10 – Wetland
Wetland E	40.7806600	-81.4838533	PFO	0.05 ac	Non-section 10 – Wetland
Wetland F	40.7816300	-81.479321	PEM	0.03 ac	Non-section 10 – Wetland
Stream 1	40.780679	-81.483751	R4SB	129 lf / 0.025 ac	Non-section 10- Non-wetland
Stream 2	40.781680	-81.479060	R4SB	37 lf / 0.003 ac	Non-section 10- Non-wetland
Stream 3 (Wetmore Creek)	40.781799	-81.479030	R4SB	364 lf / 0.167 ac	Non-section 10- Non-wetland
Stream 4	40.781298	-81.466059	R4SB	60 lf / 0.004 ac	Non-section 10- Non-wetland
Stream 5	40.78151	-81.478280	R4SB	51 lf / 0.002 ac	Non-section 10- Non-wetland
Open Water A	40.781884	-81.484096	PUB	0.06 ac	Non-section 10- Non-wetland

Attachment D

Typical Construction Drawings

DETAIL D-1

ROCK CONSTRUCTION ENTRANCE DETAIL



Specifications
for

Construction Entrance

1. Stone Size—ODOT # 2 (1.5-2.5 inch) stone shall be used, or recycled concrete equivalent.
2. Length—The Construction entrance shall be as long as required to stabilize high traffic areas but not less than 70 ft. (exception: apply 30 ft. minimum to single residence lots).
3. Thickness -The stone layer shall be at least 6 inches thick for light duty entrances or at least 10 inches for heavy duty use.
4. Width -The entrance shall be at least 14 feet wide, but not less than the full width at points where ingress or egress occurs.
5. Geotextile -A geotextile shall be laid over the entire area prior to placing stone. It shall be composed of strong rot-proof polymeric fibers and meet the following specifications:
6. Timing—The construction entrance shall be installed as soon as is practicable before major grading activities.
7. Culvert -A pipe or culvert shall be constructed under the entrance if needed to prevent surface water from flowing across the entrance or to prevent runoff from being directed out onto paved surfaces.
8. Water Bar -A water bar shall be constructed as part of the construction entrance if needed to prevent surface runoff from flowing the length of the construction entrance and out onto paved surfaces.
9. Maintenance -Top dressing of additional stone shall be applied as conditions demand. Mud spilled, dropped, washed or tracked onto public roads, or any surface where runoff is not checked by sediment controls, shall be removed immediately. Removal shall be accomplished by scraping or sweeping.
10. Construction entrances shall not be relied upon to remove mud from vehicles and prevent off-site tracking. Vehicles that enter and leave the construction-site shall be restricted from muddy areas.
11. Removal—the entrance shall remain in place until the disturbed area is stabilized or replaced with a permanent roadway or entrance.

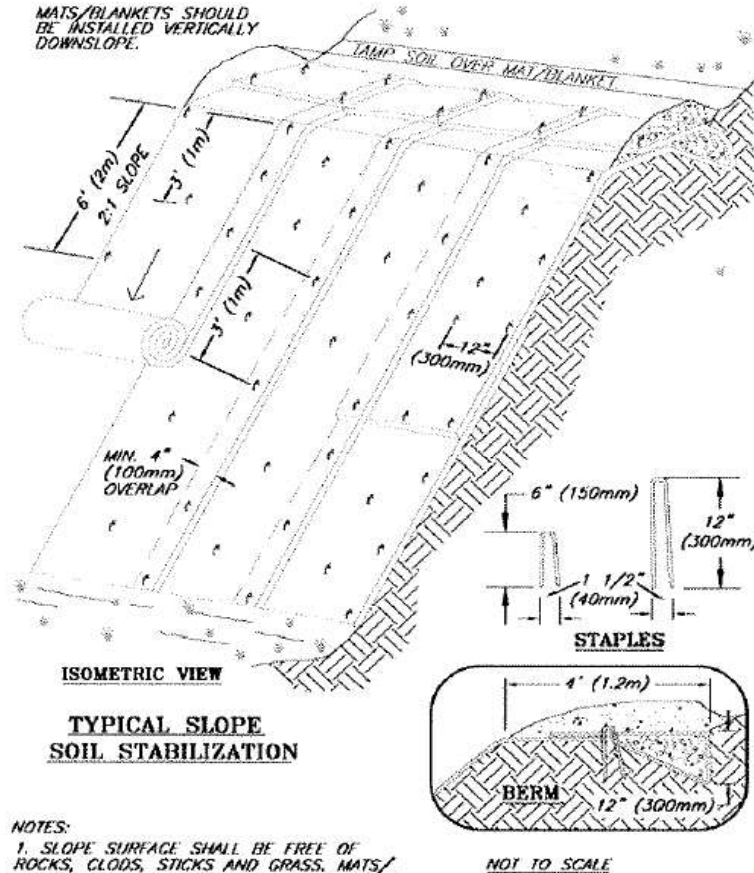
Figure 7.4.1

Geotextile Specification for Construction Entrance	
Minimum Tensile Strength	200 lbs.
Minimum Puncture Strength	80 psi.
Minimum Tear Strength	50 lbs.
Minimum Burst Strength	320 psi.
Minimum Elongation	20%
Equivalent Opening Size	EOS < 0.6 mm.
Permittivity	1×10 ⁻³ cm/sec.

DETAIL D-2

EROSION CONTROL MATTING DETAIL

EROSION CONTROL BLANKET DETAIL



NOTES:

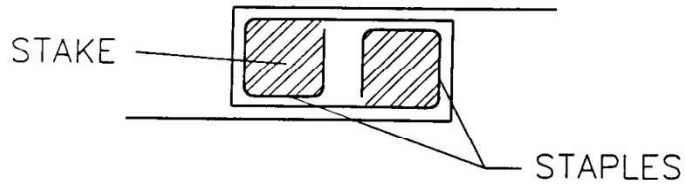
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT.
2. APPLY PERMANENT SEEDING BEFORE PLACING BLANKETS.
3. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

EROSION BLANKETS & TURF REINFORCEMENT MATS SLOPE INSTALLATION

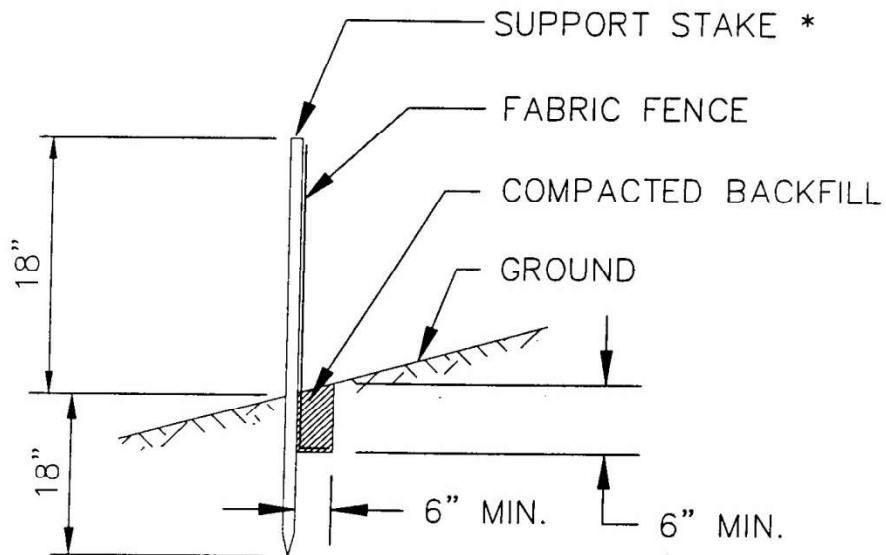
Refer to manufacturer's lining installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

DETAIL D-3

FILTER FABRIC FENCE DETAIL



JOINING FENCE SECTIONS



*Stakes spaced @ 8' maximum. Use 2"x 2" wood or equivalent steel stakes.

Filter Fabric Fence must be placed at level existing grade. Both ends of the barrier must be extended at least 8 feet up slope at 45 degrees to the main barrier alignment.

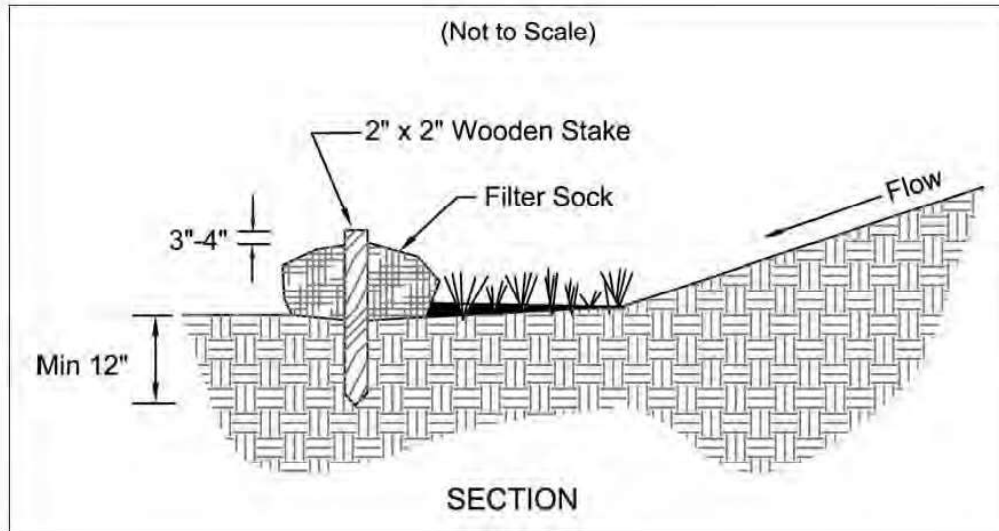
Trench shall be backfilled and compacted to prevent runoff from cutting underneath the fence.

Sediment must be removed when accumulations reach 1/2 the above ground height of the fence.

Any section of Filter fabric fence that has been undermined or topped should be immediately replaced.

DETAIL D-4

FILTER SOCK DETAIL



1. Materials – Compost used for filter socks shall be weed, pathogen and insect free and free of any refuse, contaminants or other materials toxic to plant growth. They shall be derived from a well-decomposed source of organic matter and consist of particles ranging from 3/8" to 2".
2. Filter Socks shall be 3 or 5 mil continuous, tubular, HDPE 3/8" knitted mesh netting material, filled with compost passing the above specifications for compost products.
5. Filter Socks are not to be used in concentrated flow situations or in runoff channels.

MAINTENANCE:

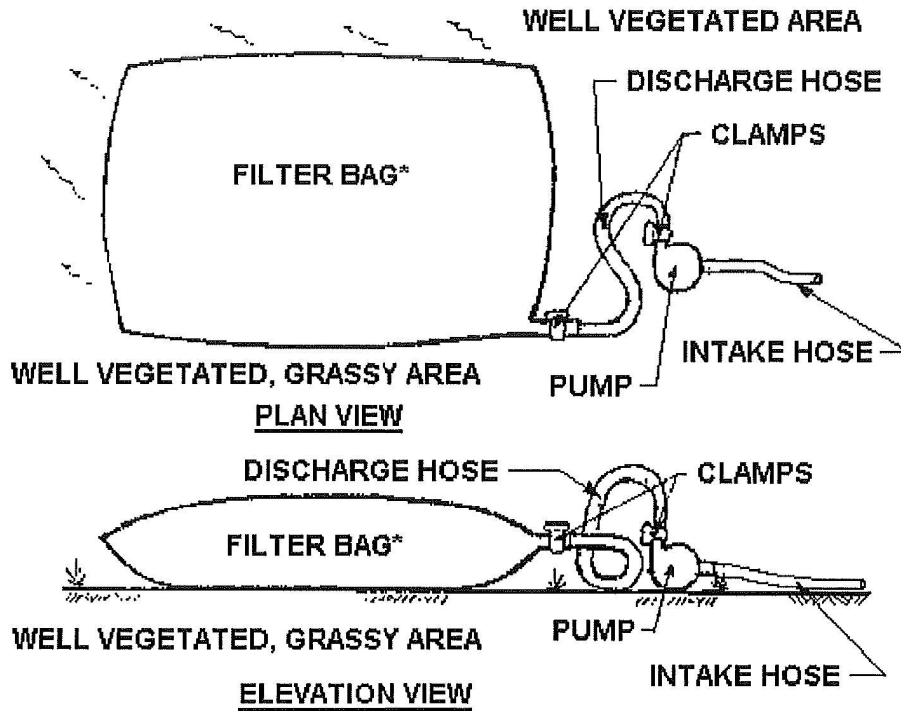
INSTALLATION:

3. Filter socks will be placed on a level line across slopes, generally parallel to the base of the slope or other affected area. On slopes approaching 2:1, additional socks shall be provided at the top and as needed mid-slope.
4. Filter socks intended to be left as a permanent filter or part of the natural landscape, shall be seeded at the time of installation for establishment of permanent vegetation.
6. Routinely inspect filter socks after each significant rain, maintaining filter socks in a functional condition at all times.
7. Remove sediments collected at the base of the filter socks when they reach 1/3 of the exposed height of the practice.
8. Where the filter sock deteriorates or fails, it will be repaired or replaced with a more effective alternative.
9. Removal – Filter socks will be dispersed on site when no longer required in such a way as to facilitate and not obstruct seedings.

Note: Filter socks may not require stakes if used in areas of little to no slope, for short duration, and/or for relatively small disturbances such as sidecast piles from service line tie-ins.

DETAIL D-5

PUMPED WATER FILTER BAG DETAIL



Filter bags shall be made from non-woven geotextile material sewn with high strength, double stitched "J" type seams. They shall be capable of trapping particles larger than 150 microns.

A suitable means of accessing the bag with machinery required for disposal purposes must be provided. Filter bags shall be replaced when they become 1/2 full. Spare bags shall be kept available for replacement of those that have failed or are filled.

Bags shall be located in a well-vegetated (grassy) area, and discharge onto stable, erosion resistant areas. Where this is not possible, a geotextile flow path shall be provided. Bags should not be placed on slopes greater than 5%.

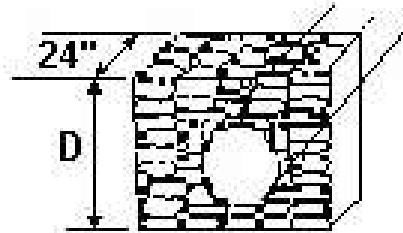
For hydrostatic discharge, the pumping rate is 350-500 gallons per minute (gpm). For trench dewatering, the pumping rate shall be no more than 750 gpm. Floating pump intakes should be considered to allow sediment-free water to be discharged during dewatering.

Filter bags shall be inspected daily. If any problem is detected, pumping shall cease immediately and not resume until the problem is corrected.

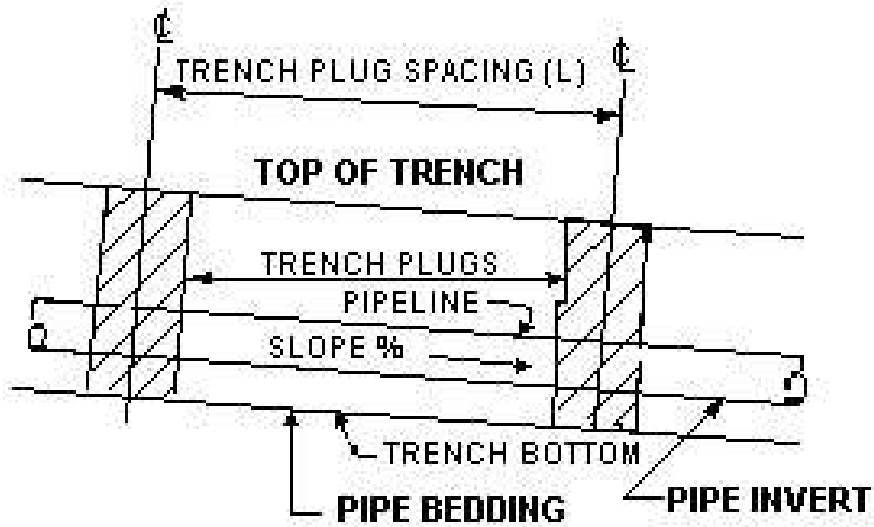
DETAIL D-6

TRENCH PLUG INSTALLATION DETAIL

D - DEPTH TO BOTTOM OF TRENCH



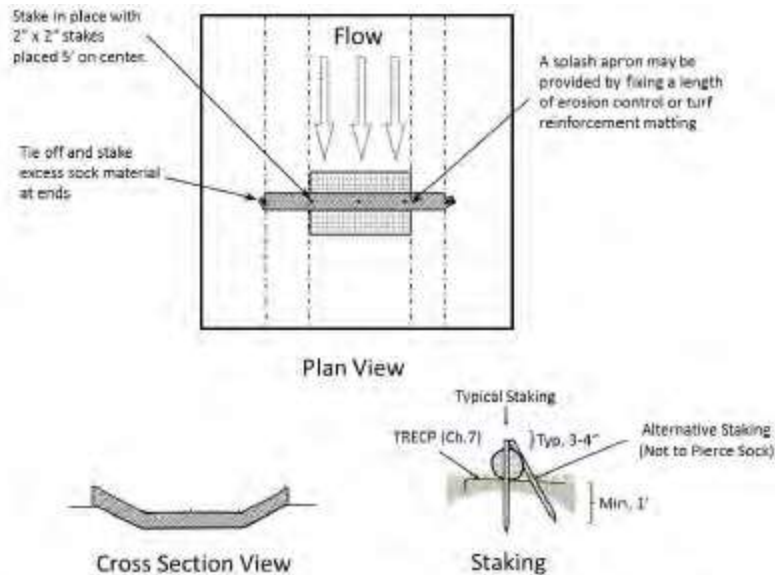
SECTION VIEW
NOT TO SCALE



ELEVATION
NOT TO SCALE

DETAIL D-7

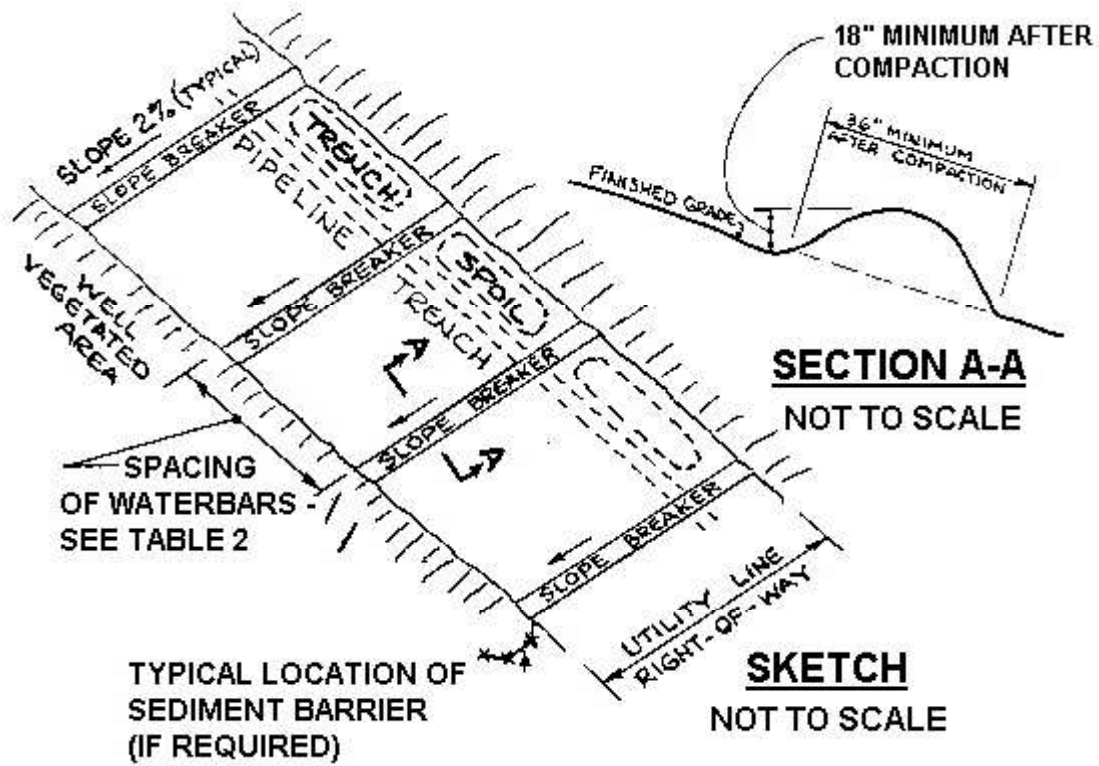
COMPOST SOCK CHECK DAM DETAIL



- Compost sock netting shall use a knitted mesh fabric with 1/8-3/8 inch openings, and compost media with particle sizes 99% < 3 inches, and 60% > 3/8 inches (conforming to media described in Chapter 6 Filter Sock).
- Compost sock check dams shall be used in areas that drain 5 acres or less.
- Sediment shall be removed from behind the sock when it reaches 1/2 the height of the check dam.
- Compost sock check dams shall be constructed with 12, 18, or 24 in diameter compost socks, and shall completely cover the width of the channel. The midpoint of the compost sock check dam shall be a minimum of 6 inches lower than the sides in order to direct flow across the center and away from the channel sides. Filter sock check dams shall be filled to a density such that they shall reach their intended height (diameter). After installation and use, they shall be considered unsuitable and in need of replacement after falling below 80% of their minimum required height (diameter).
- Although no trenching is necessary, compost sock check dams shall be placed on a graded surface where consistent contact with the soil surface is made without bridging over gaps, rills, gullies, stones or other irregularities.
- Place compost sock check dams so that the ends extend to the top of bank. Staking for compost sock check dams shall use 2 inch x 2 inch wooden stakes, placed 5 foot on center. Stake length shall allow them to be driven 12 inches into existing soil and allow at least 2 inches above the sock.
- Space compost sock check dams so that the toe of the upstream dam is at the same elevation or lower elevation as the top of the downstream compost sock check dam (at the center of the channel). This will be influenced by the height of the sock and gradient of the waterway.
- A splash apron may be needed where flows over the sock may erode the channel and undercut the compost sock check dam. Create the apron by fixing a length of Temporary Rolled Erosion Control Product (Erosion Control Matting) or Turf Reinforcement Matting starting upstream of the sock a distance equal to the sock height and extending a length two times the height of the compost sock check dam. See Chapter 7 for information regarding these materials. Materials used should be able to be left in place (e.g. biodegradable/photodegradable TRECP) without creating problems for future mowing or maintenance of the channel.

DETAIL D-8

WATERBAR INSTALLATION

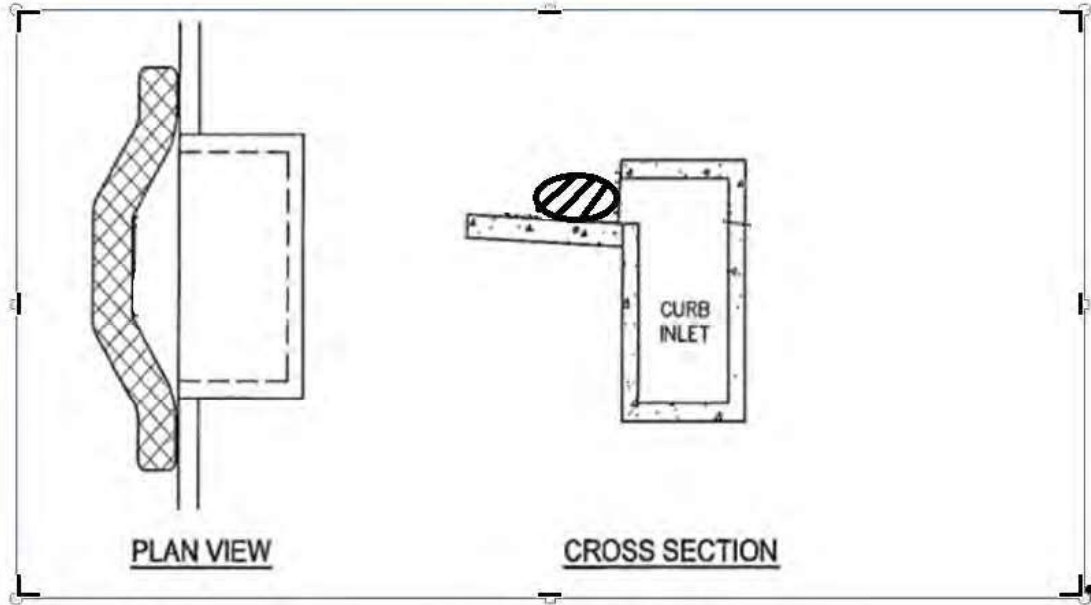


Required Spacing for Temporary and Permanent Waterbars	
Percent Slope	Spacing (FT)
1	400
2	250
5	135
10	80
15	60
20	45

Waterbars should be constructed at a slope of 1% and discharge to a well-vegetated area. Waterbars should not discharge into an open trench. Waterbars should be oriented so that the discharge does not flow back onto the ROW. Obstructions, (e.g. silt fence, rock filters, etc.) should not be placed in any waterbars. Where needed, they should be located below the discharge end of the waterbar.

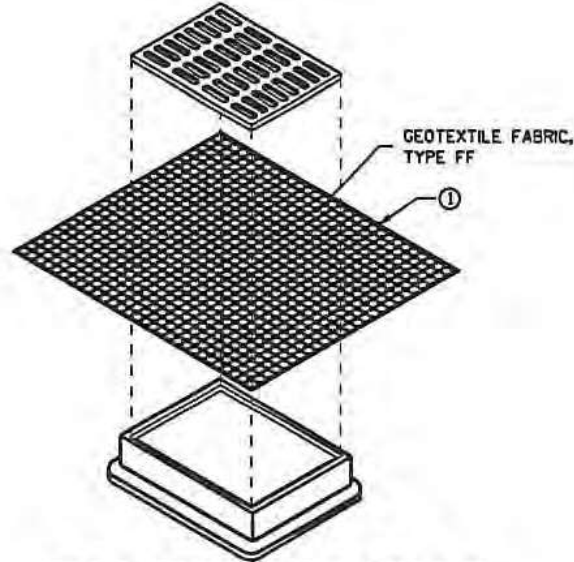
DETAIL D-9A

CURB INLET PROTECTION



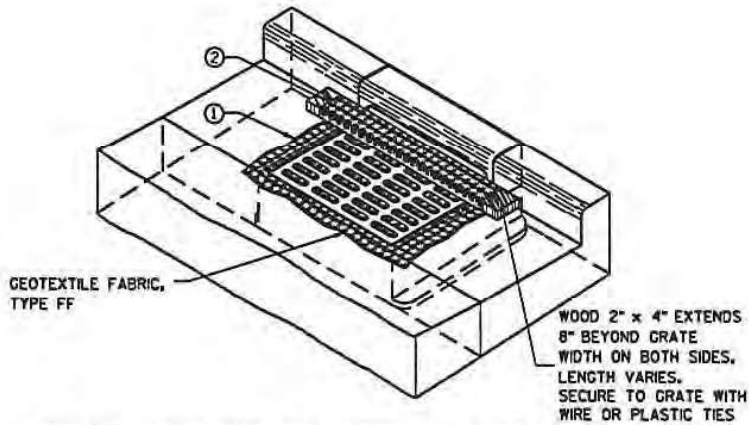
DETAIL D-9B

CURB INLET PROTECTION



INLET PROTECTION, TYPE B (WITHOUT CURB BOX)

(CAN BE INSTALLED IN ANY INLET WITHOUT A CURB BOX)



INLET PROTECTION, TYPE C (WITH CURB BOX)

INSTALLATION NOTES

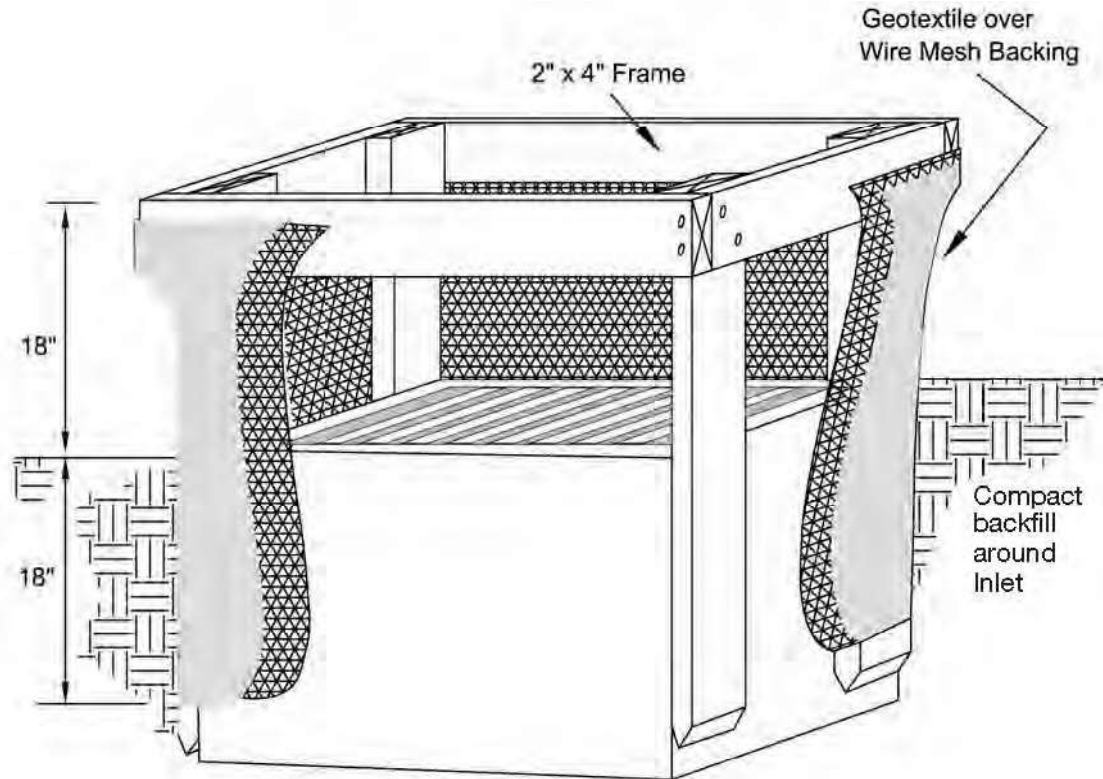
TYPE B & C

TRIM EXCESS FABRIC IN THE FLOW LINE TO WITHIN 3" OF THE GRATE.

THE CONTRACTOR SHALL DEMONSTRATE A METHOD OF MAINTENANCE, USING A SEWN FLAP, HAND HOLDS OR OTHER METHOD TO PREVENT ACCUMULATED SEDIMENT FROM ENTERING THE INLET.

DETAIL D-9C

GEOTEXTILE INLET PROTECTION DETAIL

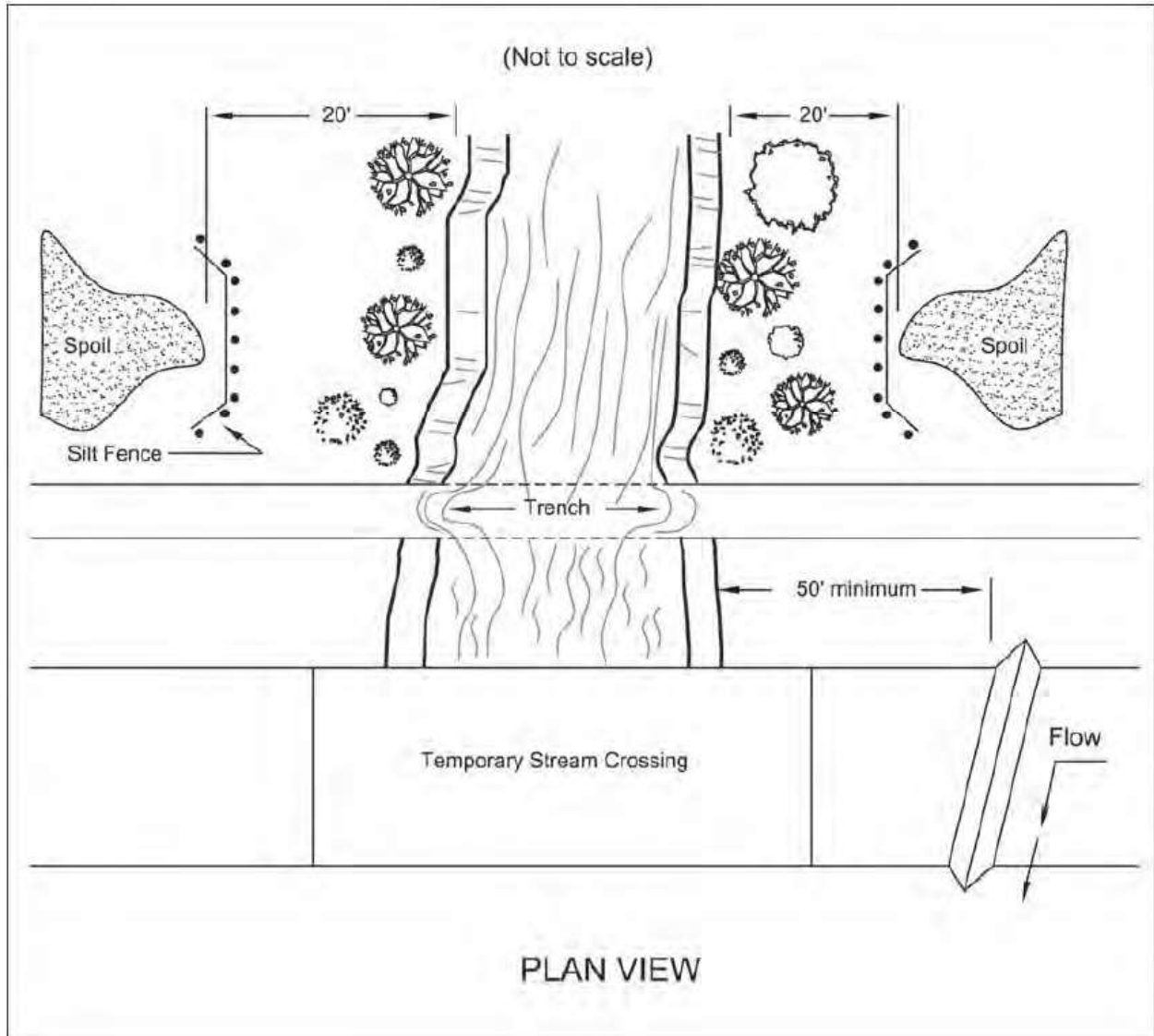


SECTION

1. Inlet protection shall be constructed either before upslope land disturbance begins or before the inlet becomes functional.
2. The earth around the inlet shall be excavated completely to a depth at least 18 inches.
3. The wooden frame shall be constructed of 2-inch by 4-inch construction grade lumber. The 2-inch by 4-inch posts shall be driven one (1) ft. into the ground at four corners of the inlet and the top portion of 2-inch by 4-inch frame assembled using the overlap joint shown. The top of the frame shall be at least 6 inches below adjacent roads if ponded water will pose a safety hazard to traffic.
4. Wire mesh shall be of sufficient strength to support fabric with water fully impounded against it. It shall be stretched tightly around the frame and fastened securely to the frame.
5. Geotextile material shall have an equivalent opening size of 20-40 sieve and be resistant to sunlight. It shall be stretched tightly around the frame and fastened securely. It shall extend from the top of the frame to 18 inches below the inlet notch elevation. The geotextile shall overlap across one side of the inlet so the ends of the cloth are not fastened to the same post.
6. Backfill shall be placed around the inlet in compacted 6inch layers until the earth is even with notch elevation on ends and top elevation on sides.
7. A compacted earth dike or check dam shall be constructed in the ditch line below the inlet if the inlet is not in a depression. The top of the dike shall be at least 6 inches higher than the top of the frame.
8. Filter fabric and filter socks can also be used as inlet protection.

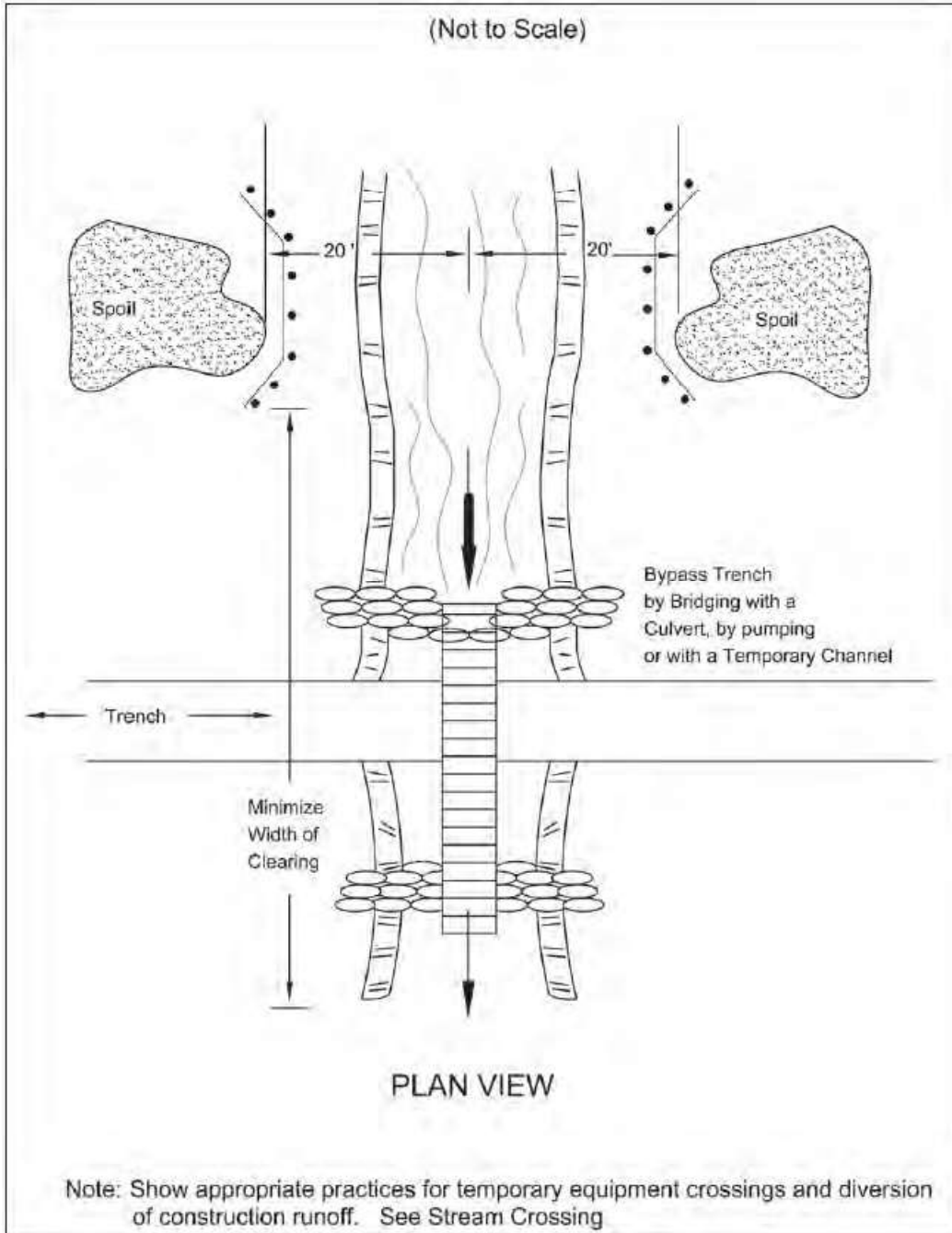
DETAIL D-10

LARGE STREAM UTILITY CROSSING



DETAIL D-11

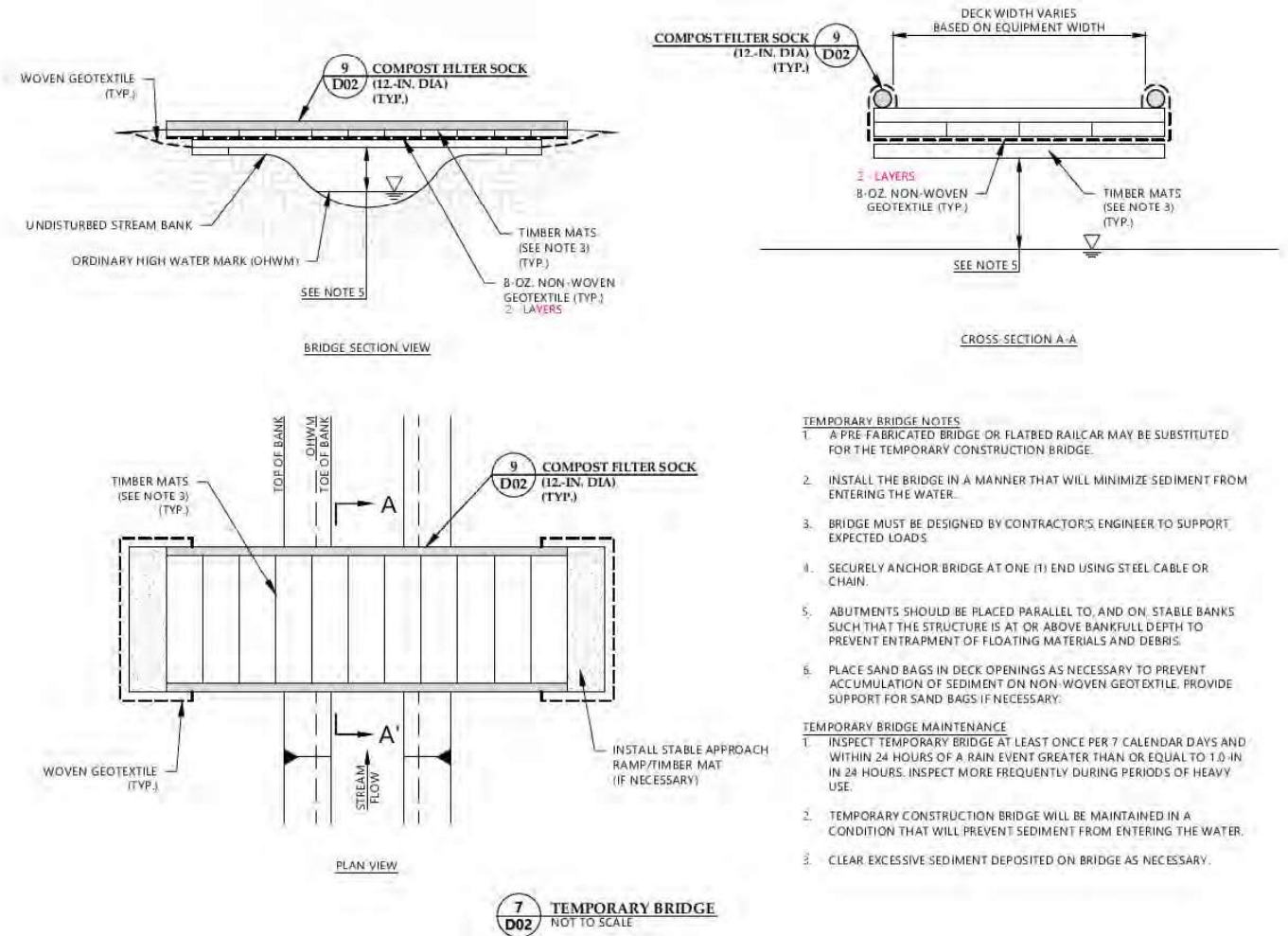
SMALL STREAM UTILITY CROSSING



Notes: A diversion barrier may also be used to direct water away from the pipe trench
Trench plugs will be installed as necessary on each side of water body crossings.

DETAIL D-12

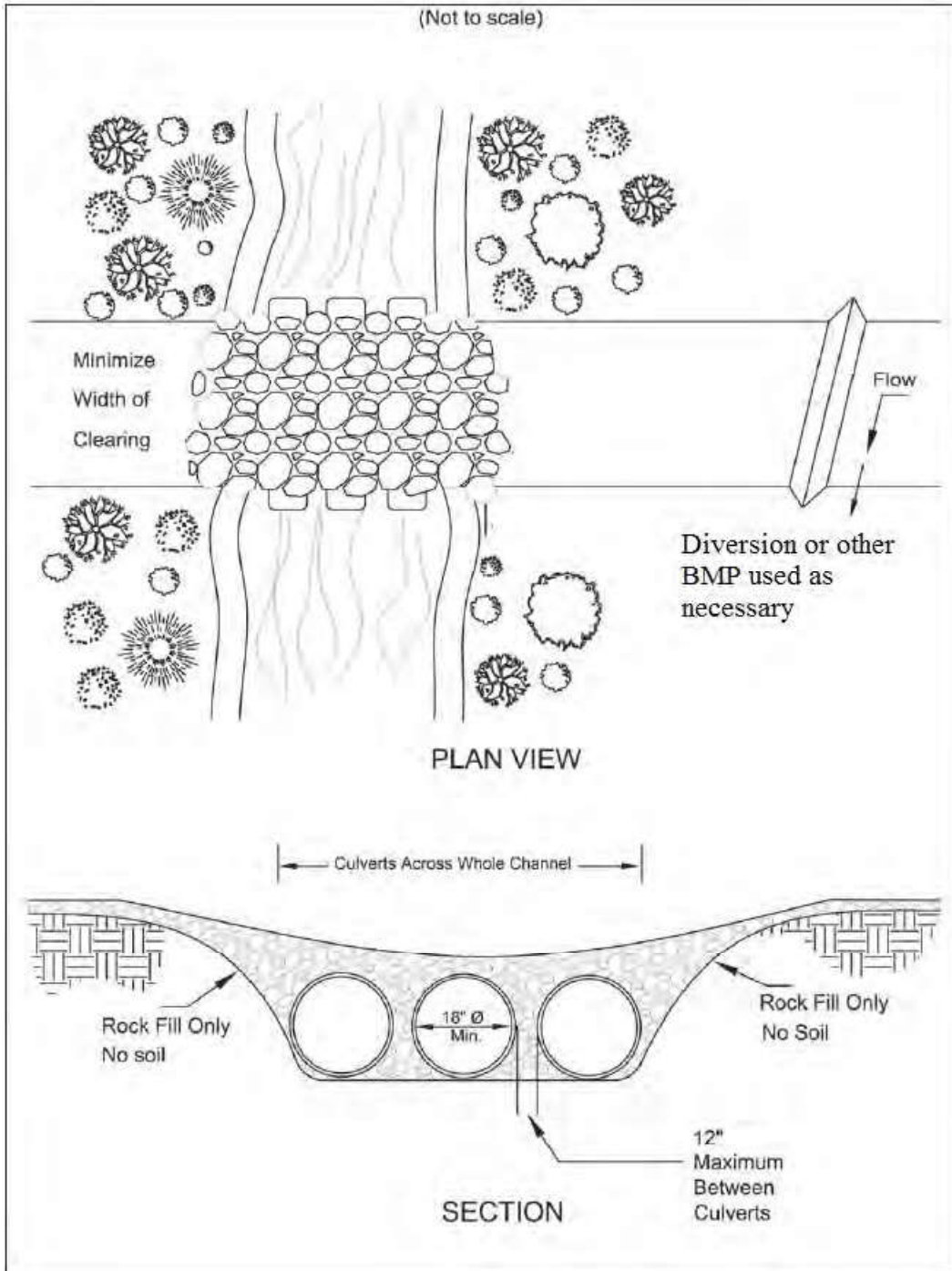
TEMPORARY ACCESS BRIDGE



- Notes:**
1. Culvert Pipes may be utilized instead of footings, piers or other bridge supports.
 2. Bridge will be temporarily removed during high water events.
 3. Bridge to remain until the completion of final restoration.
 4. Filter socks shall surround the bridge structure above the water line; removed during use, and replaced at night.
 5. Ramp approaches can be either graded or dug into the ground. Stone may be used on approaches.

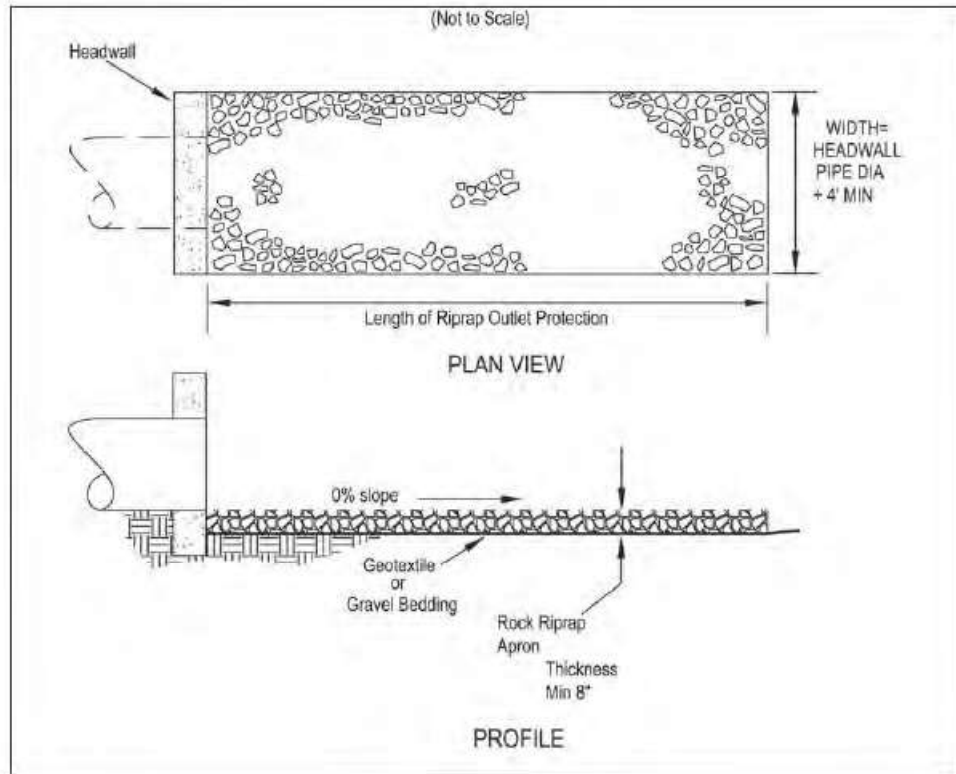
DETAIL D-13

CULVERT (FLUMED) STREAM CROSSING



DETAIL D-14

ROCK OUTLET PROTECTION

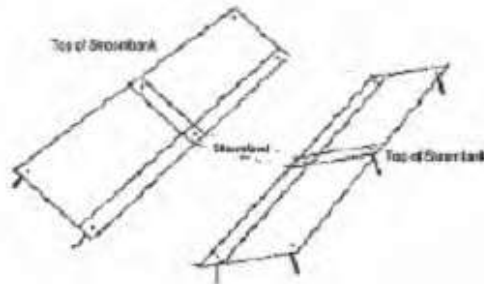


1. Subgrade for the filter or bedding and riprap shall be prepared to the required lines and grades as shown on the plan. The subgrade shall be cleared of all trees, stumps, roots, sod, loose rock, or other material.
2. Riprap shall conform to the grading limits as shown on the plan.
3. Geotextile shall be securely anchored according to manufacturers' recommendations.
4. Geotextile shall be laid with the long dimension parallel to the direction of flow and shall be laid loosely but without wrinkles and creases. Where joints are necessary, strips shall be placed to provide a 12-in. minimum overlap, with the upstream strip overlapping the downstream strip.
5. Gravel bedding shall be ODOT No. 67's or 57's unless shown differently on the drawings.
6. Riprap may be placed by equipment but shall be placed in a manner to prevent slippage or damage to the geotextile.
7. Riprap shall be placed by a method that does not cause segregation of sizes. Extensive pushing with a dozer causes segregation and shall be avoided by delivering riprap near its final location within the channel.
8. Construction shall be sequenced so that outlet protection is placed and functional when the storm drain, culvert, or open channel above it becomes operational.
9. All disturbed areas will be vegetated as soon as practical.

DETAIL D-15

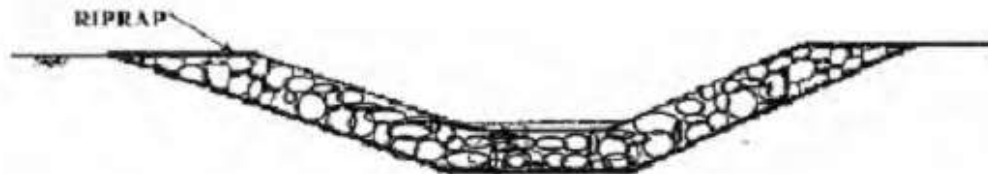
STREAM BANK RESTORATION DETAIL

Erosion Control Mat Details



Refer to matting manufacturer's installation detail for overlap, embedment, staple patterns, and vegetative stabilization specifications

Stream Rip-Rap Details



The following guidelines will be used to select riprap size and thickness:

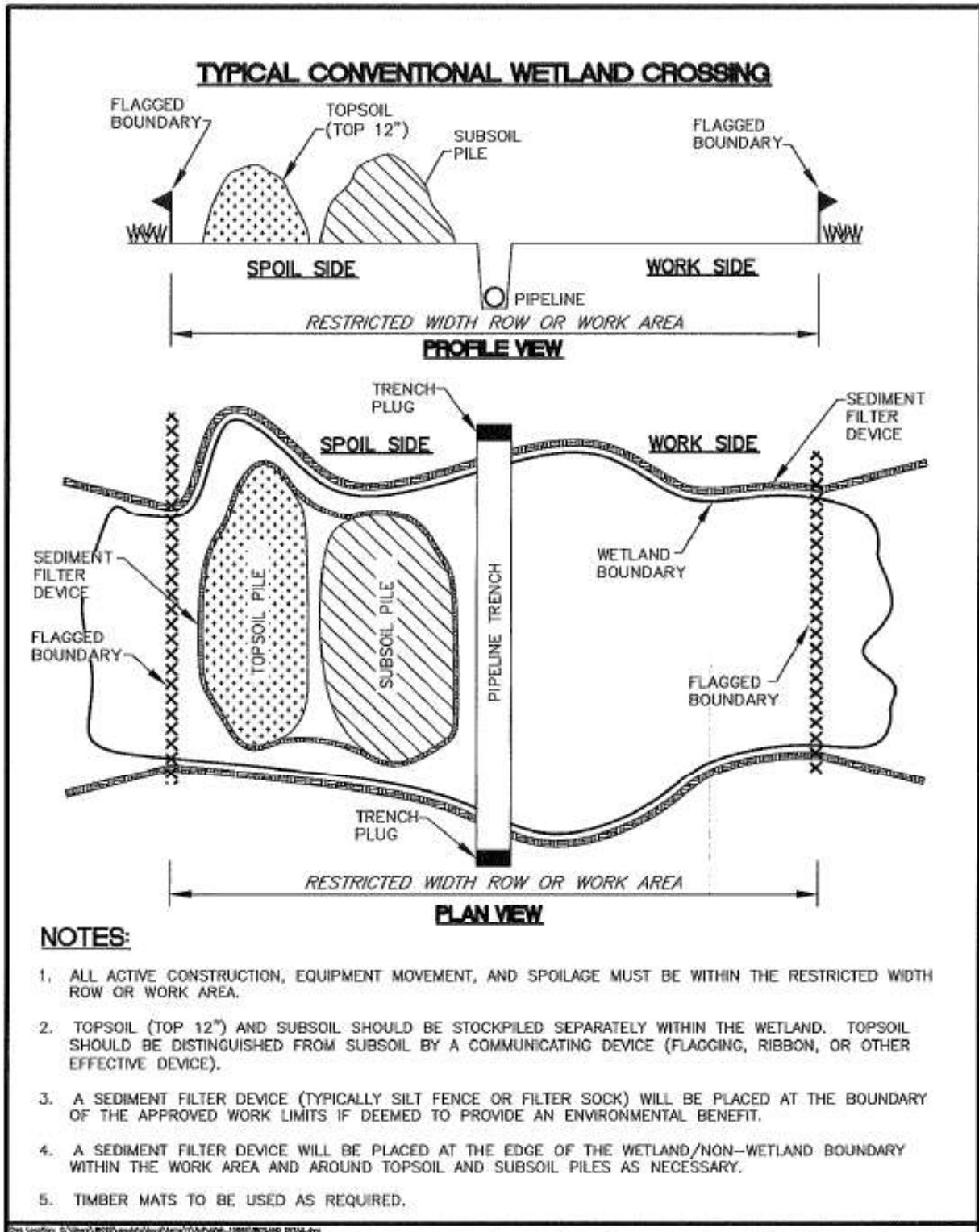
- For channels with water depth > 3 feet, use R-5 at 6" thick.
- For channels with water depth between 2 and 3 feet, use R-4 at 4" thick
- For channels with water depth between 1 and 2 feet, use R-3 at 3" thick
- For channels with water depth < 1 feet, use R-2 at 3" thick

Specifications
for
Stream Utility Crossing

1. When site conditions allow, one of the following shall be used to divert stream flow or keep the flow away from construction activity.
 - Drill or bore the utility lines under the stream channel.
 - Construct a cofferdam or barricade of sheet pilings, sandbags or a turbidity curtain to keep flow from moving through the disturbed area. Turbidity curtains shall be a pre-assembled system and used only parallel to flow.
 - Stage construction by confining first one-half of the channel until work there is completed and stabilized, then move to the other side to complete the crossing.
 - Route the stream flow around the work area by bridging the trench with a rigid culvert, pumping, or constructing a temporary channel. Temporary channels shall be stabilized by rock or a geotextile completely lining the channel bottom and side slopes.
2. Crossing Width -The width of clearing shall be minimized through the riparian area. The limits of disturbance shall be as narrow as possible including not only construction operations within the channel itself but also clearing done through the vegetation growing on the streambanks.
3. Clearing shall be done by cutting NOT grubbing. The roots and stumps shall be left in place to help stabilize the banks and accelerate revegetation.
4. Material excavated from the trench shall be placed at least 20 ft. from the streambanks.
5. To the extent other constraints allow, stream shall be crossed during periods of low flow.
6. Duration of Construction -The time between initial disturbance of the stream and final stabilization shall be kept to a minimum. Construction shall not begin on the crossing until the utility line is in place to within 10 ft. of the streambank.
7. Fill Placed Within the Channel -The only fill permitted in the channel should be clean aggregate, stone or rock. No soil or other fine erodible material shall be placed in the channel. This restriction includes all fill for temporary crossings, diversions, and trench backfill when placed in flowing water. If the stream flow is diverted away from construction activity the material originally excavated from the trench may be used to backfill the trench.
8. Streambank Restorations -Streambanks shall be restored to their original line and grade and stabilized with riprap or vegetative bank stabilization.
9. Runoff Control Along the Right-of-Way -To prevent sediment-laden runoff from flowing to the stream, runoff shall be diverted with water bar or swales to a sediment trapping practice a minimum of 50 ft. from the stream.
10. Sediment laden water from pumping or dewatering or pumping shall not be discharged directly to a stream. Flow shall be routed through a settling pond, dewatering sump or a flat, well-vegetated area adequate for removing sediment before the pumped water reaches the stream.
11. Dewatering operations shall not cause significant reductions in stream temperatures. If groundwater is to be discharged in high volumes during summer months, it shall first be routed through a settling pond or overland through a flat well-vegetated area.
12. Permits -In addition to these specifications, stream crossings shall conform to the rules and regulations of the U.S. Army Corps of Engineers for in-stream modifications (404 permits) and Ohio Environmental Protection Agency's State Water Quality Certification (401 permits).

DETAIL D-16

TYPICAL WETLAND CROSSING



NOTES:

1. ALL ACTIVE CONSTRUCTION, EQUIPMENT MOVEMENT, AND SPOILAGE MUST BE WITHIN THE RESTRICTED WIDTH ROW OR WORK AREA.
2. TOPSOIL (TOP 12") AND SUBSOIL SHOULD BE STOCKPILED SEPARATELY WITHIN THE WETLAND. TOPSOIL SHOULD BE DISTINGUISHED FROM SUBSOIL BY A COMMUNICATING DEVICE (FLAGGING, RIBBON, OR OTHER EFFECTIVE DEVICE).
3. A SEDIMENT FILTER DEVICE (TYPICALLY SILT FENCE OR FILTER SOCK) WILL BE PLACED AT THE BOUNDARY OF THE APPROVED WORK LIMITS IF DEEMED TO PROVIDE AN ENVIRONMENTAL BENEFIT.
4. A SEDIMENT FILTER DEVICE WILL BE PLACED AT THE EDGE OF THE WETLAND/NON-WETLAND BOUNDARY WITHIN THE WORK AREA AND AROUND TOPSOIL AND SUBSOIL PILES AS NECESSARY.
5. TIMBER MATS TO BE USED AS REQUIRED.

DETAIL D-17

WETLAND TIMBER MAT CROSSING



Attachment E
U.S. Fish & Wildlife Service and
Ohio Department of Natural Resources Correspondence Pertaining to Threatened
and Endangered Species

From: [Alyssa Dietz-Oergel](mailto:Alyssa.Dietz-Oergel@fws.gov)
To: ohio@fws.gov
Cc: [Gregory K Eastridge](mailto:Gregory.K.Eastridge@fws.gov); [Valerie Locker](mailto:Valerie.Locker@fws.gov)
Subject: Project Submittal for review (IPaC #2023-0027465)
Date: Wednesday, December 21, 2022 12:35:00 PM
Attachments: [image001.png](#)
[image003.png](#)
[image005.png](#)
[image007.png](#)
[image009.png](#)
[Attachment A_PIR2350_Fig1a_EcoResources_Overview_20221214.pdf](#)
[Attachment A_PIR2350_Fig1b_EcoResources_20221214.pdf](#)
[Attachment A_PIR2350_Fig2_USGS_Topo_20221214.pdf](#)
[Attachment B_PIR_2350_PhotoLog_20221215.pdf](#)
[PIR2350_OfficialSpeciesList_20221221.pdf](#)
[image011.png](#)
[image012.png](#)
[image013.png](#)
[image014.png](#)
[image015.png](#)

Good Afternoon,

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), requests review of the following information regarding the Pipeline Infrastructure Replacement (PIR) project, PIR 2350– Jackson & Genoa. To assist with your review of the project, an official IPaC Species list, site maps, and photographs are attached to this email.

Project Purpose, Description, and Location

DEO is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch natural gas pipeline under the PIR program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations. The project will also involve abandoning approximately 1,885 of natural gas pipeline.

The PIR 2350 project is located in Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and an existing 100-ft wide utility easement between Jackson Avenue SW to Genoa Avenue SW. The western terminus of the existing easement area is located along Jackson Avenue SW and extends east to Genoa Avenue SW and terminates at the DEO station near Southway Street and Genoa Avenue SW. The latitude and longitude coordinates for the center point of the project area are 40.782068°, -81.480849°. The project area is indicated on an excerpt of the Canton West Quadrangle, Ohio USGS 7.5-minute topographic map and a project area map (attached). Representative photographs of the site are also attached.

Site Description

Ecological surveys of the project area were conducted on July 6, 2021, June 3, 2022, and October 27, 2022. The surveys were performed to collect information on potential wetlands, streams, and protected species habitat. The project area is composed of residential development, active agricultural fields, and mature forested areas. Vegetative communities within the upland portions of the project area include maintained lawn, areas of mature woods, and active agricultural fields.

Six (6) wetlands were identified within the project area and are shown on Figure 1 – Ecological Resources Map (attached). Wetlands A and B consist of both palustrine emergent (PEM) and

palustrine forested (PFO) vegetation communities. Both wetlands appeared to be impacted from selective clearing and mowing from the surrounding residential properties.

Wetlands C and F are located within and along agricultural fields within central portions of the Project study area (Figure 1). Both wetlands are dominated by PEM vegetation communities and appear to be impacted from the maintenance of the farm fields including mowing and clear cutting.

Wetlands D and E are PFO wetlands located within the road right-of-way (ROW) for Mason Street SW. Both wetlands show signs of selective cutting for the maintenance of the road ROW.

Two (2) perennial streams and three (3) ephemeral streams are located within the project area and are shown on Figure 1 – Ecological Resources Map. Stream 1 is a perennial stream that flows southeast to northwest through a culvert under Mason Street SW and through a forested area near the western extent of the existing utility easement. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and Waterbody A.

Streams 2 and 5 are ephemeral streams that drain active agricultural fields into Stream 3 (Wetmore Creek) near central portions of the study areas. Stream 2 has a natural channel and shows no signs of modification while Stream 5's channel appears to have been channelized in the recent past. The dominant substrate in Stream 2 and 5 is clay/hardpan.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Streams 2 and 5. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Avenue SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Representative photographs of the onsite water resources are attached.

One (1) open water, Waterbody A, is located within a residential lawn in the western most section of the study area (Figure 1). Waterbody A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Waterbody A is separated from Stream 1 by an impoundment.

To complete the project, Wetlands C, E, Stream 1, and Stream 3 (Wetmore Creek) will be temporarily impacted. Streams 2, 4, 5, Wetlands A, B, D, F, and Waterbody A are positioned away from proposed project activities and will be avoided. Following installation of the pipeline, temporarily disturbed areas will be restored to pre-construction grade and re-vegetated. No permanent impacts to these water resources will occur with the installation of pipeline for this project; however, temporarily impacted areas of forested or scrub/shrub wetland would be

expected to exhibit a permanent emergent vegetation community.

Project construction activities (e.g., mowing/clearing, grading, trench excavation, spoil storage, backfilling, and restoration) will expose bare soils and increase the potential for erosion and sedimentation. Best Management Practices (BMPs) will be implemented throughout construction to minimize storm water runoff, soil erosion, the transport of sediments from the construction area, and to protect the aquatic resources located in and/or adjacent to the project area.

Federally Listed Species

DEO generated an official Information for Planning and Consultation (IPaC) species list for the two project areas on December 21, 2022 (attached). Federally listed species from the official IPaC list are discussed below:

- All counties in Ohio are within the range of the federally-listed endangered Indiana bat (*Myotis sodalis*), the federally-listed endangered northern long-eared bat (*Myotis septentrionalis*), and the tricolored bat (*Permyotis subflavus*) which is proposed for federal listing as endangered. Summer habitat requirements for these species are not well defined, but the following are considered important: dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas; live trees (such as shagbark hickory and oaks) which have exfoliating bark; and stream corridors, riparian areas, and upland woodlots which provide forage sites. Occasionally the northern long-eared bat may roost in structures like barns and sheds.

Nine (9) trees were identified with characteristics which may potentially provide some level of roosting habitat for bats. The locations of these trees are indicated on the attached Figure 1. Photographs of typical potential habitat trees are also attached. To complete the project, DEO may need to cut some of the potential roost trees. DEO proposes to conduct all tree clearing between October 1 and March 31.

- The monarch butterfly (*Danaus pleippus*) is a federal candidate species. Although the monarch butterfly is known to forage on many wildflowers, monarch butterflies prefer open fields and meadows with milkweeds (*Asclepias* spp.), its larval host plant. The existing utility easement and road ROW in the study area is dominated by maintained lawns, agricultural fields, and forested habitats. Suitable habitat for the monarch butterfly does not occur within the project area and therefore this species would not be expected to be impacted by this project.
- The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. Bald eagle habitat includes areas adjacent to water bodies that provide suitable feeding (lakes, rivers, oceans) and must include large trees appropriate for roosting and nesting. No bald eagles or nest sites were observed during fieldwork. Also, although portions of the project are located in the historic Perry Township which has known records of bald eagle nests, email coordination

with the USFWS Ohio Field office on January 25, 2022, confirmed that there are no known bald eagle nests within 0.5 miles of the project area.

Request for Finding

Considering the information above, DEO is requesting a finding from the USFWS regarding any adverse effect to federally listed, threatened, or endangered species in the project area.

A timely response is respectfully requested to ensure compliance with the Endangered Species Act prior to initiating activities. Please forward your response via email at the earliest possible convenience to the attention of Greg Eastridge at gregory.k.eastridge@dominionenergy.com

If you have any questions or need additional information, please contact Greg Eastridge at (330) 664-2576.

Sincerely,

Alyssa Dietz-Oergel
Senior Associate Scientist
Natural Resources
M: 216.513.4893

Follow us:

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



January 3, 2023

Project Code: 2023-0027465

Dear Ms. Dietz-Oergel:

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

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

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

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

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

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

Sincerely,

A handwritten signature in blue ink, appearing to read "Patrice Ashfield", written over a light gray rectangular background.

Patrice Ashfield
Field Office Supervisor

December 21, 2022

BY EMAIL

Michael Pettegrew
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

**RE: The East Ohio Gas Company, Pipeline Infrastructure Replacement Program
Ohio Listed Species Consultation
PIR 2350 - Jackson & Genoa**

Dear Mr. Pettegrew:

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), requests review of the following information regarding the Pipeline Infrastructure Replacement (PIR) project, PIR 2350 - Jackson & Genoa. To assist with your review of the project, site maps and photographs are enclosed.

Project Purpose, Description, and Location

DEO is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch natural gas pipeline under the PIR program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations. The project will also involve abandoning approximately 1,885 of natural gas pipeline.

The PIR 2350 project is located in Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and an existing 100-ft wide utility easement between Jackson Avenue SW to Genoa Avenue SW. The western terminus of the existing easement area is located along Jackson Avenue SW and extends east to Genoa Avenue SW and terminates at the DEO station near Southway Street and Genoa Avenue SW. The latitude and longitude coordinates for the center point of the project area are 40.782068°, -81.480849°. The project area is indicated on an excerpt of the Canton West Quadrangle, Ohio USGS 7.5-minute topographic map and a project area map, located in Attachment A. Representative photographs of the site are included in Attachment B.

Site Description

Ecological surveys of the project area were conducted on July 6, 2021, June 3, 2022, and October 27, 2022. The surveys were performed to collect information on potential wetlands, streams, and protected species habitat. The project area is composed of residential development, active agricultural fields, and mature forested areas. Vegetative

communities within the upland portions of the project area include maintained lawn, areas of mature woods, and active agricultural fields.

Six (6) wetlands were identified within the project area and are shown on Figure 1 – Ecological Resources Map (Attachment A). Wetlands A and B consist of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation communities. Both wetlands appeared to be impacted from selective clearing and mowing from the surrounding residential properties.

Wetlands C and F are located within and along agricultural fields within central portions of the Project study area (Figure 1, Attachment A). Both wetlands are dominated by PEM vegetation communities and appear to be impacted from the maintenance of the farm fields including mowing and clear cutting.

Wetlands D and E are PFO wetlands located within the road right-of-way (ROW) for Mason Street SW. Both wetlands show signs of selective cutting for the maintenance of the road ROW.

Two (2) perennial streams and three (3) ephemeral streams are located within the project area and are shown on Figure 1 – Ecological Resources Map (Attachment A). Stream 1 is a perennial stream that flows southeast to northwest through a culvert under Mason Street SW and through a forested area near the western extent of the existing utility easement. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and a pond, Waterbody A.

Streams 2 and 5 are ephemeral streams that drain active agricultural fields into Stream 3 (Wetmore Creek) near central portions of the study areas. Stream 2 has a natural channel and shows no signs of modification while Stream 5's channel appears to have been channelized in the recent past. The dominant substrate in Streams 2 and 5 is clay/hardpan.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Streams 2 and 5. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Avenue SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Representative photographs of the onsite water resources are included in Attachment B.

One (1) open water pond, Waterbody A, is located within a residential lawn in the western most section of the study area (Figure 1, Attachment A). Waterbody A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Waterbody A is separated from Stream 1 by an impoundment.

To complete the project, Wetlands C, E, Stream 1, and Stream 3 (Wetmore Creek) will be temporarily impacted. Streams 2, 4, 5, Wetlands A, B, D, F, and Waterbody A are positioned away from proposed project activities and will be avoided. Following installation of the pipeline, temporarily disturbed areas will be restored to pre-construction grade and re-vegetated. No permanent impacts to these water resources will occur with the installation of pipeline for this project; however, temporarily impacted areas of forested or scrub/shrub wetland would be expected to exhibit a permanent emergent vegetation community.

Clearing of trees in the project area may be necessary to safely conduct project activities or upon the directive of a local arborist. The project area was reviewed for trees which could provide habitat for protected bat species. Nine (9) trees were identified with characteristics which may potentially provide some level of roosting habitat for bats. The locations of these trees are indicated on Figure 1 in Attachment A. Photographs of typical potential habitat trees are included in Attachment B. To complete the project, DEO proposes may need to cut some of the potential roost trees. DEO proposes to conduct all tree clearing between October 1 and March 31.

Project construction activities (e.g., mowing/clearing, grading, trench excavation, spoil storage, backfilling, and restoration) will expose bare soils and increase the potential for erosion and sedimentation. Best Management Practices (BMPs) will be implemented throughout construction to minimize storm water runoff, soil erosion, the transport of sediments from the construction area, and to protect the aquatic resources located in and/or adjacent to the project area.

Request for Finding

Considering the information above, DEO is requesting a finding regarding any adverse effect to any state-listed species and natural areas with ecological and/or geological significance. A response is respectfully requested to ensure compliance relative to state-listed endangered species prior to initiating activities.

An email response would be greatly appreciated. Please send the email to Greg Eastridge at gregory.k.eastridge@dominionenergy.com. If you have any questions or need additional information, please contact Greg Eastridge at (330) 664-2576.

Sincerely,

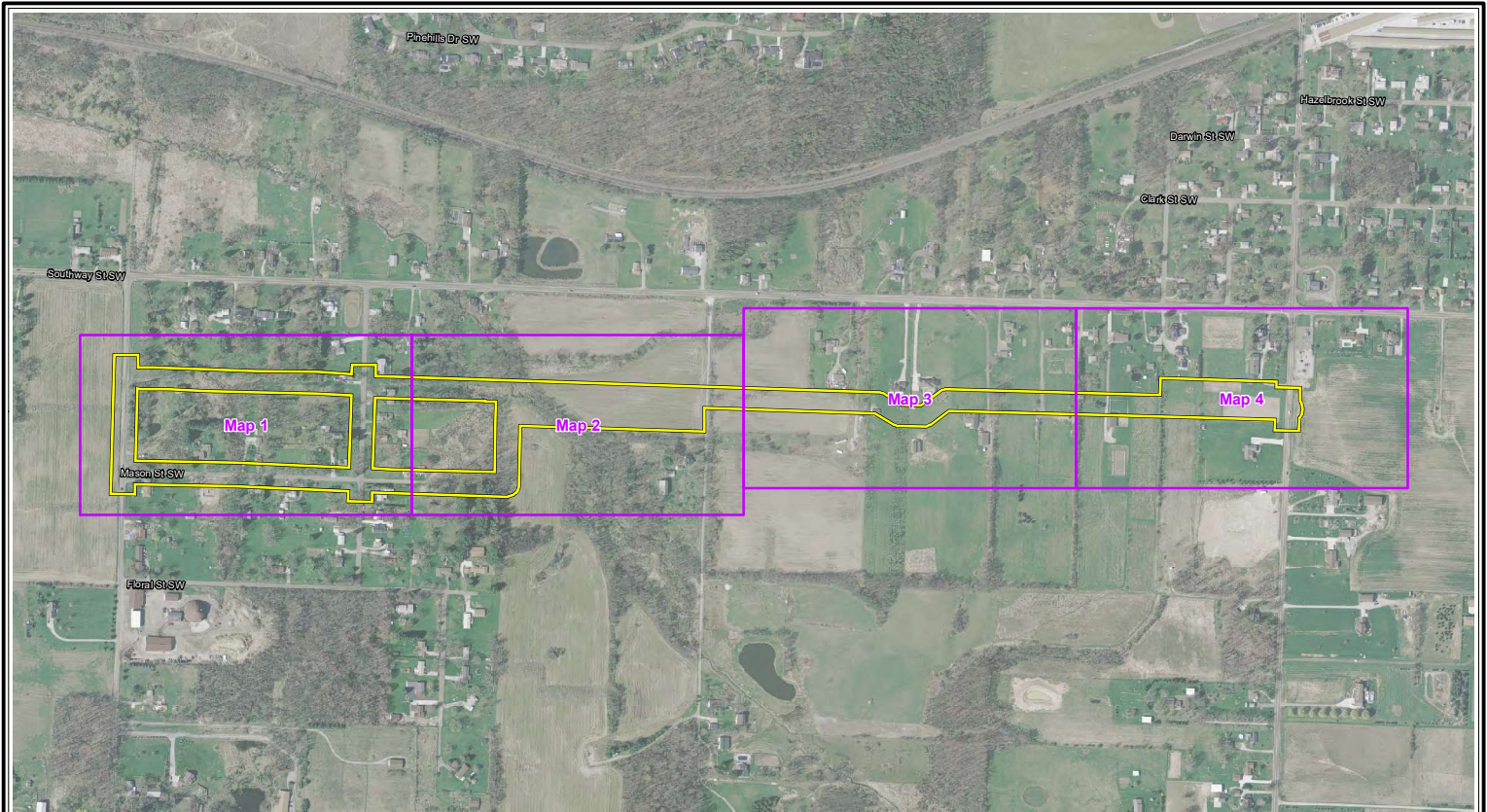
A handwritten signature in black ink, appearing to read 'DAS', written in a cursive style.

Darrell A. Shier
Authorized Representative
Manager Environmental Services

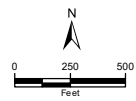
Enclosures

cc: Greg Eastridge

Attachment A
Maps



- Project Study Area
- Map Extent



Base Layer: OSP 2016

Figure 1
Ecological Resources Map
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022



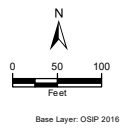
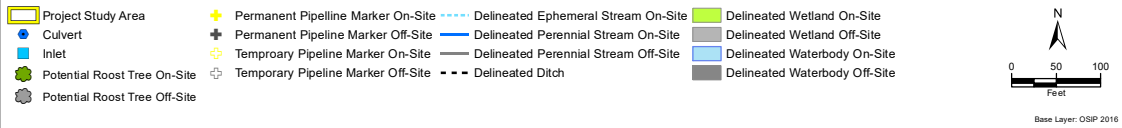
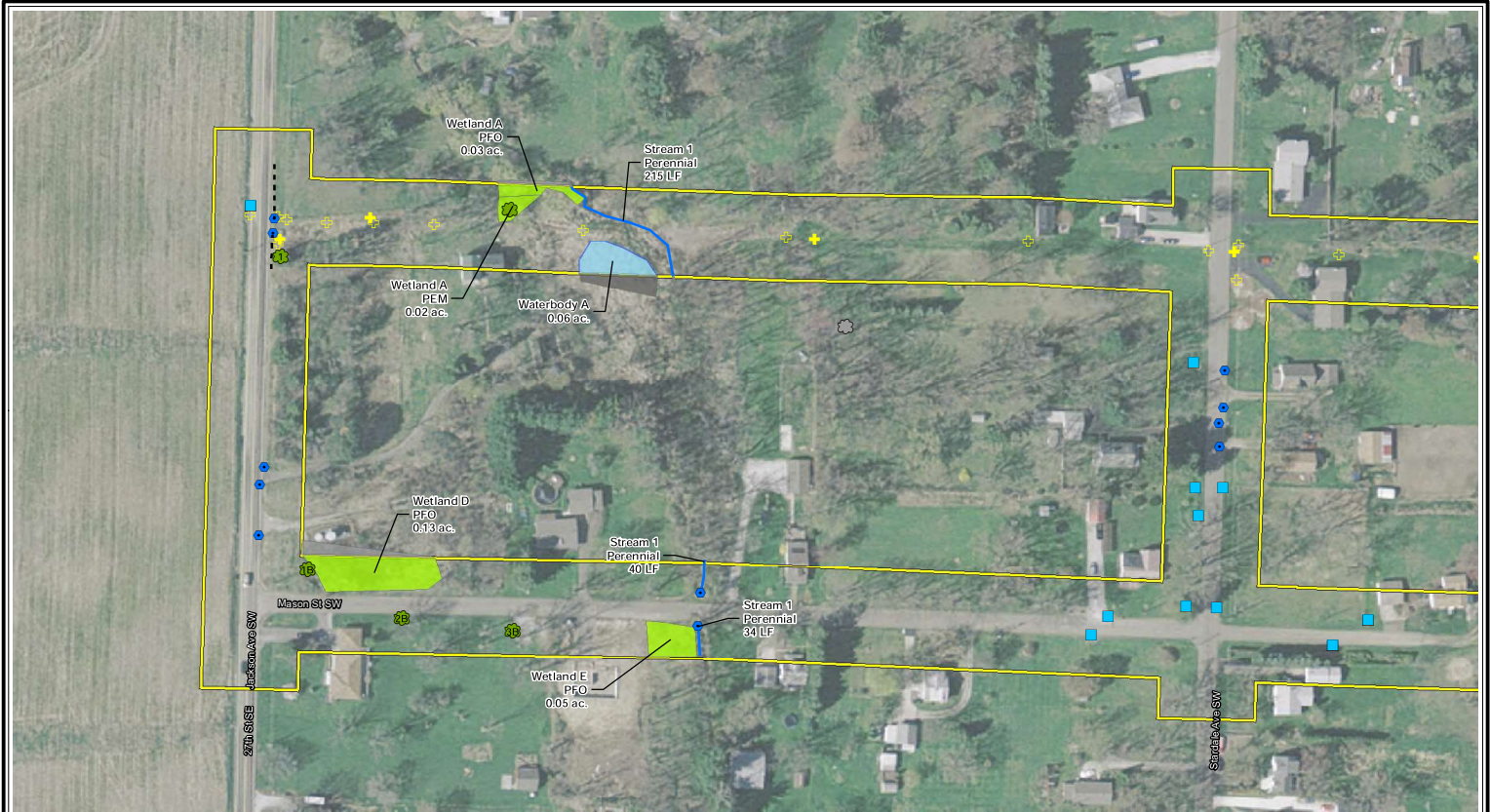
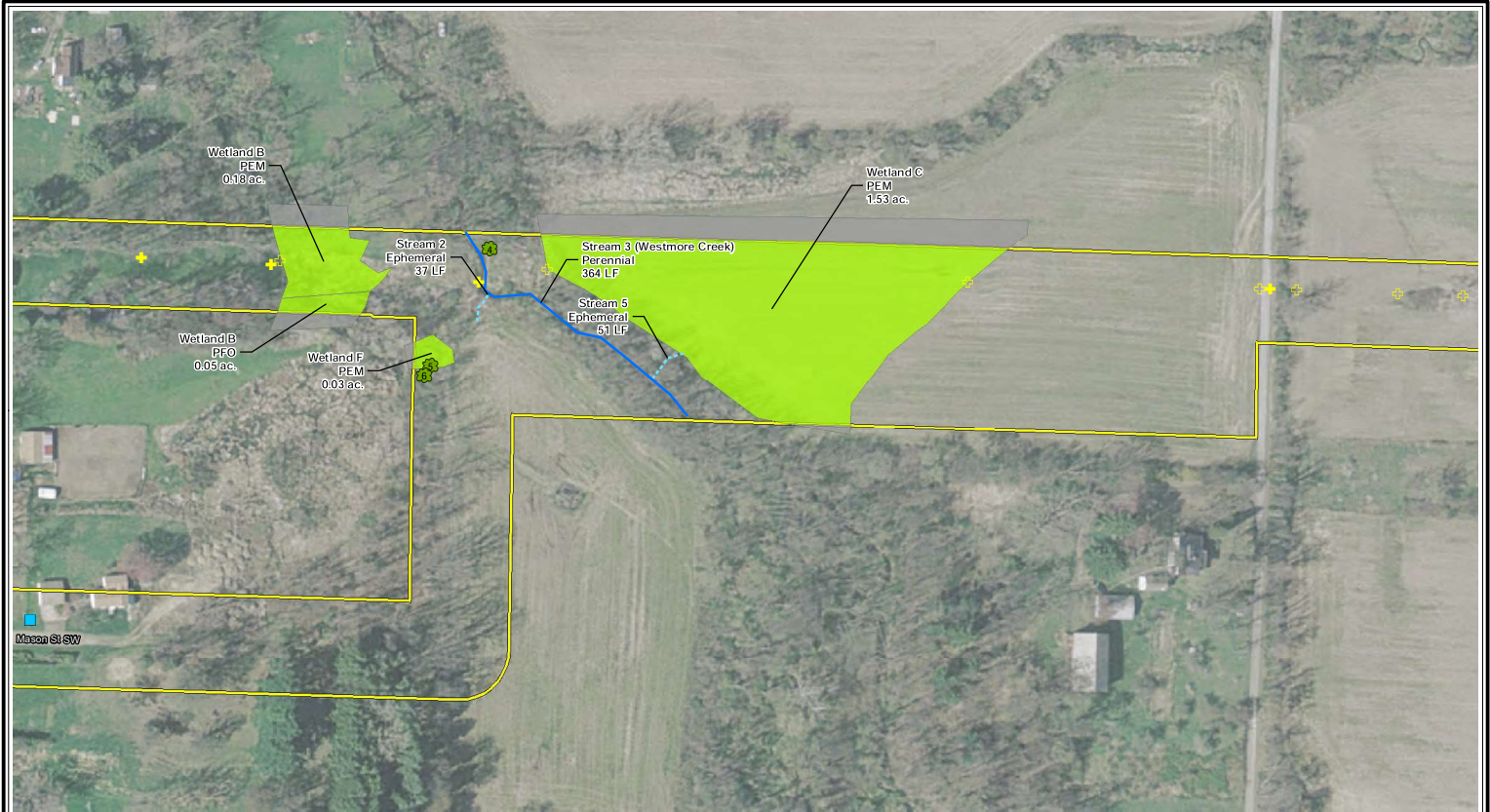


Figure 1
Ecological Resources Map 1 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



<ul style="list-style-type: none"> Project Study Area Culvert Inlet Potential Roost Tree On-Site Potential Roost Tree Off-Site 	<ul style="list-style-type: none"> Permanent Pipeline Marker On-Site Permanent Pipeline Marker Off-Site Temporary Pipeline Marker On-Site Temporary Pipeline Marker Off-Site Delineated Ephemeral Stream On-Site Delineated Perennial Stream On-Site Delineated Ditch Delineated Wetland On-Site Delineated Wetland Off-Site Delineated Waterbody On-Site Delineated Waterbody Off-Site 	 <p>Base Layer: OSP 2016</p>	<p>Figure 1 Ecological Resources Map 2 of 4 PIR 2350 - Jackson & Genoa Dominion Energy Ohio Stark County, Ohio Date: 12/15/2022</p>
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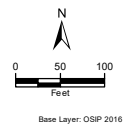
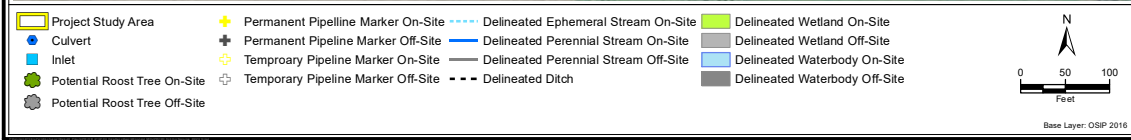
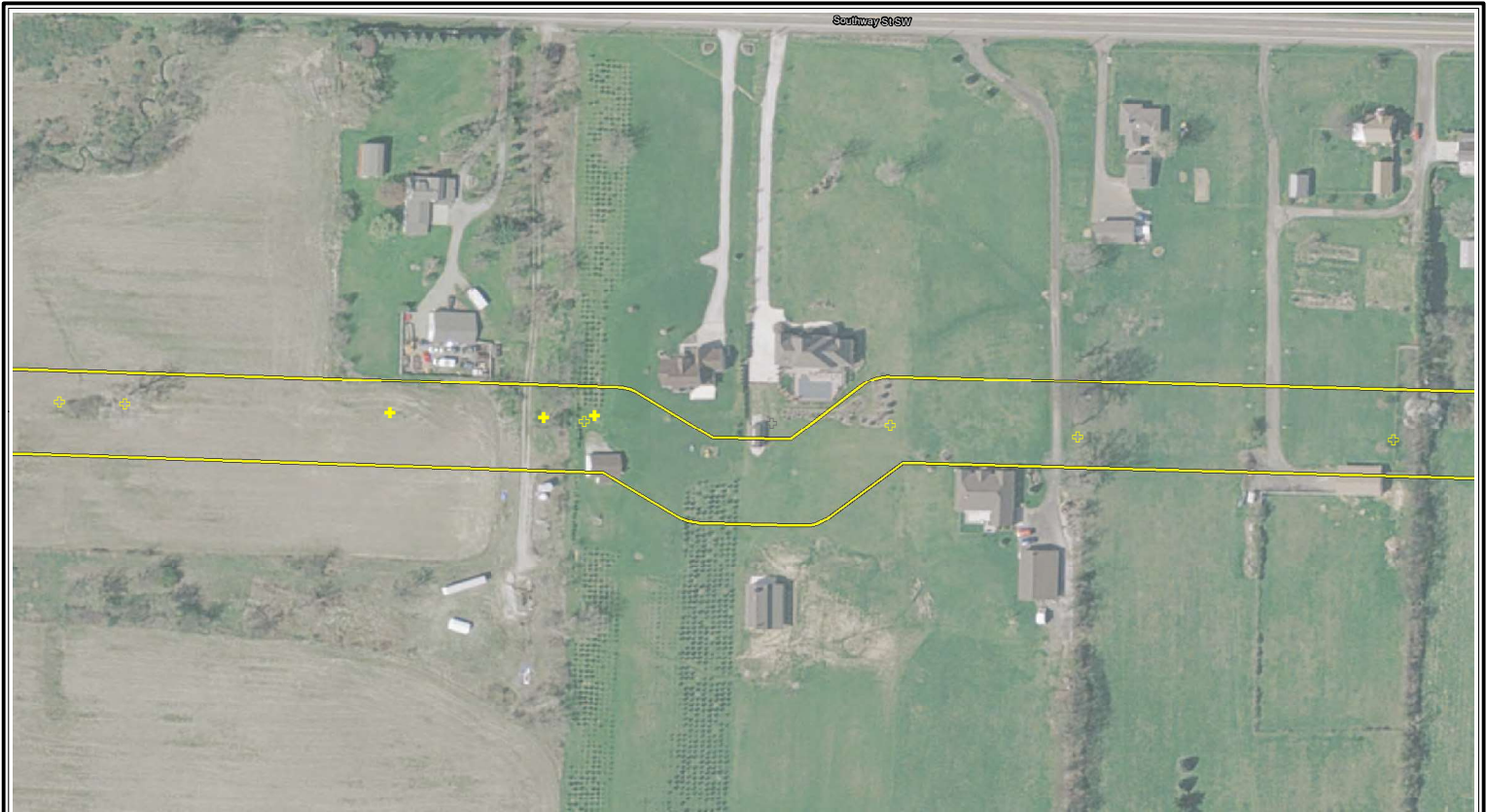
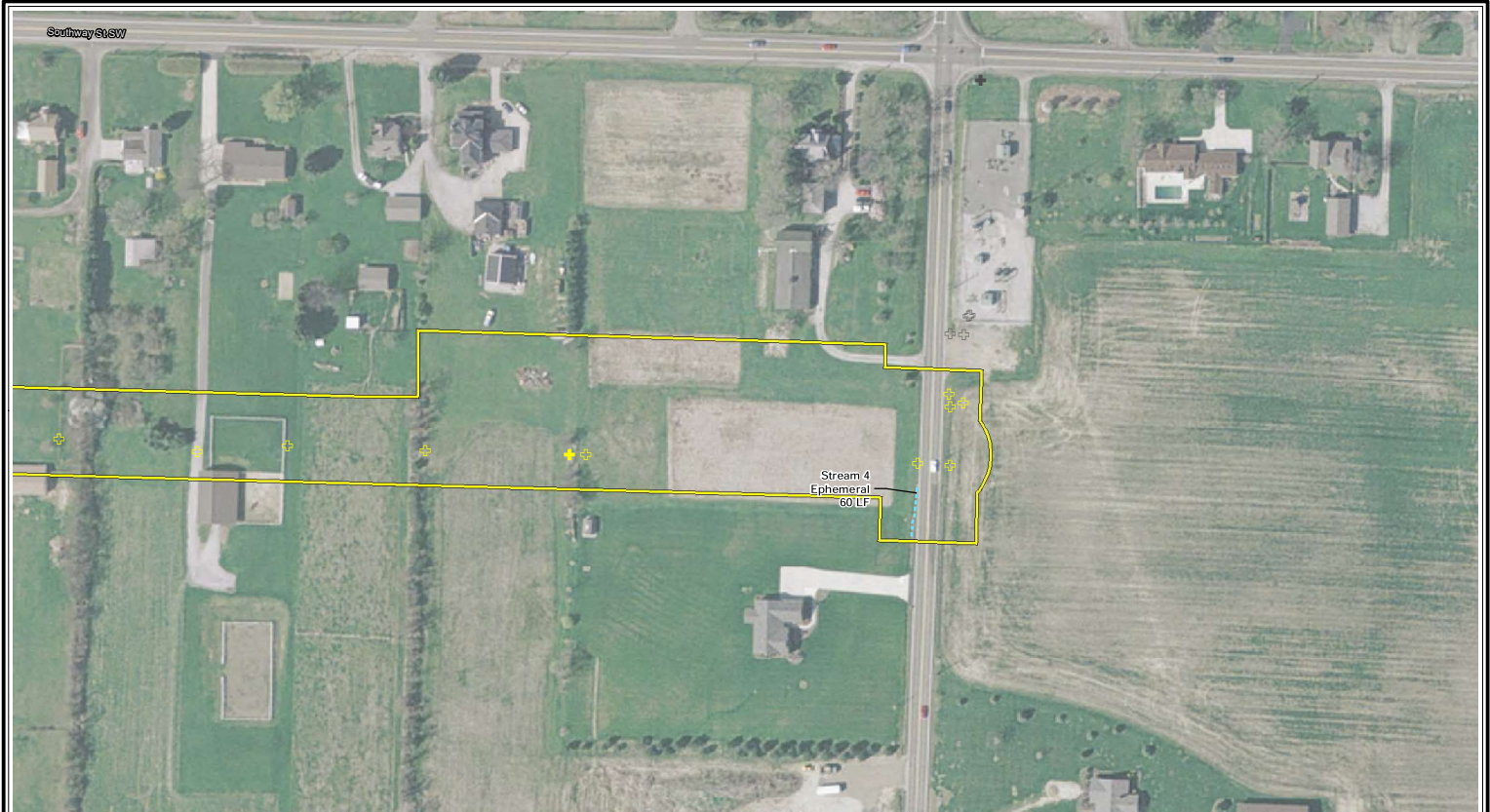


Figure 1
 Ecological Resources Map 3 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022



- | | | | |
|-------------------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Permanent Pipeline Marker On-Site | Delineated Ephemeral Stream On-Site | Delineated Wetland On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream On-Site | Delineated Wetland Off-Site |
| Inlet | Temporary Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Ditch | Delineated Waterbody Off-Site |
| Potential Roost Tree Off-Site | | | |

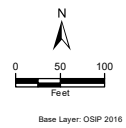
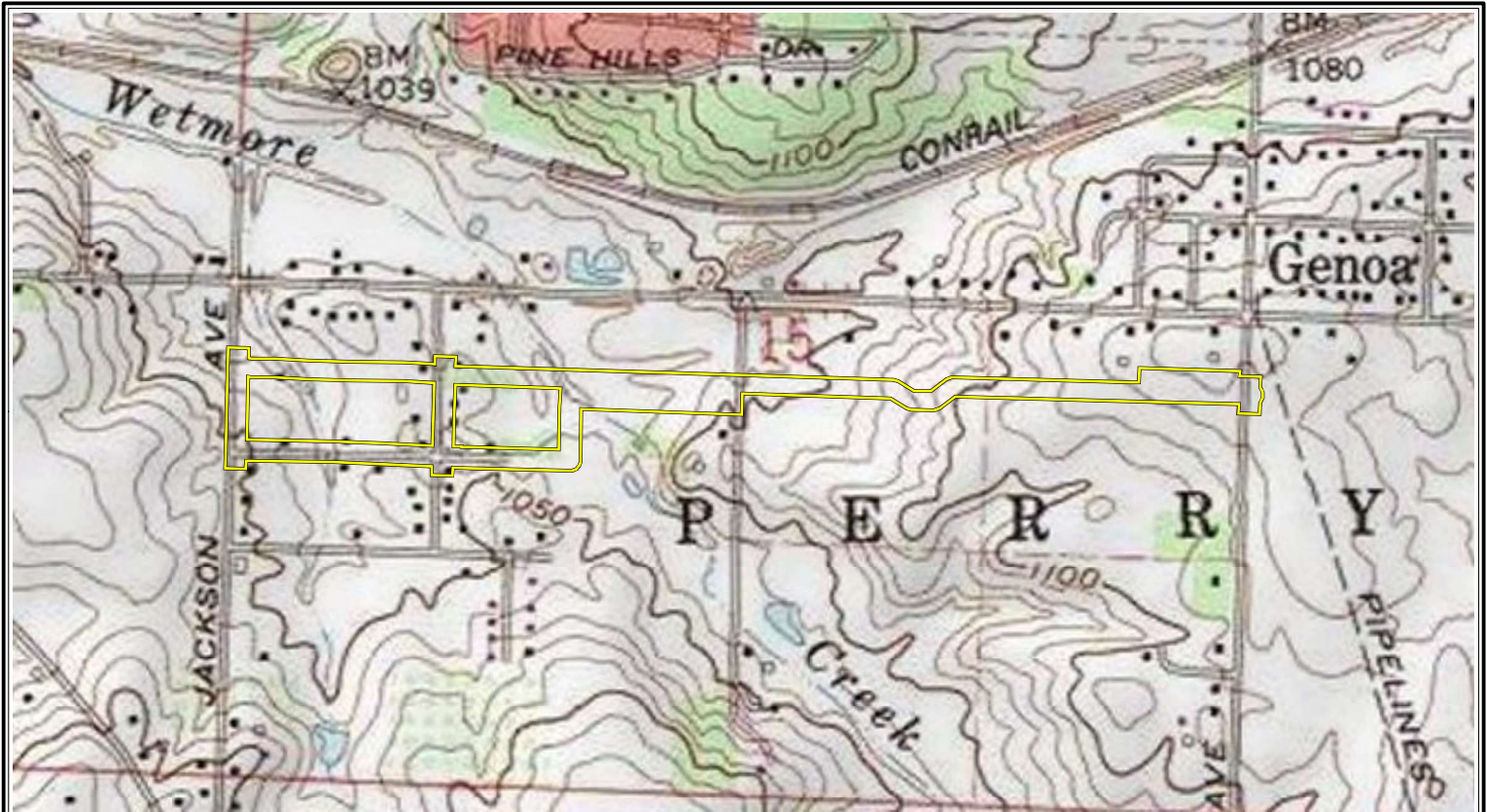


Figure 1
 Ecological Resources Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022





PIR2350_Study_Area_20221214

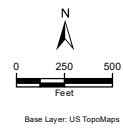


Figure 2
 USGS Topographic - Canton West Quadrangle
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022



Base Layer: US TopoMaps

Attachment B
Photographs

> **Photographic Log**



Photo #1	
Date: 07/06/2021	
Feature: Residential Area	
Description: Land use within the project area is dominated by residential homes with maintained lawns and isolated trees.	

Photo #2	
Date: 07/06/2021	
Feature: Agricultural Field	
Description: Areas of active agricultural fields planted with corn (Zea mays) are also located within the study area.	

> **Photographic Log**



Photo #3	
Date: 07/06/2021	
Feature: Forested Area	
Description: Woodlots are also located with the PIR 2350 study area. The woodlots are dominated by black walnut (<i>Juglans nigra</i>), green ash (<i>Fraxinus Pennsylvanica</i>), and cherry (<i>Prunus</i> sp.)	

Photo #4	
Date: 07/06/2021	
Feature: Wetland A	
Description: Wetland A is a PEM/PFO wetland dominated by green ash, gray dogwood (<i>Cornus racemosa</i>), jewelweed (<i>Impatiens capensis</i>), and lake sedge (<i>Carex lacustris</i>).	


> **Photographic Log**

Photo #5	
Date: 07/06/2021	
Feature: Wetland B	
Description: Wetland B is a PEM/PFO wetland dominated by reed canary grass (<i>Phalaris arundinacea</i>) and jewelweed.	

Photo #6	
Date: 07/06/2021	
Feature: Wetland C	
Description: Wetland C is a PEM wetland dominated by reed canary grass.	

> **Photographic Log**

Photo #7	
Date: 06/02/2022	
Feature: Wetland D	
Description: Wetland D is a PFO wetland dominated by cottonwood (<i>Populus deltoides</i>).	

Photo #8	
Date: 06/02/2022	
Feature: Wetland E	
Description: Wetland E is a PFO wetland dominated by silver maple (<i>Acer saccharinum</i>) and green ash saplings.	

> **Photographic Log**


Photo #9	
Date: 10/27/2022	
Feature: Wetland F	
Description: Wetland F is a PEM wetland dominated by Japanese bristlegrass (<i>Setaria faberi</i>) and Virginia wild rye (<i>Elymus virginicus</i>).	

Photo #10	
Date: 07/06/2021	
Feature: Stream 1 Upstream	
Description: Stream 1 runs through a portion of forested area within the study area. Photo faces upstream portion of Stream 1.	


> **Photographic Log**

Photo #11	
Date: 07/06/2021	
Feature: Stream 2 Upstream	
Description: Stream 2 runs through a portion of forest within the study area. Stream 2 drains from an adjacent active agricultural field and connects to Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 2.	

Photo #12	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Upstream	
Description: Stream 3 runs through a portion of forest within the study area. Photo faces upstream portion of Stream 3.	

> **Photographic Log**

Photo #11	
Date: 07/06/2021	
Feature: Stream 4 Upstream	
Description: Stream 4 is a roadside drainage feature that runs parallel to Genoa Ave SW. Stream 4 runs from north to south.	

Photo #12	
Date: 06/02/2022	
Feature: Stream 5	
Description: Stream 5 drains Wetland C into Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 5.	

> **Photographic Log**



Photo #12	
Date: 07/06/2021	
Feature: Waterbody A	
Description: Waterbody A is a pond located in a maintained lawn of a residential home.	

Photo #13	
Date: 07/06/2021	
Feature: Tree 1	
Description: <i>Pinus sp.</i>	

> **Photographic Log**


Photo #14	
Date: 07/06/2021	
Feature: Tree 2	
Description: <i>Salix sp.</i>	

Photo #15	
Date: 07/06/2021	
Feature: Tree 3	
Description: <i>Prunus serotina</i>	

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT J

UNITED STATES FISH AND WILDLIFE SERVICE COORDINATION
CORRESPONDENCE

Gregory K Eastridge (Services - 6)

From: Alyssa Dietz-Oergel <adietz-oergel@ectinc.com>
Sent: Wednesday, December 21, 2022 12:36 PM
To: ohio@fws.gov
Cc: Gregory K Eastridge (Services - 6); Valerie Locker
Subject: [EXTERNAL] Project Submittal for review (IPaC #2023-0027465)
Attachments: Attachment A_PIR2350_Fig1a_EcoResources_Overview_20221214.pdf; Attachment A_PIR2350_Fig1b_EcoResources_20221214.pdf; Attachment A_PIR2350_Fig2_USGS_Topo_20221214.pdf; Attachment B_PIR 2350_PhotoLog_20221215.pdf; PIR2350_OfficialSpeciesList_20221221.pdf

Follow Up Flag: Follow up
Flag Status: Flagged

CAUTION! This message was NOT SENT from DOMINION ENERGY

Are you expecting this message to your DE email? Suspicious? Use PhishAlarm to report the message. Open a browser and type in the name of the trusted website instead of clicking on links. DO NOT click links or open attachments until you verify with the sender using a known-good phone number. Never provide your DE password.

Good Afternoon,

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), requests review of the following information regarding the Pipeline Infrastructure Replacement (PIR) project, PIR 2350– Jackson & Genoa. To assist with your review of the project, an official IPaC Species list, site maps, and photographs are attached to this email.

Project Purpose, Description, and Location

DEO is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch natural gas pipeline under the PIR program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations. The project will also involve abandoning approximately 1,885 of natural gas pipeline.

The PIR 2350 project is located in Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and an existing 100-ft wide utility easement between Jackson Avenue SW to Genoa Avenue SW. The western terminus of the existing easement area is located along Jackson Avenue SW and extends east to Genoa Avenue SW and terminates at the DEO station near Southway Street and Genoa Avenue SW. The latitude and longitude coordinates for the center point of the project area are 40.782068°, -81.480849°. The project area is indicated on an excerpt of the Canton West Quadrangle, Ohio USGS 7.5-minute topographic map and a project area map (attached). Representative photographs of the site are also attached.

Site Description

Ecological surveys of the project area were conducted on July 6, 2021, June 3, 2022, and October 27, 2022. The surveys were performed to collect information on potential wetlands, streams, and protected species habitat. The project area is composed of residential development, active agricultural fields, and mature forested areas. Vegetative communities within the upland portions of the project area include maintained lawn, areas of mature woods, and active agricultural fields.

Six (6) wetlands were identified within the project area and are shown on Figure 1 – Ecological Resources Map (attached). Wetlands A and B consist of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation

communities. Both wetlands appeared to be impacted from selective clearing and mowing from the surrounding residential properties.

Wetlands C and F are located within and along agricultural fields within central portions of the Project study area (Figure 1). Both wetlands are dominated by PEM vegetation communities and appear to be impacted from the maintenance of the farm fields including mowing and clear cutting.

Wetlands D and E are PFO wetlands located within the road right-of-way (ROW) for Mason Street SW. Both wetlands show signs of selective cutting for the maintenance of the road ROW.

Two (2) perennial streams and three (3) ephemeral streams are located within the project area and are shown on Figure 1 – Ecological Resources Map. Stream 1 is a perennial stream that flows southeast to northwest through a culvert under Mason Street SW and through a forested area near the western extent of the existing utility easement. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and Waterbody A.

Streams 2 and 5 are ephemeral streams that drain active agricultural fields into Stream 3 (Wetmore Creek) near central portions of the study areas. Stream 2 has a natural channel and shows no signs of modification while Stream 5's channel appears to have been channelized in the recent past. The dominant substrate in Stream 2 and 5 is clay/hardpan.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Streams 2 and 5. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Avenue SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Representative photographs of the onsite water resources are attached.

One (1) open water, Waterbody A, is located within a residential lawn in the western most section of the study area (Figure 1). Waterbody A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Waterbody A is separated from Stream 1 by an impoundment.

To complete the project, Wetlands C, E, Stream 1, and Stream 3 (Wetmore Creek) will be temporarily impacted. Streams 2, 4, 5, Wetlands A, B, D, F, and Waterbody A are positioned away from proposed project activities and will be avoided. Following installation of the pipeline, temporarily disturbed areas will be restored to pre-construction grade and re-vegetated. No permanent impacts to these water resources will occur with the installation of pipeline for this project; however, temporarily impacted areas of forested or scrub/shrub wetland would be expected to exhibit a permanent emergent vegetation community.

Project construction activities (e.g., mowing/clearing, grading, trench excavation, spoil storage, backfilling, and restoration) will expose bare soils and increase the potential for erosion and sedimentation. Best Management Practices (BMPs) will be implemented throughout construction to minimize storm water runoff, soil erosion, the transport of sediments from the construction area, and to protect the aquatic resources located in and/or adjacent to the project area.

Federally Listed Species

DEO generated an official Information for Planning and Consultation (IPaC) species list for the two project areas on December 21, 2022 (attached). Federally listed species from the official IPaC list are discussed below:

- All counties in Ohio are within the range of the federally-listed endangered Indiana bat (*Myotis sodalis*), the federally-listed endangered northern long-eared bat (*Myotis septentrionalis*), and the tricolored bat (*Permyotis subflavus*) which is proposed for federal listing as endangered. Summer habitat requirements for these species are not well defined, but the following are considered important: dead or live trees and snags with peeling or exfoliating bark, split tree trunk and/or branches, or cavities, which may be used as maternity roost areas; live trees (such as shagbark hickory and oaks) which have exfoliating bark; and stream corridors, riparian areas, and upland woodlots which provide forage sites. Occasionally the northern long-eared bat may roost in structures like barns and sheds.

Nine (9) trees were identified with characteristics which may potentially provide some level of roosting habitat for bats. The locations of these trees are indicated on the attached Figure 1. Photographs of typical potential habitat trees are also attached. To complete the project, DEO may need to cut some of the potential roost trees. DEO proposes to conduct all tree clearing between October 1 and March 31.

- The monarch butterfly (*Danaus pleippus*) is a federal candidate species. Although the monarch butterfly is known to forage on many wildflowers, monarch butterflies prefer open fields and meadows with milkweeds (*Asclepias* spp.), its larval host plant. The existing utility easement and road ROW in the study area is dominated by maintained lawns, agricultural fields, and forested habitats. Suitable habitat for the monarch butterfly does not occur within the project area and therefore this species would not be expected to be impacted by this project.
- The bald eagle (*Haliaeetus leucocephalus*) is protected under the Bald and Golden Eagle Protection Act. Bald eagle habitat includes areas adjacent to water bodies that provide suitable feeding (lakes, rivers, oceans) and must include large trees appropriate for roosting and nesting. No bald eagles or nest sites were observed during fieldwork. Also, although portions of the project are located in the historic Perry Township which has known records of bald eagle nests, email coordination with the USFWS Ohio Field office on January 25, 2022, confirmed that there are no known bald eagle nests within 0.5 miles of the project area.

Request for Finding

Considering the information above, DEO is requesting a finding from the USFWS regarding any adverse effect to federally listed, threatened, or endangered species in the project area.

A timely response is respectfully requested to ensure compliance with the Endangered Species Act prior to initiating activities. Please forward your response via email at the earliest possible convenience to the attention of Greg Eastridge at gregory.k.eastridge@dominionenergy.com

If you have any questions or need additional information, please contact Greg Eastridge at (330) 664-2576.

Sincerely,

Alyssa Dietz-Oergel

Senior Associate Scientist

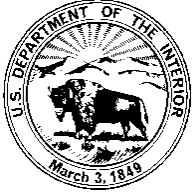
Natural Resources

M: 216.513.4893



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United States Department of the Interior



FISH AND WILDLIFE SERVICE

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



January 3, 2023

Project Code: 2023-0027465

Dear Ms. Dietz-Oergel:

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

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

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

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

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

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

Sincerely,



Patrice Ashfield
Field Office Supervisor

Gregory K Eastridge (Services - 6)

From: Applegate, Jeromy <jeromy_applegate@fws.gov>
Sent: Tuesday, January 25, 2022 3:08 PM
To: Gregory K Eastridge (Services - 6)
Cc: Ohio, FW3
Subject: [EXTERNAL] Fw: [EXTERNAL] Bald Eagle Nest Coordination Request, Three Projects In OLS Perry Township, Stark County

CAUTION! This message was NOT SENT from DOMINION ENERGY

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Greg,

We do not have any records of a bald eagle nest within 0.5 mile of the projects listed below.

Jeromy Applegate
Fish and Wildlife Biologist
U.S. Fish and Wildlife Service
Ohio Ecological Services Field Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
Direct Line: 614-528-9703

From: Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, January 11, 2022 3:29 PM
To: Applegate, Jeromy <jeromy_applegate@fws.gov>
Subject: Fw: [EXTERNAL] Bald Eagle Nest Coordination Request, Three Projects In OLS Perry Township, Stark County

Thank You

From: gregory.k.eastridge@dominionenergy.com <gregory.k.eastridge@dominionenergy.com>
Sent: Tuesday, January 11, 2022 3:16 PM
To: Ohio, FW3 <ohio@fws.gov>
Subject: [EXTERNAL] Bald Eagle Nest Coordination Request, Three Projects In OLS Perry Township, Stark County

This email has been received from outside of DOI - Use caution before clicking on links, opening attachments, or responding.



Good afternoon,

The East Ohio Gas Company, d/b/a/ Dominion Energy Ohio, is proposing to replace natural gas pipeline under the Pipeline Infrastructure Replacement (PIR) Program.

Three projects are proposed which fall in the Ohio Land Subdivision Township of Perry Township in Stark County. The name and associated coordinates for each project are noted below. Please provide a response indicating any adverse effect to the bald eagle.

Thank you,

Greg

PIR 2350 - Jackson and Genoa (Perry Township)

Western extent: 40.782047, -81.485618

Eastern extent: 40.781507, -81.465919

PIR 2691 - Cherry and Erie (Massillon)

Northwest extent: 40.801947, -81.528572

northeast extent: 40.802379, -81.522336

southeast extent: 40.796492, -81.521764

Southwest extent 40.795973, -81.528067

PIR 2714 - Brooklyn and 14th (Perry Township)

northwest extent: 40.793321, -81.445989

northeast extent: 40.793206, -81.442926

southeast extent: 40.786865, -81.443286

southwest extent: 40.786794, -81.446386

Gregory K. Eastridge
Environmental Specialist III
Dominion Energy Environment and Sustainability
320 Springside Drive, Suite 320
Akron, Ohio 44333
PH: (330) 664-2576
Cell: (330) 571-7855

Fax: (330) 664-2669



Think before you print

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CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT K

OHIO DEPARTMENT OF NATURAL RESOURCES
COORDINATION CORRESPONDENCE

December 22, 2022

BY EMAIL

Michael Pettegrew
Ohio Department of Natural Resources
Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693

**RE: The East Ohio Gas Company, Pipeline Infrastructure Replacement Program
Ohio Listed Species Consultation
PIR 2350 - Jackson & Genoa**

Dear Mr. Pettegrew:

The East Ohio Gas Company, d/b/a Dominion Energy Ohio (DEO), requests review of the following information regarding the Pipeline Infrastructure Replacement (PIR) project, PIR 2350 - Jackson & Genoa. To assist with your review of the project, site maps and photographs are enclosed.

Project Purpose, Description, and Location

DEO is proposing to replace approximately 3,795 feet of existing natural gas pipeline with 6,620 feet of ten (10)- and twelve (12)-inch natural gas pipeline under the PIR program. The purpose of the program is to replace existing pipe to ensure the safety and reliability of pipeline operations. The project will also involve abandoning approximately 1,885 of natural gas pipeline.

The PIR 2350 project is located in Perry Township, Stark County along Jackson Avenue SW, Mason Street SW, Stardale Avenue SW, and an existing 100-ft wide utility easement between Jackson Avenue SW to Genoa Avenue SW. The western terminus of the existing easement area is located along Jackson Avenue SW and extends east to Genoa Avenue SW and terminates at the DEO station near Southway Street and Genoa Avenue SW. The latitude and longitude coordinates for the center point of the project area are 40.782068°, -81.480849°. The project area is indicated on an excerpt of the Canton West Quadrangle, Ohio USGS 7.5-minute topographic map and a project area map, located in Attachment A. Representative photographs of the site are included in Attachment B.

Site Description

Ecological surveys of the project area were conducted on July 6, 2021, June 3, 2022, and October 27, 2022. The surveys were performed to collect information on potential wetlands, streams, and protected species habitat. The project area is composed of residential development, active agricultural fields, and mature forested areas. Vegetative

communities within the upland portions of the project area include maintained lawn, areas of mature woods, and active agricultural fields.

Six (6) wetlands were identified within the project area and are shown on Figure 1 – Ecological Resources Map (Attachment A). Wetlands A and B consist of both palustrine emergent (PEM) and palustrine forested (PFO) vegetation communities. Both wetlands appeared to be impacted from selective clearing and mowing from the surrounding residential properties.

Wetlands C and F are located within and along agricultural fields within central portions of the Project study area (Figure 1, Attachment A). Both wetlands are dominated by PEM vegetation communities and appear to be impacted from the maintenance of the farm fields including mowing and clear cutting.

Wetlands D and E are PFO wetlands located within the road right-of-way (ROW) for Mason Street SW. Both wetlands show signs of selective cutting for the maintenance of the road ROW.

Two (2) perennial streams and three (3) ephemeral streams are located within the project area and are shown on Figure 1 – Ecological Resources Map (Attachment A). Stream 1 is a perennial stream that flows southeast to northwest through a culvert under Mason Street SW and through a forested area near the western extent of the existing utility easement. Stream 1 appears to have recovered from previous channelization. Dominant substrate types within Stream 1 include sand and gravel. Stream 1 drains portions of Wetland A. A dam/impoundment has also been constructed between Stream 1 and a pond, Waterbody A.

Streams 2 and 5 are ephemeral streams that drain active agricultural fields into Stream 3 (Wetmore Creek) near central portions of the study areas. Stream 2 has a natural channel and shows no signs of modification while Stream 5's channel appears to have been channelized in the recent past. The dominant substrate in Streams 2 and 5 is clay/hardpan.

Stream 3 (Wetmore Creek) is a larger (1.25 square mile drainage area) perennial stream that flows from south to north through the study area and is connected to Streams 2 and 5. Most of the riparian area of Stream 3 (Wetmore Creek) appears to be dominated by agricultural fields and rural residential properties, which likely influences the water quality of the stream. The dominant substrates in Stream 3 (Wetmore Creek) are sand and gravel.

Stream 4 is an ephemeral stream that runs north to south through the study area parallel to Genoa Avenue SW. Stream 4 shows no signs of recovery from previous channelization. The dominant substrates in Stream 4 are clay/hardpan and gravel. Representative photographs of the onsite water resources are included in Attachment B.

One (1) open water pond, Waterbody A, is located within a residential lawn in the western most section of the study area (Figure 1, Attachment A). Waterbody A is entirely surrounded by maintained lawn and was likely constructed in previously upland areas. Waterbody A is separated from Stream 1 by an impoundment.

To complete the project, Wetlands C, E, Stream 1, and Stream 3 (Wetmore Creek) will be temporarily impacted. Streams 2, 4, 5, Wetlands A, B, D, F, and Waterbody A are positioned away from proposed project activities and will be avoided. Following installation of the pipeline, temporarily disturbed areas will be restored to pre-construction grade and re-vegetated. No permanent impacts to these water resources will occur with the installation of pipeline for this project; however, temporarily impacted areas of forested or scrub/shrub wetland would be expected to exhibit a permanent emergent vegetation community.

Clearing of trees in the project area may be necessary to safely conduct project activities or upon the directive of a local arborist. The project area was reviewed for trees which could provide habitat for protected bat species. Nine (9) trees were identified with characteristics which may potentially provide some level of roosting habitat for bats. The locations of these trees are indicated on Figure 1 in Attachment A. Photographs of typical potential habitat trees are included in Attachment B. To complete the project, DEO proposes may need to cut some of the potential roost trees. DEO proposes to conduct all tree clearing between October 1 and March 31.

Project construction activities (e.g., mowing/clearing, grading, trench excavation, spoil storage, backfilling, and restoration) will expose bare soils and increase the potential for erosion and sedimentation. Best Management Practices (BMPs) will be implemented throughout construction to minimize storm water runoff, soil erosion, the transport of sediments from the construction area, and to protect the aquatic resources located in and/or adjacent to the project area.

Request for Finding

Considering the information above, DEO is requesting a finding regarding any adverse effect to any state-listed species and natural areas with ecological and/or geological significance. A response is respectfully requested to ensure compliance relative to state-listed endangered species prior to initiating activities.

An email response would be greatly appreciated. Please send the email to Greg Eastridge at gregory.k.eastridge@dominionenergy.com. If you have any questions or need additional information, please contact Greg Eastridge at (330) 664-2576.

Sincerely,

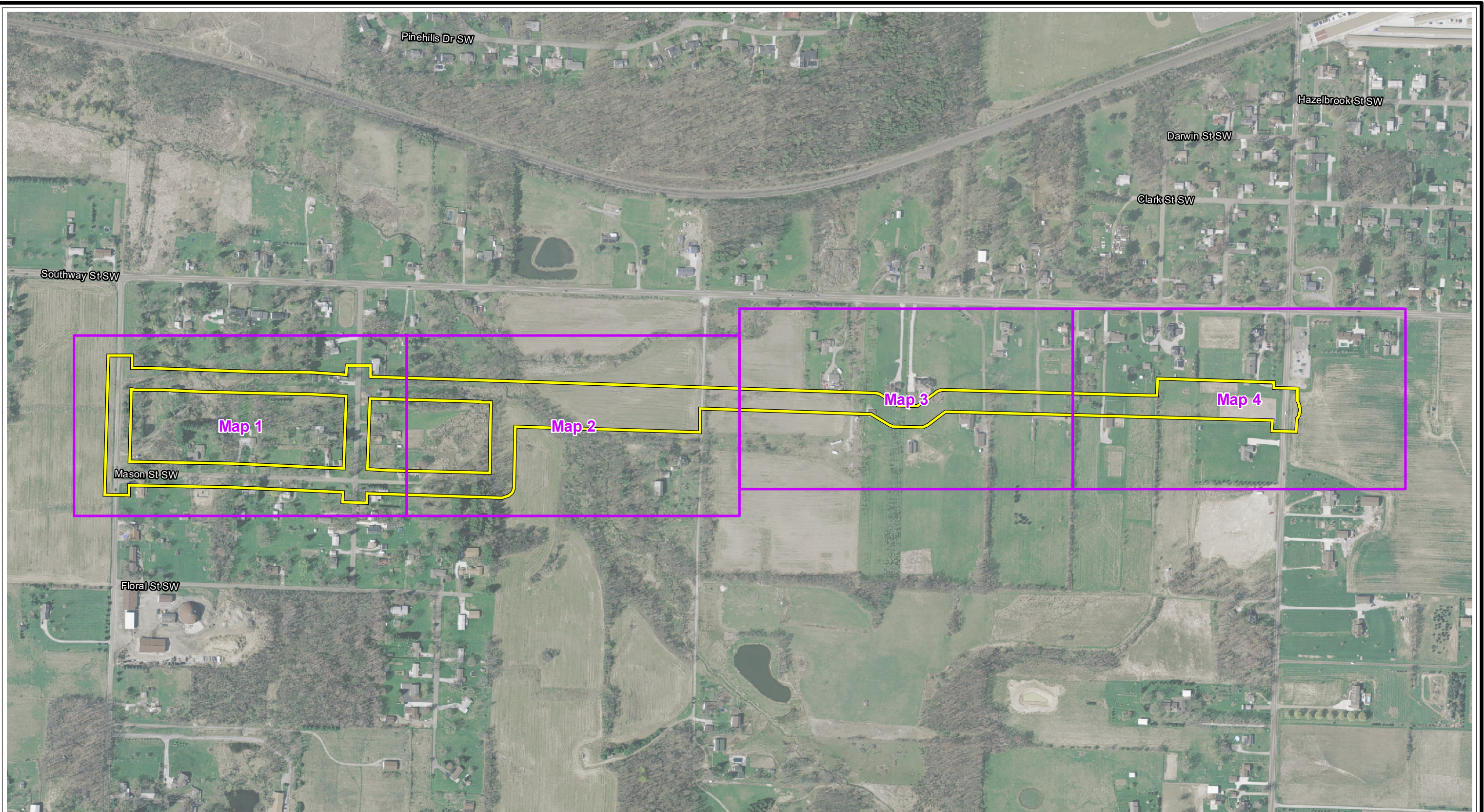
A handwritten signature in black ink, appearing to read 'DAS', written in a cursive style.

Darrell A. Shier
Authorized Representative
Manager Environmental Services

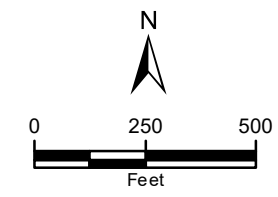
Enclosures

cc: Greg Eastridge

Attachment A
Maps



- Project Study Area
- Map Extent

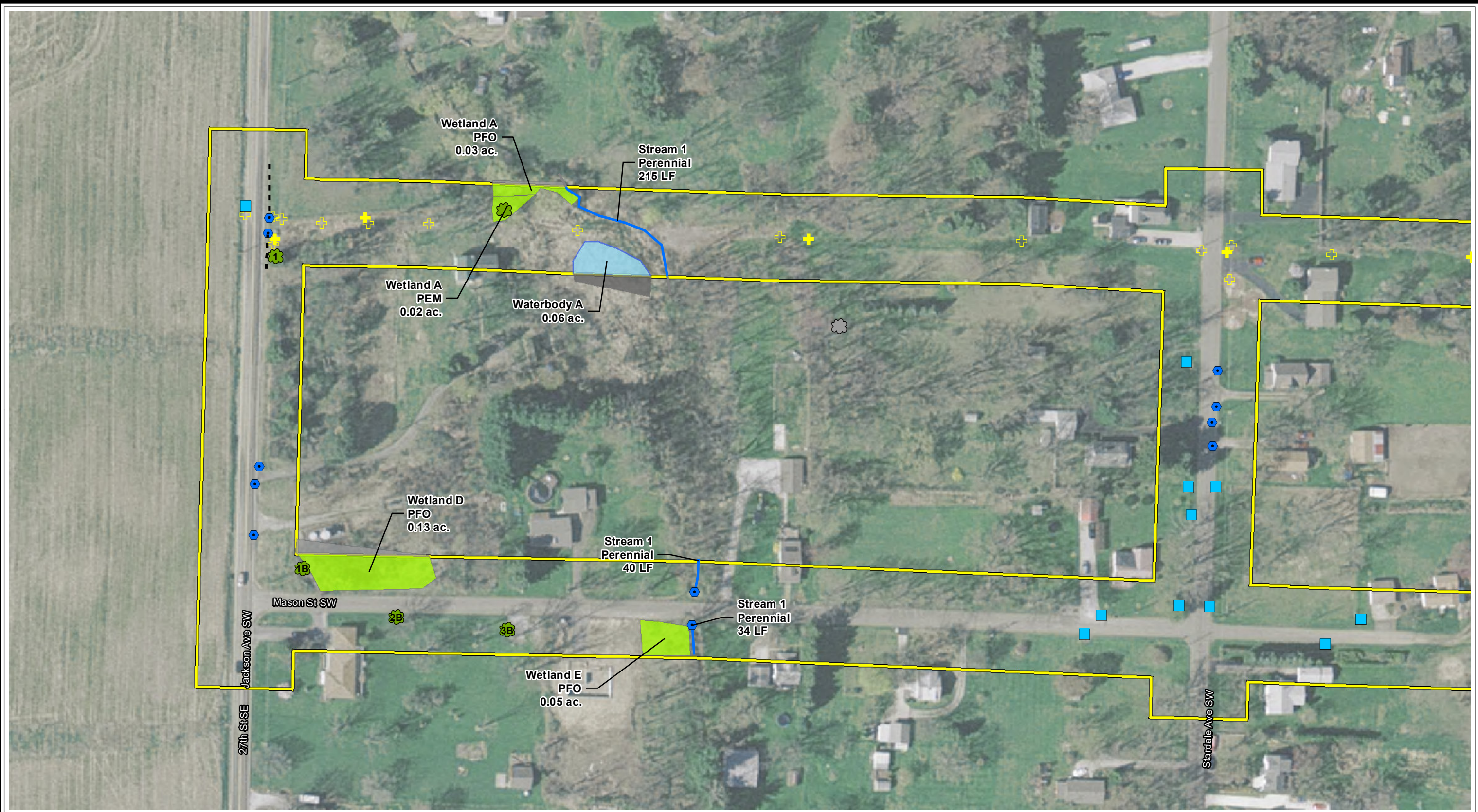


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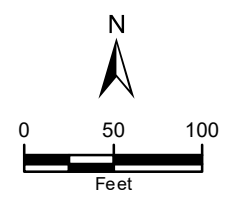
Figure 1
Ecological Resources Map

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/14/2022





- | | | | |
|-------------------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Ephemeral Stream On-Site | Delineated Wetland On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream On-Site | Delineated Wetland Off-Site |
| Inlet | Temproyary Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Ditch | Delineated Waterbody Off-Site |
| Potential Roost Tree Off-Site | | | |

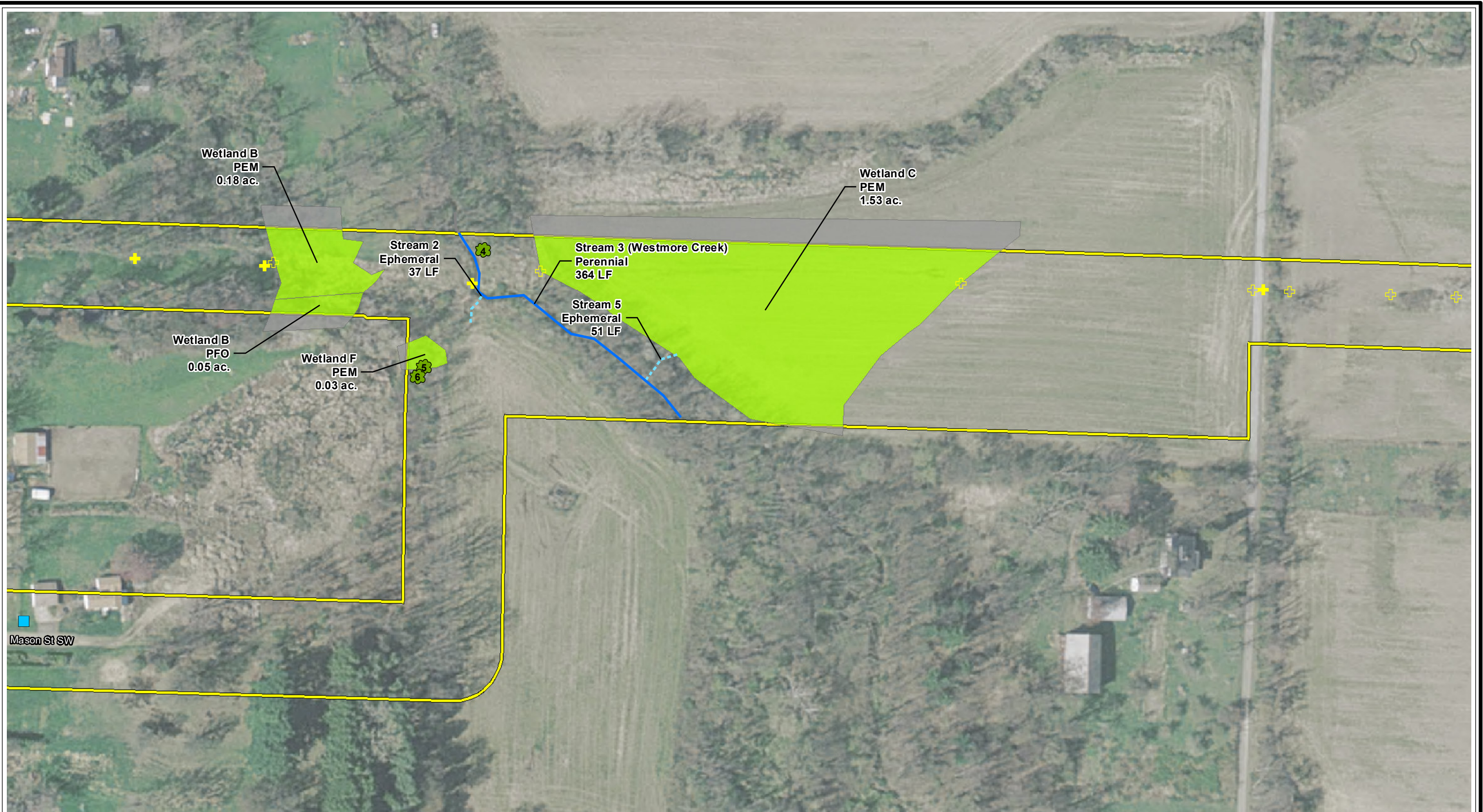


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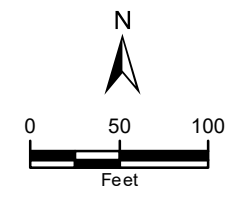
Figure 1
Ecological Resources Map 1 of 4

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/15/2022





- | | | | |
|-------------------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Ephemeral Stream On-Site | Delineated Wetland On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream On-Site | Delineated Wetland Off-Site |
| Inlet | Temproyary Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Ditch | Delineated Waterbody Off-Site |
| Potential Roost Tree Off-Site | | | |

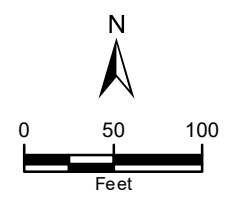
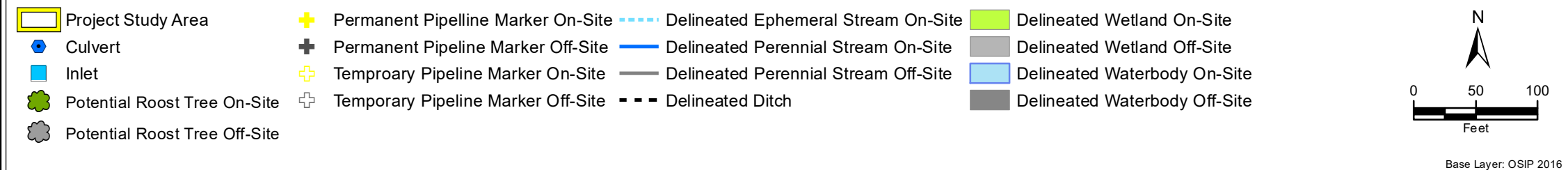
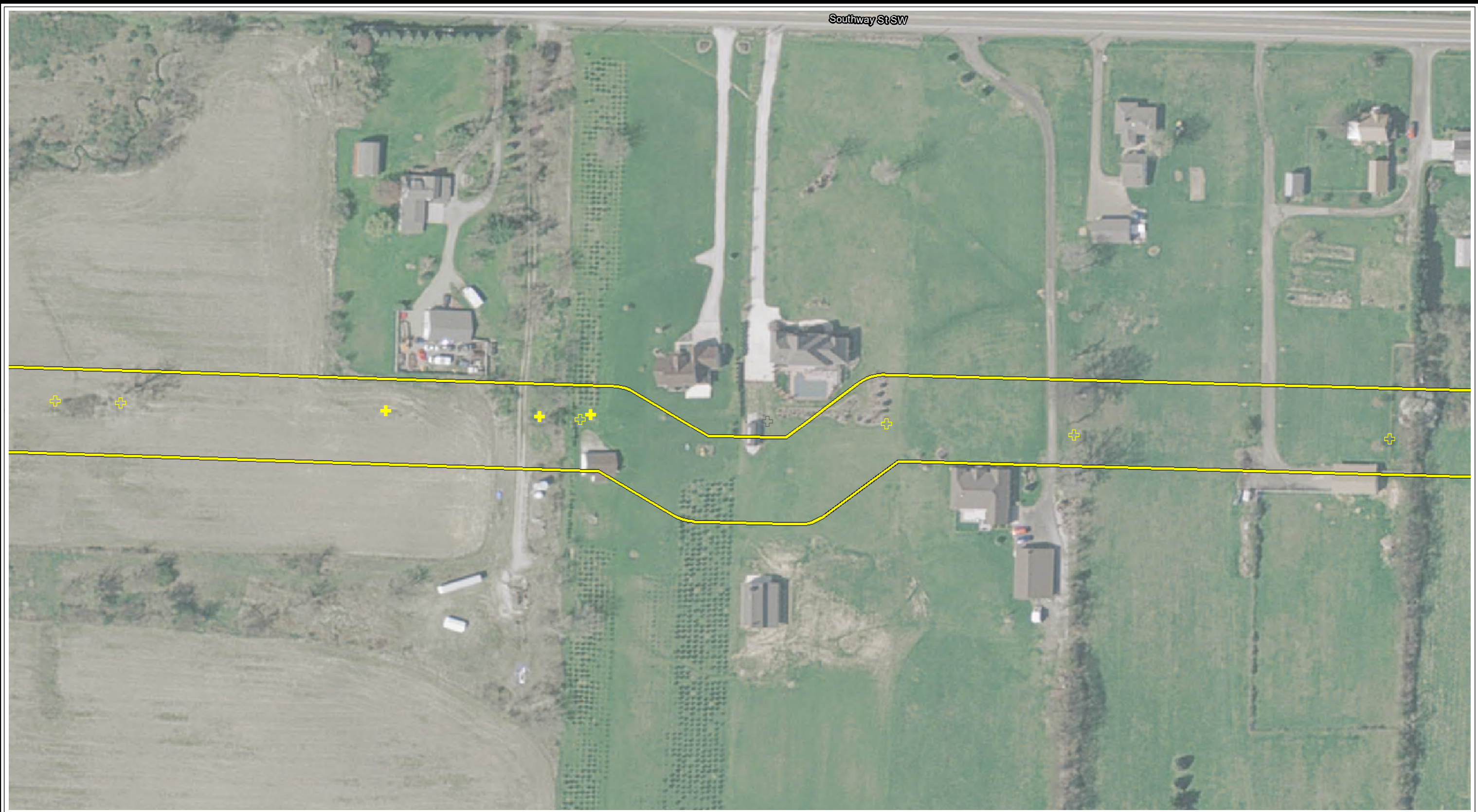


Base Layer: OSIP 2016

Figure 1
Ecological Resources Map 2 of 4

PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022

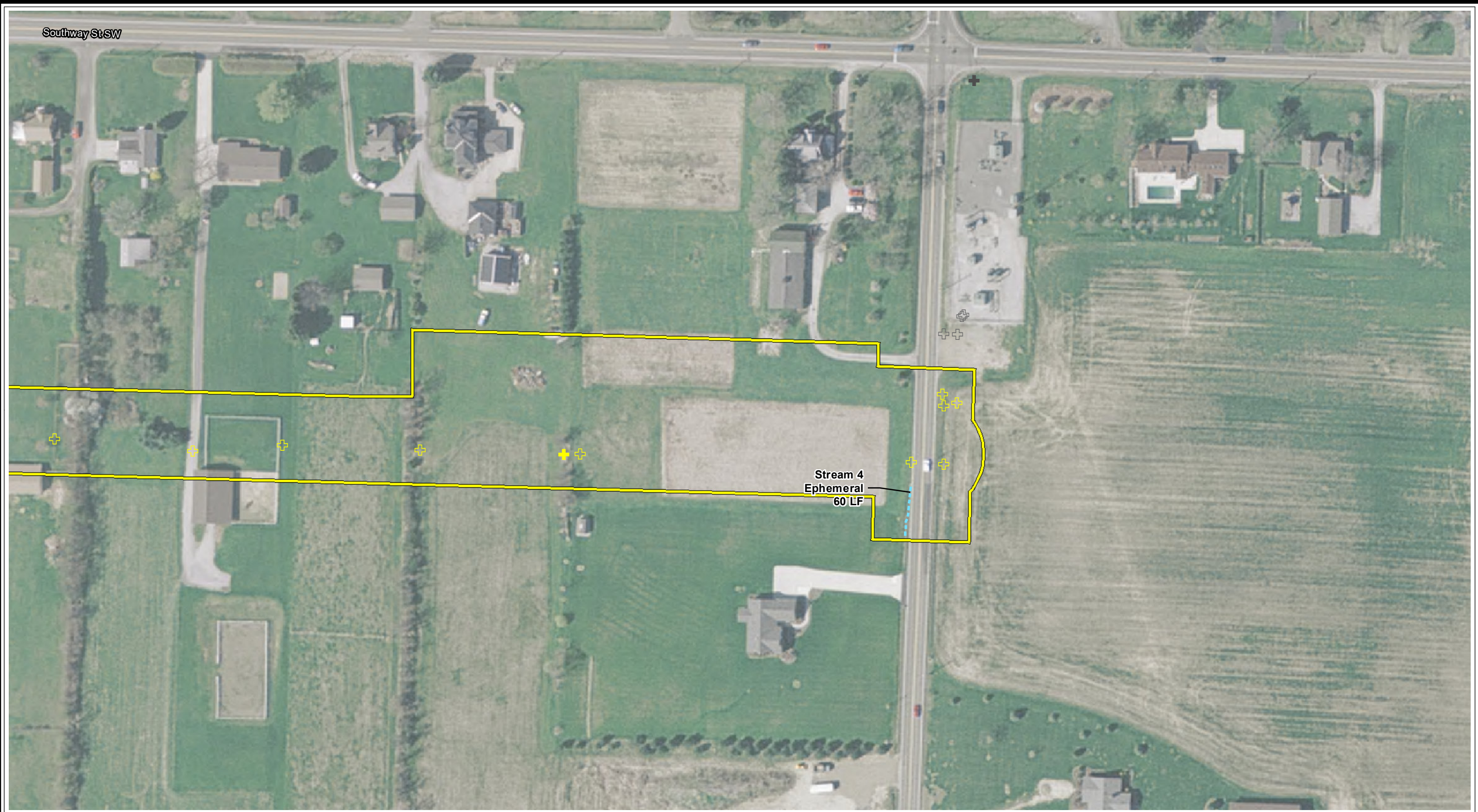




Base Layer: OSIP 2016

Figure 1
Ecological Resources Map 3 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022

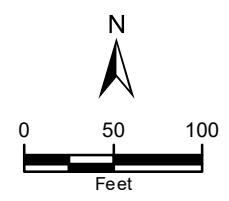




Southway St SW

Stream 4
Ephemeral
60 LF

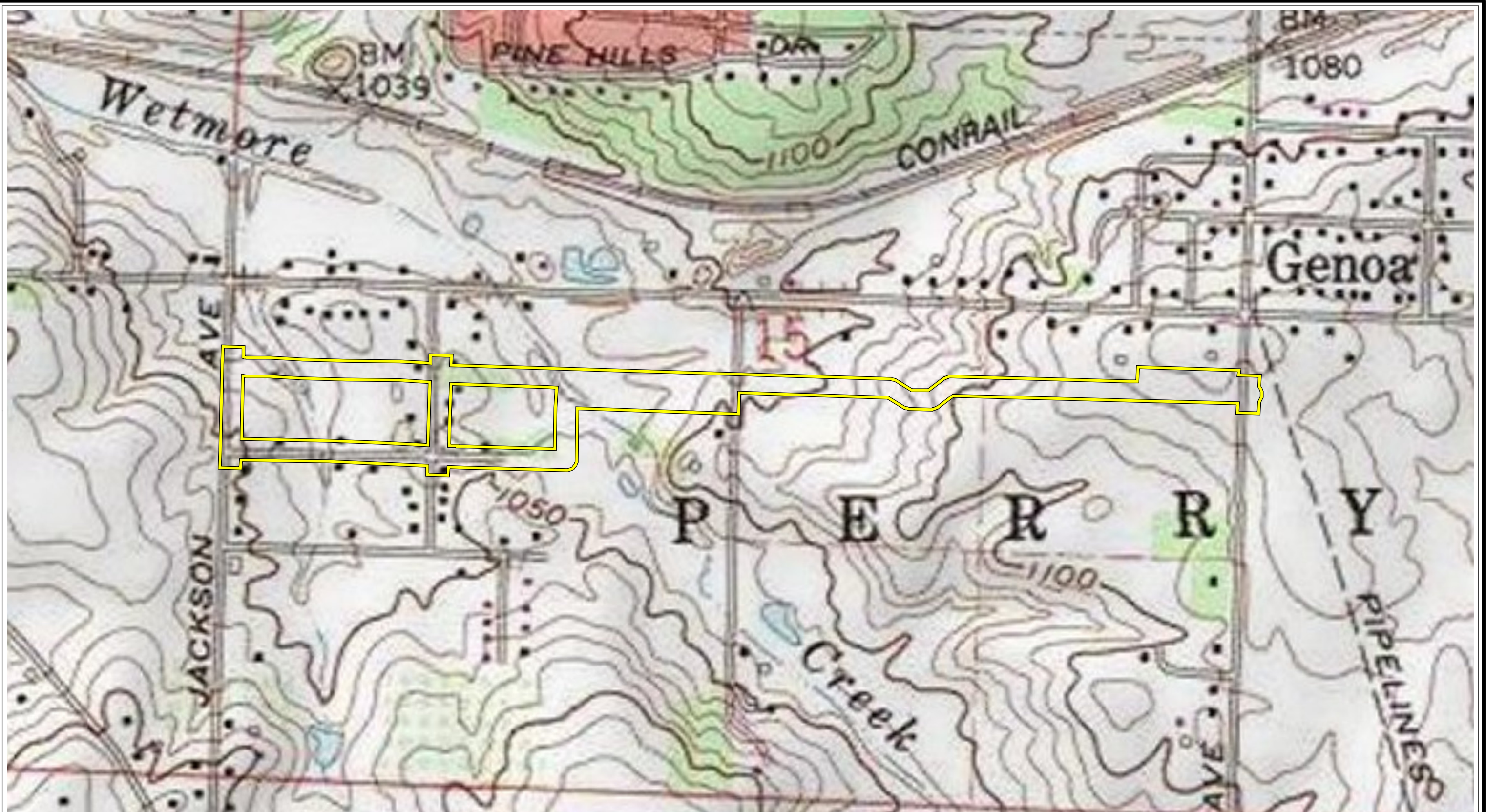
- | | | | |
|-------------------------------|------------------------------------|--------------------------------------|-------------------------------|
| Project Study Area | Permanent Pipelline Marker On-Site | Delineated Ephemeral Stream On-Site | Delineated Wetland On-Site |
| Culvert | Permanent Pipeline Marker Off-Site | Delineated Perennial Stream On-Site | Delineated Wetland Off-Site |
| Inlet | Temporary Pipeline Marker On-Site | Delineated Perennial Stream Off-Site | Delineated Waterbody On-Site |
| Potential Roost Tree On-Site | Temporary Pipeline Marker Off-Site | Delineated Ditch | Delineated Waterbody Off-Site |
| Potential Roost Tree Off-Site | | | |




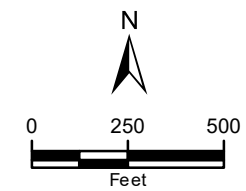
Base Layer: OSIP 2016

Figure 1
Ecological Resources Map 4 of 4
 PIR 2350 - Jackson & Genoa
 Dominion Energy Ohio
 Stark County, Ohio
 Date: 12/15/2022





 PIR2350_Study_Area_20221214



Base Layer: US TopoMaps

Figure 2
USGS Topographic - Canton West Quadrangle

PIR 2350 - Jackson & Genoa
Dominion Energy Ohio
Stark County, Ohio
Date: 12/14/2022



Attachment B
Photographs

> **Photographic Log**

Photo #1	
Date: 07/06/2021	
Feature: Residential Area	
Description: Land use within the project area is dominated by residential homes with maintained lawns and isolated trees.	

Photo #2	
Date: 07/06/2021	
Feature: Agricultural Field	
Description: Areas of active agricultural fields planted with corn (Zea mays) are also located within the study area.	

> **Photographic Log**


Photo #3	
Date: 07/06/2021	
Feature: Forested Area	
Description: Woodlots are also located with the PIR 2350 study area. The woodlots are dominated by black walnut (<i>Juglans nigra</i>), green ash (<i>Fraxinus Pennsylvanica</i>), and cherry (<i>Prunus</i> sp.)	

Photo #4	
Date: 07/06/2021	
Feature: Wetland A	
Description: Wetland A is a PEM/PFO wetland dominated by green ash, gray dogwood (<i>Cornus racemosa</i>), jewelweed (<i>Impatiens capensis</i>), and lake sedge (<i>Carex lacustris</i>).	

> **Photographic Log**



Photo #5	
Date: 07/06/2021	
Feature: Wetland B	
Description: Wetland B is a PEM/PFO wetland dominated by reed canary grass (<i>Phalaris arundinacea</i>) and jewelweed.	

Photo #6	
Date: 07/06/2021	
Feature: Wetland C	
Description: Wetland C is a PEM wetland dominated by reed canary grass.	

> **Photographic Log**

Photo #7	
Date: 06/02/2022	
Feature: Wetland D	
Description: Wetland D is a PFO wetland dominated by cottonwood (<i>Populus deltoides</i>).	

Photo #8	
Date: 06/02/2022	
Feature: Wetland E	
Description: Wetland E is a PFO wetland dominated by silver maple (<i>Acer saccharinum</i>) and green ash saplings.	

> **Photographic Log**



Photo #9	
Date: 10/27/2022	
Feature: Wetland F	
Description: Wetland F is a PEM wetland dominated by Japanese bristlegrass (<i>Setaria faberi</i>) and Virginia wild rye (<i>Elymus virginicus</i>).	

Photo #10	
Date: 07/06/2021	
Feature: Stream 1 Upstream	
Description: Stream 1 runs through a portion of forested area within the study area. Photo faces upstream portion of Stream 1.	

> **Photographic Log**

Photo #11	
Date: 07/06/2021	
Feature: Stream 2 Upstream	
Description: Stream 2 runs through a portion of forest within the study area. Stream 2 drains from an adjacent active agricultural field and connects to Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 2.	

Photo #12	
Date: 07/06/2021	
Feature: Stream 3 (Wetmore Creek) Upstream	
Description: Stream 3 runs through a portion of forest within the study area. Photo faces upstream portion of Stream 3.	

> **Photographic Log**



Photo #11	
Date: 07/06/2021	
Feature: Stream 4 Upstream	
Description: Stream 4 is a roadside drainage feature that runs parallel to Genoa Ave SW. Stream 4 runs from north to south.	

Photo #12	
Date: 06/02/2022	
Feature: Stream 5	
Description: Stream 5 drains Wetland C into Stream 3 (Wetmore Creek). Photo faces upstream portion of Stream 5.	

> **Photographic Log**



Photo #12	
Date: 07/06/2021	
Feature: Waterbody A	
Description: Waterbody A is a pond located in a maintained lawn of a residential home.	

Photo #13	
Date: 07/06/2021	
Feature: Tree 1	
Description: <i>Pinus sp.</i>	

> **Photographic Log**



Photo #14	
Date: 07/06/2021	
Feature: Tree 2	
Description: <i>Salix sp.</i>	

Photo #15	
Date: 07/06/2021	
Feature: Tree 3	
Description: <i>Prunus serotina</i>	

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT L

TRANSMITTAL LETTER TO PUBLIC OFFICIALS

[DATE]

<NAME>
<ADDRESS>
<ADDRESS>

Via FedEx

Re: **Dominion Energy Ohio Letter of Notification for PIR 2350 Jackson and Genoa Pipeline Replacement Project (2023) Perry Township, Stark County, Ohio. Ohio Power Siting Board Case No. 23-0096-GA-BLN**

Dear <NAME>,

Dominion Energy Ohio (DEO) is preparing to replace approximately 5,659 feet of existing pipeline with approximately 6,615 feet of (12)-inch diameter FBE steel natural gas pipeline by means of open-cut installation. The new pipeline will be installed within existing DEO right-of-way ("ROW") and the road right-of-way ("ROW").

In accordance with Ohio Revised Code Section 4906.03(F)(3), this project falls within the Ohio Power Siting Board's (Board) accelerated review or within its requirements for a Letter of Notification. Therefore, in compliance with Ohio Administrative Code Rule 4906-6-07(A)(1), enclosed please find a copy of the Letter of Notification application that has been filed today with the Board for its review and approval.

If you have any questions concerning this pipeline replacement project, please contact Dominion Energy Ohio's Land Services Department at 1-855-226-6022.
Sincerely,



Mark A. Whitt

Enclosure: Copy of Letter of Notification Application

CASE No. 23-0096-GA-BLN
LETTER OF NOTIFICATION FOR
PIR-2350 JACKSON & GENOA (2023) PIPELINE REPLACEMENT PROJECT

ATTACHMENT M

NEWSPAPER NOTICE

Notice of Proposed Major Utility Facility (New Pipeline Construction)

Dominion East Ohio is planning to replace approximately 5,659 feet of existing 10-inch diameter pipeline with approximately 6,615 feet of 12-inch diameter steel pipeline. The new pipeline will be installed within existing DEO easements and public right-of-way. The proposed 12-inch diameter pipeline installation will begin at DEO's Jackson & Southway Meter and Regulating Station, proceed approximately 500 feet south along Jackson Ave. to Mason St., east to Grace Ave., and then north to the existing pipeline. The remaining portion of the replacement segment between Jackson & Southway M&R to the Massillon Border Station will generally parallel the existing pipeline. The location of the proposed new pipeline is shown on the map below:



A Letter of Notification has been filed with the Ohio Power Siting Board (Board) as Case No. 23-0096-GA-BLN in order to construct, operate and maintain the proposed pipeline described above.

The following public officials were served a complete copy of the Letter of Notification:

Robert Fonte Stark County Regional Planning Authority President; Stark County Commissioners c/o Brant A. Luther; Don Bendetta Stark County Utility Coordinator; Perry Township Administrative Office Lisa Nelligan Trustee, Matt Miller Trustee, Ralph DeChiara Jr. Trustee.

The LON is available for public inspection at the Stark County District Library located at 5710 12th Street NW, Canton, OH 44708.

Dominion East Ohio at its office 320 Springside Drive, Suite 320, Akron, OH 44333 also has a complete copy of the Letter of Notification for viewing by members of the public. A copy of the Letter of Notification can also be viewed on Dominion East Ohio's web page for Siting Board Filings at www.dom.com/sitingboard, once on that page, click on the case number for this case. Copies of all filings in this case can be located at the Ohio Power Siting Board website at <http://www.opsb.ohio.gov> by scrolling down to "Pending Cases" and selecting the case by name or docket number.

The Ohio Power Siting Board will review the Letter of Notification in accordance with Ohio Revised Code Section 4906.10(A) which states that the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines all of the following: (1) The basis of the need for the facility; (2) The nature of the probable environmental impact; (3) That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations; (4) In the case of an electric transmission line, that the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability; (5) That the facility will comply with Chapters 3704., 3734., and 6111. of the Revised Code and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under Section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multimodal planning and programs of the department of transportation under Section 4561.341 of the Revised Code; (6) That the facility will serve the public interest, convenience, and necessity; (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility; rules adopted to evaluate impact under Division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; and (8) That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

Affected persons may file comments or motions to intervene in accordance with Ohio Administrative Code Rule 4906- 2-12 with the Board up to ten (10) days following the publication of this notice. Comments or motions should be addressed to the Ohio Power Siting Board, 180 East Broad Street, Columbus, Ohio 43215-3793 and cite Case No. 23- 0096-GA-BLN. Persons may contact the Ohio Power Siting Board at 1-866-270-OPSB (6772) or contactOPSB@puc.state.oh.us