Letter of Notification for Line #2925 Replacement Project Phase II (2018)

Summit County and Stark County, Ohio For Existing Pipeline Replacement

Ohio Power Siting Board Case No. 18-85-GA-BLN

Submitted by

Dominion Energy Ohio

Project #P40033152

12425403v2

Bricker & Eckler
ATTORNEYS AT LAW

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Sally W. Bloomfield
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February 2, 2018

Via Electronic Filing

Ms. Barcy McNeal
Administration/Docketing
Ohio Power Siting Board
180 East Broad Street, 11th Floor
Columbus, Ohio 43215-3793

Re: Dominion Energy Ohio,
Case No. 18-085-GA-BLN

Dear Ms. McNeal:

Enclosed for filing in the above-referenced case is a copy of the Letter of Notification of Dominion Energy Ohio ("DEO") to replace approximately 5,780 feet of existing 8-inch diameter pipeline with 12-inch diameter natural gas pipeline within existing DEO right-of-way. The pipeline will run in an east to west direction between east of Akron Road to Timberlink Road and in a north to south direction between Timberlink Road to West Comet Road within the City of New Franklin, Summit County and Lawrence Township, Stark County, Ohio. In addition we have provided the Staff of the Ohio Power Siting Board with five hard copies of the Application.

DEO makes the following declarations pursuant to OAC Rule 4906-6-05(A):

Name of Applicant:
Dominion East Ohio
320 Springside Drive
Akron, OH 44333

Name/Location of Proposed Facility:
Line #2925 Replacement Project Phase II (2018)
City of New Franklin, Summit County, and
Lawrence Township, Stark County, Ohio

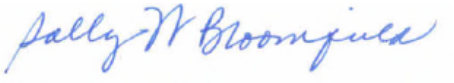
Authorized Representative Technical:
Eray Tulay
Project Manager
320 Springside Drive
Akron, OH 44333
Telephone: 330-664-2492
E-Mail: eray.tulay@dominionenergy.com

Authorized Representative

Legal: Sally W. Bloomfield
Devin D. Parram
Bricker & Eckler LLP
100 South Third Street
Columbus, OH 43215
Telephone: 614-227-2368
Facsimile: 614-2990
E-Mail: sbloomfield@bricker.com
dparram@bricker.com

Notarized Statement: See Attached Affidavit of Eray Tulay on behalf of Dominion Energy Ohio

Sincerely on behalf of
DOMINION ENERGY OHIO



Sally W. Bloomfield

Enclosure

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Dominion Energy Ohio Letter of Notification for Line #2925 Replacement Project Phase II (2018) Summit County and Stark County, Ohio	))))	Case No. 18-085-GA-BLN

AFFIDAVIT OF ERAY TULAY, DOMINION ENERGY OHIO

STATE OF OHIO :
: ss
COUNTY OF SUMMIT :

I, Eray Tulay, being duly sworn and cautioned, state that I am more than 18 years of age and competent to testify to the matters stated in this affidavit and further state the following based upon my personal knowledge:

1. I am a Project Manager of Dominion Energy Ohio, and am authorized to execute this Affidavit.

2. I have reviewed the Dominion Energy Ohio Letter of Notification Application in the above referenced case.

3. To the best of my knowledge, information and belief, the information and materials contained in the above-referenced Application are true and accurate.

4. To the best of my knowledge, information and belief, the above-referenced Application is complete.

Eray Tulay

Sworn to before and signed in my presence this 25 day of January 2018.

Mary Monastra
Notary Public

NOTARIAL SEAL
STATE OF OHIO

MARY MONASTRA
Notary Public, State of Ohio
My Commission Expires 08/1-21

12425535v1

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

The following information is being provided in accordance with the procedures set forth in Ohio Administrative Code ("OAC") Rule 4906-06Accelerated Certificate Application requirements of the Rules and Regulation of the Ohio Power Siting Board ("OPSB" or "Board").

4906-6-05 APPLICATION REQUIREMENTS

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

The applicant is the Dominion Energy Ohio ("DEO"). The name of the pipeline replacement project is L#2925 Replacement Project Phase II (2018). The internal project number is 400331523 with MWO# 63552572.

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

DEO is planning to replace approximately 5,780 feet of existing 8-inch diameter pipeline with 12-inch diameter natural gas pipeline within DEO's existing right-of-way ("ROW"). The replacement pipeline is 12 inches in diameter because DEO no long uses 10-inch pipelines for its replacement projects. The 12-inch is the next is the next closest standard. The new pipeline will have a MAOP of 1,565 pounds per square inch gage ("psig"). The pipeline will run in an east to west direction between east of Akron Road to Timberlink Road and in a north to south direction between Timberlink Road to West Comet Road. The existing pipe will be removed and replaced with the new pipe within the same trench.

The proposed pipeline is located within the City of New Franklin in Summit County and Lawrence Township, Stark County, Ohio as described above. Existing DEO ROW will provide the required equipment access.

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

This project qualifies for a Letter of Notification because it fits the criteria of OAC Rule of 4906-1-01, Appendix B (1)(b) that provides for the replacement of a new pipeline greater than one mile in length but not greater than five (5) miles in length. In this instance DEO will be replacing 5,780 feet (1.1 miles) of pipeline.

The replacement pipeline will be located entirely within DEO's service area. DEO owns and operates the existing line that will be replaced and will continue to own and operate the replacement pipeline. The primary purpose of the replacement will be to take out of service the aging and obsolete pipeline to assure a safe and constant natural gas supply to DEO's customers.

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

DEO currently transports gas in the existing pipeline to supply various distribution pipeline systems that ultimately supply end use customers. This replacement is being completed to continue to meet the current supply demands, and to allow the pipeline to accept an in-line inspection tool, such as a smart pig, for continued compliance with DEO's Transmission Pipeline Integrity Management Plan. In addition, the pipeline replacement will allow for a complete integrity evaluation of Line #2925 pipeline between the defined beginning and end points of the project. The project design and construction is an effort to maintain pipeline safety and integrity.

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

Attachment A contains a map that illustrates the location of the proposed project in relation to existing or proposed lines are shown on an area system map. The project

sections are located in City of New Franklin, Summit County and Lawrence Township, Stark County, Ohio.

The DEO ROW exists as a partially maintained mixture of residential lawn, wooded property, agricultural fields, and open fields.

There are no operating or abandoned railroad facilities within the project area.

4906-6-01(B)(4):Alternatives Considered

As mentioned earlier, DEO is planning to replace Line #2925 pipeline totaling approximately 5,870 feet, of existing 8-inch diameter pipeline with 12-inch diameter pipeline within existing utility ROW. The new pipeline will be directly placed in the trench from which the old pipeline will be removed. Any other alternative considered would involve the complete replacement of the line resulting in the existing line being removed and a new line being constructed in another location. The other options would impact more land, take a longer period of time, disrupt more homeowners and businesses, and cost more money. Thus, no practical alternatives are available.

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

Notification letters were sent on December 15, 2017 to all parties identified on **Attachment B** informing them of the nature of the project, the proposed timeframe of the project construction, and restoration activities. The model landowner notification letter is included for reference in **Attachment C-1**. A copy of the model letter that will be sent to landowners within seven (7) days of filing this application is also included as **Attachment C-2.** A copy of the pre-construction letter to be sent to all the landowners and tenants prior to the start of construction is included as **Attachment C-3**.

4906-6-05(B)(6): Anticipated Construction Schedule and Proposed In-Service Date

Tree clearing and grubbing for the project is scheduled to commence in March 2018. The construction of the pipeline is anticipated to start summer 2018. DEO plans to place the line in-service by September 2018.

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

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

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

A list of the affected properties for which DEO has obtained easements, options and/or land use agreements is given on **Attachment B**, which also contains the addresses of tenants affected by the accelerated application. Easements have been obtained from all affected property owners.

4906-6-01(B)(9)(a): Operating Characteristics, Required Structures, and Right-of Way and/or Land Requirements

Pipeline MAOP: The new pipeline will operate at an MAOP of 300 psig, and have a diameter of 12 inch.

Pipe Material: The proposed 12-inch steel pipeline will have a wall thickness of 0.375 inch and yield strength of 52 thousand pounds per square inch ("ksi"). The pipeline will be externally coated with 14-16 Mils of Fusion Bonded Epoxy and/or Powercrete.

Structures: No additional structure will be required for the pipeline.

Right-of-Way ("ROW") and/or Land Requirement: Replacement of the pipeline will occur within existing 60-foot wide easement owned by DEO. Two 100 foot by 100 foot temporary construction laydown may be necessary.

As is customary with DEO's projects, after the contractor is selected, the contractor selects areas for laydown and arranges for the temporary easements directly. The laydown area will likely be on DEO property. DEO will require the contractor to make those arrangements as soon as DEO selects the contractor and will provide the Staff with the selected laydown site information. DEO requests that the submission of the laydown information be made a condition set forth in the Staff Report. DEO requests that the submission of the laydown information be made a condition in the Staff Report as has been the case in the following *Dominion Energy Ohio* cases: Case Nos. 17-2502-GA-BLN; 17-1873-GA-BNR; 17-1944-GA-BNR; and Case No. 17-467-GA-BNR. Construction of the project will not begin until the Staff has approved the laydown area(s). DEO expects that the contractor will select one (1) temporary laydown area for pipeline and equipment storage.

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

This project involves the construction of a natural gas pipeline; therefore this section is not applicable.

4906-6-01(B)(9)(c): Estimated capital cost

The 2018 capital cost of this project is estimated to be approximately $2,250,000.

4906-6-01(B)(10)(a): Land Use

The proposed project is located within the City of New Franklin in Summit County, Ohio and Lawrence Township in Stark County, Ohio. The project area is

comprised of maintained existing utility ROW. The land use associated with the project is primarily rural residential, agricultural, and forest.

4906-6-01(B)(10)(b): Agricultural Land

As mentioned previously, land use associated with the project area is primarily rural residential, agricultural, and forest. One parcel located in Summit County (Parcel #23-04512) is designated as an "agricultural district" pursuant to R.C. 929.01.

4096-6-01(B)(10)(c): Archeological and Cultural Resources

In January 2018, DEO's consultant, EnviroScience, Inc. ("EnviroScience"), performed an Ohio Historic Preservation Office ("OHPO") Literature Review of archeological and cultural resources for the project area (refer to **Attachment D**). The study area included approximately 5,700 feet of existing utility ROW along the project area.

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.

According to the records search, no OAI properties, OHI properties, National Register Listed Properties, National Register Listed Districts, Determination of Eligibility Properties, or Phase 1, 2, or 3 Survey Areas were identified within the or near the project area. Additionally, there are no historic features considered to be within the Area of Potential Effects ("APE") (**Attachment D**, p. 1).

It is the opinion of EnviroScience that this particular project will not likely have an adverse effect on prehistoric or historic cultural resources per 36 CFR 800.5(b)

(Attachment D, p. 1-2). If wetlands or streams are impacted, this project will have a federal tie. However, this project has met all of the requirements to be permitted under a non-notification Nationwide Permit ("NWP") #3 which precludes notification to the OHPO.

4906-6-01(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:

Name of Agency	Documents Submitted	Attachment
U.S. Fish & Wildlife Service ("USFWS")	January 8, 2018 Information for Planning and Consultation ("IPaC")	F
U.S. Army Corps of Engineers ("USACE")	NWP #3 (Maintenance) and including the general Water Quality Certification	H
Ohio Historical Preservation Office ("OHPO")	January 4, 2018 Ohio Historic Preservation Office Desktop Literature Review	D
Ohio Department of Natural Resources ("ODNR")	January 11, 2018 Threatened and Endangered Species Consultation	G
Ohio Environmental Protection Agency ("Ohio EPA)	January 8, 2018 Wetlands and Other Waters Delineation Report	E
	401 Program	N/A
	NPDES program	N/A[1]
Stark County Soil and Water Conservation District ("SWCD")	N/A[1]	N/A
Summit County SWCD	N/A[1]	N/A

[1]The project pipeline is part of the storage system, which is exempt from the NPDES program and subsequent County stormwater notifications.

DEO requests that Staff include a condition such as the one that has been included in the following *Dominion Energy Ohio* cases: Case Nos. 17-1973-GA-BNR; 17-1944-GA-BNR; 17-823-GA-BNR; 17-467-GA-BNR; and 17-360-GA-BNR 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.

4906-6-01(B)(10)(e): Federal and State Designated Species

DEO's consultant EnviroScience reviewed the project area for potentially threatened and endangered species and their habitat and their results are included in the Delineation Report (**Attachment E,** pp. 10-11).

According to EnviroScience, five (5) federally listed species have ranges which include Summit and Stark Counties in Ohio: the Indiana bat (*Myotis sodalis*), state and federally endangered; the northern long-eared bat (*Myotis septentrionalis*), federally threatened; the eastern massasauga (*Sistrurus catenatus catenatus*), federally threatened; and the bald eagle (*Haliaeetus leucocephalus*), a federal species of concern. In addition, the northern monkshood (*Aconitum noveboracense*), a federally threatened species is listed in Summit County.

According to EnviroScience, the field review of the study area resulted in the identification of thirteen (13) trees with characteristics that may potentially provide some level of roosting habitat for the Indiana bat and/or the northern long-eared bat. These potential roost trees ("PRTs") include American elm (*Ulmus americana*), black cherry (*Prunus serotina*), white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), and standing dead trees with diameter at breast height (dbh) measurements ranging from 5 to 32 inches. The onsite PRTs have crevices, peeling bark, and 10% to 75% solar exposure. Based on their size and solar

exposure, two (2) of these trees may be considered potential maternity roost trees (PMRTs) by the USFWS. As long as tree clearing is completed between October 1 and March 31, no impacts to either bat species are anticipated.

EnviroScience's field review did not reveal any potential habitat for the remaining above listed federally listed species.

Additionally, the U.S. Fish and Wildlife Service ("USFWS") Information for Planning and Consultation ("IPaC") database was reviewed in January 2018 (**Attachment F**). IPaC results indicated that no critical habitat, including critical habitat for the Indiana bat, is located within the project area. Additionally, the IPaC review indicated that, "incidental take of the northern long-eared bat is not prohibited at this location." The eastern massasauga was not listed as a species that could potentially be affected by activities at this location.

On January 11, 2018, DEO submitted a letter to the Ohio Department of Natural Resources ("ODNR") requesting a finding from ODNR regarding any adverse effect to any state listed species and natural areas that have a geological and/or ecological significance to them. A copy of this letter is included as **Attachment G**. A response from ODNR is pending and will be filed upon receipt.

4906-6-01(B)(10)(f): Areas of Ecological Concern

In March 2016, EnviroScience performed a delineation of wetlands and other waters for this project. The delineation included a 5,702 foot long by 60 foot wide linear corridor.

According to their assessment, two (2) wetlands and two (2) intermittent streams were noted to exist within the project area. No known flood zones, as characterized by the Federal Emergency Management Agency, were identified within the project area. See **Attachment E,** p. 12 for a copy of EnviroScience's report.

Both wetlands and both streams will be temporarily impacted by the construction of this project. In addition, a permanent culvert will be installed at the confluence of Stream S-1 and Stream S-2 in order to allow access through the ROW. In order to construct the project, a trench will be excavated along the entire length of the pipeline to be replaced, including through the wetlands and streams. Separation of the topsoil from the subsoil will generally be performed at wetlands, streams, open waters, 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. A disturbance width of 60 feet is necessary for project activities. Construction will be limited to these areas and will require soil disturbance to accommodate areas for the trench excavation, side-cast spoil, temporary storage of the new pipe, and equipment/vehicular traffic. All work shall be performed within these authorized limits of disturbance. Equipment traveling across waterbodies and saturated wetlands along the ROW access routes will use mats or bridges across the ground/resource as needed to protect the resource from unnecessary disturbance. These mats or bridges will be removed upon completion of the construction work. Following pipeline installation, all disturbed areas will be returned to their original slope and contour, stabilized, seeded, and revegetated to provide a permanent herbaceous cover to stabilize the soils, and temporary

erosion controls would be maintained until this permanent cover is established. Wetlands will not be seeded and the original seed bank will be allowed to naturally revegetate. Exposed slopes and stream banks will be stabilized immediately upon completion of the work at each waterbody.

All of these water resources referenced above are under the jurisdiction of the Ohio EPA and/or the Huntington District of the USACE. Project activities and impacts have been reviewed and were found to meet the requirements for a non-notification Nationwide Permit #3 (Maintenance) with associated Ohio EPA Water Quality Certification (**Attachment H**).

4906-6-01(B)(10)(g): Any Known Unusual Conditions resulting in Significant Environmental, Social, Health, or Safety Impacts

As illustrated by the studies and investigations conducted as a part of this project to date (refer to the Attachments), there are no readily known unusual conditions in the area of the proposed project that will result in significant environmental impacts. Additionally, because the pipeline will be installed within existing ROW, there has already been prior ground disturbance and maintenance in the area. Other than potential health and safety issues associated with construction which will be minimized with the best practices during construction, there are no additional health, social or safety impacts that will exist as a result of this project.

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 caused a copy of the application to be delivered to the following public officials.

Summit County Council
c/o Russell Pry, County Executive
175 S. Main Street
Akron, OH 44308

Alan Brubaker, P.E., P.S.
Summit County Engineer
538 E. South Street
Akron, OH 44311

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

Connie Krauss
Deputy Director
Summit County Community & Economic Development
175 S. Main Street
Akron, OH 44308

Brian Prunty
District Administrator
Summit County Soil & Water Conservation District
2525 State Road
Cuyahoga Falls, OH 44223

Dennis Tubbs, GISP
Planning/GIS Division, Deputy Director
Summit County Planning Commission
175 S. Main Street
Akron, OH 44308

Jeffrey Olson
Safety Service Director
New Franklin Service Department
6523 Hampsher Road
Clinton, Ohio 44216

Mayor Al Bollas
City of New Franklin
5611 Manchester Road
Akron, Ohio 44319

Lester Kamph
Shawn D. Lockhart
Mike Stevens
Lawrence Township Trustees
Lawrence Township Hall
5828 Manchester Avenue NW
North Lawrence, OH 44666

A copy of this expedited application and a transmittal letter (**Attachment I**) has been sent to the officials listed above.

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

A copy of this accelerated application is being sent to the main branch of the Stark County District Library located at 715 Market Avenue N, Canton, Ohio 44702, and to the Akron-Summit County District Library located at 60 S. High Street, Akron, Ohio 44326.

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 for this case to access.

Further interested persons may contact the project manager Eray Tulay at DEO to obtain either an electronic copy or a paper copy of this application.

Eray Tulay
320 Springside Drive,
Akron, Ohio 44333
(330) 664-2492
Eray.Tulay@dominionenergy.com

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

Within seven (7) days of the filing of this accelerated application, DEO will cause proof of compliance with this requirement to be filed with the Board.

4906-6-08(A): Newspaper Notice

Because this application falls with the definition of Letter of Notification, within seven (7) days of the filing of this Letter of Notification, DEO will cause public notice of this Letter of Notification to be published in the Akron Beacon Journal a newspaper of general circulation in Summit County and The Repository in Stark County.

Attachment J, the proposed newspaper publication fulfills the requirements 4906-6-8(A)(1) through (6).

4906-6-08(B): Notice to Property Owners and Tenants; Proof of Compliance

Within seven (7) days of the filing of this Letter of Notification, DEO will also send a letter describing the proposed facility to each property owner and affected tenant (**Attachment C-2**). When the letter has been sent, DEO will cause a proof of compliance with the property owner/tenant letter requirements to be provided to the Board Staff.

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

ATTACHMENT A
AERIAL MAP

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

ATTACHMENT B

LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS/TENANTS

LANDOWNERS OF PERMANENT & TEMPORARY EASEMENTS/TENANTS

Parcel #(s)	Landowner	Mailing Address	City, State, Zip
2302326	Adam C. Young	728 W. Comet Rd.	Clinton, OH 44216
2617326	Jeffrey A. & Melinda M. Caldren	8470 Akron Avenue NW	Canal Fulton, OH 44614
2617239	Black Properties, Ltd.	586 Marina Drive	Akron, OH 44319
10002250	Black Properties, Ltd.	586 Marina Drive	Akron, OH 44319
2613426	Steven G. Scheufler	8830 Willingham Drive NW	Canal Fulton, OH 44614
2602068	Douglas K. & Janis Rennick	8857 Timberlink Road NW	Canal Fulton, OH 44614
2602067	James E. & Beverly A. Pelc	8873 Timberlink Road NW	Canal Fulton, OH 44614
2604554	Elaine R. Echols	569 W. Comet Road	Clinton, OH 44216
2304102	Lee A. Wallace	450 W. Comet Road	Clinton, OH 44216
2304553	Michael & Wendy Scarbrough	563 W. Comet Road	Clinton, OH 44216
2303292	Lee A. Wallace	450 W. Comet Road	Clinton, OH 44216
2305115	Jason T. & Jennifer R. Darrah	440 W. Comet Road	Clinton, OH 44216
2304512	William & Mary Ann Stirewalt	400 W. Comet Road	Clinton, OH 44216
2305011	Franklin & Marilyn Faust	668 W. Comet Rd.	Clinton, OH 44216
2305039	Kenneth Roberts	634 W. Comet Rd.	Clinton, OH 44216
2305038	Eric & Jennifer Stiles	620 W. Comet Rd.	Clinton, OH 44216
2305040	Mazzagatti Farms, LLC	614 W. Comet Rd.	Clinton, OH 44216
2305631	Mazzagatti Farms, LLC	614 W. Comet Rd.	Clinton, OH 44216
2613296	Steven R. McClain & Kristen L. Smyers	8890 Akron Avenue NW	Canal Fulton, OH 44614
2302298	Thomas A. Adams & Kathryn Brutcher	527 W. Comet Rd.	Clinton, OH 44216
2300858	Quite Place Ministry, Inc.	350 Ott Dr.	Akron, OH 44319
2303904	Robert, Sr. & Betty Walder	271 W. Comet Rd.	Clinton, OH 44216
2301045	Norman & Carol First	6071 Myers Rd.	Clinton, OH 44216

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

ATTACHMENT C

MODEL NOTIFICATION LETTER TO PROPERTY OWNERS SENT

ATTACHMENT C-1

December 8, 2017

ADDRESS

Dear Property Owner or Tenant:

New Pipeline Project
DEO will be present on your property to inspect and review the easement area for the upcoming replacement project to Line # 2925. The reviewing process will begin the week of December 11, 2017.
Please be assured that during work on the project described above, all of DEO's Standard Safety and Operating Procedures and all applicable federal, state and local laws, regulations and ordinances will be fully adhered to.

Timeline for Construction of the Project
DEO anticipates that construction of the pipeline replacement will commence on or about summer 2018. The construction is expected to last until approximately fall 2018.

Restoration Activities
DEO will restore your property to the state that it was in prior to DEO's construction activities. It expects that the restoration activities will be completed by the end of 2018.

Tenants
If you have tenants occupying this property, please advise them of this pipeline project.

Questions
Should you have any questions concerning this pipeline project, please contact Dominion Energy Ohio's Land Services Department at 1-855-226-6022.

Sincerely,

DOMINION ENERGY OHIO

Land Services Department

Project Reference:
12425403v2

ATTACHMENT C-2

MODEL LETTER TO BE SENT TO LANDOWNERS WITHIN SEVEN (7) DAYS OF FILING THE APPLICATION

[DATE]

Via First Class U.S. Mail

ADDRESS

Re: Application of Dominion Energy Ohio
[NAME OF PROJECT]
OPSB Case No. 18-85-GA-BLN

Dear) Property Owners and Tenants within the route of the proposed project
) Property Owners and Tenants who are located contiguous to the proposed site
) Property Owners and Tenants of Permanent and Temporary Easements within the planned site:
) Property Owners and Tenants of the Existing Right-of-Way
) Property Owners and Tenants who may be approached for any additional easement necessary for the construction operation or maintenance of the project

New Pipeline Project
As we indicated to you in a prior letter, Dominion Energy Ohio (DEO) is planning to replace approximately 5,780 feet of existing 8-inch diameter pipeline with 12-inch diameter natural gas pipeline within existing DEO right-of-way ("ROW"). The new pipeline will have a MAOP of 1,565 pounds per square inch gage ("psig"). The pipeline will run in an east to west direction between east of Akron Road to Timberlink Road and in a north to south direction between Timberlink Road to West Comet Road. The existing pipe will be removed and replaced with the new pipe within the same trench.

Map of Location of Proposed Project

MODEL LETTER TO BE SENT TO LANDOWNERS WITHIN SEVEN (7) DAYS OF FILING THE APPLICATION

DEO Letter of Notification Pending before the Ohio Power Siting Board (OPSB)
The Letter of Notification has been filed with, and is pending before, the OPSB. It asks for authority to construct the pipeline project described above. It was assigned **Case No. 18-85-GA-BLN.**

List of Locations Where Copy of the Letter of Notification Can Be Viewed
DEO office: 320 Springside Drive, Akron, OH 44333

Library: Stark County District Library located at 715 Market Avenue N, Canton, Ohio 44702 &

Akron-Summit County District Library located at 60 S. High Street, Akron, Ohio 44326

DEO Website: https://www.dominionenergy.com/siting%20board

Once on that page make sure that the location at the top of the page is Ohio and then click on the case number for this case.

MODEL LETTER TO BE SENT TO LANDOWNERS WITHIN SEVEN (7) DAYS OF FILING THE APPLICATION

OPSB Website: www.opsb.ohio.gov

Scroll down to "Pending Cases" and selecting the case by name or docket number.

Filing to Participate and Comment in this Case
If you would like to participate in this proceeding, you may file a motion to intervene and/or file comments in this matter within ten (10) days from publication in Akron Beacon Journal and The Repository. For motions to intervene, please follow the requirements of Ohio Administrative Code Rule 4906-2-12. The intervention rule is available on line at www.opsb.ohio.gov.

Tenants
If you have tenants occupying this property, please advise them of this pipeline project.

Questions
Should you have any questions concerning this pipeline project, please contact Dominion Energy Ohio's Land Services Department at 1-855-226-6022.

Sincerely,

DOMINION ENERGY OHIO

Land Services Department

ATTACHMENT C-3

MODEL PRE-CONSTRUCTION LETTER TO BE SENT TO LANDOWNERS

[DATE]

ADDRESS

Dear Property Owner or Tenant:

New Pipeline Project
As we indicated to you in a prior letter, Dominion Energy Ohio (DEO) is preparing to replace approximately 5,780 feet of existing 8-inch diameter pipeline with 12-inch diameter natural gas pipeline within existing DEO right-of-way ("ROW"). The new pipeline will have a MAOP of 1,565 pounds per square inch gage ("psig"). The pipeline will run in an east to west direction between east of Akron Road to Timberlink Road and in a north to south direction between Timberlink Road to West Comet Road. The existing pipe will be removed and replaced with the new pipe within the same trench.
Please be assured that during work on the project described above, all of DEO's Standard Safety and Operating Procedures and all applicable federal, state and local laws, regulations and ordinances will be fully adhered to.

Timeline for Construction of the Project
DEO anticipates that construction of the [new][replacement] pipeline will commence on or about March 2018. The construction is expected to last until approximately fall 2019.

Restoration Activities:
DEO will restore your property to the state that it was in prior to DEO's construction activities. Once the work is complete, restoration will begin as soon as weather permits, including sidewalks, driveways and approaches. Typical yard restoration is limited to grading and seeding. DEO expects that the restoration activities will be completed by the fall 2019.

Tenants
If you have tenants occupying this parcel, please advise them of this pipeline project.

Questions/Complaints:
DEO has a complaint resolution process. Should you have any questions concerning this pipeline project, please contact Dominion Energy Ohio's Land Services Department at 1-855-226-6022 who will see that it is communicated to DEO's Project Manager, Eray Tulay. Please mention the project reference, located on the bottom of this letter, when you call. If you have a complaint during construction or restoration, your call will be returned in a timely manner. Please be aware that DEO will make every best effort to resolve issues pertaining to the project.

Safety is Dominion Energy Ohio's highest priority. Be assured we will take every possible step to ensure the security of the area, your property, your family and our employees.

Sincerely,

DOMINION ENERGY OHIO
Land Services Department

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

ATTACHMENT D

OHIO HISTORIC PRESERVATION OFFICE
DESKTOP LITERATURE REVIEW

January 4, 2018

Tara Buzzelli
Environmental Specialist
Dominion Energy
320 Springside Drive, Suite 320
Akron, Ohio 44333

Re: **The East Ohio Gas Company**
Ohio Historic Preservation Office Literature Review
Line 2925, Phase II

Dear Ms. Buzzelli:

On January 4, 2018, EnviroScience, Inc. performed an Ohio Historic Preservation Office (OHPO) Literature Review of cultural resources for the Line 2925, Phase II project. The Line 2925, Phase II project activities include the replacement of approximately 5,700 feet of existing eight (8)-inch diameter natural gas pipeline with twelve (12)-inch diameter natural gas pipeline. Construction will be limited to the existing 60 foot wide (30 feet on either side of the pipeline) off-road utility right-of-way (ROW). The U.S. Army Corps of Engineers (USACE) and the OHPO do not require a formal Section 106 consultation be completed for pipeline replacement projects due to previous ground disturbance unless historical properties will be impacted by the project. In order to determine if historical properties exist within the proposed project area, a search of the OHPO data was completed. The area searched included the Line 2925, Phase II pipeline ROW and a surrounding area. The literature review included a search for records of National Register Listed Properties, National Register Listed Districts, Ohio Archaeological Inventory Properties, Ohio Historic Inventory Properties, Determinations of Eligibility Properties, Phase 1, 2, or 3 Survey Areas, Ohio Genealogical Society (OGS) Cemeteries, and Historic Tax Credit projects. The following is a discussion of the results of the literature review. Please refer to the maps in Attachment A for more details regarding this search.

According to the records search, no Ohio Archaeological Inventory Properties, Ohio Historic Inventory Properties, National Register Listed Properties, National Registered Listed Districts, Determinations of Eligibility Properties, Phase 1, 2, or 3 Surveyed Areas, OGS Cemeteries, or Historic Tax Credit projects are listed within the project area or surrounding area. The project area is not located near or within a historic district. Furthermore, impacts for the project area will be temporary and no permanent or above ground structures are planned. Therefore, the Line 2925, Phase II project will not likely

have an adverse effect on prehistoric or historic cultural resources based on [36 CFR § 800.5(b)].

Two (2) wetlands and two (2) intermittent streams were identified within the project area. All onsite water resources are proposed to be temporarily impacted during pipeline replacement activities. However, based on the temporary nature of the impacts and because impacts are occurring in a previously disturbed ROW where no historical or archaeological resources are identified, no further coordination with OHPO is required.

Please feel free to contact me with any questions or concerns; I can be reached at (330) 688-0111 or via email at LSayre@EnviroScienceInc.com.

Respectfully,

Laura Sayre
Wetland Biologist

Attachment A
OHPO Records

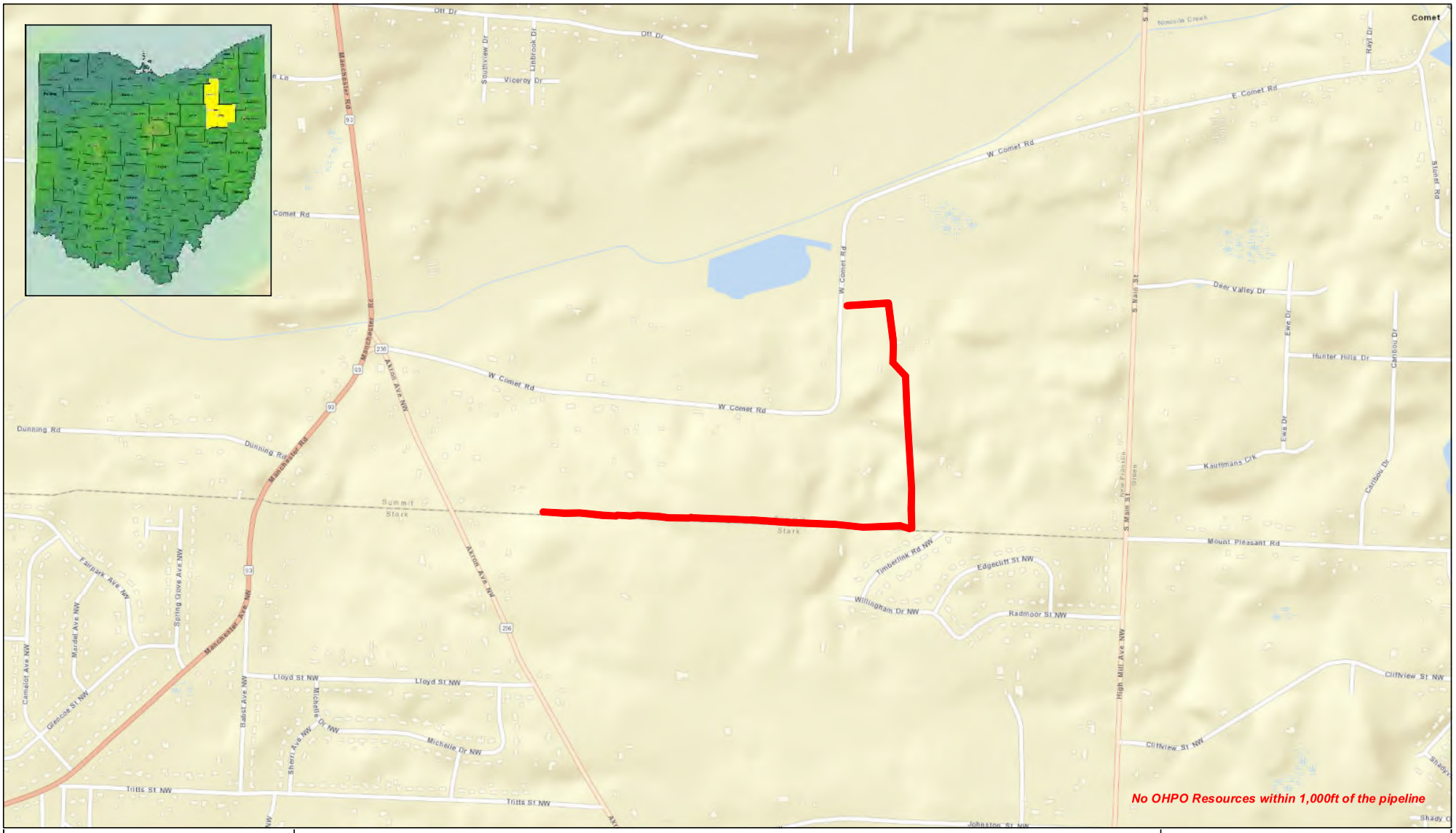


Figure 1. OHPO Overview Map of Site in Summit and Stark Counties, Ohio. Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

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Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map1_OHPO.mxd

Date: 1/3/2018

Basemap courtesy of Esri. Historic data courtesy of The Ohio History Connection (www.ohiohistory.org). Date created: Date: 1/3/2018.

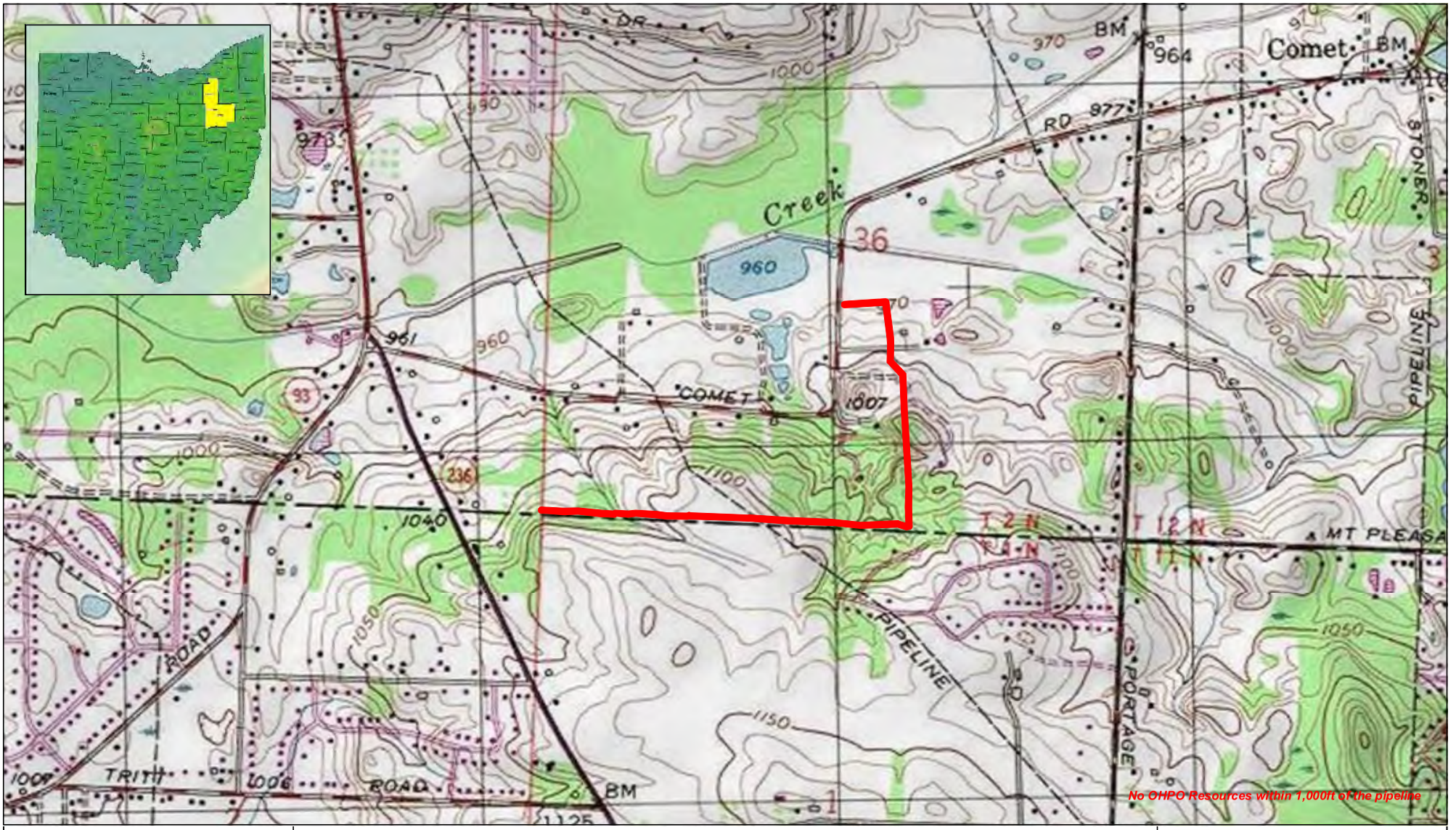

Figure 2. OHPO Map on USGS 7.5-minute Topographic Map of Canal Fulton Quadrangle. Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

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Basemap courtesy of National Geographic Society (2013). Historic data courtesy of The Ohio History Connection (www.ohiohistory.org). Date created: Date: 1/3/2018.

Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map2_OHPO.mxd

Date: 1/3/2018

Site Name: Line 2925, Phase II.
County: Summit & Stark
Quadrangle: Canal Fulton
No resources found within radius

Ohio Archaeological Inventory (Archaeological Sites) **TOTAL:** 0

NUMBER	SITE NAME	UTM ZONE	EASTING	NORTHING
No resources found within radius				

Ohio Historic Inventory (Historic Structures) **TOTAL:** 0

NUMBER	PRESENT NAME	OTHER NAME	ADDRESS	UTM ZONE	EASTING	NORTHING

National Register Listed Properties (National Register Listings) **TOTAL:** 0

NUMBER	RESOURCE NAME	ADDRESS	UTM ZONE	EASTING	NORTHING
No resources found within radius					

Determinations of Eligibility (NR Determinations of Eligibility) **TOTAL:** 0

SER NO	PROJECT NAME	ADDRESS	UTM ZONE	EASTING	NORTHING
No resources found within radius					

Phase 1, 2, and 3 Surveyed Areas (Phase 1, 2, and 3) **TOTAL:** 0

NUMBER	PHASE	AUTHOR	YEAR	TITLE
No resources found within radius				

National Register Listed Districts (National Register Boundaries) **TOTAL:** 0

NUMBER	NAME	OTHER NAME	PROPERTIES
No resources found within radius			

OGS Cemeteries **TOTAL:** 0

OGSID	ACCEPTED NAME	LOCATION	OHPO NUMBER	STATUS	Confident
No resources found within radius					

CASE NO. 18-85-GA-BLN
LETTER OF NOTIFICATION
L#2925 REPLACEMENT PROJECT PHASE II (2018)

ATTACHMENT E

ENVIROSCIENCE'S WETLANDS AND
OTHER WATERS DELINEATION REPORT

Wetlands and Other Waters

Delineation Report

Prepared for:

The East Ohio Gas Company
320 Springside Drive, Suite 320
Akron, Ohio 44333

for the

Line 2925, Phase II
Franklin Township, Summit County and Lawrence Township,
Stark County, Ohio

Prepared by:

EnviroScience
Excellence In Any Environment
5070 Stow Rd.
Stow, OH 44224
800-940-4025
www.EnviroScienceInc.com

Project No. 10566

Date: January 8, 2018

STATEMENT OF CERTIFICATION

The analyses, opinions and conclusions in this report are based entirely on EnviroScience's unbiased, professional judgment. EnviroScience's compensation is not in any way contingent on any action or event resulting from this study. Neither EnviroScience nor any EnviroScience employee has any vested interest in the property examined in this study.

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EXECUTIVE SUMMARY

EnviroScience, Inc. performed a delineation of wetlands and other waters in March 2016 for The East Ohio Gas Company (EOG) at the location of the Line 2925, Phase II project. The western terminus of the project area is approximately 850 feet east of Akron Avenue NW and the project approximately follows the boundary between Stark and Summit Counties eastward. The project area turns to the north approximately 150 feet west of the cul-de-sac at the end of Timberlink Road NW, and ends at West Comet Road after turning westward again for a short distance (Attachment A; Figure 1). The southern portion of the project area runs along the county line, with the northern portion of the project in Franklin Township, Summit County and the southern portion of the project located in Lawrence Township, Stark County, Ohio. The Line 2925, Phase II project is located along 5,702 feet of existing 60 foot wide (30 feet on either side of the pipeline center line) off-road utility right-of-way (ROW) along Line 2925. The purpose of the project is to replace the 8-inch diameter natural gas pipeline with 12-inch diameter pipeline within the project area.

Two wetlands were identified within the project area and account for 0.145 acres. Two intermittent streams cross the project area accounting for an additional 348 linear feet (0.047 acres) of waterway within the project area. These wetlands and waterbodies are under the jurisdiction of the Ohio EPA or U.S. Army Corps of Engineers (USACE). No filling may occur within these areas without their written permission. If impacts to onsite water resources are proposed, these activities would follow those authorized in the USACE 2017 Nationwide Permits for a Nationwide Permit (NWP) #3 (Maintenance). However, if all onsite water resources are avoided, a USACE NWP or Ohio EPA Water Quality Certification will not be required for this project.

If wetlands will be impacted for this project, U.S. Fish and Wildlife Service (USFWS) coordination will be initiated by the USACE. If no wetland or stream impacts are proposed, USFWS coordination is not required. Coordination with the Ohio Department of Natural Resources (ODNR) is recommended in accordance with Ohio's rules regarding threatened and endangered species.

Generally, if the proposed ground disturbance for a project is over one acre, the following are prepared and submitted before construction: a Stormwater Pollution Prevention Plan, National Pollution Discharge Elimination System (NPDES) General Construction Site Stormwater Permit OHC000004, and notification to the Summit and Stark County Soil and Water Conservation Districts. The total size the proposed project area is approximately 8.2 acres. However, since the pipeline to be replaced is part of the natural gas storage system, this project is exempt from these requirements.

1.0 INTRODUCTION AND SITE DESCRIPTION

EnviroScience, Inc. performed a delineation of wetlands and other waters in March 2016 for EOG at the location of the Line 2925, Phase II project. The western terminus of the project area is approximately 850 feet east of Akron Avenue NW and the project approximately follows the boundary between Stark and Summit Counties eastward. The project area turns to the north approximately 150 feet west of the cul-de-sac at the end of Timberlink Road NW, and ends at West Comet Road after turning westward again for a short distance (Attachment A; Figure 1). The southern portion of the project area runs along the county line, with the northern portion of the project in Franklin Township, Summit County and the southern portion of the project located in Lawrence Township, Stark County, Ohio. The Line 2925, Phase II project is located along 5,702 feet of existing 60 foot wide (30 feet on either side of the pipeline center line) off-road utility ROW along Line 2925. The purpose of the project is to replace the 8-inch diameter natural gas pipeline with 12-inch diameter pipeline within the project area.

The project area exists primarily as maintained ROW with agricultural field, maintained lawn, open field, scrub/shrub, forest, and wetland plant communities. The surrounding area exists as rural residential, forest, wetland, and agricultural land uses. Six distinct vegetative communities were identified within the project area, including one wetland community type. The project area crosses two wetlands and two intermittent streams.

The project area is located in the Tuscarawas River drainage basin (Hydrologic #05040001) which drains approximately 2,500 square miles in northeast Ohio. The project area is located within the area covered by the Northcentral and Northeast Regional Supplement (USACE 2012) and associated plant list (Lichvar *et al*. 2016). The project area is regulated by the USACE Huntington District.

2.0 METHODS

Government agencies regulate coastal and inland waters for commerce, flood control and water quality. These water bodies provide numerous functions and values necessary to protect and sustain our quality of life. Wetlands comprise a significant portion of regulated waters. The U.S. Army Corps of Engineers (Corps) and Environmental Protection Agency (EPA) jointly define wetlands as:

> "Those 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 saturated soil conditions. Wetlands generally include swamps, marshes, bogs, and similar areas."

The remaining deepwater aquatic habitats (open waters) are defined by the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory, 1987) as:

> ". . . areas that are permanently inundated at mean annual water depths >6.6 ft or permanently inundated areas <6.6 ft in depth that do not support rooted emergent or woody plant species."

The methods used for determining and delineating wetlands and open waters strictly adhere to those found in the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral and Northeast Regional Supplement* (USACE 2012). Wetlands and open water boundaries were determined by the disappearance of one or more of their diagnostic characteristics.

Ordinary high water marks (OHWM) defined the outermost regulatory boundaries of ephemeral and open waters.

Each sample plot and the perimeter of each wetland and other water was surveyed and marked in the field with plain pink flags and pink "wetland boundary" flags, respectively. A global positioning system (GPS) unit with submeter accuracy was used, in conjunction with aerial photography and topographic figures, for the survey. Computer Aided Design (CAD) software was used to determine wetland dimensions and produce a map of the project area showing wetlands and other waters.

2.1 WETLANDS

2.1.1 Determination

A review of secondary literature sources was performed to find known wetlands and other significant ecological resources and areas with high potential for wetlands in or near the proposed project area. Resources included some or all of the following:

1. U.S. Geological Survey (USGS) topographic maps;
2. National Wetlands Inventory (NWI) maps;
3. Web Soil Survey; and
4. Aerial Photographs.

A field inspection of the project area was then completed to identify major plant communities and to visually locate potential wetlands. The routine, onsite (Level 2) wetland determination was used to perform the delineation. Wetland communities were classified according to the classification scheme of Cowardin *et al.* (1979) (Table 1). Mature nonwetland communities that had reached a stable equilibrium were classified according to Anderson (1982) and Gordon (1966, 1969). Disturbed and successional nonwetland communities were classified as one of the categories described in Table 2.

Table 1. Wetland Communities (Cowardin *et al.* 1979)

Community	Description
PEM	Palustrine Emergent
PSS	Palustrine Scrub-Shrub
PFO	Palustrine Forested
POW	Palustrine Open Water

Table 2. Disturbed and Successional Nonwetland Communities

Community		Description
Disturbed	Urban/Lawn	regularly maintained land; residential; industrial
	Agricultural	land used for producing crops or raising livestock; cropland; pastureland
	Cleared	disturbed areas devoid of most vegetation from recent clearing, grading or filling
Successional	Open Field	herbaceous community without woody vegetation
	Old Field	herbaceous community having woody vegetation coverage of <50%
	Scrub-Shrub	community dominated by woody vegetation <6 m (20 ft) tall
	Forest	community dominated by woody vegetation >6 m (20 ft) tall

Sample plots were established within each natural community and potential wetland within the study area. Complete data for each sample plot were collected and recorded on the USACE's Routine Wetland Determination Data Forms contained in the applicable USACE Regional Supplement (USACE 2012). Vegetation, hydrology and soils were evaluated at each sample plot.

2.1.1.1 Vegetation

To detect the presence or absence of hydrophytic vegetation, four plant strata were evaluated within specific radii of the plot center. Each stratum was ranked by aerial cover in descending order of abundance. Table 3 provides information on each vegetative stratum.

Table 3. Vegetative Strata

Stratum	Definition	Survey Area
Tree	woody plants > or equal to 3 in. (7.6 cm) dbh, regardless of height	30 ft (9.1 m) radius
Sapling/shrub	woody plants <3 in. (7.6 cm) dbh and $\geq$3.28 ft (1 m) tall	15 ft (4.6 m) radius
Herbaceous	herbs and woody plants less than 3.28 ft (1 m) in height	5 ft (1.5 m) radius
Woody vines	woody vines >3.28 ft (1 m) in height	30 ft (9.1 m) radius

Percent dominance was obtained for each species and within each stratum. Dominant species are those which cumulatively totaled in order of abundance immediately exceed 50% and also include any individual species with an abundance of 20% or more (USACE 2012). Dominant taxa were identified using recognized local guides: nomenclature follows the *National List of Scientific Plant Names* (USDA 1982). Following the identification of each plant species present within the plot, all dominant species within each stratum were assigned a wetland indicator status according to Lichvar *et al*. (2016). Indicators are summarized in Table 4.

Table 4. Plant Indicators

Indicator	Category	Definition
OBL	Obligate Wetland	almost exclusively (>99% of occurrences) found in wetlands
FACW	Facultative Wetland	most likely found in wetlands (67-99% of occurrences)
FAC	Facultative	equally likely found in wetlands or nonwetlands (34-66%)
FACU	Facultative Upland	most likely found in nonwetlands (1-33% occurrence in wetlands)
UPL	Obligate Upland	almost exclusively found in nonwetlands (<1% occurrence in wetlands)

An 'NI' (no indicator) designation represents species where not enough information is available to assign an indicator; an 'NL' (no listing) designation is given to species whose identification was not determined sufficiently enough to assign an indicator. Once the indicator status is assigned to each dominant species, the evaluator can perform the percent dominance test according to the protocol outlined within the applicable Regional Supplement (USACE 2012) to determine if the plot meets the criterion for hydrophytic vegetation.

2.1.1.2 Hydrology

To detect the presence or absence of wetland hydrology, surface and subsurface hydrologic indicators were evaluated at the sample plot and throughout the adjacent community. Primary sources of wetland hydrology include direct precipitation, headwater flooding, backwater flooding, groundwater or any combination of these. When obtaining data at each sample plot, the evaluator observes evidence of hydrology. Primary indicators of hydrology (only one of these is necessary to indicate sufficient wetland hydrology) include the presence of surface water, water marks, sediment deposits, drift deposits, etc. (USACE 2012). Secondary indicators of hydrology (which requires two or more at each sample plot) include surface soil cracks, drainage patterns, crayfish burrows, etc. (USACE 2012)

2.1.1.3 Soils

The upper horizons of the soil at each sample plot were examined to detect the presence or absence of hydric soils indicators. Current USACE guidance requires the evaluator to assess the upper 20 inches of soil for hydric soil characteristics. Most indicators of hydric soils require an assessment of soil matrix color and mottle characteristics (Environmental Laboratory 1987, USACE 2012) for each horizon. These characteristics were determined by comparing a moist sample with *Munsell Soil Color Chart* (Munsell Color 2009) or *The Globe Soil Color Book* (Visual Color Systems, 2004).

2.1.2 ORAM Categorization

Each wetland system was categorized in accordance with version 5.0 of the Ohio EPA's Ohio Rapid Assessment Method for Wetlands (ORAM) (Mack 2001). Field scoring forms are contained in Appendix D.

Ohio EPA has established three primary and three intermediate categories of wetland quality which are based on a wetland's size, its hydrologic function, the types of plant communities present, the physical structure of the wetland plant community and the wetland's level of disturbance (OAC 3745-1-54). The relationship between the various wetland categories and their respective ORAM scores is presented in Table 5. ES also evaluated the project area for the presence of state threatened and endangered species as part of the ORAM evaluation.

Table 5. ORAM Scores and Categories

ORAM Score	ORAM Category	Description
0-29.9	Category 1	Lowest quality, and are generally characterized by hydrological isolation, lack of plant species diversity, insufficient habitat availability, and limited potential to perform major wetland functions.
30-34.9	Category 1 or 2 (Gray Zone)	ORAM score is insufficient to categorize wetland. In absence of a nonrapid method such as VIBI, assign the wetland to the higher functional category (Category 2)
35-44.9	Modified Category 2	Category 2 wetlands that may be of lower quality or degraded but have reasonable potential to be restored.
45-59.9	Category 2	Wetlands that have the capability to support a moderate wildlife community or maintain mid-level hydrological functions.
60-64.9	Category 2 or 3 (Gray Zone)	ORAM score is insufficient to categorize wetland. In absence of a nonrapid method such as VIBI, assign the wetland to the higher functional category (Category 3)
65-100	Category 3	Highest quality, generally characterized by a high level of biological diversity and topographical variation, threatened or endangered species, large numbers of native species, or a high level of functional importance to its surroundings.

Category 3 wetlands have the highest quality, and are generally characterized by a high level of biological diversity and topographical variation, large numbers of native species, or a high level of functional importance to its surroundings. Category 2 wetlands have the capability to support a moderate wildlife community or maintain mid-level hydrological functions. Category 2 also includes wetlands that may be of lower quality or degraded but have reasonable potential to be restored (Modified Category 2). Category 1 wetlands are of the lowest quality, and are generally characterized by hydrological isolation, lack of plant species diversity, insufficient habitat availability, and limited potential to perform major wetland functions (OAC 3745-1-54).

Since the ORAM is a rapid assessment method, there are certain wetland scores which fail to clearly differentiate the wetland's functional category. The so-called "gray zone" wetlands fall between the definite scoring breaks between the categories. Ohio EPA requires that "gray zone" wetlands be considered as the higher category unless more detailed functional assessments such as the VIBI or AmphIBI are conducted on those wetlands. As a result of this requirement, wetlands whose scores fall between the breakpoints for Categories 1 and 2 (1 or 2 gray zone wetlands) wetlands will be considered as Category 2 wetland for purposes of this report. Wetlands whose scores fall between the breakpoints for Categories 2 and 3 wetlands (2 or 3 gray zone wetlands) will be considered a Category 3 wetland for purposes of this report.

2.1.3 Cowardin Wetland Classification

The U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory uses the *Classification of Wetlands and Deepwater Habitats of the United States* to classify wetland habitat types (Cowardin et al 1979). This classification system is hierarchical and defines five major systems – Marine, Estuarine, Riverine, Lacustrine, and Palustrine. The Palustrine system was the only type of wetland system identified within the study area and is defined as including all nontidal wetlands dominated by trees, shrubs, persistent emergent, emergent mosses or lichens, and all such wetlands that occur in tidal areas where salinity due to ocean driven-derived salts is below 0.5 percent (Cowardin et al 1979).

2.2 OTHER WATERS

Other waters include ephemeral and open waters. These waters are broken down into two categories: 1) ponds and lakes; and 2) streams and rivers.

2.2.1 Ponds and Lakes

Palustrine systems other than wetlands, and lacustrine waters are addressed as ponds and lakes, respectively. These non-linear open waters may harbor important aquatic

communities such as vegetated shallows (aquatic bed) and mud flats. They are classified according to Cowardin *et al.* (1979).

2.2.2 Streams and Rivers

Riverine systems are linear flowing waters bounded by a channel. Cowardin *et al.* (1979) divides these system into four groups, however, for the purpose of this report streams are placed into three regulatory types, listed below.

Ephemeral: An ephemeral stream only conveys runoff precipitation and meltwater. It is permanently located above the water table and is most often dry.

Intermittent: An intermittent stream is located below the water table for parts of the year, but does have dry periods.

Perennial: A perennial stream typically has flowing water throughout the entire year.

In addition to flow characteristics, the USACE has defined other regulatory categories that apply to streams, which are listed below (USACE and USEPA, 2007).

Traditional Navigable Waters (TNW): all waters which are currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide.

Relatively Permanent Waters (RPW): non-navigable tributaries of traditional navigable waters that are relatively permanent where the tributaries typically flow year-round or have continuous flow at least seasonally (e.g., typically three months).

Non-Relatively Permanent Waters (Non-RPW): non-navigable tributaries of traditional navigable waters that are not relatively permanent where the tributaries typically do not have continuous flow at least seasonally (e.g., typically three months).

The Corps and USEPA will assert jurisdiction under the Clean Water Act on Traditional Navigable Waters (TNWs) and all wetlands adjacent to them, non-navigable tributaries of TNWs that are Relatively Permanent Waters (RPW) [i.e., tributaries that typically flow year-round or have continuous flow at least seasonally]; and wetlands that directly abut such tributaries. In addition, the agencies will assert jurisdiction over every water body that is not an RPW if that water body is determined (on the basis of a fact-specific analysis) to have a significant nexus with a TNW.

"A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological, integrity of a TNW. Principal considerations when evaluating significant nexus include the volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands."

2.2.3 HHEI and QHEI

Data collection for all streams included the completion of either the Ohio EPA Headwater Habitat Evaluation Index (HHEI) for primary headwater habitat (PHWH) streams or the Qualitative Habitat Evaluation Index (QHEI) for larger streams. Biologists are Ohio EPA trained to assess streams using the QHEI and HHEI. Following the Ohio EPA guidance, any stream with a drainage area of less than or equal to one mi^2 (2.589 km^2) and pools with a maximum water depths less than or equal to 15.75 in (40 cm) were evaluated using the HHEI (Ohio EPA 2012). The QHEI was used to evaluate streams with drainage areas greater than one mi^2 and pools with maximum water depths greater than 15.75 in (40 cm; Ohio EPA 2006). The assessment is representative of the stream within the project area.

3.0 LITERATURE REVIEW

3.1 USGS TOPOGRAPHIC MAP

The U.S. Geological Survey (USGS) 7.5-minute topographic series (Canal Fulton Quadrangle) is shown on Figure 2 (Appendix A). The project contains rolling hills and low-lying areas with varying elevations. Onsite elevations range from approximately 970 feet above mean sea level (AMSL) near the northern end of the project area to 1,110 feet AMSL west of where the project turns northward. One perennial stream is depicted crossing through the west-central portion of the project area. A stream was identified offsite to the north of the project area that may correspond with this stream. This perennial stream was not identified within the project area and has likely been tiled based on the aerial imagery.

3.2 NWI MAP

The National Wetlands Inventory (NWI) map (Canal Fulton Quadrangle) of the project areas is shown on Figure 3 in Appendix A. No wetlands or other waterbodies are depicted within the project area. A palustrine, persistent emergent, saturated wetland (PEM1B) is depicted just offsite near the northern terminus of the project area. This wetland corresponds to Wetland W-2.

3.3 COUNTY SOIL SURVEY

The project area is found on the *Soil Survey of Summit County and Stark County, Ohio* and was accessed on the Soil Survey Geographic (SSURGO) Database (USDA Web Soil Survey, 2010) (Figure 4; Appendix A). Nine (9) soil types are depicted within the project area and are listed in Table 6. All of these soils types are listed as non-hydric.

Table 6. Soil Types Mapped in Project Area

Symbol	Soil Type	Status	Percent Hydric	Acres in Project Area	Percent in Project Area
CdB	Canfield silt loam, 2 to 6 percent slopes	Not Hydric	0	0.001	0.1
CoC2	Chili gravelly loam, 6 to 12 percent slopes, moderately eroded	Not Hydric	0	1.756	21.3
CoD2	Chili gravelly loam, 12 to 18 percent slopes, moderately eroded	Not Hydric	0	1.986	24.2
CoE2	Chili gravelly loam, 18 to 25 percent slopes, moderately eroded	Not Hydric	0	0.583	7.1
CpB	Chili silt loam, 2 to 6 percent slopes	Not Hydric	0	1.357	16.5
CpC	Chili silt loam, 6 to 12 percent slopes	Not Hydric	0	0.827	10.1
CwD2	Chili-Wooster complex, 12 to 18 percent slopes, moderately eroded	Not Hydric	0	0.595	7.3
CwE2	Chili-Wooster complex, 18 to 25 percent slopes, moderately eroded	Not Hydric	0	0.098	1.2
CyF	Conotton-Oshtemo complex, 25 to 50 percent slopes	Not Hydric	0	1.001	12.2

3.4 U.S. FISH AND WILDLIFE SERVICE

The project area was examined for suitable habitat for federally listed species whose known ranges include Stark and Summit Counties. These species are the federally endangered Indiana bat (*Myotis sodalis*), the federally threatened northern long-eared bat (*Myotis septentrionalis*), the federally threatened northern monkshood (*Aconitum noveboracense*), the federally threatened Eastern massasauga (*Sistrurus catenatus catenatus*), and the federal species of concern bald eagle (*Haliaeetus leucocephalus*).

The project area is located along a maintained ROW in a rural residential and agricultural setting. Forested habitat within the project area is located primarily along the perimeter of the ROW and is largely contiguous with offsite forest habitat. Thirteen (13) trees with characteristics that may potentially provide some level of roosting habitat for the Indiana bat and/or the northern long-eared bat are located within the project area. These potential roost trees (PRTs) include American elm (*Ulmus americana*), black cherry (*Prunus*

serotina), white oak (*Quercus alba*), shagbark hickory (*Carya ovata*), red maple (*Acer rubrum*), sugar maple (*Acer saccharum*), and standing dead trees with diameter at breast height (dbh) measurements ranging from 5 to 32 inches. The onsite PRTs have crevices, peeling bark, and 10% to 75% solar exposure. Based on their size and solar exposure, two (2) of these trees may be considered potential maternity roost trees (PMRTs) by the USFWS. The locations of these trees are indicated on the map included in Attachment A. Photographs of the habitat trees are included in Attachment B.

Preferred habitat for northern monkshood is cool, moist, shaded cliff faces or talus slopes in wooded ravines, near water seeps. Suitable habitat for the northern monkshood is not located within the project area.

Preferred habitat for the eastern massasauga includes wet areas including wet prairies, marshes and low areas along rivers and lakes. In many areas massasaugas also use adjacent uplands during part of the year. Suitable habitat for the eastern massasauga is not located within the project area.

The bald eagle nests in large trees near water. No bald eagle habitat was observed within the project area. Moreover, according to the information USFWS provided to EOG, neither Franklin Township in Summit County nor Lawrence Township in Stark County has known occurrences of bald eagle nesting sites.

The USACE has regulatory authority over federally listed threatened and endangered species. Under the 2017 NWP program, the USACE requires notification for multiple reasons including activities that impact potential roost trees within regulated waters and when impacts are proposed to occur in specific waterways/townships (listed in Appendix 1 of the NWP Regional General Conditions). These two conditions are directly related to protection of threatened and endangered species. Neither of these conditions are applicable to this project. If wetlands will be impacted for this project, USFWS coordination will be initiated by the USACE. If no wetland or stream impacts are proposed, USFWS coordination is not required. Coordination with the Ohio Department of Natural Resources is recommended to ensure compliance with the Endangered Species Act.

3.5 AERIAL PHOTOGRAPHY

A recent aerial photograph of the project area is shown on Figure 5 (Appendix A). The project area and surrounding land is depicted as rural residential, agricultural, and forested land. A portion of the project area runs along an access road between two storage tanks, and the project area crosses several residential driveways. Due to the

proximity of the pipeline to residential land, several sheds, garages, and/or homes are located within the project area.

3.6 FEMA Flood Insurance Rate Map

The Federal Emergency Management Agency (FEMA) produces Flood Insurance Rate Maps (FIRM), which shows the locations of predictable floodplain during precipitation flood events. The FIRM map of the project area was researched, and it was found that no 100-Year Flood Zones are located within the project area (Figure 6; Appendix A).

3.7 Ohio Historic Preservation Office

The project area was researched using a desktop search of Ohio Historical Preservation Office (OHPO) data (Figure 7; Appendix A). The desktop review included a search for records of Determinations of Eligibility, National Register Listed Properties, Ohio Archaeological Inventory Properties, Ohio Historic Inventory Properties, National Register Listed Districts, and Phase 1, 2 or 3 Survey Areas. None of the above listed historic and archaeological resources are located within or adjacent to the project area. Additionally, the project area is located along a previously disturbed ROW. If a PCN is submitted to USACE for impacts to onsite wetlands, the USACE will take the lead with regards to Section 106. Any additional coordination with OHPO will be determined by USACE at that time.

4.0 RESULTS

Six (6) sample plots were established within five (5) natural communities. One of those communities are considered wetland. Table 7 summarizes the sample plot data.

Table 7. Sample Plot Results.

Sample Plot	Photo*	Community**	Hydrophytic Vegetation	Wetlands Hydrology	Hydric Soil	Status	Location
1	1	Scrub-Shrub				Non-Wetland	SP-1
2	2	Agricultural				Non-Wetland	SP-2
3	3	PEM	X	X	X	Wetland	W-1
4	4	Forest				Non-Wetland	SP-4
5	5	Open field				Non-Wetland	SP-5
6	6	PEM	X	X	X	Wetland	W-2

*photos are located in Appendix B.
** PEM=Palustrine Emergent

Each sample plot, delineated wetlands, and other waters are illustrated on Figure 5 (Appendix A). The following section describes general conditions found within each plant

community and summarizes relevant information from the data forms, located in Appendix C.

4.1 NONWETLANDS

Six upland plant communities, including maintained lawn, agricultural field, open field, scrub-shrub, and forest exist within the project area. The maintained lawn community contains Kentucky bluegrass (*Poa pratensis*, FACU), English plantain (*Plantago lanceolata*, FACU), white clover (*Trifolium repens*, FACU), and common dandelion (*Taraxacum officinale*, FACU) in the herbaceous layer.

The agricultural plant community is represented by Sample Plot 2 and contains remnant soybean (*Glycine max*, NI) which was not in production at time of assessment. The herbaceous layer includes sparse amounts of Kentucky bluegrass, hairy bittercress (*Cardamine hirsuta,* FACU), and purple dead-nettle (*Lamium purpureum,* UPL).

The open field plant community is represented by Sample Plot 5 and includes English plantain, Kentucky bluegrass, common dandelion, orchard grass (*Dactylis glomerata*, FACU), and Queen Anne's lace (*Daucus carota*, UPL) in the herbaceous layer.

The scrub-shrub plant community is represented by Sample Plot 1 and includes pin oak (*Quercus palustris*, FACW), red maple (*Acer rubrum*, FAC), multiflora rose (*Rosa multiflora,* FACU), American red raspberry (*Rubus idaeus,* FACU), and crab apple (*Malus* sp., NI) in the shrub layer. The herbaceous layer is dominated by tall fescue (*Schedonorus arundinaceus,* FACU).

The forest plant community is represented by Sample Plot 4. Dominant tree species within the forest include northern red oak (*Quercus rubra,* FACU), white pine (*Pinus strobus*, FACU), and eastern hemlock (*Tsuga canadensis,* FACU). The shrub stratum is dominated by burning bush (*Euonymus alatus*, UPL) and privet (*Ligustrum vulgare*, FACU).

4.2 WETLANDS

Two (2) wetlands were identified and delineated within the project area. The onsite portions of these wetlands consist of a palustrine emergent (PEM) vegetative community. The delineated wetlands have been categorized using the Ohio Rapid Assessment Method for Wetlands v.5.0 (ORAM); scoring forms are included in Appendix D. Wetland results are given in Table 8 and are briefly described in the following section. Wetland size has been determined for areas within the project area. Wetlands are illustrated on Figure 5 (Appendix A).

Table 8. Wetland Results within the Project Area.

Wetland	Photo*	Cowardin Classification	ORAM Score	ORAM Category	Size within Project Area (acres)	Length of Wetland Crossing (feet)
W-1	7	PEM	49	2	0.026	41
W-2	8	PEM	27.5	1	0.119	354
Total Wetlands					**0.145**	**395**

*photos are located in Appendix B

Wetland W-1 was assessed as a PEM wetland by the presence of decayed plant material, although no vegetation was visible within the entire wetland at the time of survey. Sample Plot 3 represents the conditions within Wetland W-1 at the time of the field visit. Wetland W-1 scored within the range for a Category 2 wetland using the ORAM scoring method. This wetland is small, but has wide buffers, and minor disturbance.

The onsite PEM vegetative community within Wetland W-2 is represented by Sample Plot 6. Typical herbaceous vegetation within this wetland includes common fox sedge (*Carex vulpinoidea*, OBL), narrow-leaf cattail (*Typha angustifolia*, OBL), silky dogwood (*Cornus amomum,* FACW), lamp rush (*Juncus effusus*, OBL), and skunk cabbage (*Symplocarpus foetidus*, OBL). Wetland W-2 assessed within the range of a Category 1 wetland using the ORAM scoring method. This wetland is larger in size and is connected to an offsite stream, but has narrow buffers, moderately high surrounding land use, multiple observed disturbances, and a moderate amount of invasive species.

4.3 Streams and Rivers

Two (2) intermittent streams were identified and delineated within the project area. The results are depicted in Table 9 and illustrated on Figure 5 (Appendix A). Streams have been assessed using the HHEI; scoring forms are included in Appendix E.

Table 9. Stream Results within the Project Area.

Stream	Photos*	Type	Average Bankfull Width (feet)	Average Depth at Time of Survey (inch)	Length Within Project Area (linear feet)	Area Within Project Area (acres)	HHEI Score
S-1	9-11	Intermittent	7	10	157	0.025	69
S-2	12-14	Intermittent	5	2	191	0.022	60
Total Stream					**348**	**0.047**	

*photos are located in Appendix B

Stream S-1 flows northeast through the project area and is fed by intermittent Stream S-2 from the east. Stream S-1 eventually drains into Nimisila Creek. Stream S-2 is contained by a berm indicating an excavated or channelized channel. All onsite water resources are located within the Tuscarawas River watershed.

The onsite portions of Stream S-1 assessed within the range for Class II Primary Headwater Habitat (PHWH) using the HHEI scoring method. Due to the evidence of channelization, the assessment of the onsite portions of Stream S-2 resulted in a classification of Modified Class II Primary Headwater Habitat (PHWH).

4.4 PONDS AND LAKES

No open water aquatic resources were identified within the project area.

5.0 REGULATORY JURISDICTION

The streams, wetlands and deepwater habitats described in this document are under the jurisdiction either of the USACE or the Ohio EPA. No filling may occur in these areas without their written permission. Please contact the Ohio EPA Division of Surface Water at (614) 644-2001 or the Huntington District, USACE, at (304) 399-5210 before working in these areas.

The following information is excepted and summarized from the 2007 *U.S. Army Corps Of Engineers Jurisdictional Determination Form Instructional Guidebook.*

> "In 2001, the … U.S. Supreme Court's decision in the *Solid Waste Agency of Northern Cook County (SWANCC) v. Corps* held that isolated, intrastate, non-navigable waters could not be regulated under the CWA based solely on the presence of migratory birds. Following the SWANCC decision it generally was believed that a water body (including a wetland) was subject to CWA jurisdiction if the water body was part of the U.S. territorial seas, or a traditional navigable water, or any tributary to a traditional navigable water, or a wetland adjacent to any one of the above. In addition, isolated wetlands and other waters might be considered jurisdictional where they had the necessary link to either navigable waters or interstate commerce."

In the state of Ohio, the Ohio EPA isolated wetland permitting program was legislatively created in response to the 2001 SWANC decision. On July 17, 2001, House Bill 231 was signed into law, establishing a permanent permitting process for isolated wetlands. The provisions of House Bill 231 were incorporated in Sections 6111.021 through 6111.029 of the Ohio Revised Code.

> "In 2006, the Supreme Court once again addressed the jurisdictional scope of Section 404 of the CWA, specifically the term "the waters of the U.S.," in *Rapanos v. U.S*. and in *Carabell v. U.S*. (hereafter referred to as Rapanos).

> The decision provides two new analytical standards for determining whether water bodies that are not traditional navigable waters (TNWs), including wetlands adjacent to those non-TNWs, are subject to CWA jurisdiction: (1) if the water body is relatively permanent, or if the water body is a wetland that directly abuts (e.g., the wetland is not separated from the tributary by uplands, a berm, dike, or similar feature) a relatively permanent water body (RPW), or (2) if a water body, in combination with all wetlands adjacent to that water body, has a significant nexus with TNWs. CWA jurisdiction over TNWs and their adjacent wetlands was not in question in this case, and, therefore, was not affected by the Rapanos decision. In addition, at least five of the Justices in Rapanos agreed that CWA jurisdiction exists over all TNWs and over all wetlands adjacent to TNWs.
>
> The Memo states that the [Corps and USEPA] will assert jurisdiction over the following categories of water bodies: TNWs; all wetlands adjacent to TNWs; non-navigable tributaries of TNWs that are relatively permanent (i.e., tributaries that typically flow year-round or have continuous flow at least seasonally); and wetlands that directly abut such tributaries. In addition, the agencies will assert jurisdiction over every water body that is not an RPW if that water body is determined (on the basis of a fact-specific analysis) to have a significant nexus with a TNW. The classes of water body that are subject to CWA jurisdiction only if such a significant nexus is demonstrated are: non-navigable tributaries that do not typically flow year-round or have continuous flow at least seasonally; wetlands adjacent to such tributaries; and wetlands adjacent to but that do not directly abut a relatively permanent, non-navigable tributary. A significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or an insubstantial effect on the chemical, physical, and/or biological, integrity of a TNW. Principal considerations when evaluating significant nexus include the volume, duration, and frequency of the flow of water in the tributary and the proximity of the tributary to a TNW, plus the hydrologic, ecologic, and other functions performed by the tributary and all of its adjacent wetlands."

5.1 AGENCY COORDINATION

Based on the site plans for the Line 2925, Phase II project, the proposed activities would follow those authorized in the USACE 2017 Nationwide Permits for a NWP #3 (Maintenance). Based on the NWP #3 notification requirements, this project would not require a PCN for any temporary impacts to onsite water resources. Therefore, USFWS and OHPO coordination is also not a requirement of this project. Coordination with the ODNR is recommended to ensure compliance with the Endangered Species Act.

The project area is located within an 'Eligible' watershed for coverage under the Ohio EPA Water Quality Certification concurrent with a NWP submittal. However, if all onsite water resources are avoided, a U.S. Army Corps of Engineers NWP or Ohio EPA Water Quality Certification is not required for this project. Additionally, stream eligibility requirements are not applicable to projects authorized under NWP #3.

This project will result in an earth disturbance of approximately 8.2 acres assuming disturbance is limited to the project area within the ROW. The National Pollution Discharge Elimination System (NPDES) General Construction Site Stormwater Permit OHC000004 through the Ohio EPA is required for projects resulting in earth disturbance greater than one acre. In addition, a Stormwater Pollution Prevention Plan (SWPPP)

should be prepared in accordance the Ohio Rain Water and Land Development Manual for projects with earth disturbance greater than one acre. Summit and Stark County Soil and Water Conservation Districts (SWCD) require review for projects with a disturbance area greater than one acre. However, the pipeline to be replaced is part of the natural gas storage system which is exempt from the above requirements.

6.0 ASSUMPTIONS AND DISCLAIMERS

The constant influence of human activity on the project area can result in a rapid change of ecological boundaries. Over time, natural succession and changes in hydrology can also affect their boundaries. Precision of GPS collected data is subject to variation caused by canopy cover, atmospheric interference and satellite configuration. Because slight inaccuracies are possible, all acreages and derived boundaries presented in this report are approximate.

The results and conclusions contained in this report apply to the year and date in which the data were collected. This report is not considered officially valid until it is approved by the Corps. The report is then valid for a period of five years. Refer to the Corps' Regulatory Guidance Letter # 94-1 (23 May 1994).

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Appendix A:

Figures

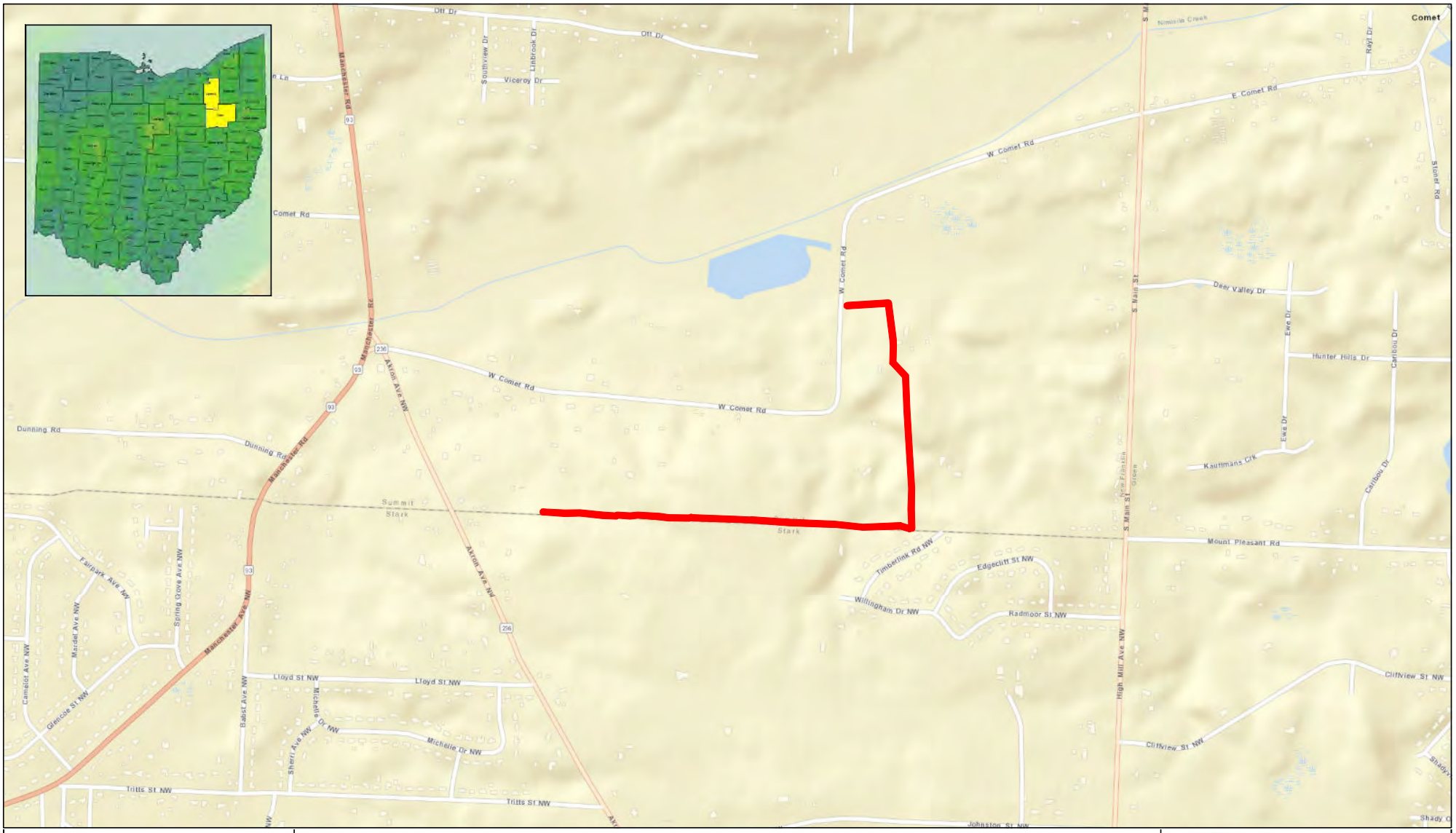

Figure 1. Location of Site on Highway Map of Summit and Stark Counties, Ohio. Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

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Basemap courtesy of Esri.

Path: P:\10_Projects\DDominion\EOG\470NRT\Non_PIR\Line 2925 (2018)\GIS\Map1_Location.mxd

Date: 1/3/2018

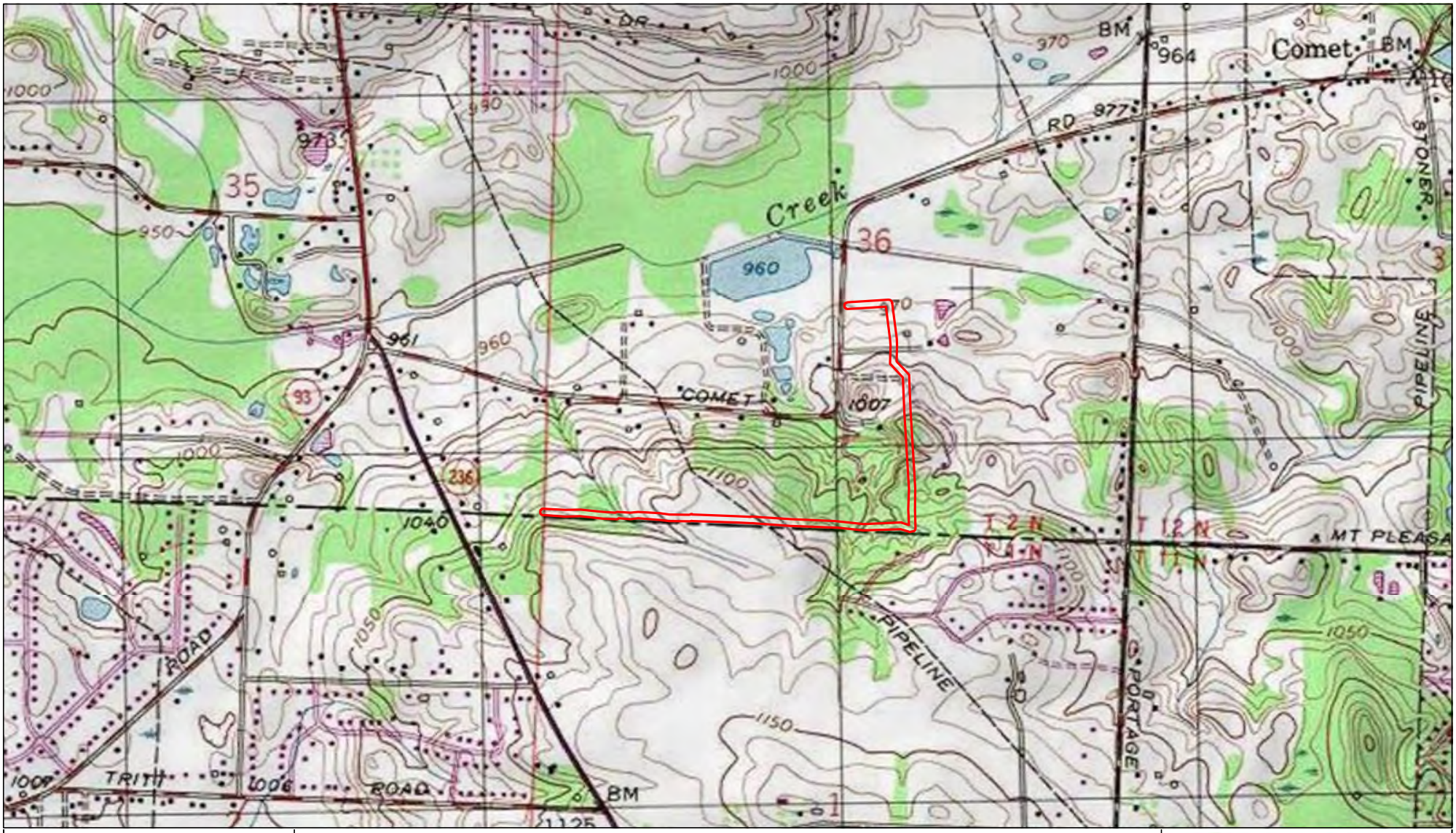

Figure 2. USGS 7.5-minute Topographic Map of Canal Fulton Quadrangle. Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

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Basemap courtesy of National Geographic Society (2013).

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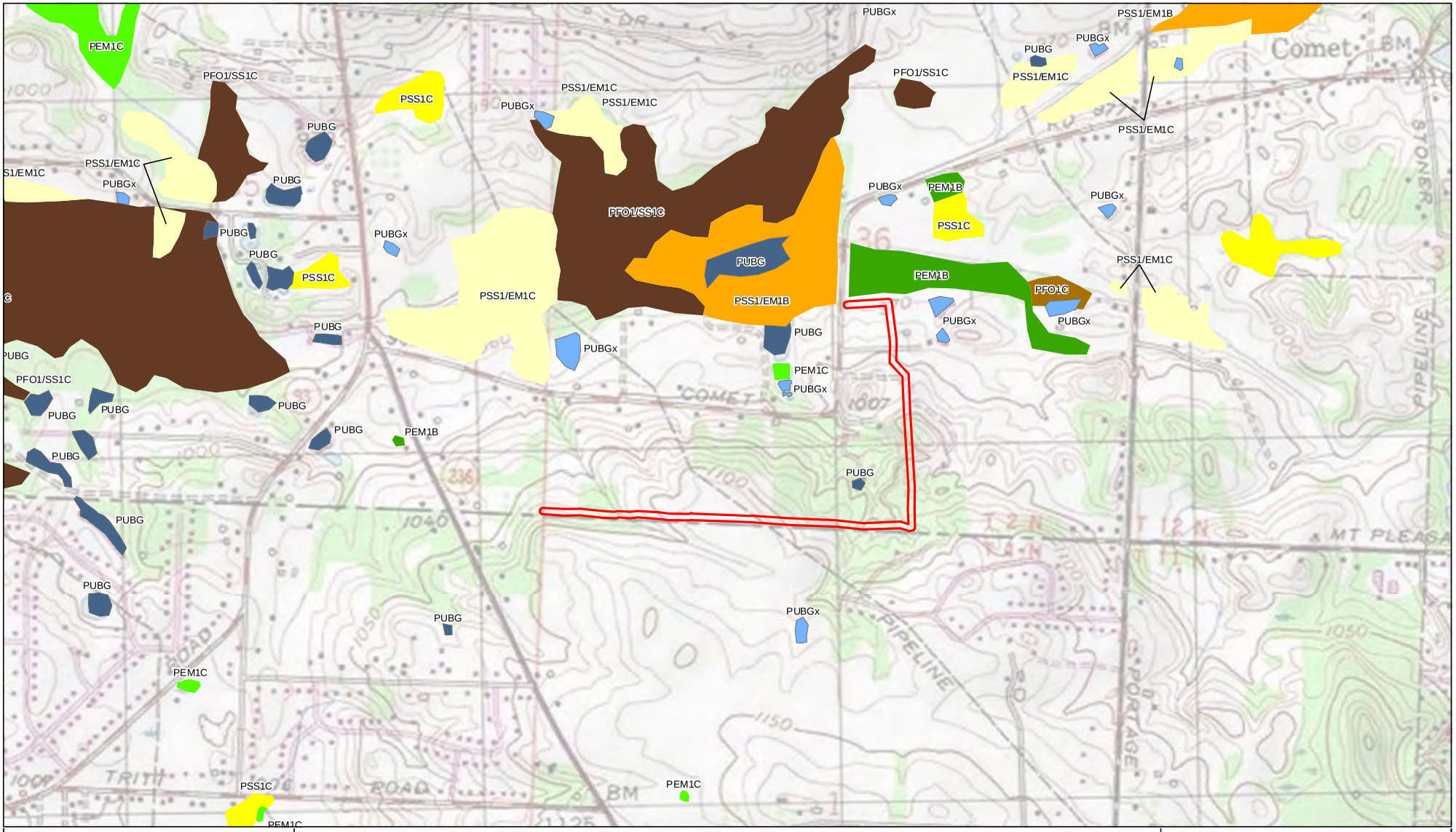

Figure 3. NWI Map of Site
(Canal Fulton Quadrangle).
Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

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Date: 1/3/2018 Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map3_NWI.mxd

Basemap courtesy of National Geographic Society (2013). NWI data courtesy of USFWS (current as of May 30, 2017).

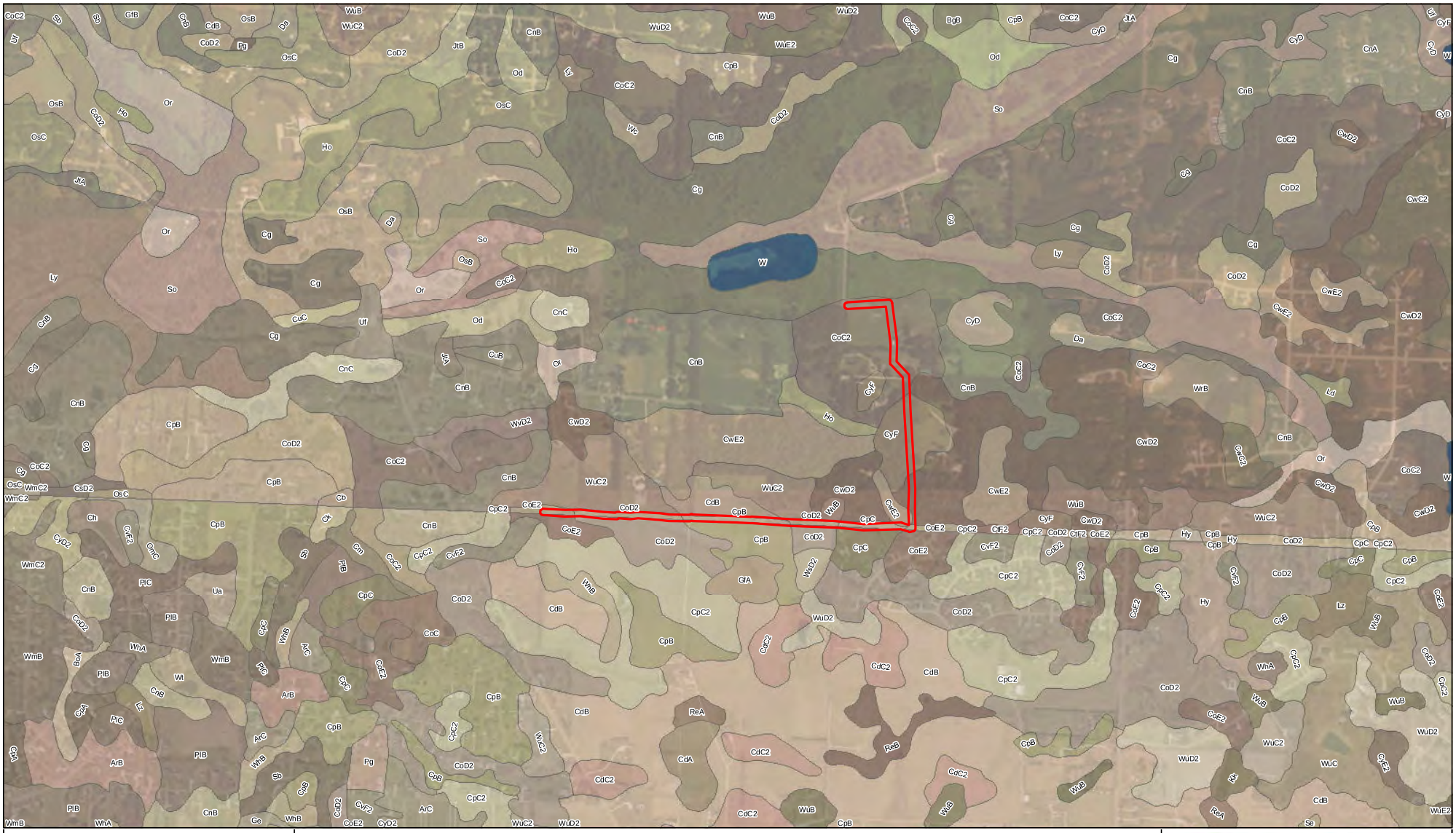

Figure 4.
Soil Map of Site in Summit and Stark County, Ohio.
Line 2925, Phase II.

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Date: 1/3/2018 Path: P:\10_Projects\D\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map4_Soil.mxd

Basemap courtesy of Esri. Soil data courtesy of SSURGO.

Figure 5. Site Map Overview of Wetlands and Other Water Resources. Line 2925, Phase II.

Pipeline

Project Area

0 345 690 1,380 Feet

0 100 200 400 Meters

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Path: P:\10_Projects\Dominion\EOG\470NRI\Non_PIR\Line 2925 (2018)\GIS\Map5_Overview.mxd

Date: 1/3/2018

Basemap courtesy of Esri.

Figure 5.01. Site Map of Wetlands and Other Water Resources.
Line 2925, Phase II.

Sample Plot
PMRT
PRT
PRT (Offsite)
Stream (Intermittent)
Stream (Offsite)
Wetland (PEM)
Wetland (Offsite)
Pipeline
Project Area
Project Area Buffer (Add'l 20')

0 100 200 400 Feet

0 25 50 100 Meters

5.01

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Date: 1/3/2018 Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map5_Site.mxd

Basemap courtesy of Esri.

Figure 5.02. Site Map of Wetlands and Other Water Resources.
Line 2925, Phase II.

Sample Plot
PMRT
PRT
PRT (Offsite)
Stream (Intermittent)
Stream (Offsite)
Wetland (PEM)
Wetland (Offsite)
Pipeline
Project Area
Project Area Buffer (Add'l 20')

0 100 200 400 Feet

0 25 50 100 Meters

5.02

EnviroScience
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Date: 1/3/2018 Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map5_Site.mxd

Basemap courtesy of Esri.

Figure 5.03. Site Map of Wetlands and Other Water Resources.
Line 2925, Phase II.

Sample Plot
PMRT
PRT
PRT (Offsite)
Stream (Intermittent)
Stream (Offsite)
Wetland (PEM)
Wetland (Offsite)
Pipeline
Project Area
Project Area Buffer (Add'l 20')

0 100 200 400 Feet

0 25 50 100 Meters

5.03

EnviroScience
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Date: 1/3/2018 Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map5_Site.mxd

Basemap courtesy of Esri.

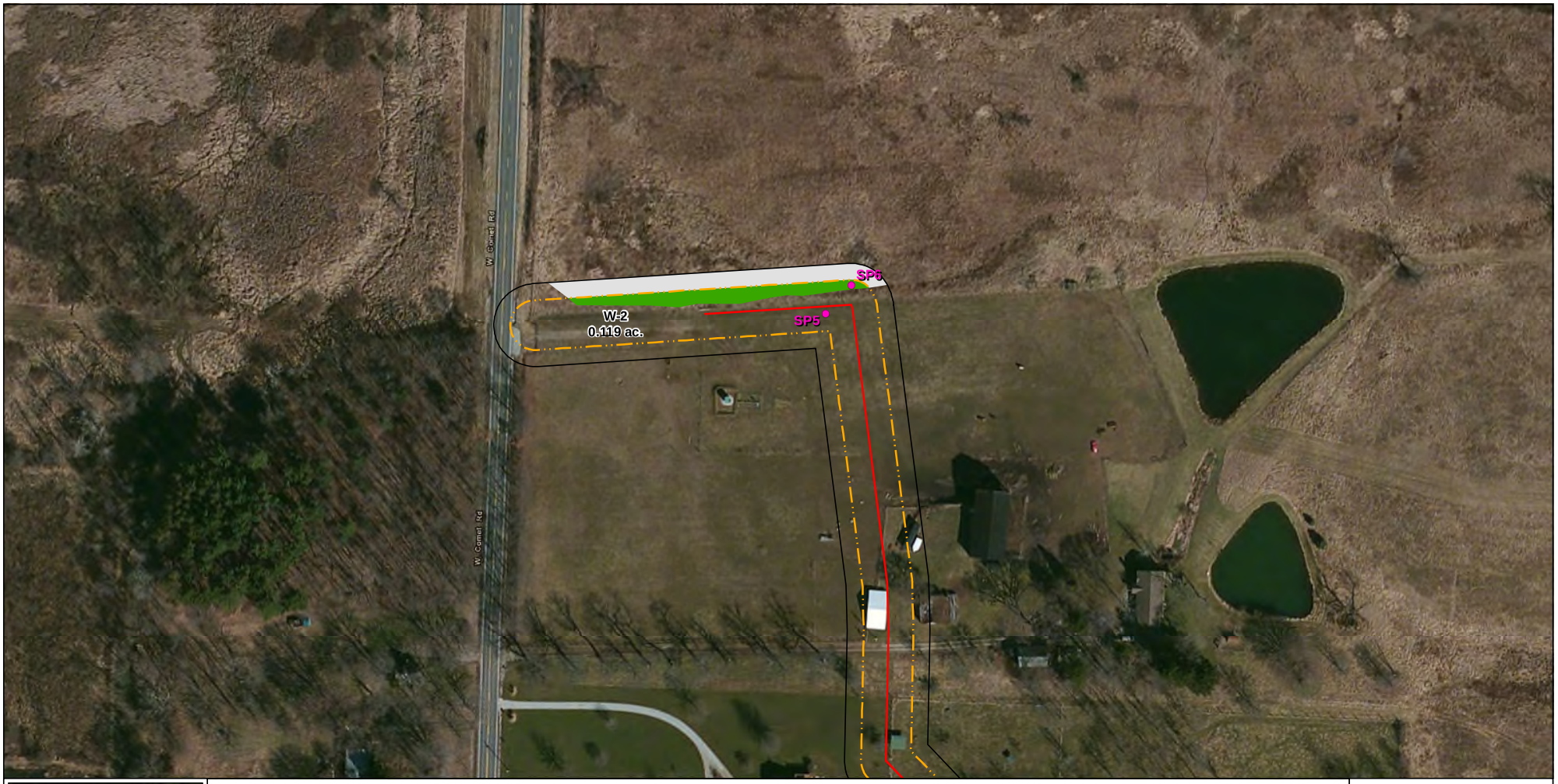

Figure 5.04. Site Map of Wetlands and Other Water Resources.
Line 2925, Phase II.

Sample Plot
PMRT
PRT
PRT (Offsite)
Stream (Intermittent)
Stream (Offsite)
Wetland (PEM)
Wetland (Offsite)
Pipeline
Project Area
Project Area Buffer (Add'l 20')

0 100 200 400 Feet

0 25 50 100 Meters

5.04

EnviroScience
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Date: 1/3/2018 Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map5_Site.mxd

Basemap courtesy of Esri.

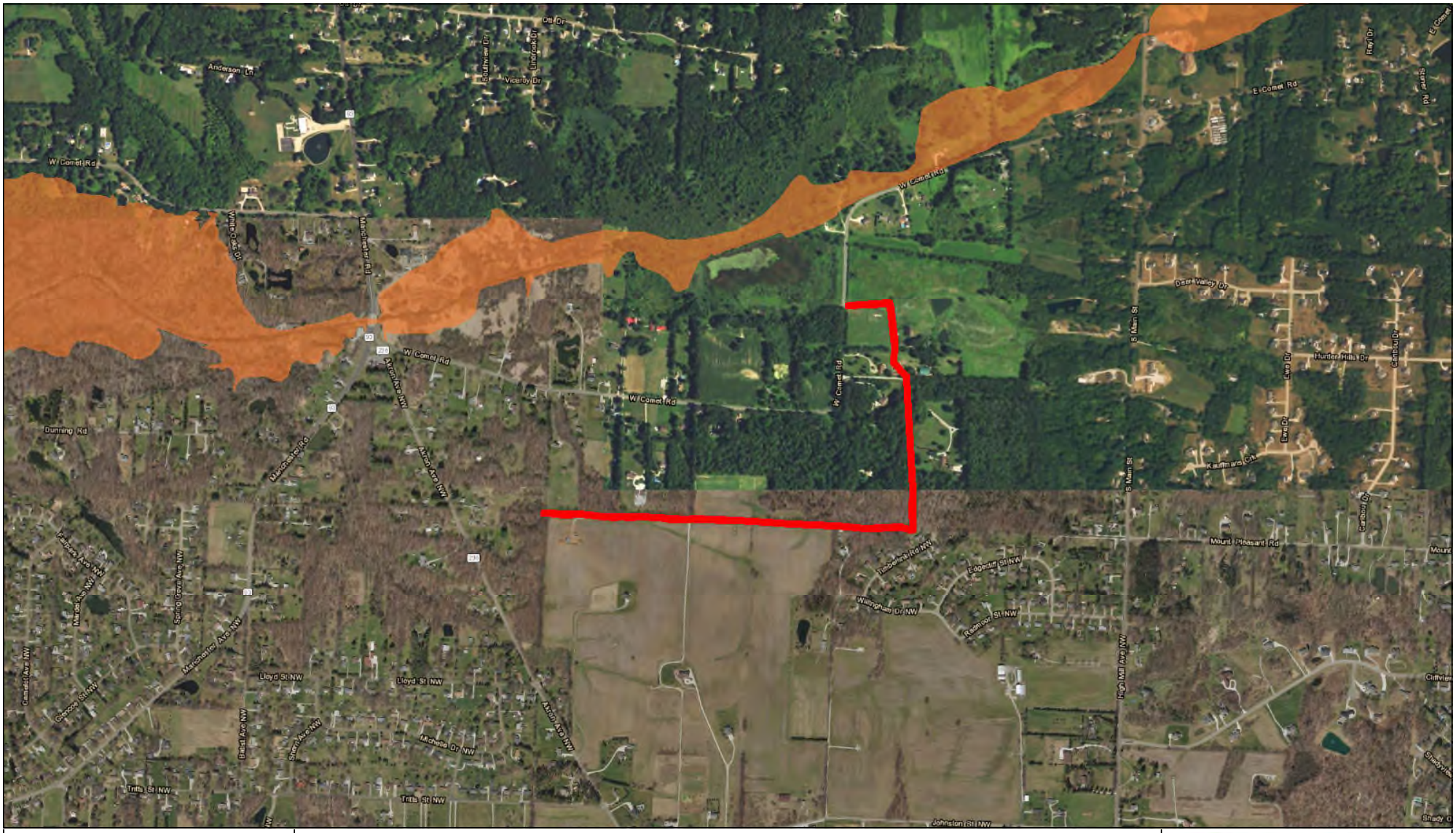

Figure 6.
FEMA Map of Site in Summit
and Stark County, Ohio.
Line 2925, Phase II.

100-Year Food Zone
Project Area

0 750 1,500 3,000 Feet
0 250 500 1,000 Meters

EnviroScience
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Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map6_FEMA.mxd

Date: 1/3/2018

Basemap courtesy of Esri. Flood data courtesy of FEMA.

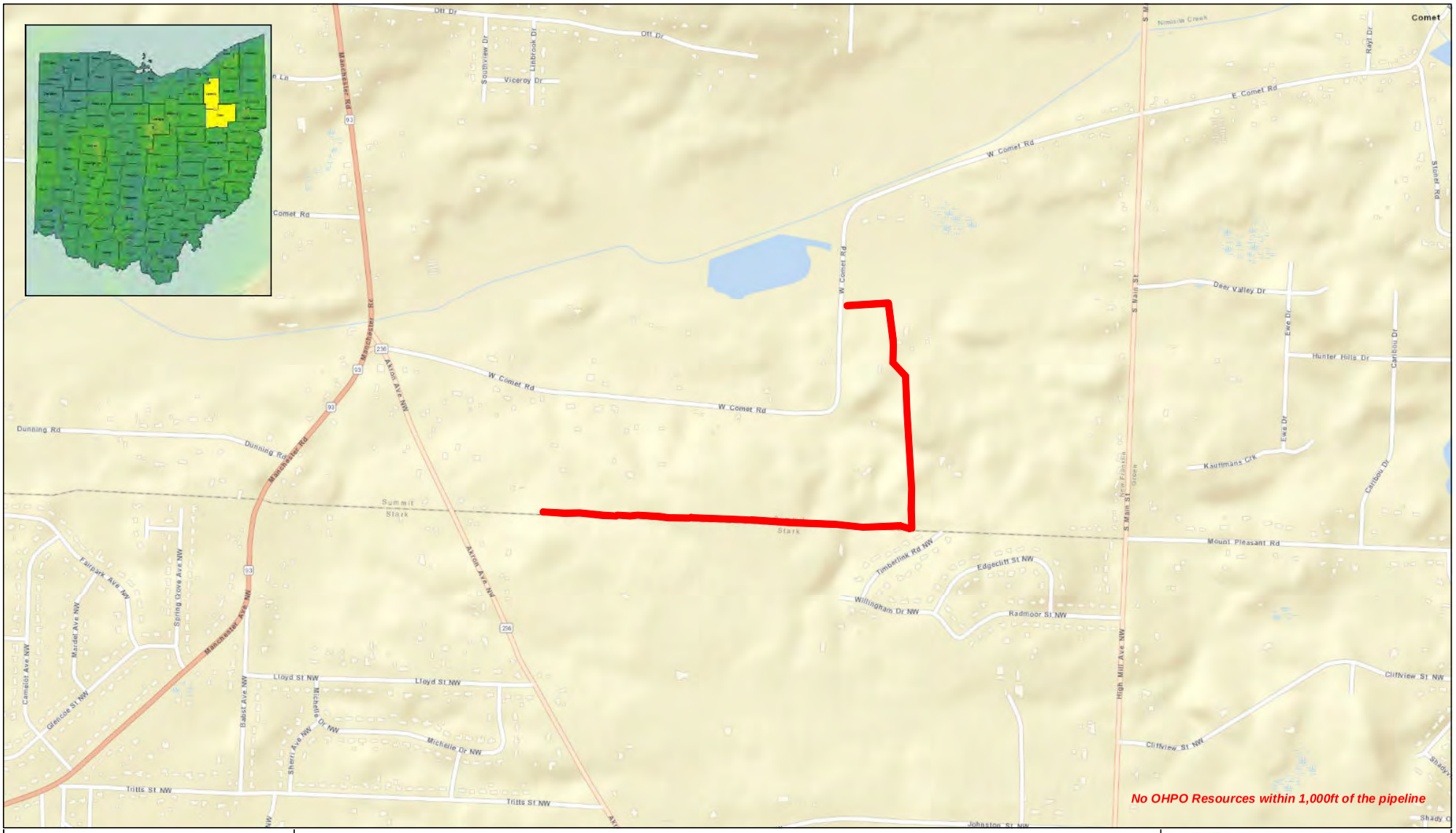

Figure 7. OHPO Overview Map of Site in Summit and Stark Counties, Ohio. Line 2925, Phase II.

Project Area

0 750 1,500 3,000 Feet

0 250 500 1,000 Meters

EnviroScience
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Basemap courtesy of Esri. Historic data courtesy of The Ohio History Connection (www.ohiohistory.org). Date created: Date: 1/3/2018.

Path: P:\10_Projects\Dominion\EOG\470NR\Non_PIR\Line 2925 (2018)\GIS\Map1_OHPO.mxd

Date: 1/3/2018

Appendix B:

Photographs

Photo 1. Sample Plot 1 representing a scrub-shrub community.

Photo 2. Sample Plot 2 representing an agricultural field community.

Photo 3. Sample Plot 3 within Wetland W-1.

Photo 4. Sample Plot 4 representing a forest community.

Photo 5. Sample Plot 5 representing an open field community.

Photo 6. Sample Plot 6 within Wetland W-2.

Photo 7. Wetland W-1 facing east.

Photo 8. Wetland W-2 facing west.

Photo 9. Stream S-1 facing south, upstream.

Photo 10. Stream S-1 facing north, downstream.

Photo 11. Stream S-1 substrate.

Photo 12. Stream S-2 facing east, upstream.

Photo 13. Stream S-2 facing west, downstream.

Photo 14. Stream S-2 substrate.

Photo 15.Typical potential roost tree within the project area.

Photo 16. Typical potential maternity roost tree within the project area.

Appendix C:

Routine Wetland Determination Data Forms

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Franklin Twp, Summit Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-1

Investigator(s): L. Sayre Section, Township, Range:

Landform (hillside, terrace, etc.): flat ground Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.910996 Long: -81.551171 Datum: WGS 84

Soil Map Unit Name: Chili silt loam, 2 to 6 percent slopes (CpB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Scrub-Shrub

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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 X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-1

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1. *Quercus palustris*	40	Yes	FACW
2. *Rosa multiflora*	15	Yes	FACU
3. *Rubus idaeus*	10	No	FACU
4. *Acer rubrum*	5	No	FAC
5. *Malus sp.*	5	No	NL
6.			
7.			
	75 =Total Cover		
Herb Stratum (Plot size: 5')			
1. *Schedonorus arundinaceus*	15	Yes	FACU
2. *Daucus carota*	5	No	UPL
3. *Solidago sp.*	5	No	NL
4. *Fragaria vesca*	3	No	UPL
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	28 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 33.3% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	40	x 2 =	80
FAC species	5	x 3 =	15
FACU species	40	x 4 =	160
UPL species	8	x 5 =	40
Column Totals:	93 (A)		295 (B)

Prevalence Index = B/A = 3.17

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: SP-1

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	10YR 4/4	100					Loamy/Clayey	
6-14	10YR 5/6	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Lawrence Twp, Stark Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-2

Investigator(s): L. Sayre Section, Township, Range:

Landform (hillside, terrace, etc.): flat land Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.910681 Long: -81.548314 Datum: WGS 84

Soil Map Unit Name: Chili silt loam, 2 to 6 percent slopes (CpB) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation X, Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Agricultural Field. Vegetation disturbance - post-harvest soybean field.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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 X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-2

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	5	Yes	FACU
2. *Cardamine hirsuta*	3	Yes	FACU
3. *Lamium purpureum*	2	Yes	UPL
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	10 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	8	x 4 =	32
UPL species	2	x 5 =	10
Column Totals:	10 (A)		42 (B)

Prevalence Index = B/A = 4.20

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

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

Remarks: (Include photo numbers here or on a separate sheet.)
Post-harvest soybean field.

SOIL

Sampling Point: SP-2

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-12	10YR 4/4	100					Loamy/Clayey	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Franklin Twp, Summit Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-3

Investigator(s): N. Knowles Section, Township, Range:

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

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.911529 Long: -81.543541 Datum: WGS 84

Soil Map Unit Name: Chili-Wooster complex, 12 to 18 percent slopes, moderately eroded (CwD2) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation X , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland W-1

Remarks: (Explain alternative procedures here or in a separate report.)
PEM. Problematic vegetation - vernal pool with nothing growing at the time of sampling.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- X Sparsely Vegetated Concave Surface (B8)
- X Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):	
Water Table Present?	Yes X	No	Depth (inches):	6
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches):	0

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-3

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

Dominance Test worksheet:

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

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

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

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species	x 1 =
FACW species	x 2 =
FAC species	x 3 =
FACU species	x 4 =
UPL species	x 5 =
Column Totals: (A)	(B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

_X_ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

Hydrophytic Vegetation Present? **Yes** _X_ **No** ___

Remarks: (Include photo numbers here or on a separate sheet.)
Problematic Vegetation - vernal pool with no vegetation growing at time of survey (mid-March).

SOIL

Sampling Point: SP-3

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-16	10Y 5/1	65	10YR 4/6	35	C	M	Loamy/Clayey	Prominent redox concentrations

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ Loamy Mucky Mineral (F1) (**LRR K, L**)
- X Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- X Redox Depressions (F8)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Franklin Twp, Summit Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-4

Investigator(s): N. Knowles Section, Township, Range:

Landform (hillside, terrace, etc.): hillside Local relief (concave, convex, none): convex Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.913648 Long: -81.543612 Datum: WGS 84

Soil Map Unit Name: Conotton-Oshtemo complex, 25 to 50 percent slopes (CyF) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**
Hydric Soil Present?	Yes	No X	**within a Wetland?** **Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:

Remarks: (Explain alternative procedures here or in a separate report.)
Forest

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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 X	Depth (inches):
Water Table Present?	Yes	No X	Depth (inches):
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-4

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1. *Pinus strobus*	30	Yes	FACU
2. *Quercus rubra*	15	Yes	FACU
3. *Tsuga canadensis*	15	Yes	FACU
4. *Fagus grandifolia*	5	No	FACU
5.			
6.			
7.			
	65	=Total Cover	
Sapling/Shrub Stratum (Plot size: 15')			
1. *Ligustrum vulgare*	5	Yes	FACU
2. *Euonymus alatus*	5	Yes	UPL
3.			
4.			
5.			
6.			
7.			
	10	=Total Cover	
Herb Stratum (Plot size: 5')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
		=Total Cover	
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
		=Total Cover	

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	70	x 4 =	280
UPL species	5	x 5 =	25
Column Totals:	75 (A)		305 (B)

Prevalence Index = B/A = 4.07

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: SP-4

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1	10YR 2/2	100					Loamy/Clayey	
1-5	10YR 3/4	100					Loamy/Clayey	
5-12	10YR 4/4	100					Loamy/Clayey	refusal (roots) at 12 in.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Franklin Twp, Summit Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-5

Investigator(s): L. Sayre Section, Township, Range:

Landform (hillside, terrace, etc.): flat land Local relief (concave, convex, none): none Slope (%):

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.916275 Long: -81.544379 Datum: WGS 84

Soil Map Unit Name: Chili gravelly loam, 6 to 12 percent slopes, moderately eroded (CoC2) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes	No X	**Is the Sampled Area**	
Hydric Soil Present?	Yes	No X	**within a Wetland?**	**Yes** **No** X
Wetland Hydrology Present?	Yes	No X	If yes, optional Wetland Site ID:	

Remarks: (Explain alternative procedures here or in a separate report.)
Open Field.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- High Water Table (A2)
- Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- 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 X	Depth (inches):	
Water Table Present?	Yes	No X	Depth (inches):	
Saturation Present? (includes capillary fringe)	Yes	No X	Depth (inches):	

Wetland Hydrology Present? **Yes** **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

VEGETATION – Use scientific names of plants.

Sampling Point: SP-5

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Poa pratensis*	65	Yes	FACU
2. *Dactylis glomerata*	25	Yes	FACU
3. *Taraxacum officinale*	5	No	FACU
4. *Plantago lanceolata*	3	No	FACU
5. *Daucus carota*	2	No	UPL
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	98	x 4 =	392
UPL species	2	x 5 =	10
Column Totals:	100 (A)		402 (B)

Prevalence Index = B/A = 4.02

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Definitions of Vegetation Strata:

Tree – Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub – Woody plants less than 3 in. DBH and greater than or equal to 3.28 ft (1 m) tall.

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

Woody vines – All woody vines greater than 3.28 ft in height.

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

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

SOIL

Sampling Point: SP-5

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-6	5Y 2.5/2	100					Loamy/Clayey	
6-8	10YR 5/6	85					Sandy	sandy clay
	10YR 5/3	15						refusal (rock) at 8 in.

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 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)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ___ Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

WETLAND DETERMINATION DATA FORM – Northcentral and Northeast Region

Project/Site: Line 2925, Phase II (2018) City/County: Franklin Twp, Summit Sampling Date: 3/11/2016

Applicant/Owner: The East Ohio Gas Company State: OH Sampling Point: SP-6

Investigator(s): N. Knowles Section, Township, Range:

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

Subregion (LRR or MLRA): LRR R, MLRA 139 Lat: 40.916369 Long: -81.544264 Datum: WGS 84

Soil Map Unit Name: Chili gravelly loam, 6 to 12 percent slopes, moderately eroded (CoC2) NWI classification: N/A

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No (If no, explain in Remarks.)

Are Vegetation , Soil , or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X No

Are Vegetation , Soil , or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)

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

Hydrophytic Vegetation Present?	Yes X	No	**Is the Sampled Area**	
Hydric Soil Present?	Yes X	No	**within a Wetland?**	**Yes** X **No**
Wetland Hydrology Present?	Yes X	No	If yes, optional Wetland Site ID:	Wetland W-2

Remarks: (Explain alternative procedures here or in a separate report.)
PEM

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one is required; check all that apply)

- Surface Water (A1)
- X High Water Table (A2)
- X Saturation (A3)
- Water Marks (B1)
- Sediment Deposits (B2)
- Drift Deposits (B3)
- Algal Mat or Crust (B4)
- Iron Deposits (B5)
- Inundation Visible on Aerial Imagery (B7)
- Sparsely Vegetated Concave Surface (B8)
- Water-Stained Leaves (B9)
- Aquatic Fauna (B13)
- Marl Deposits (B15)
- Hydrogen Sulfide Odor (C1)
- Oxidized Rhizospheres on Living Roots (C3)
- Presence of Reduced Iron (C4)
- Recent Iron Reduction in Tilled Soils (C6)
- Thin Muck Surface (C7)
- Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- Surface Soil Cracks (B6)
- Drainage Patterns (B10)
- Moss Trim Lines (B16)
- Dry-Season Water Table (C2)
- Crayfish Burrows (C8)
- X Saturation Visible on Aerial Imagery (C9)
- Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- Shallow Aquitard (D3)
- Microtopographic Relief (D4)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present?	Yes	No X	Depth (inches):
Water Table Present?	Yes X	No	Depth (inches): 2
Saturation Present? (includes capillary fringe)	Yes X	No	Depth (inches): 0

Wetland Hydrology Present? **Yes** X **No**

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:
groundwater present.

VEGETATION – Use scientific names of plants.

Sampling Point: SP-6

Tree Stratum (Plot size: 30')	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Sapling/Shrub Stratum (Plot size: 15')			
1.			
2.			
3.			
4.			
5.			
6.			
7.			
	=Total Cover		
Herb Stratum (Plot size: 5')			
1. *Carex vulpinoidea*	30	Yes	OBL
2. *Typha angustifolia*	30	Yes	OBL
3. *Symplocarpus foetidus*	25	Yes	OBL
4. *Cornus amomum*	10	No	FACW
5. *Cardamine hirsuta*	5	No	FACU
6.			
7.			
8.			
9.			
10.			
11.			
12.			
	100 =Total Cover		
Woody Vine Stratum (Plot size: 30')			
1.			
2.			
3.			
4.			
	=Total Cover		

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

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

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	85	x 1 =	85
FACW species	10	x 2 =	20
FAC species	0	x 3 =	0
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	100 (A)		125 (B)

Prevalence Index = B/A = 1.25

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

X 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

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** X **No** ___

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

SOIL

Sampling Point: SP-6

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

Depth	Matrix		Redox Features					
(inches)	Color (moist)	%	Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-7	10Y 3/1	90	5YR 3/3	10	C	PL/M	Sandy	Prominent redox concentrations
7-9	10Y 4/1	100					Sandy	
9-16	10YR 2/1	100					Mucky Peat	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- X Sandy Redox (S5)
- ? Stripped Matrix (S6)
- ? Dark Surface (S7)
- ___ Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- ? Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- ___ High Chroma Sands (S11) (**LRR K, L)**
- ___ 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)
- ___ Marl (F10) (**LRR K, L**)

Indicators for Problematic Hydric Soils[3]:

- ___ 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**)
- ___ 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)

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

Restrictive Layer (if observed):

Type: _____

Depth (inches): _____

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

Remarks:

This data form is revised from Northcentral and Northeast Regional Supplement Version 2.0 to include the NRCS Field Indicators of Hydric Soils version 7.0 March 2013 Errata. (http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_051293.docx)

Appendix D:

Ohio Rapid Assessment Method for

Wetlands v. 5.0 Rating Forms

Background Information

Name: Nathan Knowles	
Date: 3/11/16	
Affiliation: EnviroScience, Inc.	
Address: 5070 Stow Road, Stow Ohio 44224	
Phone Number: 330-688-0111	
e-mail address: nknowles@EnviroScienceInc.com	
Name of Wetland: W-1	
Vegetation Communit(ies): PEM	
HGM Class(es): Depression	
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
Please refer to site wetlands and water resources map.	
Lat/Long or UTM Coordinate	40.911541N, -81.543511W
USGS Quad Name	Canal Fulton
County	Summit
Township	Franklin
Section and Subsection	
Hydrologic Unit Code	05040001
Site Visit	3/11/2016
National Wetland Inventory Map	X
Ohio Wetland Inventory Map	
Soil Survey	X
Delineation report/map	X

Name of Wetland: W-1

Wetland Size (acres, hectares): W-1: 0.027 ac. onsite

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

Please refer to site wetlands and water resources map.

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 49 **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.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		X
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.		X

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: Line 2925 Storage	Rater(s): N. Knowles	Date: 3/11/16

Metric 1. Wetland Area (size).

0 (max 6 pts.) | 0 (subtotal)

Select one size class and assign score.

	>50 acres (>20.2ha) (6 pts)
	25 to <50 acres (10.1 to <20.2ha) (5 pts)
	10 to <25 acres (4 to <10.1 ha) (4 pts)
	3 to <10 acres (1.2 to <4 ha) (3 pts)
	0.3 to < 3 acres (012 to <1.2ha) (2 pts)
	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
0	<0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

12 (max 14 pts.) | 12 (subtotal)

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

7	WIDE. Buffers average 50m (164 ft) 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)
5	LOW. Old field (>10 years), shrubland, 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)

Metric 3. Hydrology.

18.5 (max 30 pts.) | 30.5 (subtotal)

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

	High pH groundwater (5)
3	Other groundwater (3)
1	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)
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)
1	<0.4m (<15.7in) (1)

ı/saturation. Score one or dbl check.

	Semi- to permanently inundated/saturated (4)
3	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.

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

Check all disturbances observed

	ditch		point source (nonstormwater)
	tile		filling/grading
	dike		road bed/RR track
	weir		dredging
	stormwater input	X	Other: ATV Paths/maintained easement

Metric 4. Habitat Alternation and Development.

14.5 (max 20 pts.) | 45 (subtotal)

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

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

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

	Excellent (7)
	Very good (6)
5	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)
6	Recovered (6)
	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

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

45 subtotal this page

Site: Line 2925 Storage	Rater(s): N. Knowles	Date: 3/11/16

45
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 45 subtotal

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

4 max 20 pts. | 49 subtotal

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

	Aquatic bed
	Emergent
	Shrub
	Forest
	Mudflats
1	Open Water
	Other_____

6b. Horizontal (plan view) Interspersion.
Score only one.

	High (5)
	Moderately high (4)
	Moderate (3)
	Moderately low (2)
	Low (1)
0	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)
1	Absent (1)

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

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

Vegatation 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 in 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

49 GRAND TOTAL (max 100 pts)

Refer to the most recent ORAM score calibration report for the scoring breakpoints between categories at the following address: http://epa.state.oh.us/dsw/401/401.html

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	12	
	Metric 3. Hydrology	18.5	
	Metric 4. Habitat	14.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	4	
	TOTAL SCORE	49	Category based on score breakpoints 2

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	Category 1	(Category 2)	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Nathan Knowles
Date:	3/11/16
Affiliation:	EnviroScience, Inc.
Address:	5070 Stow Road, Stow Ohio 44224
Phone Number:	330-688-0111
e-mail address:	nknowles@EnviroScienceInc.com
Name of Wetland:	W-2
Vegetation Communit(ies):	PEM
HGM Class(es):	Depression

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

Please refer to site wetlands and water resources map.

Lat/Long or UTM Coordinate	40.916369N, -81.544378W
USGS Quad Name	Canal Fulton
County	Summit
Township	Franklin
Section and Subsection	
Hydrologic Unit Code	05040001
Site Visit	3/11/2016
National Wetland Inventory Map	X
Ohio Wetland Inventory Map	
Soil Survey	X
Delineation report/map	X

Name of Wetland: W-2

Wetland Size (acres, hectares): W-2: 0.119 ac. onsite

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

Please refer to site wetlands and water resources map.

Comments, Narrative Discussion, Justification of Category Changes:

Final score : 27.5	**Category:**	1

Scoring Boundary Worksheet

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

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

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

Narrative Rating

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

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

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

Table 1. Characteristic plant species.

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

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

Site: Line 2925 Storage	Rater(s): N. Knowles	Date: 3/11/16

Metric 1. Wetland Area (size).

3 (max 6 pts.) | 3 (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 <10.1 ha) (4 pts)
3	3 to <10 acres (1.2 to <4 ha) (3 pts)
	0.3 to < 3 acres (012 to <1.2ha) (2 pts)
	0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
	<0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

4 (max 14 pts.) | 7 (subtotal)

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

	WIDE. Buffers average 50m (164 ft) or more around wetland perimeter (7)
	MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
1	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), shrubland, young second growth forest. (5)
3	MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
	HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

14 (max 30 pts.) | 21 (subtotal)

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

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

3b. Connectivity. Score all that apply.

	100 year floodplain (1)
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)
1	<0.4m (<15.7in) (1)

/saturation. Score one or dbl check.

	Semi- to permanently inundated/saturated (4)
3	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)
7	Recovered (7)
3	Recovering (3)
	Recent or no recovery (1)

Check all disturbances observed

x	ditch		point source (nonstormwater)
	tile	X	filling/grading
	dike	x	road bed/RR track
	weir		dredging
	stormwater input		Other: ATV Paths

Metric 4. Habitat Alternation and Development.

8.5 (max 20 pts.) | 29.5 (subtotal)

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

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

Check all disturbances observed

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

29.5 subtotal this page

Site: Line 2925 Storage	Rater(s): N. Knowles	Date: 3/11/16

29.5
subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts. | 29.5 subtotal

Check all that apply and score as indicated.

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

Metric 6. Plant communities, interspersion, microtopography.

-2 max 20 pts. | 27.5 subtotal

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

	Aquatic bed
1	Emergent
	Shrub
	Forest
	Mudflats
	Open Water
	Other_____

6b. Horizontal (plan view) Interspersion.
Score only one.

	High (5)
	Moderately high (4)
	Moderate (3)
	Moderately low (2)
	Low (1)
0	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)
-3	Moderate 25-75% cover (-3)
	Sparse 5-25% cover (-1)
	Nearly absent <5% cover (0)
	Absent (1)

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

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

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

27.5 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM score calibration report for the scoring breakpoints between categories at the following address: http://epa.state.oh.us/dsw/401/401.html

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	4	
	Metric 3. Hydrology	14	
	Metric 4. Habitat	8.5	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	27.5	Category based on score breakpoints 1

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

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

Final Category

Choose one	(Category 1)	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Appendix E:

Stream Habitat Forms

CLASS II

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 69

SITE NAME/LOCATION Line 2925 Storage

SITE NUMBER S-1 RIVER BASIN _____ DRAINAGE AREA (mi²) 0.11 mi²

LENGTH OF STREAM REACH (ft) 700 LAT. 40.9106 LONG. 81.545 RIVER CODE _____ RIVER MILE _____

DATE 3/11/10 SCORER N. Knowles COMMENTS _____

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

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐	BLDR SLABS [16 pts]		☐	SILT [3 pt]	
☐	BOULDER (>256 mm) [16 pts]	5	☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	20	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	25	☐	MUCK [0 pts]	
☒	SAND (<2 mm) [6 pts]	50	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 25 (A) 15 (B) 4 A + B

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES: 4

HHEI Metric Points — Substrate Max = 40: 19

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):

- ☐ > 30 centimeters [20 pts]
- ☒ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☐ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 26

Pool Depth Max = 30: 30

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

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☒ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☐ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters) 2.1

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

COMMENTS _____

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

- ☒ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS _____

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

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☐ 0.5	☒ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____
☐ 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: Canal Fulton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: _____ Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 3/10 Quantity: 0.84

Photograph Information: _____

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

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)_____ If not, please explain: _____

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

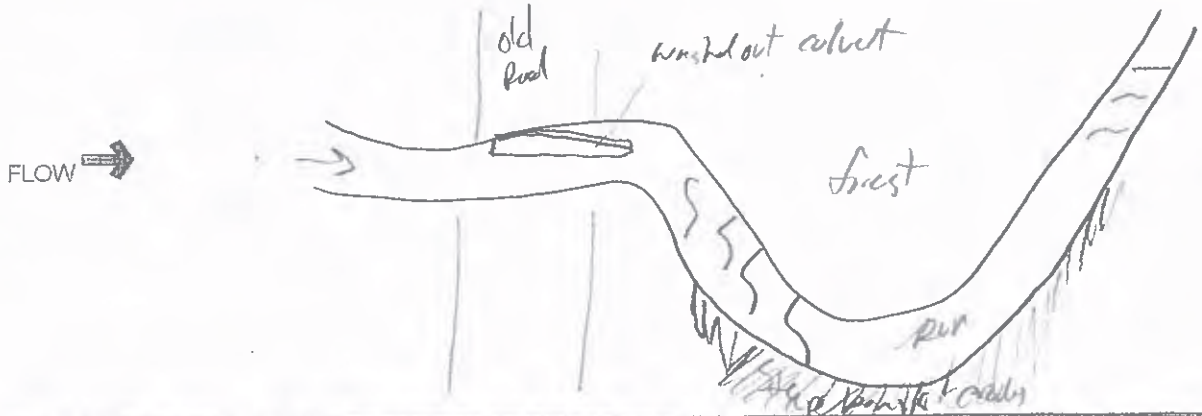
Performed? (Y/N): N (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N)_____ 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



Mod Class II

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 55

SITE NAME/LOCATION Line 2925 Storage

SITE NUMBER S-2 RIVER BASIN _____ DRAINAGE AREA (mi²) <0.1 mi²

LENGTH OF STREAM REACH (ft) 191 LAT. 40.9165 LONG. -81.544 RIVER CODE _____ RIVER MILE _____

DATE 3/11/16 SCORER N.Knowles COMMENTS _____

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

1. SUBSTRATE (Estimate percent of every type of substrate present. Check *ONLY* two predominant substrate *TYPE* boxes (Max of 40). Add total number of significant substrate types found (Max of 8). Final metric score is sum of boxes A & B.

TYPE		PERCENT	TYPE		PERCENT
☐☐	BLDR SLABS [16 pts]	5	☐☐	SILT [3 pt]	
☐☐	BOULDER (>256 mm) [16 pts]		☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐☐	BEDROCK [16 pt]		☐☐	FINE DETRITUS [3 pts]	
☒☐	COBBLE (65-256 mm) [12 pts]	50	☐☐	CLAY or HARDPAN [0 pt]	
☐☒	GRAVEL (2-64 mm) [9 pts]	30	☐☐	MUCK [0 pts]	
☐☐	SAND (<2 mm) [6 pts]	15	☐☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 55 (A) 21 (B) 4

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES: TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40: 25

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):

- ☐ > 30 centimeters [20 pts]
- ☐ > 22.5 - 30 cm [30 pts]
- ☐ > 10 - 22.5 cm [25 pts]
- ☒ > 5 cm - 10 cm [15 pts]
- ☐ < 5 cm [5 pts]
- ☐ NO WATER OR MOIST CHANNEL [0 pts]

10

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters):

Pool Depth Max = 30: 15

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

- ☐ > 4.0 meters (> 13') [30 pts]
- ☐ > 3.0 m - 4.0 m (> 9' 7" - 13') [25 pts]
- ☐ > 1.5 m - 3.0 m (> 4' 8" - 9' 7") [20 pts]
- ☒ > 1.0 m - 1.5 m (> 3' 3" - 4' 8") [15 pts]
- ☐ ≤ 1.0 m (≤ 3' 3") [5 pts]

15

COMMENTS _____ AVERAGE BANKFULL WIDTH (meters)

Bankfull Width Max=30: 15

This information must also be completed

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

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

COMMENTS _____

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

- ☒ Stream Flowing
- ☐ Subsurface flow with isolated pools (Interstitial)
- ☐ Moist Channel, isolated pools, no flow (Intermittent)
- ☐ Dry channel, no water (Ephemeral)

COMMENTS _____

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

☐ None	☐ 1.0	☐ 2.0	☐ 3.0
☒ 0.5	☐ 1.5	☐ 2.5	☐ >3

STREAM GRADIENT ESTIMATE

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

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

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

DOWNSTREAM DESIGNATED USE(S)

☐ WWH Name: _____ Distance from Evaluated Stream _____

☐ 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: Canal Fulton NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: _____ Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): Y Date of last precipitation: 3/10 Quantity: 0.84

Photograph Information: _____

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

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)_____ 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)_____ 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):

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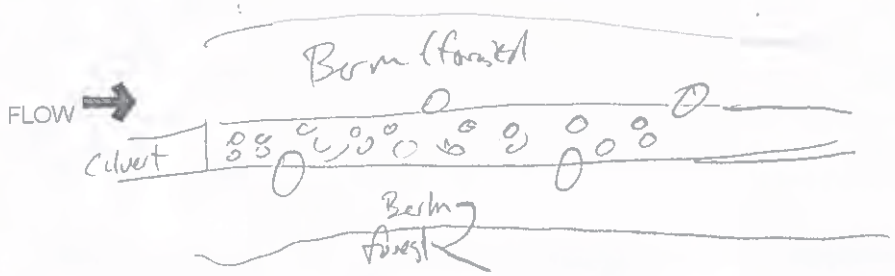
EWH



Summary: Letter of Notification Application for Dominion Energy Ohio Line 2925 Pipeline Replacement Project - Part 1 electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield