LETTER OF NOTIFICATION
For

Cemex-Morris Bean Pipeline Replacement Project
Greene County, Ohio

Ohio Power Siting Board
Case No. 16-2175-GA-BLN

Submitted By:

Vectren Energy Delivery of Ohio, Inc.

November 2016

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November 29, 2016

Via Electronic Filing

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

Re: Vectren Energy Delivery of Ohio, Inc.,
Case No. 16-2175-GA-BLN

Dear Ms. McNeal:

Enclosed for filing in the above-referenced case is a copy of the Letter of Notification Application of Vectren Energy Delivery of Ohio, Inc. ("VEDO") to replace to replace approximately 3.0 miles (~15,700 feet) of 18-inch pipeline with a 20-inch pipeline. The Morris Bean portion of the project is approximately 1,300 feet long, and is named after the Morris Bean Corporation which owns a majority of the property where this section is located. The Cemex portion is approximately 2.7 miles long, and is named after Cemex Construction Materials Atlantic, LLC, which owns a majority of the property where this section is located. The Cemex-Morris Bean Pipeline Project will traverse through portions of Miami, Xenia, Bath and Beavercreek Townships, and the City of Fairborn Corporation. In addition, we have provided the Staff of the Ohio Power Siting Board ("Board") with five hard copies of the Application.

On November 4, 2016, VEDO filed a pre-Application notification letter in the above referenced case requesting expedited treatment of its accelerated certificate application in accordance with Ohio Administrative Code Rule 4906-6-04(A)(2). At this time VEDO would like to waive the expedited treatment period of 28 days set forth in OAC Rule 4906-6-03(B) and instead, requests that the processing time for this matter be extended to 60 days from the date of filing.

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

Name of Applicant: Vectren Energy Delivery of Ohio, Inc.
120 West Second Street
Dayton, OH 45402

Name/Location of Proposed Facility: Cemex-Morris Bean Pipeline Replacement Project
City of Fairborn, Bath, Beavercreek, Miami, and Xenia Townships, Green County, Ohio

Authorized Representative

Technical: Thomas F. Jones
Vectren Energy Delivery of Ohio, Inc.
4285 N. James H McGee Boulevard
Dayton, OH 45417
Telephone: (937) 440-1880
E-Mail: tfjones@vectren.com

Authorized Representative

Legal: Sally W. Bloomfield
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Columbus, OH 43215
Telephone: 614-227-2368, -4914
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E-Mail: sbloomfield@bricker.com
dborchers@bricker.com

Notarized Statement: See Attached Affidavit of Colleen M. Ryan on behalf of Vectren Energy Delivery of Ohio, Inc.

Sincerely on behalf of
VECTREN ENERGY DELIVERY OF OHIO, INC.

Sally W. Bloomfield

Sally W. Bloomfield

Enclosure

BEFORE
THE OHIO POWER SITING BOARD

In the Matter of the Expedited Letter of Notification Application of Vectren Energy Delivery of Ohio, Inc. for the Cemex-Morris Bean Pipeline Replacement Project, Greene County, Ohio	))))	Case No. 16-2175-GA-BLN

AFFIDAVIT OF COLLEEN M. RYAN, VECTREN ENERGY DELIVERY OF OHIO, INC.

STATE OF OHIO :
: ss
COUNTY OF MONTGOMERY :

I, Colleen M. Ryan, 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 the President of Vectren Energy Delivery of Ohio, Inc. and am authorized to execute this affidavit.

2. I have reviewed the Vectren Energy Delivery of Ohio, Inc. 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.

Colleen M. Ryan

Sworn to before and signed in my presence this 22nd day of November, 2016.

A Rudolph
Notary Public
Commission Expires : 11·28·2021

[SEAL]

BEFORE THE OHIO POWER SITING BOARD
LETTER OF NOTIFICATION

TABLE OF CONTENTS

Page No.

LIST OF TABLES

Page No.

LIST OF ATTACHMENTS

GLOSSARY

AOI: Area of Investigaton

IPaC: Information for Planning and Conversation Impaction Analysis Report

LON: Letter of Notification

MAOP: Maximum Allowable Operating Pressure

MSHA: Mine Safety and Health Administration

ODNR: Ohio Department of Natural Resources

OEPA: Ohio Environmental Protection Agency

OHPO: Ohio Historic Preservation Office

OPSB: Ohio Power Siting Board

PSIG: Pounds per Square Inch Gauge

ROW: Right-of-Way

USACE: United States Army Corp of Engineers

USFWS: United States Fish and Wildlife Service

VEDO: Vectren Energy Delivery of Ohio

4906-6-05 Letter of Notification Requirements

4906-6-05(B) GENERAL INFORMATION

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

Vectren Energy Delivery of Ohio ("VEDO") is applying for a Letter of Notification ("LON") for a replacement pipeline project located in Greene County, Ohio. The name of the pipeline project is the Cemex-Morris Bean Pipeline Replacement Project, which is named for the two sections on this project that will be replaced.

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

The Cemex-Morris Bean Pipeline Replacement Project is approximately 3.0 miles (~15,700 feet) long. The Cemex-Morris Bean pipeline traverses through portions of Miami, Xenia, Bath and Beavercreek Townships, and the City of Fairborn Corporation. The eastern section is the Morris Bean section, named after the Morris Bean Corporation which owns a majority of the property where this section is located. This Morris Bean section is approximately 1,300 feet long and is located 2,300 feet south of the address of 777 E. Hyde Road and is approximately two miles due south of downtown Yellow Springs, Ohio. The Morris Bean section will consist of replacing the existing 18-inch pipe with 20-inch pipe.

The western section is the Cemex section, named after Cemex Construction Materials Atlantic, LLC, which owns a majority of the property where this section is located. This Cemex section is approximately 2.7 miles long. It begins at W. Enon Road in Xenia Township, approximately 2,500 feet south of the intersection of W. Hyde Road. The pipeline then proceeds westerly through Xenia, Bath, and Beavercreek Townships and through portions of the City of Fairborn. The replacement of this section of the pipeline will conclude approximately 1,500 feet east of Treibein Road in Fairborn, Ohio

near the Bath Township Cemetery. The Cemex section will consist of replacing the existing 18-inch pipeline with 24-inch pipe.

The majority of the natural gas pipeline (both sections) will be installed by open cut construction methods. However, conventional or directional boring methods may be used on the some road crossings, streams, and environmentally-sensitive areas. The pipeline corridor consists of an existing permanent 50 foot easement and an additional 20 feet of temporary easement on each side of the permanent easement for a total of 90 feet. Archaeological and environmental studies were completed within a 150-foot corridor to limit disturbance to farmland and natural resources. During construction, land disturbance will not occur outside of the 90-foot easement.

4906-6-05(B)(1)(c): Why the Project Meets the Requirements for LON

The proposed pipeline replacement project falls under the jurisdiction of the Ohio Power Siting Board ("OPSB") as a LON; it meets the criteria listed in Appendix B, (1)(b) of the Ohio Administrative Code Rule 4906-1-01 because it is an upgrade of a gas pipeline or pipeline segment greater than one mile in length, but not greater than five miles in length. The pipeline will be wholly owned and operated by VEDO, and the primary purpose of the facility is to replace an existing pipeline used for direct distribution of gas to customers.

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

The proposed replacement section associated with this LON currently consists of 18-inch steel pipe. The Cemex section will be replaced by a 24-inch pipe while the Morris Bean section will be replaced with a 20-inch pipe. Due to the constriction associated with the 18-inch diameter section, VEDO is not able to perform in-line inspections (via "smart" pig tools) on the pipeline (originally installed circa 1960).

Additionally, 18-inch pipe is no longer a commonly-used diameter in pipeline construction. By replacing the 18-inch pipe with 20-inch or 24-inch pipe combination, VEDO will be able to use in-line inspection methods to verify the integrity of the pipeline in the future. Additionally, by increasing the diameter from 18-inch to 20/24-inch, VEDO will be better able to meet the customer demands throughout the system.

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

The Cemex-Morris Bean Pipeline Replacement Project is located in Greene County, Ohio. The pipeline traverses through portions of the Miami, Xenia, Bath, and Beavercreek Townships, as well as portions of the corporation of the City of Fairborn. Distances and anticipated impact areas in each of these locations are provided in Table 1 below. The location of the pipeline is illustrated in **Attachment A.**

Table 1: Cemex-Morris Bean, Pipeline Replacement Project Location

Location	Approximate Linear Distance (feet)	County
Miami Township	1,300	Greene
Xenia Township	6,626	Greene
Bath Township	334	Greene
Beavercreek Township	4,311	Greene
City of Fairborn	3,063	Greene

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

There were three alternatives considered in addition to the proposed pipeline. The first alternative would have been a permanent retirement of the pipeline. This alternative is not feasible as there are no existing duplicate supply lines to compensate for the loss of these portions of the line. VEDO would not be able to meet the demands of its customers with retirement of the line.

A second alternative would be to perform a re-route of the pipeline. However, since there is an already existing easement and pipeline corridor established, utilizing the current path would mean less impact to the surrounding area land, farmers, businesses, and homeowners. In addition, this alternative would add additional expenses for surveying and easement acquisition. Any alternative route would cause considerably more impact to the environment compared to utilizing the existing pipeline corridor.

The third alternative would be to replace the existing 18-inch line with a new 18-inch steel line. This alternative would not address the existing issues associated with VEDO's ability to perform pipeline integrity assessments.

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

VEDO previously sent a notification letter to all property owners regarding survey work during the fall of 2016. This letter was not required by OPSB rules. Copies of all letters that have been, or will be, sent to property owners are included as **Attachment B**. They include the following letters:

- First letter sent October 26, 2016 explaining the nature of the project, nature of project, proposed timeframe for project construction and proposed timeframe for restoration activities pursuant to OAC Rule 4906-6-05(B)(5) (**Attachment B-1**);

- Third Letter sent to landowners and tenants within seven (7) days of the filing of this application required by OAC Rule 4906-6-08(B) (**Attachment B-2**); and

- Fourth letter will be sent to all the landowners and tenants prior to the start of construction as required by 4906-11 (C) (**Attachment B-3**).

The list of property owners is listed in Table 2.

The timeframe for project construction is starting in early March, 2017 and concluding by October 31, 2017, including finalization of all restoration activities. The Cemex-Morris Bean Pipeline Replacement Project restoration will include moving the segregated topsoil back over the easement, replacement of nutrients, seeding with appropriate upland, wetland or agricultural seed mixes, mulching, and removal of all bridges, mats and construction equipment. Once the easement reaches 70% vegetation and has stabilized all erosion control devices will be removed.

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

The anticipated construction schedule for the Cemex-Morris Bean Pipeline Replacement Project is expected to commence on March 1, 2017 and conclude with an in-service date of October 31, 2017. The early stages of the project will include removal of trees within the easement prior to March 31, 2017, in order to avoid any disturbance to Indiana and Northern Long-Eared bat roosting and migratory bird nesting.

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

A GIS map of the project is included as **Attachment C**. This map contains an overview of the project at a scale of 1:24,000. The maps include the centerline of the pipe, roads, highways and municipalities.

Directions to near center of the Cemex section: from downtown Columbus, Ohio take Interstate 70 West approximately 50 miles to Interstate 675. Take I-675 south

toward Cincinnati, Ohio. Proceed approximately 3.5 miles and take exit 22 for OH-235 toward Xenia-Fairborn. Turn left on OH-235 and drive 4 miles to W. Dayton Yellow Springs Road. Turn right on W. Dayton Yellow Springs Road and proceed .6 miles to Linebaugh Road. Turn left on Linebaugh Road. The Cemex Plant is located at 3250 Linebaugh Road, Xenia, Ohio. Anyone visiting the site will need to check in with the plant prior to visiting the pipeline easement.

Directions to the Morris Bean section: from downtown Columbus, Ohio take Interstate 70 West approximately 46 miles and take exit 52A to merge onto US-68 south toward Xenia. Follow US-68 9.2 miles through Yellow Springs, Ohio and turn left onto Hyde Road. Proceed .4 miles and the Morris Bean Company is located on the right at 777 East Hyde Road, Yellow Springs, Ohio.

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

The entire length of the Cemex-Morris Bean Pipeline Replacement Project is located within existing easements owned by VEDO. There are four landowners and five parcels associated with the Morris Bean section. There are two landowners with 11 parcels associated with the Cemex section of the pipeline replacement. The Landowners and parcel numbers are listed below in Table 2 (next page).

TABLE 2: PROPERTY OWNER LIST

Parcel #	Name	Mailing Address	Class
F16000100110001000	Antioch College Corporation	1 Morgan Place, Yellow Springs, Ohio 45387	Exempt
F16000100110001300	Village of Yellow Springs	314 Dayton Street, Yellow Springs, Ohio 45387	Exempt
F16000100110000400	Morris Bean & Co Inc.	777 East Hyde Road Yellow Springs, Ohio 45387	Industrial
F16000100110000200	Hydebrook Farms LLC	665 East Hyde Road Yellow Springs, Ohio 45387	Agricultural
F16000100110000300	Hydebrook Farms LLC	665 East Hyde Road Yellow Springs, Ohio 45387	Agricultural
A02000200560019000	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
B03000200400000100	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
B03000200400000600	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
B03000200400000700	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
M36000100020000300	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
M51000100010000100	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
M52000100010000100	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
A01000200330000200	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
M51000100010000200	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
M51000100010000300	Cemex Construction Materials	1501 Belvedere Road West Palm Beach, FL 33406	Agricultural
A02000200560018800	Reserve at Cornerstone		Planned Residential easement only

TECHNICAL FEATURES OF THE PROJECT

4906-6-05(B)(9)(a): Operating Characteristics, Required Structures, and Right-of-Way and/or Land Requirements

- ***Pipeline MAOP***: The proposed pipeline will have an established MAOP of 495 psig.
- ***Pipe Material***: The proposed 20-inch or 24-inch pipe will have a wall thickness of 0.312-inch and minimum yield strength of 52,000 psig. The pipe will be externally coated with 14-16 mils of fusion bonded epoxy coating and cathodically protected by a rectifier(s). Bore pipe will be .312-inch wall thickness with approximately 30 mils

of powercrete/abrasion-resistant-overlay coating added to the 14-16 mils of fusion bonded epoxy coating.

- ***Structures***: No additional structures will be required for the new pipeline.
- ***Land Requirements***: The proposed project will use the existing 50 foot permanent easement plus an additional temporary 20 feet of easement on each side of the existing easement in order to remove the existing pipe and install the new pipe. Since the original pipeline was installed (Cemex-1961, Morris Bean-1963), there have been trees, shrubs and other vegetation that has encroached on portions of the easement that will need to be removed to allow access for construction equipment and materials.
- ***Road Closures and Crossings:*** State Route 235 will be the only state highway crossed with this project. SR 235 will be crossed by boring underneath the highway. VEDO will be applying to the Ohio Department of Transportation for a permit to cross SR 235. The only other road crossing will be Linebaugh Road and VEDO has been in contact with Beavercreek Township and Greene County regarding road closures and crossings of Linebaugh Road.

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

Since this is a natural gas pipeline this section does not apply.

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

The estimated capital cost of the Cemex-Morris Bean Pipeline Replacement Project is $10,578,602.

SOCIAL AND ECOLOGICAL IMPACTS OF THE PROJECT

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

The project is located in Greene County, partially within Miami, Xenia, Bath and Beavercreek Townships and the City of Fairborn. Land use associated with this project is classified as agricultural, exempt and industrial with the majority of the land being agricultural. Only one parcel is classified as industrial and two are classified as exempt. The exempt parcels are a bicycle path and the other is a part of the Glen Helen Natural Area. The classification of each parcel is shown in Table 3.

Population density per square mile for the pipeline location has been provided in **Table 3** below. This project is located in a very rural setting and there will not be any homes or barn-lots that will be affected by construction activities.

TABLE 3: POPULATION ESTIMATE, 2010 U.S. CENSUS DATA

Location	Population Density per Square Mile
Greene County	395
Bath Township	1,086
Fairborn, Ohio	2,561
Miami Township	173
Xenia Township	162
Beavercreek Township	1066

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

Currently, there are only three parcels that are being utilized for any agriculture purpose. Parcels M51000100010000200, F16000100110000300 and F16000100110000200 are being used at this time for grain production. However, none of the agricultural land is in an agricultural district. All other agricultural parcels are

lying fallow and have heavy natural vegetation. The total amount of approximate acreage for this project is 32.4. Of this total, 3.89 acres are currently used for grain production on the parcels indicated. The other 26.2 acres of land classified as agricultural use are currently not being utilized for farming purposes.

The land classified as Industrial is located to the south of the Morris Bean Company and is not being utilized; however, there is a current NPDES permit for this property due to drainage from the Morris Bean manufacturing facility.

There are two parcels classified as exempt. One parcel is a bicycle path and is part of the Little Miami Scenic Trail. The other parcel is the Glen Helen Nature Preserve. There is a valve station located just east of the bicycle path in the Glen Helen Nature Preserve easement where the new pipeline will connect to the existing line.

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

Weller and Associates was contracted to conduct a Phase 1 Cultural Resource Management Investigation for both sections of this project. Weller's complete report is included as **Attachment D-1 (Cemex) and D-2 (Morris Bean)**. The investigation was limited to a 200 foot wide corridor centered on the existing gas pipeline. We have provided a copy of all reports to the Ohio Historic Preservation Office ("OHPO") for a Section 106 Review **(Attachment D-3).**

Weller was aware of a prior archaeological site located on the Cemex section, about 1700 feet west of W. Enon Road on or near the current easement. During the initial Phase 1 investigation it was determined that extended Phase 1 work would be required to complete the investigation into this site to determine it size and significance. The extended Phase 1 work was completed and Weller has concluded that the site (designated site #33GR1393) is not considered to contain significant cultural deposits and

no further archaeological work is necessary. The report for the Extended Phase 1 Archaeological Investigation is included as **Attachment D-4.** There were no other archaeological findings on either section.

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

A copy of this LON and a sample transmittal letter **(Attachment J)** is being provided concurrently to the public officials and public information programs listed below in Table 4 if they have not already been notified by other means (permit requests or resource review).

TABLE 4: PUBLIC OFFICIALS/AGENCIES

Name of Agency	Document to be Submitted	Attachment
US Army Corp of Engineers	Jurisdictional Determination Request dated September 28, 2016	H
Ohio History Preservation Office	Phase I Cultural Resource Management Survey dated July 21, 2016 for the Cemex Section	D-1
	Phase I Cultural Resource Management Survey dated August 4, 2016 for the Morris Bean Section	D-2
	Section 106 Review dated September 26, 2016	D-3
	Extended Phase I Archaeological Investigations dated September 15, 2015	D-4

Name of Agency	Document to be Submitted	Attachment
US Fish and Wildlife Service	IPaC Report and Environmental Review dated June 24, 2016 for Cemex Section	E-1
	IPaC Report and Environmental Review dated June 24, 2016 for Morris Bean Section	F-1
	USFWS Correspondence dated June 24, 2016 and July 19, 2016 for Cemex Section	E-2, E-3
	USFWS Correspondence dated June 24, 2016 and July 19, 2016 for Morris Bean Section	F-2, F-3
	September 27, 2016 Jurisdictional Ruling Request	I-1
Ohio Department of Natural Resources	ODNR Response dated June 28, 2016 to request for inquiry for Cemex Section	E-4
	ODNR Response dated June 28, 2016 to request for inquiry for Morris Bean Section	F-4
	Request for Environmental Review dated August 23, 2016 for Cemex Section	G-1
	Request for Environmental Review dated September 2, 2016 for Morris Bean Section	G-2
	October 14, 2016 Jurisdictional Ruling Request	I-2

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

The project location for Cemex-Morris Bean Pipeline Replacement Project was entered into the U.S. Fish and Wildlife ("USFWS") Information for Planning and Conservation ("IPAC") tool on June 24, 2016. The results from this inquiry resulted with the identification of four endangered species and proposed endangered species plus 20 birds of conservation concern. No critical habitat was identified within the project area. The IPaC Trust Resource Report generated from this inquiry has been provided along

with the written response letter from the USFWS dated June 24, 2016 found in **Attachments E-1 (Cemex) and F-1 (Morris Bean)**.

The USFWS has also provided additional correspondence on June 24, 2016 (**Attachments E-2 and F**-2) and July 19, 2016 (**Attachments E-3 and F-3**) respectively regarding federal wilderness areas, wildlife refuges and critical habitats for the area of the project. They recommend avoidance and minimization to the environment that could affect water quality and wildlife habitat. The USFWS also recommends a consultation between the USFWS and any federal agency that may be involved in this project if there is to be tree clearing for construction. VEDO will request that this consultation occur between the U.S. Army Corps of Engineers ("USACE") and the USFWS after they receive the Jurisdictional Determination on wetlands/streams.

Additionally, an inquiry was made to the Ohio Department of Natural Resources ("ODNR"), Division of Wildlife's Natural Heritage Database. Correspondence and results from this inquiry have been provided as **Attachments F-4** and **G-4**. No ODNR resource management areas were identified within the project limits.

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

Environmental Solutions and Innovations, Inc. ("ESI") was contracted to complete an environmental review of the proposed pipeline upgrade for both the Cemex and Morris Bean sections. On August 23, 2016, ESI submitted a report that detailed the assessment including Agency Coordination, Desktop Evaluation, Aquatic Resource Delineations and Potential Indiana Bat Roost Tree Identification for the Cemex Section (. On September 2, 2016 ESI submitted the report for the Morris Bean section. Both reports have been provided as **Attachment H**.

In summary, five wetlands and nine streams were identified within the area of investigation ("AOI"). A summary of these resources with potential impacts is found in **Table 5** and **Table 6** below. No conflicts with tree removal associated with this project were identified, provided that tree removal takes place between October 1 and March 31 to avoid Indiana and Northern Long Eared Bat roosting disturbance.

Table 5: DELINEATED WETLANDS

ID	Delineated Acreage within Study Area	ORAM Score	Class	Impact	Area of Temporary Impact (acres)	Length of Temporary Impact (lf)
Wetland 1	.030	23	PEM	No/avoid	0	0
Wetland 2	.194	33	PEM	Yes	.011	30
Wetland 3	.005	30	PEM	Yes	.004	12
Wetland 4	.107	20	PEM	Yes	.07	191
MB Wetland	.0628	10	PEM	Yes	.0628	398

Table 6: DELINEATED STREAM(S)

Stream	HHEI Score	Linear Feet with in study area	Linear feet within project area	Area of Temporary Impact (sf)	Length of Temporary Impact (lf)
S1	16	194	88	0	0
S2	48	240	160	128	16
S3	13	89	67	128	16
S4	12	62	0	0	0
S5	46	76	31	0	0
S6	46	23	0	0	0
S7	13	125	82	128	16
S8	24	326	297	0	0
MB S1	28	743	650	3760	470

Utility Technologies International ("UTI") has submitted a Jurisdictional Determination to the USACE for the wetlands and streams that were delineated in this project. The cover letter, dated September 28, 2016, jurisdictional ruling request, and

maps can be found in **Attachment I**. Once the Jurisdictional Ruling is received, VEDO will submit an application to the USACE for a permit to cross the impacted streams and wetlands. VEDO will also then submit a request for a General Permit to the Ohio EPA for any wetlands determined to be isolated that may be impacted as well as a Water Quality Certification. Additionally, UTI has attended a pre-application meeting with the OEPA to review any and all environmental permit requirements for this project. At this time VEDO is awaiting for a Jurisdictional Determination on streams and wetlands from the USACE to proceed with 401/404 permitting; however, the OEPA suggested that UTI notify John Kessler of the ODNR due to the location of the Morris Bean section to the Little Miami Scenic River. UTI has provided Mr. Kessler with copies of the ESI reports and has requested comments regarding the project. Mr. Kessler has indicated that he will review and respond within 30 days of the submittal on October 19, 2016. UTI will provide copies of any comments from the ODNR to the OPSB staff upon receipt.

VEDO has provided a copy of the environmental review for both the Cemex and Morris Bean sections to the USFWS and ODNR for their review and comments (**Attachment I**). At the time of this submittal it has not received any comments from either agency regarding the results of the review. When VEDO receives comments from these agencies it will file the comments.

UTI will also be submitting a Notice of Intent to the OEPA for a General Permit Authorization to Discharge hydrostatic test water under General Permit Number OHH000002. VEDO will provide a copy of the permit upon receipt.

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

The Cemex portion of this project and easement is located within the Cemex Construction Materials site and this location is considered a Mine Safety and Health Administration (MSHA) regulated site. Cemex is regulated under 30 CFR Part 46 of the Mine Act. There will be additional safety training requirements for the contractor and all personnel working on the pipeline replacement project. Specifically, each contractor(s) employees will be required to take 24 hours of New Miner Training by a competent person in addition to site specific training on the Cemex property. Annual eight hour refresher training is also required after the initial 24-hour training session.

Coordination between VEDO, the contractor and Cemex Corporation will be needed during Cemex blasting operations.

Both Cemex Corporation and Morris Bean Corporation are covered under a National Pollutant Discharge Elimination System (NPDES) permit. These permits regulate point source discharges to waters of the United States.

Cemex Corporation – Ohio NPDES Permit 1GR00667*EG (expires 10/31/2017)

Morris Bean Company – Ohio NPDES Permit 1IN00095*FD (expires 8/31/2017)

There are outfalls for each site that are part of the current NPDES permits. Even though VEDO will be exempt from obtaining a NPDES permit since this is a utility line project, VEDO and its contractor will need to work with each company to prevent violations of the current permit within the pipeline easement.

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, VEDO has caused a copy of the application to be delivered to the following public officials:

Tom Koogler
Alan Anderson
Bob Glaser
Greene County Board of Commissioners
35 Greene Street
Xenia, OH 45385

Rob Anderson
Fairborn Development Corporation
44 W. Hebble Avenue
Fairborn, OH 45324

Robert N. Geyer P.E., P.S.
Green County Engineer's Office
615 Dayton-Xenia Road
Xenia, OH 45385

Amanda Middleton
District Administrator
Greene County Soil and Water
Conservation District
1363 Burnett Drive
Xenia, OH 45385

Steve Ross
Tom Pitstick
John Martin
Bath Township Trustees
1006 Yellow Springs-Fairfield Road
Fairborn, OH 45324

Mayor Dan Kirkpatrick
City of Fairborn Government Center
44 W. Hebble Avenue
Fairborn, OH 45324

Don O'Connor
City of Fairborn Engineer
44 W. Hebble Avenue
Fairborn, OH 45324

Kenneth A. LeBlanc
Executive Director
Green County Regional
Planning & Coordinating Commission
651 Dayton-Xenia Road
Xenia, OH 45385

Mark Crockett
Chris Mucher
Lamar Spracklen
Miami Township Trustees
225 Corry Street
Yellow Springs, OH 45387

Carol Graff
Tom Kretz
Jeff Roberts
Beavercreek Township Trustees
851 Orchard Lane, Ste. C
Beavercreek, OH 45434

Scott Miller
Susan Spradlin
L. Stephen Combs
Xenia Township Trustees
8 Brush Row Road
Xenia, OH 45385

A transmittal letter (**Attachment J**) with a copy of this accelerated application has been sent to the officials listed above.

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

A copy of this accelerated application is being sent to the Fairborn Community Library, 1 East Main Street, Fairborn, Ohio 45324, the Yellow Springs Community Library, 415 Xenia Avenue, Yellow Springs, Ohio 45387, and the Xenia Community Library, 76 East Market Street, Xenia, Ohio 45385.

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

A copy of the accelerated application is located on VEDO's web page at www.vectren.com/ohiopipeline.

Further interested persons may contact Thomas Jones, Project Manager, at (937) 440-1880 or by e-mail at tfjones@vectren.com to obtain either an electronic copy or a paper copy of this accelerated application.

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

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

4906-6-08 PUBLIC NOTICE

4906-6-08(A): Newspaper Notice

Because this accelerated application falls with the definition of Letter of Notification, within seven (7) days of the filing of this Letter of Notification, VEDO will cause public notice of this Letter of Notification to be published in the *Fairborn Daily Herald* the local newspaper for the City of Fairborn, The *Yellow Springs News*, and the

Xenia Gazette. All three of these publications serve the area around the Cemex-Morris Bean Pipeline replacement.

Attachment K, the proposed newspaper publication fulfills the requirements OAC Rule 4906-6-08(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, VEDO will also send a letter describing the proposed facility to each property owner and affected tenant **(Attachment B-2)** that meets the requirements of OAC Rule 4906-6-08.

When the letter has been sent, VEDO will cause a proof of compliance with the property owner/tenant letter requirements to be provided to the Board Staff.

ATTACHMENT A

PROJECT VICINITY MAP

Cemex-Morris Bean Project Site Map

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

Pipeline

Area of Investigation

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Project Site Map

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

Pipeline

Area of Investigation

UTI

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

ATTACHMENT B

NOTIFICATION LETTERS TO PROPERTY OWNERS

ATTACHMENT B-1

Vectren Corporation
P.O. Box 209
Evansville, IN 47702

October 26, 2016

Property Owner or Affected Tenant
Address

Dear Property Owner or Affected Tenant:

New Pipeline Project
Vectren Energy Delivery of Ohio (Vectren) is preparing to replace approximately 2.66 miles of pipeline (Z-50 Cemex Pipeline Replacement Project). Construction of the pipeline will travel through both the City of Fairborn and Bath Township, starting approximately 1,600 feet east of Trebein Road, approximately 1,800 feet south of the intersection of Dayton Yellow Springs Road in Fairborn Ohio. The pipe will then travel east through portions of Fairborn and Bath Township crossing two roads/streets before terminating at Enon Country Club station located on West Enon Road, approximately 2,500 feet south of the intersection of West Hyde Road in Fairborn, Ohio.

Vectren is the owner of an easement/permit on or near your property, pursuant to and within which it operates and maintains a natural gas pipeline. Please be assured that during work on the project described above, all of Vectren'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
Vectren anticipates that construction of the replacement pipeline will commence on or about March 1, 2017. The construction is expected to last until approximately late October 2017.

Restoration Activities
Vectren will restore your property to the state that it was in prior to Vectren's construction activities. It expects that the restoration activities will be completed by October 31, 2017.

Property Owners/Tenants
Because we may not have a complete list of tenants, Vectren requests that property owners who have leased and/or optioned land for the project and who have tenants on the leased and/or optioned land, share this letter with them. Also, if you are receiving this letter and are not the property owner, please share this letter with the property owner or contact Vectren at 1-937-440-1880 with the property owner's name and address so that information may be sent to them.

Questions
Should you have any questions concerning this pipeline replacement project, please contact Vectren at 1-937-440-1880.

Sincerely,

Vectren Energy Delivery of Ohio

Vectren Corporation
P.O. Box 209
Evansville, IN 47702

October 26, 2016

Property Owner or Affected Tenant
Address

Dear Property Owner or Affected Tenant:

New Pipeline Project
Vectren Energy Delivery of Ohio (Vectren) is preparing to replace approximately 0.25 miles of pipeline (Z-50 Morris Bean Pipeline Replacement Project). Construction of the pipeline will travel Miami Township, starting approximately 3,585 feet east of SR 68, approximately 2,390 feet south of the East Hyde Road in Yellow Springs, Ohio. The pipe will then travel east crossing the Little Miami Scenic Bike Path before terminating, approximately 409 feet east of the Little Miami Scenic Bike Path.

Vectren is the owner of an easement/permit on or near your property, pursuant to and within which it operates and maintains a natural gas pipeline. Please be assured that during work on the project described above, all of Vectren'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
Vectren anticipates that construction of the replacement pipeline will commence on or about March 1, 2017. The construction is expected to last until approximately late October 2017.

Restoration Activities
Vectren will restore your property to the state that it was in prior to Vectren's construction activities. It expects that the restoration activities will be completed by October 31, 2017.

Property Owners/Tenants
Because we may not have a complete list of tenants, Vectren requests that property owners who have leased and/or optioned land for the project and who have tenants on the leased and/or optioned land, share this letter with them. Also, if you are receiving this letter and are not the property owner, please share this letter with the property owner or contact Vectren at 1-937-440-1880 with the property owner's name and address so that information may be sent to them.

Questions
Should you have any questions concerning this pipeline replacement project, please contact Vectren at 1-937-440-1880.

Sincerely,

Vectren Energy Delivery of Ohio

ATTACHMENT B-2

[DATE]

Via Regular U.S. Mail

Re: Application of Vectren Energy Delivery of Ohio
Z-50 Cemex Pipeline Replacement Project, Greene County, Ohio
OPSB Case No. 16-2175-GA- BLN

) Property Owners and Tenants within the route of the proposed project
) Property Owners and Tenants who are located contiguous to the proposed site
Dear) 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

Introduction

This letter is being sent to you as required by Ohio Administrative Code Rule 4906-6-08(B) because Vectren Energy Delivery of Ohio (Vectren) has filed an accelerated application, Letter of Notification, with the Ohio Power Siting Board (OPSB or Board). This letter is being sent to:

- all property owners and tenants whose property is located within or along the project route;
- all property owners and tenants whose property is located contiguous to the project route; and
- all property owners and tenants who may be approached by Vectren for any additional easement necessary for the construction, operation, or maintenance of the project.

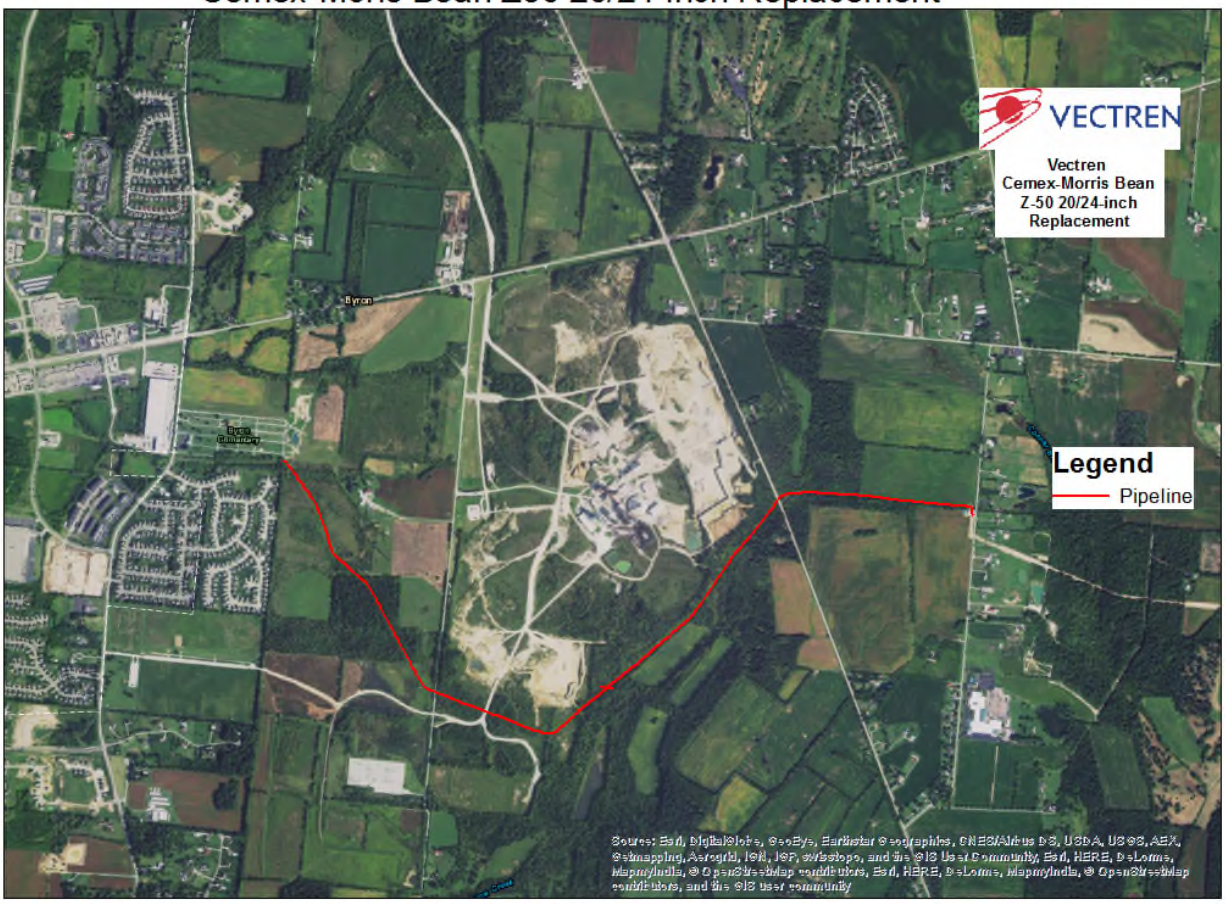
Because we do not have a complete list of tenants, we request that property owners who have leased and/or optioned land for the project and who have tenants on the leased and/or optioned land, share this letter with them. If you have tenants that are on the adjacent land, kindly share this letter with them or contact me with the tenant names and addresses so that we can send them information. Also, if you are receiving this letter and are not the property owner, please share this letter with the property owner or contact me with the property owner's name and address so that we can send them information.

Description of Facility

Vectren Energy Delivery of Ohio (Vectren) is preparing to replace approximately 2.66 miles of pipeline (Z-50 Cemex Pipeline Replacement Project). Construction of the pipeline will travel through both the City of Fairborn and Bath Township, starting approximately 1,600 feet east of Trebein Road, approximately 1,800 feet south of the intersection of Dayton Yellow Springs Road in Fairborn Ohio. The pipe will then travel east through portions of Fairborn and Bath Township crossing two roads/streets before terminating at Enon Country Club station located on West Enon Road, approximately 2,500 feet south of the intersection of West Hyde Road in Fairborn, Ohio.
The proposed new pipeline will be entirely within an existing Vectren right-of-way.

The location of the proposed pipeline is shown on the map below:

Cemex-Moris Bean Z50 20/24-inch Replacement



A Letter of Notification (LON) has been filed with the OPSB as Case No. 16-2175-GA-BLN in order to replace, operate, and maintain the proposed pipeline described above.

The Letter of Notification is available for public inspection at the Greene County Public Library located at 503 Kinsey Road, Xenia, Ohio 453852. A copy of the Letter of Notification can also be viewed on Vectren's web page at www.vectren.com/ohiopipeline.

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 receipt of this letter. 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 .

Conclusion

For questions, please contact Project Manager Tom Jones at (937) 440-1880 or e-mail at tfjones@vectren.com.

Sincerely,

VECTREN ENERGY DELIVERY OF OHIO

[DATE]

Via Regular U.S. Mail

Re: Application of Vectren Energy Delivery of Ohio
Z-50 Ceme-Morris Bean Pipeline Replacement Project, Greene County, Ohio
OPSB Case No. 16-2175-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

Introduction

This letter is being sent to you as required by Ohio Administrative Code Rule 4906-6-08(B) because Vectren Energy Delivery of Ohio (Vectren) has filed an accelerated application, Letter of Notification, with the Ohio Power Siting Board (OPSB or Board). This letter is being sent to:

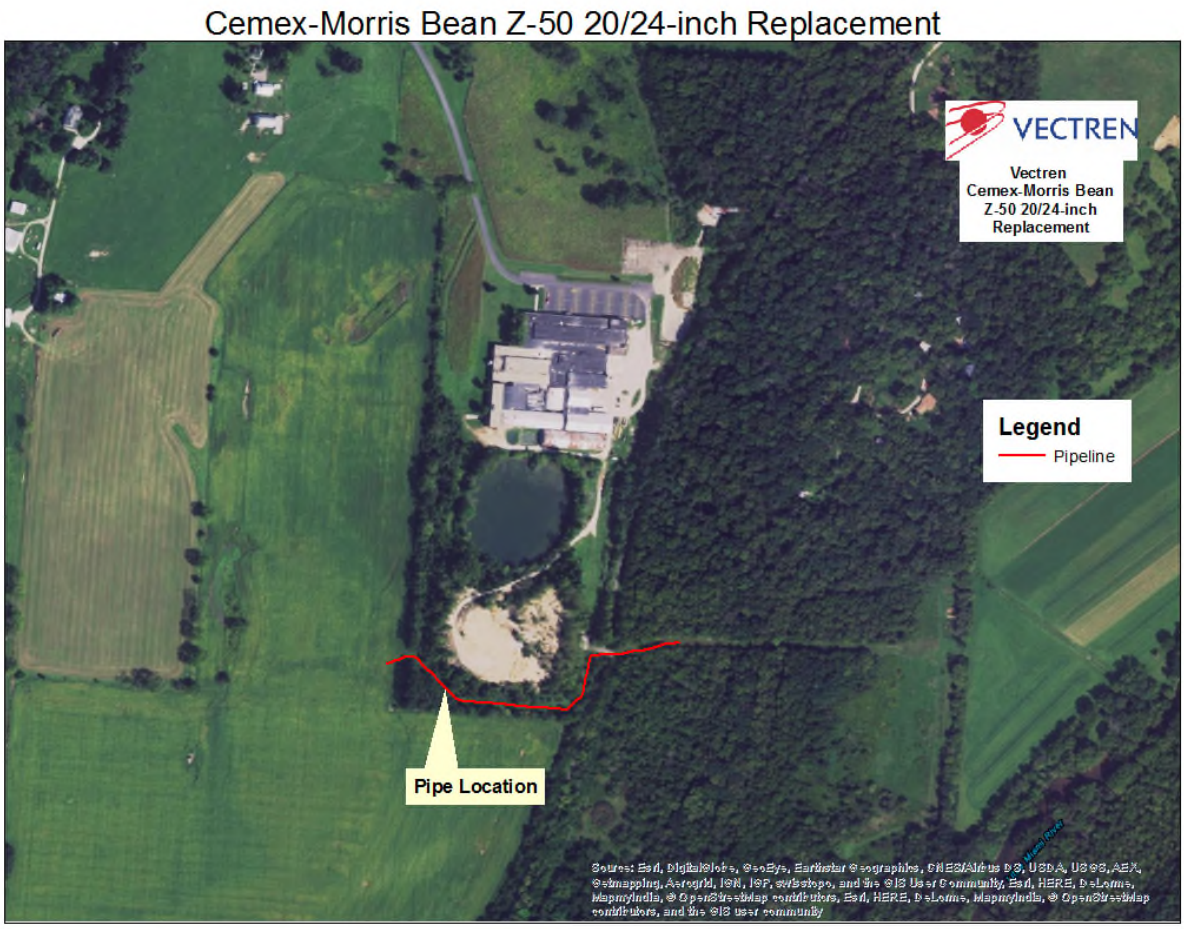
- all property owners and tenants whose property is located within or along the project route;
- all property owners and tenants whose property is located contiguous to the project route; and
- all property owners and tenants who may be approached by Vectren for any additional easement necessary for the construction, operation, or maintenance of the project.

Because we do not have a complete list of tenants, we request that property owners who have leased and/or optioned land for the project and who have tenants on the leased and/or optioned land, share this letter with them. If you have tenants that are on the adjacent land, kindly share this letter with them or contact me with the tenant names and addresses so that we can send them information. Also, if you are receiving this letter and are not the property owner, please share this letter with the property owner or contact me with the property owner's name and address so that we can send them information.

Description of Facility

Vectren Energy Delivery of Ohio (Vectren) is preparing to replace approximately 0.25 miles of pipeline (Z-50 Morris Bean Pipeline Replacement Project). Construction of the pipeline will travel Miami Township, starting approximately 3,585 feet east of SR 68, approximately 2,390 feet south of the East Hyde Road in Yellow Springs, Ohio. The pipe will then travel east crossing the Little Miami Scenic Bike Path before terminating, approximately 409 feet east of the Little Miami Scenic Bike Path. The proposed new pipeline will be entirely within an existing Vectren right-of-way.

The location of the proposed pipeline is shown on the map below:



A Letter of Notification (LON) has been filed with the OPSB as Case No. 16-2175-GA-BLN in order to replace, operate, and maintain the proposed pipeline described above.

The Letter of Notification is available for public inspection at the Greene County Public Library located at 503 Kinsey Road, Xenia, Ohio 453852. A copy of the Letter of Notification can also be viewed on Vectren's web page at www.vectren.com/ohiopipeline.

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 receipt of this letter. 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 .

Conclusion

For questions, please contact Project Manager Tom Jones at (937) 440-1880 or e-mail at tfjones@vectren.com.

Sincerely,

VECTREN ENERGY DELIVERY OF OHIO

[DATE]

ADDRESS

Dear Property Owner or Affected Tenant:

New Pipeline Project
As we indicated to you in prior letters, Vectren Energy Delivery of Ohio (Vectren) is preparing to replace approximately 2.66 miles of pipeline (Z-50 Cemex Pipeline Replacement Project). Construction of the pipeline will travel through both the City of Fairborn and Bath Township, starting approximately 1,600 feet east of Trebein Road, approximately 1,800 feet south of the intersection of Dayton Yellow Springs Road in Fairborn Ohio. The pipe will then travel east through portions of Fairborn and Bath Township crossing two roads/streets before terminating at Enon Country Club station located on West Enon Road, approximately 2,500 feet south of the intersection of West Hyde Road in Fairborn, Ohio.

Vectren is the owner of an easement/permit on or near your property, pursuant to and within which it operates and maintains a natural gas pipeline. Please be assured that during work on the project described above, all of Vectren'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
Vectren anticipates that construction of the replacement pipeline will commence on or about March 1, 2017. The construction is expected to last until approximately October 31, 2017.

Restoration Activities:
Vectren will restore your property to the state that it was in prior to Vectren's construction activities. It expects that the restoration activities will be completed by October 31, 2017.

Property Owners/Tenants
Because we may not have a complete list of tenants, Vectren requests that property owners who have leased and/or optioned land for the project and who have tenants on the leased and/or optioned land, share this letter with them. Also, if you are receiving this letter and are not the property owner, please share this letter with the property owner or contact Vectren at 1-800-227-1376 with the property owner's name and address so that information may be sent to them.

Questions/Complaints:
Should you have any questions concerning this pipeline project, please call Vectren at 1-800-227-1376.

Vectren's complaint resolution process:

(1) Vectren has a toll-free phone number, 1-800-227-1376. A member of the public who has a complaint about pipeline segment construction activities may call this toll-free number and leave a message 24 hours a day. When prompted, the caller should say, "Problem with my service," and reference Case No. 16-2013-GA-BLN. A Vectren representative will promptly return a call.

(2) After the complaint is registered using the toll-free number, a person who registers a complaint will receive a response summarizing the complaint, the requested relief and, if appropriate, a request from Vectren to provide additional information. When the complaint is received, Vectren will initiate reasonable action to resolve any legitimate interference that is a direct result of the pipeline project.

(3) Vectren will be responsible for keeping a log book which registers every complaint received from the toll-free number that contains the complaining person's contact information, the date of the complaint was received, and other pertinent issues surrounding the complaint. The log book will also document the resolution that Vectren suggests, the date the person complaining agreed to the proposed resolution and the date when the proposed resolution was implemented.

(4) If the person complaining declines the Vectren proposed resolution, the log book will list the date of the refusal.

(5) If the action Vectren has taken to ameliorate the disturbance does not satisfy the person complaining, Vectren will provide the person complaining a summary of the complaint, the proposed resolution and the date the amelioration was implemented. Vectren will copy the summary to the Ohio Power Siting Board Staff, so that the person complaining may bring the complaint to the Ohio Power Siting Board.

Sincerely,

VECTREN ENERGY DELIVERY OF OHIO

ATTACHMENT C

1:24,000 PROJECT SCALE MAP

Cemex-Morris Bean Project Site Map 1:24,000 Scale P. 1

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

Pipeline

Area of Investigation

UTI

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Project Site Map 1;24,000 Scale Map P. 2

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

Pipeline

Area of Investigation

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

ATTACHMENT D
(PART 2)

PHASE I CULTURAL RESOURCE MANAGEMENT INVESTIGATION

CEMEX SECTION

AND

MORRIS BEAN SECTION

ATTACHMENT D-2

Phase I Cultural Resource Management Investigations for the 366 m (1,200 ft) Morris Bean Pipeline Relocation in Miami Township, Greene County, Ohio

Ryan J. Weller
Craig Schaefer

August 4, 2016

1395 West Fifth Ave.
Columbus, OH 43212
Phone: 614.485.9435
Fax: 614.485.9439
Website: www.wellercrm.com

Phase I Cultural Resource Management Investigations for the 366 m (1,200 ft) Morris Bean Pipeline Relocation in Miami Township, Greene County, Ohio

By

Ryan J. Weller
Craig Schaefer

Submitted By:

Ryan J. Weller, P.I.
Weller & Associates, Inc.
1395 West Fifth Ave.
Columbus, OH 43212
Phone: 614.485.9435 Fax: 614.485.9439
Website: www.wellercrm.com

Prepared for:

UTI Corporation
4700 Homer Ohio Lane
Groveport, OH 43125

Lead Agency:

Ohio Power Siting Board (OPSB)

Ryan Weller, P.I.

August 4, 2016

W-1968

Abstract

In June, 2016 Weller & Associates, Inc. conducted Phase I cultural resource management investigations for the 366 m (1,200 ft) Morris Bean Pipeline Relocation in Miami Township, Greene County, Ohio. The lead agency is the Ohio Power Siting Board, there is no federal agency involved. A cultural resources management (CRM) survey was conducted in manner that is reflective of surveys that are performed for the National Register of Historic Places (NRHP) pursuant to Section 106 of the National Historic Preservation Act. These investigations included a literature review and field reconnaissance focusing on the areas that were being impacted as part of planned constructions. No archaeological sites or aboveground resources were identified as a result of these investigations.

The project involves the relocation of a pipeline. This is located in a rural, upland setting that is to the east of SR and south and west of East Hyde Road. The Morris Bean plant is just north of the project corridor. The project will cross the Little Miami Scenic Trail, a former railroad grade. The nearest community is Yellow Springs, which is to the north. The project corridor includes agricultural fields, disturbed/fill land, and deciduous forestation that is positioned on the western side of the Little Miami River Valley.

The literature review that was conducted for this project indicated that there is one previous survey involved in the southern part of the project corridor. This survey (Scheurer 1983) was conducted for a pipeline and it identified most of the sites in the study area. There were six recorded archaeological sites identified in the study area with one site, 33GR1168, being identified in close proximity to the southeastern part. Inspection of aerial images suggests that there is an extant pipeline easement that is centrally located within the project corridor.

The field investigations involved subsurface testing, surface collection, and visual inspection. There were no cultural resources identified within the project area during the systematic Phase I investigations. There are no buildings or structures older than 50 years located within or near the project area. This project is considered to have 'no effect to historic properties'. No further CRM work is deemed necessary.

Table of Contents

List of Tables and Figures

List of Tables

List of Figures

Introduction

In July of 2016, Weller & Associates, Inc. (Weller) conducted a Phase I archaeological survey for the proposed Morris Bean Pipeline Relocation in Miami Township, Greene County, Ohio. This investigation was performed under contract with UTI Corporation. The lead agency for this undertaking is the Ohio Power Siting Board (OPSB). Weller was contracted by UTI Corporation to conduct the cultural resources survey. The sampling and intent of the work is reflective of Phase I investigations as would be outlined in *Archaeology Guidelines* (Ohio Historic Preservation Office [OHPO] 1994). The report is prepared in a manner that is suitable for review regarding Section 106 of the National Historic Preservation Act (NHPA); however, it is Weller's understanding that this project does not have a federal nexus. This report summarizes the results of the fieldwork and literature review.

The project will consist of the relocation of an approximately 366 m (1,200 ft) long section of pipeline. The project is located south of East Hyde Road between US 68 and Clifton Road at the southern edge of Yellow Springs in Miami Township, Greene County, Ohio. The relocation traverses the southern limits of the Morris Bean & Company Foundry property. The entire corridor is within forested and fallow area. The survey will include 30.5 m (100 ft) to either side of the project centerline.

Craig Schaefer conducted the literature review on June 28, 2016. Ryan Weller served as the Principal Investigator and Chris Nelson was the Project Manager. The field crew included Ryan Weller, Brittany Vance, Matt Sanders, and Alex Thomas. The report was prepared by Ryan with Alex Thomas and Chad Porter completing the figures.

Environmental Setting

Climate

Greene County, like the rest of Ohio, has a continental climate with hot and humid summers and cold winters. About 99 cm (39 in) of precipitation falls annually with the average monthly precipitation about 8.3 cm (3.25 in). January and February are the driest months, while May is the wettest month for Greene County (Mahan et al 1998; U.S. Department of Agriculture, Soil Conservation Service [USDA, SCS] 1978).

Physiography, Relief, and Drainage

Greene County is located within the Till Plains physiographic region of Ohio and, more specifically, the project is located on the Southern Ohio Loamy Till Plain. This region is characterized by "end and recessional moraines, between relatively flat-lying ground moraine, cut by steep-valleyed large streams, with elevations ranging from 530-1150 ft" (Brockman 1998). The project corridor is drained by the Little Miami River, which flows into the Ohio River.

Geology

The project corridor is situated on the Southern Ohio Loamy Till Plain, an area of "loamy, high-lime Wisconsin-age till, outwash, and loess over Lower Paleozoic-age carbonate rocks and, in the east, shales" (Brockman 1998).

Soils

The project corridor is located in the Miamian-Celina and Milton-Miamian associations. These soil associations are characterized by "gently sloping to steep, well drained and moderately well drained soils that formed in loam glacial till; on uplands" and "Nearly level to very steep, well drained soils that formed in loam glacial till overlying limestone bedrock, and well drained soil that formed in loam glacial till; on uplands" (USDA, SCS 1978 [2016]). The project area contains three soil types (Table 1)

Table 1. Soils in the Project Area.

Soil Symbol	Soil Name	% Slope	Location
RdA	Raub silt loam	0-2	Ground Moraines, slight rises
RtB	Rush silt loam	2-6	Moraines, till plains, flats and gentle slope
RvB	Russell-Miamian silt loams	2-6	Ground moraines, gently sloping uplands

Flora

There is or at least was great floral diversity in Ohio. This diversity is relative to the soils and the terrain that generally includes the till plain, lake plain, terminal glacial margins, and unglaciated plateau (Forsyth 1970). Three major glacial advances, including the Kansan, Illinoisan, and Wisconsinan, have affected the landscape of Ohio. The effects of the Wisconsin glaciation are most pronounced and have affected more than half of the state (Pavey et al. 1999).

The least diverse part of Ohio extends in a belt from the northeast below the lake-affected areas through most of western Ohio (Gordon 1966). These areas are part of the late Wisconsin ground moraine and lateral end moraines. It is positioned between the lake plains region and the terminal glacial moraines. This area included broad forested areas of beech maple forests interspersed with mixed oak forests in elevated terrain or where relief is greater (Forsyth 1970; Gordon 1966). Prairie environments such as those in Wyandot and Marion County areas would contain islands of forests, but were mostly expansive open terrain dominated by grasses.

Generally, beech forests are the most common variety through Ohio and could be found in all regions. Oak and hickory forests dominated the southeastern Ohio terrain and were found with patchy frequency across most of northern Ohio. Areas that were formerly open prairies and grasslands are in glacial areas, but are still patchy. These are in the west central part of the state. Oak and sugar maple forests occur predominantly

along the glacial terminal moraine. Elm-ash swamp forests are prevalent in glaciated areas including the northern and western parts of Ohio (Gordon 1966; Pavey et al. 1999).

Greene County, including the project area, is generally within what is considered to be a beech and oak-sugar maple forestation (Gordon 1966).

Fauna

The upland forest zone offered a diversity of mammals to the prehistoric diet. This food source consisted of white-tailed deer, black bear, Eastern cottontail rabbit, opossum, a variety of squirrels, as well as other less economically important mammals. Several avian species were a part of the upland prehistoric diet as well (i.e. wild turkey, quail, ruffed grouse, passenger pigeon, etc.). The lowland zone offered significant species as well. Raccoon, beaver, and muskrat were a few of the mammals, while wood duck and wild goose were the economically important birds. Fishes and shellfish were also an integral part of the prehistoric diet. Ohio muskellunge, yellow perch, white crappie, long nose gar, channel catfish, pike, and sturgeon were several of the fish, whereas, the Ohio naiad mollusc, butterfly's shell, long solid, common bullhead, knob rockshell, and cod shell were the major varieties of shellfish. Reptiles and amphibians, such as several varieties of snakes, frogs, and turtles, were also part of the prehistoric diet (Trautman 1981; Lafferty 1979; Mahr 1949).

Cultural Setting

The first inhabitants of Ohio were probably unable to enter this land until the ice sheets of the Wisconsin glacier melted around 14,000 B.C. Paleoindian sites are considered rare due to the age of the sites and the effects of land altering activities such as erosion. Such sites were mostly used temporarily and thus lack the accumulation of human occupational deposits that would have been created by frequent visitation. Paleoindian artifact assemblages are characteristic of transient hunter-gatherer foraging activity and subsistence patterns. In Ohio, major Paleoindian sites have been documented along large river systems and near flint outcrops in the Unglaciated Plateau (Cunningham 1973). Otherwise, Paleoindian sites in the glaciated portions of Ohio are encountered infrequently and are usually represented by isolated finds or open air scatters.

The Paleoindian period is characterized by tool kits and gear utilized in hunting Late Pleistocene megafauna and other herding animals including but not limited to short-faced bear, barren ground caribou, flat-headed peccary, bison, mastodon, and giant beaver (Bamforth 1988; Brose 1994; McDonald 1994). Groups have been depicted as being mobile and nomadic (Tankersley 1989); Paleoindian artifacts include projectile points, multi-purpose unifacial tools, burins, gravers, and spokeshaves (Tankersley 1994). The most diagnostic artifacts associated with this period are fluted points that exhibit a groove or channel positioned at the base to facilitate hafting. The projectiles dating from the late Paleoindian period generally lack this trait; however, the lance form of the blade is retained and is often distinctive from the following Early Archaic period (Justice 1987).

The Archaic period has been broken down into three sub-categories including the Early, Middle, and Late Archaic. During the Early Archaic period (ca. 10,000-8000 B.P.), the environment was becoming increasingly arid as exhibited by the canopy (Shane 1987). This period of dryness allowed for the exploitation of areas that were previously inaccessible or undesirable. The Early Archaic period does not diverge greatly from the Paleoindian regarding the type of settlement. Societies still appear to be largely mobile with reliance on herding animals (Fitting 1963). For these reasons, Early Archaic artifacts can be encountered in nearly all settings throughout Ohio. Tool diversity increased at this time to include hafted knives that were often re-sharpened by the process of beveling the utilized blade edge and intense basal grinding (Justice 1987). There is a basic transition from lance-shaped points to those with triangular blades. Notching becomes a common hafting technique. Other characteristic traits occurring almost exclusively in the Early and Middle Archaic periods are basal bifurcation and large blade serrations. Tool forms begin to vary more and may be a reflection of differential resource exploitation. Finished tools from this period can include bifacial knives, points, drills/perforators, utilized flakes, and scrapers.

The Middle Archaic period (8000-6000 B.P.) is poorly understood in Ohio. Some (e.g., Justice 1987) regard small bifurcate points as being indicative of this period. Ground stone artifacts become more prevalent at this time. Other hafted bifaces exhibit large side notches with squared bases, but this same trait can extend back to the Paleoindian period. The climate at this time is considered to be modern. The Middle Archaic period subsistence tended to be associated with small patch foraging involving a consistent need for mobility with a shift towards stream valleys (Stafford 1994). Sites encountered from this time period through most of Ohio tend to be lithic scatters or isolated finds. The initial appearance of regional traits seems to occur at this time.

The Late Archaic period in Ohio (ca 6000-3000 B.P.) diverges from the previous periods in many ways. Preferred locations appear to have been repeatedly occupied. The more intensive and repeated occupations often resulted in the creation of greater social and artifact complexity. The environment at this time is warmer and drier. Most elevated landforms in northeastern Ohio have yielded Archaic artifacts (Prufer and Long 1986: 7), and the same can be stated for the remainder of Ohio.

Various artifacts are diagnostic of the Late Archaic period. Often, burial goods provide evidence that there was some long-distance movement of materials, while lithic materials used in utilitarian assemblages are often from a local chert outcrop. There is increased variation in projectile point styles that may reflect regionalism. Slate was often used in the production of ornamental artifacts. Ground and polished stone artifacts reached a high level of development. This is evident in such artifacts as grooved axes, celts, bannerstones, and other slate artifacts.

It is during the Terminal Archaic period (ca 3500-2500 B.P.) that extensive and deep burials are encountered. Regional Terminal Archaic expressions within Ohio include Crab Orchard in the southwest, Glacial Kame in the north, and Meadowood in

central to northeastern Ohio. Along the Ohio River, the intensive Riverton culture occupations have been documented. Pottery makes its first appearance during the Terminal Late Archaic.

The Early Woodland period (ca 3000-2100 B.P.) in Ohio is often associated with the Adena culture and the early mound builders (Dragoo 1976). Early and comparably simple geometric earthworks first appear with mounds more spread across the landscape. Pottery at this time is often thick and tempered with grit, grog, or limestone; however, it becomes noticeably thinner towards the end of the period. There is increased emphasis on gathered plant material, including maygrass, chenopodium, sunflower, and squash. Habitation sites have been encountered that include circular structures having a diameter of up to 18.3 m (Webb and Baby 1963) and often with paired posts (Cramer 1989). Artifacts dating from this period include leaf-shaped blades with parallel to lobate hafting elements, drilled slate pieces, ground stone, thick pottery, and increased use of copper. Early Woodland artifacts can be recovered from every region of Ohio.

The Middle Woodland period (ca 2200-1600 B.P.) is often considered to be equivalent to the Hopewell culture. The largest earthworks in Ohio date from this time period. There is dramatic increase in the appearance of exotic materials that appear most often in association with earthworks and burials. Artifacts representative of this period include grit-tempered and thinner pottery, dart-sized projectile points (Lowe Flared, Steuben, Snyders, and Chesser) [Justice 1987], exotic materials (mica, obsidian, and marine shell, etc.). The points are often thin, bifacially beveled, and with flat cross-sections. There seems to have been a marked increase in the population as well as increased levels of social organization. Middle Woodland sites seem to reflect a seasonal exploitation of the environment. There is a notable increase in the amount of Eastern Agricultural Complex (EAC) plant cultigens, including chenopodium, knotweed, sumpweed, and little barley. This seasonal exploitation may have followed a scheduled resource extraction year in which the populations moved camp several times per year, stopping at known resource extraction loci. Middle Woodland land use appears to focus on the regions surrounding earthworks (Dancey 1992; Pacheco 1996); however, there is evidence of repeated occupation away from earthworks (Weller 2005). Household structures at this time vary with many of them being squares with rounded corners (Weller 2005). Exotic goods are often attributed to funerary activities associated with the mounds and earthworks. Utilitarian items are more frequently encountered outside of funerary/ritual contexts. The artifact most diagnostic of this period is the bladelet (and core), a prismatic and thin razor-like tool. Middle Woodland remains are more commonly recovered from central Ohio south and are lacking from most areas in the northern and southeastern part of the state.

The Late Woodland period (ca A.D. 400-900) is separable from the previous period in several ways. There appears to be a population increase and a more noticeable aggregation of groups into formative villages. The villages are often positioned along large streams, on terraces, and were likely seasonally occupied (Cowan 1987). This increased sedentism was due in part to a greater reliance on horticultural garden plots, much more so than in the preceding Middle Woodland period. The early Late Woodland

groups were growing a wide variety of EAC crop plants that included maygrass, sunflower, and domesticated forms of goosefoot and sumpweed. This starch and protein diet was supplemented with wild plants and animals. Circa A.D. 800 to 1000, populations adopted maize agriculture, and around this same time, shell-tempered ceramics appear. Other technological innovations and changes during this time period included the bow and arrow and changes in ceramic vessel forms.

Newtown is an early Late Woodland phase in the Miami River Valley that has been dated to A.D. 450-800 (Seeman 1981). The geographic range of this phase is southern Ohio and northern Kentucky. Typical artifacts recovered from Newtown phase sites include Chesser Notched projectile points, flint and ground stone celts, rectangular slate gorgets, and limestone and shale discs. There is an absence of any triangular points or bladelets. Newtown phase pottery is typically vertically cord-marked with angular shoulders.

The Late Prehistoric period (ca A.D. 1000-1550) is distinctive from former periods. At this time, regions were a major focus of specific groups. Large and sometimes palisaded villages were usually tied to a regional focus such as Fort Ancient (southern half of Ohio) or Monongahela (east and southeast Ohio). There is a marked increase of evidence supporting residential sedentism. Population density rose sharply with new and more effective means of resource and land exploitation. Communal aggregations such as villages are comparably marked after 700 AD (Fuller 1981; Pollack and Henderson 2000). Maize or corn agriculture as well as other cultigens made up a significant portion of the prehistoric diet. There appears to be an increase in domestic pottery production. Social organization is presumed to have become more complex and possibly moved towards a chiefdom model during the Late Prehistoric period. Artifact types are similar to those from the previous period; however, pottery is often thinner with differing decorative treatments that express regional differences. Structures can be round or elongated ovals with larger sites often being located in large stream valleys.

In southwestern Ohio, the descendant of the Late Woodland Newtown culture was the Fort Ancient culture (A.D. 1000-1670) [Pollack and Henderson 2000: 195]. There were three distinct phases within the culture: the Turpin phase, the Shomaker phase, and the Mariemont phase. Type sites for the culture include the Turpin site along the Little Miami River in Hamilton County and the Shomaker site in the lower Great Miami River Valley. Artifacts commonly associated with Fort Ancient sites include shell-tempered pottery, spatula-shaped celts, stone discoidals, triangular projectile points, antler harpoon heads, spades, and wall trench architecture. Fort Ancient villages often have central plazas, as well as stockades that encircled the villages (Cowan 1987).

Protohistoric to Settlement

By the mid-1600s, French explorers traveled through the Ohio country as trappers, traders, and missionaries. They kept journals about their encounters and details of their travels. These journals are often the only resource historians have regarding the early occupants of seventeenth century Ohio. The earliest village encountered by the

explorers in 1652 was a Tionontati village located along the banks of Lake Erie and the Maumee River. Around 1670, it is known that three Shawnee villages were located along the confluence of the Ohio River and. the Little Miami River. Because of the Iroquois Wars, which continued from 1641-1701, explorers did not spend much time in the Ohio region and little else is known about the natives of Ohio during the 1600s. Although the Native American tribes of Ohio may have been affected by the outcome of the Iroquois Wars, no battles occurred in Ohio (Tanner 1987).

French explorers traveled extensively through the Ohio region from 1720-1761. During these expeditions, the locations of many Native American villages were documented. In 1751, a Delaware village known as Maguck existed near present-day Chillicothe. In 1758, a Shawnee town known as Lower Shawnee 2 existed at the same location. The French also documented the locations of trading posts and forts, which were typically established along the banks of Lake Erie or the Ohio River (Tanner 1987).

While the French were establishing a claim to the Ohio country, many Native Americans were also entering new claims to the region. The Shawnee were being forced out of Pennsylvania because of English settlement along the eastern coast. The Shawnee created a new headquarters at Shawnee Town, which was located at the mouth of the Scioto River. This headquarters served as a way to pull together many of the tribes which had been dispersed because of the Iroquois Wars (Tanner 1987).

Warfare was bound to break out as the British also began to stake claims in the Ohio region by the mid-1700s. The French and Indian War (1754-1760) affected many Ohio Native Americans; however, no battles were recorded in Ohio (Tanner 1987). Although the French and Indian War ended in 1760, the Native Americans continued to fight against the British explorers. In 1764, Colonel Henry Bouquet led a British troop from Fort Pitt, Pennsylvania to near Zanesville, Ohio.

In 1763, the Seven Years' War fought between France and Britain, also known as the French and Indian War ended with The Treaty of Paris. In this Peace of Paris, the French ceded their claims in the entire Ohio region to the British. When the American Revolution ended with the Second Treaty of Paris in 1783, the Americans gained the entire Ohio region from the British; however, they designated Ohio as Indian Territory. Native Americans were not to move south of the Ohio River but Americans were encouraged to head west into the newly acquired land to occupy and govern it (Tanner 1987).

By 1783, Native Americans had established fairly distinct boundaries throughout Ohio. The Shawnee tribes generally occupied southwest Ohio, while the Delaware tribes stayed in the eastern half of the state. Wyandot tribes were located in north-central Ohio, and Ottawa tribes were restricted to northeast Ohio. There was also a small band of Mingo tribes in eastern Ohio along the Ohio River, and there was a band of Mississauga tribes in northeastern Ohio along Lake Erie. The Shawnee people had several villages within Ross County along the Scioto River (Tanner 1987). Although warfare between tribes continued, it was not as intense as it had been in previous years. Conflicts were

contained because boundaries and provisions had been created by earlier treaties.

In 1795, the Treaty of Greenville was signed as a result of the American forces defeat of the Native American forces at the Battle of Fallen Timbers. This allocated the northern portion of Ohio to the Native Americans, while the southern portion was opened for Euro-American settlement. Although most of the battles which led up to this treaty did not occur in Ohio, the outcome resulted in dramatic fluctuations in the Ohio region. The Greenville Treaty line was established, confining all Ohio Native Americans to northern Ohio, west of the Tuscarawas River (Tanner 1987).

Ohio Native Americans were again involved with the Americans and the British in the War of 1812. Unlike the previous wars, many battles were fought in the Ohio country during the War of 1812. By 1815, peace treaties began to be established between the Americans, British, and Native Americans. The Native Americans lost more and more of their territory in Ohio. By 1830, the Shawnee, Ottawa, Wyandot, and Seneca were the only tribes remaining in Ohio. These tribes were contained on reservations in northwest Ohio. By the middle 1800s, the last of the Ohio Native Americans signed treaties and were removed from the Ohio region.

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Greene County History

Lands that were to become Greene County were originally part of the Virginia Military District (VMD) in 1783. The VMD included all the land east of the Little Miami River in Greene County, including Cedarville Township. The Symmes Purchase occurred in 1788 and included the lands surveyed for the VMD west of the Little Miami River. The first Euro American settlement of the county occurred in 1796 by John Wilson in Sugar Creek Township. Other significant frontiersmen such as James Galloway and John Townsley also settled in the county soon after. Most of the first settlers were from Virginia and Kentucky. These early settlers were mainly agriculturalists who raised livestock and produced grass and corn crops. An agriculturally based economy dominated this area during the first two decades of the nineteenth century (Broadstone 1918, Dills 1881, Patterson 1908).

The Ohio State Legislature formed Greene County from lands of Ross and Hamilton counties in 1803, and named the new county after a hero from the War for Independence, General Nathaniel Greene. Several roadways came into Greene in the early nineteenth century, including a part of the National Road in 1836-1837. Railroads arrived in 1842 with the construction of the Little Miami Railroad. Xenia became the railroad hub of Greene County and became the largest town in the county during the 1850s because of the increase in industry and the access to the rail lines. By the 1870s Xenia had a variety of industries that included wool manufacture, a steam bagging factory, a tannery, tile factories, a sawmill, stone yards, lumber yards, grain depots, carriage manufactories and several mercantile stores. At the turn of the 20th century, Xenia was still the largest city by population and the main center for the county's manufacture of goods (Broadstone 1918, Dills 1881, Robinson 1902). However today the city of Dayton in the western neighbor of Montgomery County has grown in prominence and its suburbs of Beavercreek and Fairborn are large residential and mercantile centers. The military built Wright-Patterson Air Force Base in the City of Fairborn in the 1910s. This is one of the largest employers in all of the Miami Valley. In the twentieth century, rail lines have declined in importance, having been superseded by the development of state routes and interstate road systems. Interstate-675 is a major thoroughfare in the northwest corner and down along the eastern border. Along this freeway many corporate buildings, hotels, and businesses have established themselves since its construction in the mid 1900's (Kilner 1997).

Miami Township

Miami Township is one of twelve in Greene County. It occupies 27.7 square miles, and is part of the Virginia Military District. The Township contains two incorporated villages, Yellow Springs near the center of the Township, and Clifton in the northeastern corner of the Township. The two main drainages are the Yellow Springs Creek and the much larger Little Miami River, both in the Ohio River watershed. It is gently undulating, with the highest elevation in the north, gradually sloping downward to the south. The soil is largely comprised of Late Wisconsinan loam with till, and is also the site of High concentrations of boulders. The most noteworthy feature is a series of

springs and gorges that transect the Township from northeast to southwest. The history and geographical layout of the Township were shaped heavily by these features (Riddell 1896).

Miami Township was organized in 1808 and included a part of what is now Clark County, and northern parts of Ross and Cedarville Townships. Lewis Davis is thought to be the first settler to the area. While in Dayton, a small hamlet at the time, Davis was told of springs with healing properties from a Native American. He set out to discover the source of the rumor and discovered what is today called Yellow Springs, named for the sulfur content that colors the surrounding rock. Davis traveled to Cincinnati and officially entered the land. In 1812 a crude log structure was erected in what was to become the village of Clifton. Reverend Peter Monfort presided over the first gospel from the pulpit that same year. The Little Miami River for which the Township is named forms the boundary between Clark County and the Township for nearly one mile, then flows southeast towards the city of Xenia. Along this river in 1853, William Mills laid out the town of Forrest Village, which later adopted the name of Yellow Springs. The village was laid out on the western edge of the deep ravines that were cut through the landscape by the Little Miami. Yellow Springs subsequently became home to Antioch College, which was recognized nationally as an institute of higher education. Antioch was organized in 1850, legally incorporated in 1852, and reorganized to be known as Antioch College of Yellow Springs, Green County, Ohio in 1859. Yellow Springs is situated along the Little Miami Railroad, which the village become a destination for tourists and curiosity seekers desiring a drink from the healing waters. Another notable feature is the cave on Neff farm. The cave, 4 feet in width and 3 feet in height at the entrance (southward facing), is located ½ mile from Yellow Springs, ¼ mile from the Neff house, and roughly 200 yards from the actual spring. It reportedly contained many human remains that were later identified as those belonging to children, hand-made tools of prehistoric origin, and multiple animal remains (Dills 1881).

Miami Township has a current population of 5,106, with 1,215 living in unincorporated areas. The towns of Yellow Springs, with Antioch College, and Clifton, continue to be the centers for activity. The main throughway is U.S. route 68 which traverses the Township from north to south. Outside of incorporated areas the focus remains primarily agricultural in nature (US Census 2010).

Research Design

The purpose of a Phase I survey is to locate and identify cultural resources that will be affected by the planned development. This includes archaeological deposits as well as architectural properties that are older than 50 years. Once these resources are identified and sampled, they are evaluated for their eligibility or potential eligibility to the NRHP. These investigations are directed to answer or address the following questions:

1) Did the literature review reveal anything that suggests the project area had been previously surveyed, and what is the relationship of previously recorded properties to the project?
2) Are cultural resources likely to be identified in the project?

Archaeological Field Methods

The survey conducted within the project area utilized visual inspection, surface collection, and subsurface testing methods. The majority of the sampling strategy was reliant upon the results of the surface collection.

Shovel test unit excavation. Shovel test units were placed at 15-m intervals where adequate surface visibility was lacking. These measure 50 cm on a side and are excavated to 5 cm below the topsoil/subsoil interface. Individual shovel test units are documented regarding their depth, content and color (Munsell). Wherever sites are identified during this testing method, Munsell color readings are taken per shovel test unit. All of the undisturbed soil matrices from shovel test units are screened using .6 cm hardware mesh. When sites are identified, additional shovel test units will be excavated at 7.5 m intervals extending on grid and in the four cardinal directions from the positive locations.

Shovel probe excavation. Shovel probes were excavated during these investigations to document the extent of the disturbances. These probes were excavated similarly to shovel test units or to the point that disturbance could be clearly determined. They typically have the dimensions of 50 cm on a side, but are not screened. They were excavated at 15-m intervals and to a depth of 15-20 cm or deep enough to establish lack of soil integrity.

Visual inspection. This method was reserved for the areas that were found to be severely disturbed and to document the surroundings relative to determining the area of potential effect.

The application of the resulting field survey methods was documented in field notes, field maps, and project plan maps.

Curation

No artifacts 50 years or older were recovered from this investigation. The field notes and maps for this project will be maintained at Weller & Associates, Inc.

Literature Review

The literature review study area is defined as a 305 m (1,000 ft) radius from the center of the project (Figure 2). In conducting the literature review, the following resources were consulted at OHPO, at the Columbus Metropolitan Library, at the State Library of Ohio, and from various online resources:

1) *An Archaeological Atlas of Ohio* (Mills 1914);
2) OHPO United States Geological Survey (USGS) 7.5' series topographic maps;
3) Ohio Archaeological Inventory (OAI) files;
4) Ohio Historic Inventory (OHI) files;
5) National Register of Historic Places (NRHP) files;
6) OHPO consensus Determinations of Eligibility (DOE) files;
7) OHPO CRM/contract archaeology files; and
8) Greene County atlases, histories, historic USGS 15'series topographic map(s), and current USGS 7.5' series topographic map(s);
9) Online Genealogical and Cemetery mapping.

A review of the *Atlas* (Mills 1914) was conducted. There is an earthwork to the east of the project area and two mounds to the southeast (Figure 4). These appear to be located on the Little Miami River floodplains; the project is positioned on the bluff.

The OHPO topographic maps did not indicate any previously recorded archaeological sites in the project; however, there were six within the study area (Figure 2). All of these sites are associated with temporally unknown prehistoric period isolated find spots or 'light' lithic scatters. These do not appear to be within the project corridor; however, site 33GR1168 is indicated just south of the project corridor. This site form was not filed with the Preservation Office or is not available.

Table 2. Ohio Archaeological Inventory Sites within the Study Area.

OAI number	Site Name	Quad Name	Affiliation	UNPRE	UNARCH	TYPUNK	Zone	Easting	Northing	Area	County	SETTING
GR1444	N/A	Yellow Springs	Prehistoric	Yes	No	No	17	251735	4406920	1	Greene	open
GR1164	N/A	Yellow Springs	Prehistoric	Yes	No	No	17	251580	4406620	1	Greene	open
GR1165	N/A	Yellow Springs	Prehistoric	Yes	No	No	17	251585	4406671	1	Greene	open
GR1166	N/A	Yellow Springs	Prehistoric	Yes	No	Yes	17	251685	4406615		Greene	open
GR1167	N/A	Yellow Springs	Prehistoric	Yes	No	No	17	251870	4406600	1	Greene	open
GR1168	N/A	Yellow Springs	Prehistoric	Yes	No	Yes	17	252055	4406575		Greene	open

The Ohio Historic Inventory (OHI) files indicate that there are no sites recorded within the study area.

A review of the NRHP files and OHPO consensus determination of eligibility files was conducted. There were no properties or sites located within or adjacent to the project area listed in these files.

A review of the CRM/contract indicates that there have been two previous surveys conducted within the study area (Scheurer 1983; Riordan 1987). Scheurer's (1983) survey was completed for a pipeline that extends through the southern part of the project corridor. In 1987, intensive archaeological fieldwork and research was completed

for the Bell Works (33GR0001) by Riordan (1987). This was conducted at a prehistoric earthwork and presumably as part of a field school.

Cartographic/atlas resources were reviewed for the project. No buildings or structures were apparent according to nineteenth century resources. The USGS *1908 Springfield, Ohio 15 Minute Series (Topographic)* map (Figure 4) and the *1968 Yellow Springs, Ohio 7.5 Minute Series (Topographic)* map (Figures 2) were inspected. None of the aforementioned resources indicate any buildings were once within or near the project area.

Evaluation of Research Questions 1 and 2

Based on the results of the literature review, the first two research questions can be addressed.

1) Did the literature review reveal anything that suggests the project had been previously surveyed and what is the relationship of previously recorded properties to the project?
2) Are cultural resources likely to be identified in the project?

The literature review indicated that there are archaeological sites in the study area including one that is to the immediate southeast. However, information regarding these sites is lacking as the forms had not been filed with the Preservation Office. Scheurer (1983) conducted investigations for a pipeline that was installed through the southern part of the project corridor. This survey identified most of the previously identified sites in the study area. The project is located along the western bluff of the Little Miami River. This is an area that where prehistoric period cultural materials might be expected. Historic period materials are also plausible as there is a residence indicated on later, mid-twentieth century maps.

Fieldwork Results

The field investigations for this project were completed on August 3, 2016 Figures 6-12. These investigations were conducted primarily in the morning to avoid additional heat and humidity that was expected in the afternoon. It was in the mid-80s F during these investigations. These investigations accounted for a corridor that extended 30.5 m (100 ft) on either side of the centerline of the extant pipeline. At the time of survey, the project area involved standing cornfields, fallow areas, and immature deciduous forestation. These investigations involved surface collection, shovel testing, and visual inspection. A sizeable part of the project area was found to be severely disturbed by previous and adjacent constructions. These investigations did not result in the identification of any cultural materials.

Severely disturbed conditions were identified within the project area (Figure 6). Industrial fill associated with the Morris Bean Company was identified in the central part of the project. This area was visually inspected and identified steep earthen piles that are

covered with dense undergrowth that are immediately north of the existing pipeline. The piles were created from excavation of a pond and presumably from industrial-based fill from construction. This disturbance was limited to the north side of the pipeline and within the fenced Morris Bean property. The Little Miami Scenic Trail bisects the project area. This was a former railroad easement that was converted to a recreational trail and it is paved (Figure 6). Ditch grade and disturbance from its construction precluded archaeological testing through this area. There are underground utilities that line the east side of the railroad including a demarcated 41 cm (16 in) waterline. Centrally located within the project corridor is an existing pipeline; a segment that is to be replaced. This easement is apparent visually as it is represented by fallow grass through the areas that are not farmed and by gravels and rocks in the farmed fields. This easement is about 15 m (50 ft) wide and is severely disturbed from the pipeline construction.

Surface collection methods were conducive to an agricultural field that is located along the southcentral and western part of the project corridor (Figures 6 and 9). The bare ground surface visibility in the field was at 80 percent and the pedestrian transects were spaced at 2 m intervals. There were no cultural materials identified during the surface collection aspect of these investigations. The surface survey conducted in the western part

Shovel test unit excavation was conducted in the eastern part of the project corridor. This is an immature deciduous forested area that brackets the existing pipeline and is east of the Little Miami Scenic Trail. There were 28 shovel test units excavated in this area, 14 on each side of the extant easement. The shovel testing identified loamy topsoil that was generally free of any gravels or rocky/coarse materials. The testing identified brown (10YR5/3) topsoil that extended to a depth that ranged from 15-28 cm below ground surface. The interface with the subsoil was gradual to subtle; the subsoil hue was not that divergent from the topsoil, but there was a notable increase in the amount of clay. The subsoil is dark yellowish brown (10YR4/4) silt loam (Figure 12). There were no cultural materials identified during the subsurface investigations.

There were no cultural materials identified during these investigations. Sites 33Gr1166 and 33GR1168 were previously identified in close proximity to the project corridor. These sites were not regarded as being significant and they were not relocated during these investigations. Much of the project was found to be severely disturbed from the existing pipelines installation as well as industrial and former railroad activities.

APE Definition and Determination

The Area of Potential Effect (APE) for this project is defined as the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE for this project is limited to the footprint of the planned construction. The plans are to relocate an existing underground pipeline; this will only have temporary visual impact to the surrounding setting.

These investigations did not identify any cultural materials. The project corridor is centered on an existing pipeline, which is disturbed. There are no significant cultural resources or landmarks located within this project's APE.

Recommendations

In July of 2016, Weller & Associates, Inc. completed a Phase I archaeological survey for the proposed Morris Bean Pipeline Relocation in Miami Township, Greene County, Ohio. After performing the literature review and fieldwork, no further archaeological work is deemed necessary for this project. Shovel testing, surface collection, and visual inspection were utilized to investigate the project corridor; much of the project corridor is in disturbed context. There were no artifacts 50 years or older identified. The recommendation for the project is 'no historic properties' or landmarks in the direct APE. No further archaeological work is deemed necessary for this project.

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Figures

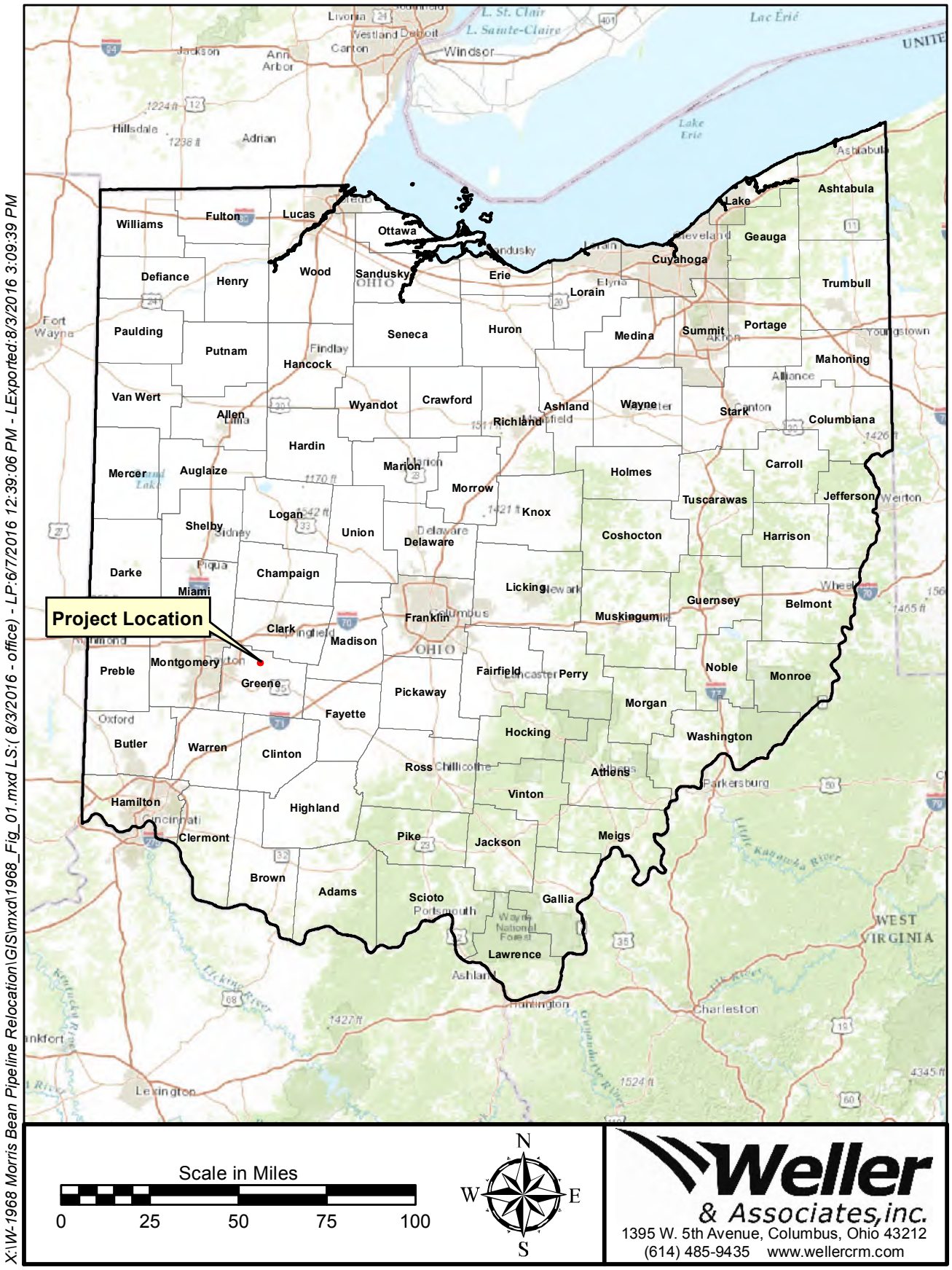

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Figure 1. Political map of Ohio showing the approximate location of the project.

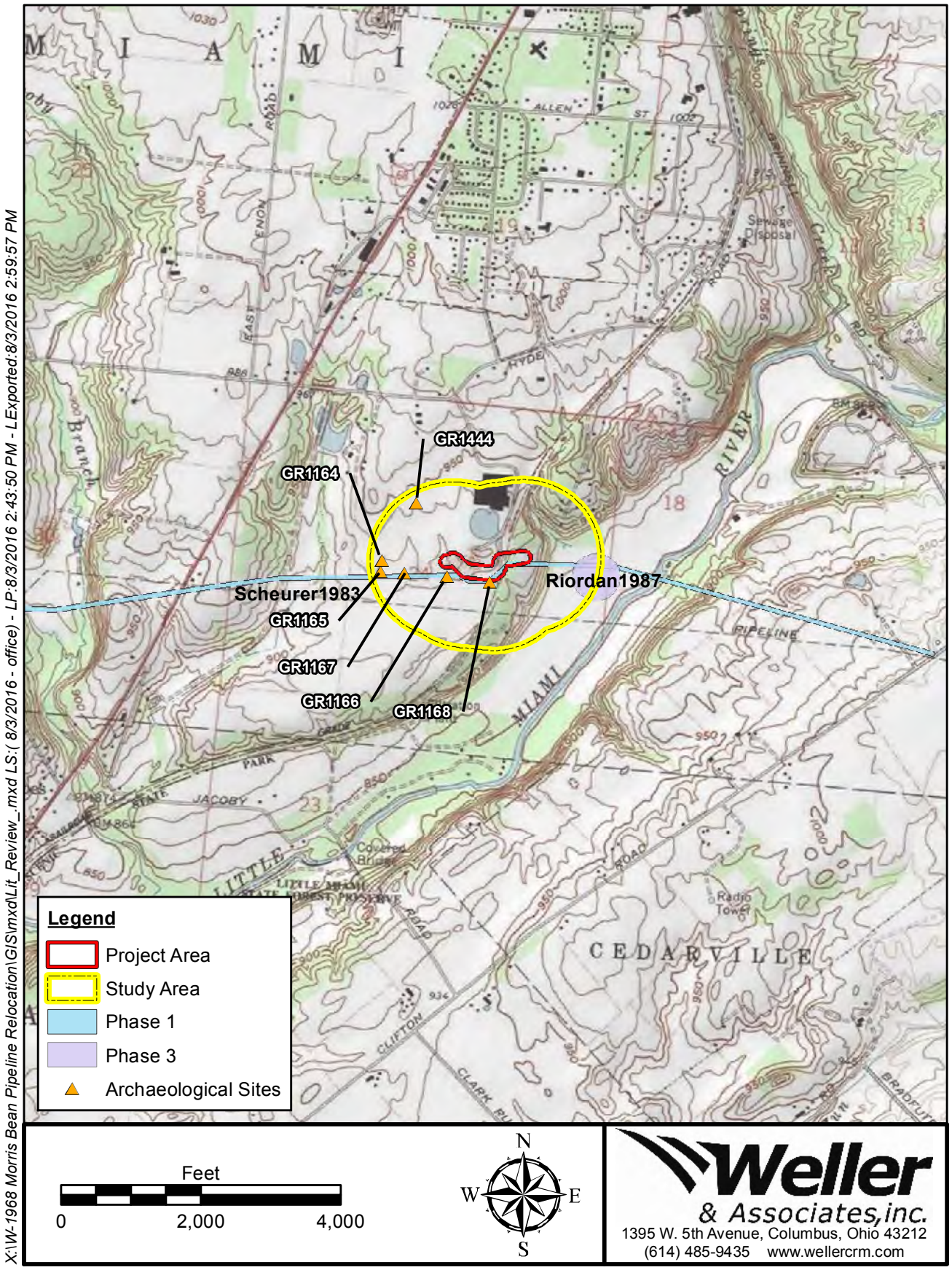

Figure 2. Portion of the USGS *1978 Yellow Springs, Ohio 7.5 Minute Series (Topographic)* map indicating the location of the project and previously recorded resources in the study area.

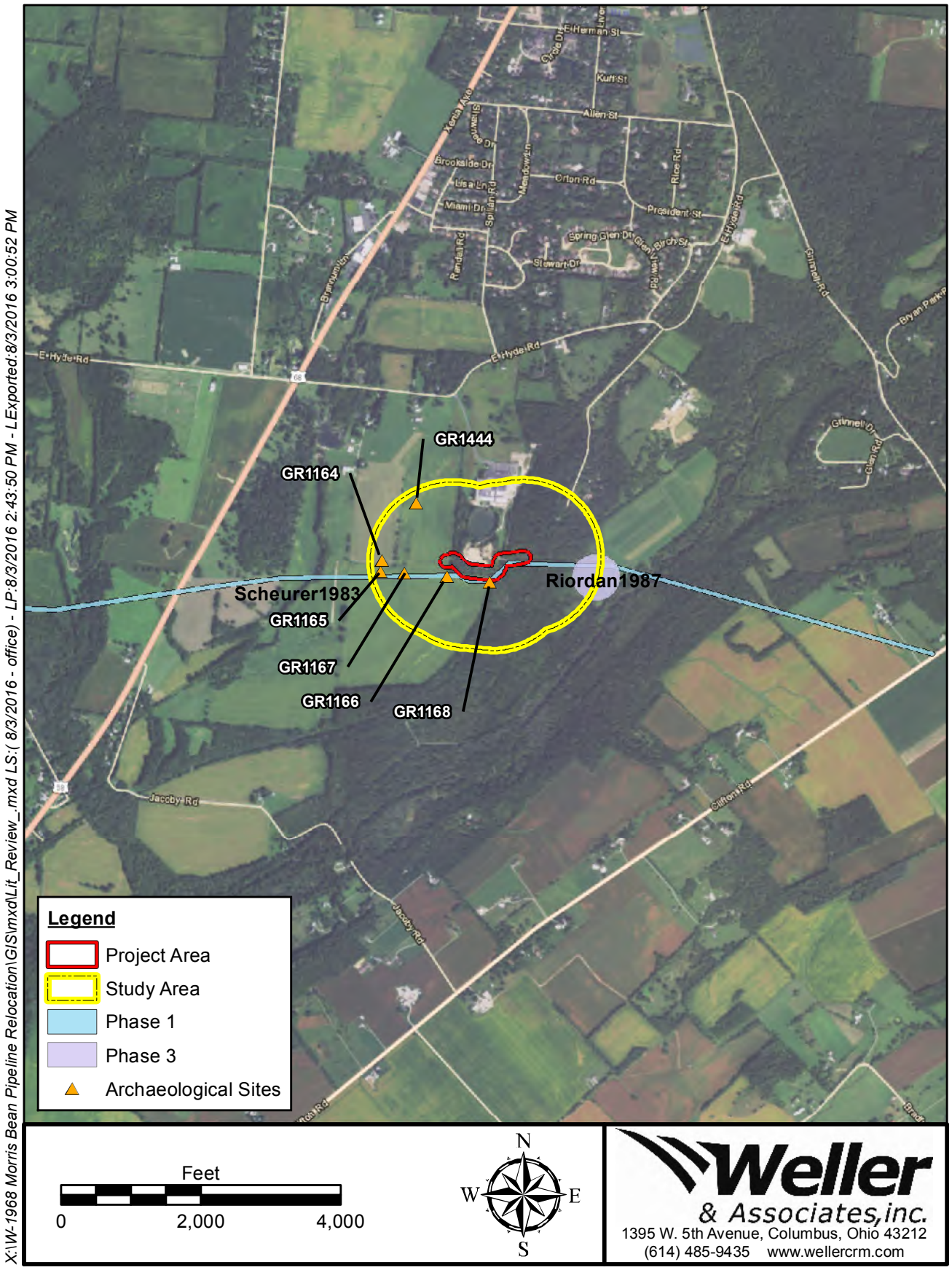

Figure 3. Aerial map indicating the location of the project and previously recorded resources in the study area.

Figure 4. Portion of the *Archeological Atlas of Ohio (Mills' 1914)* indicating the approximate location of the project.

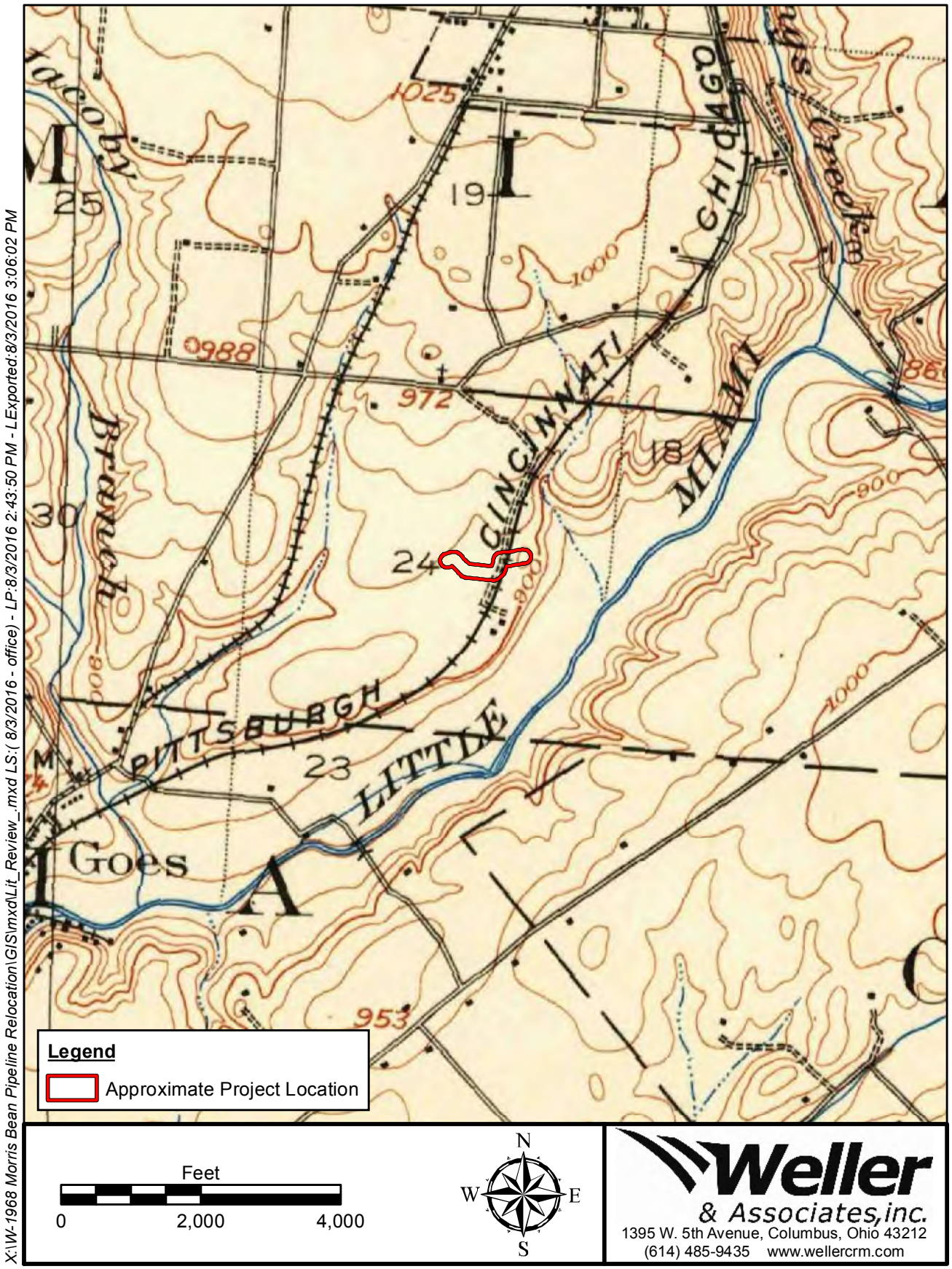

Figure 5. Portion of the USGS *1904 Springfield, Ohio 15 Minute Series (Topographic)* map indicating the approximate location of the project.

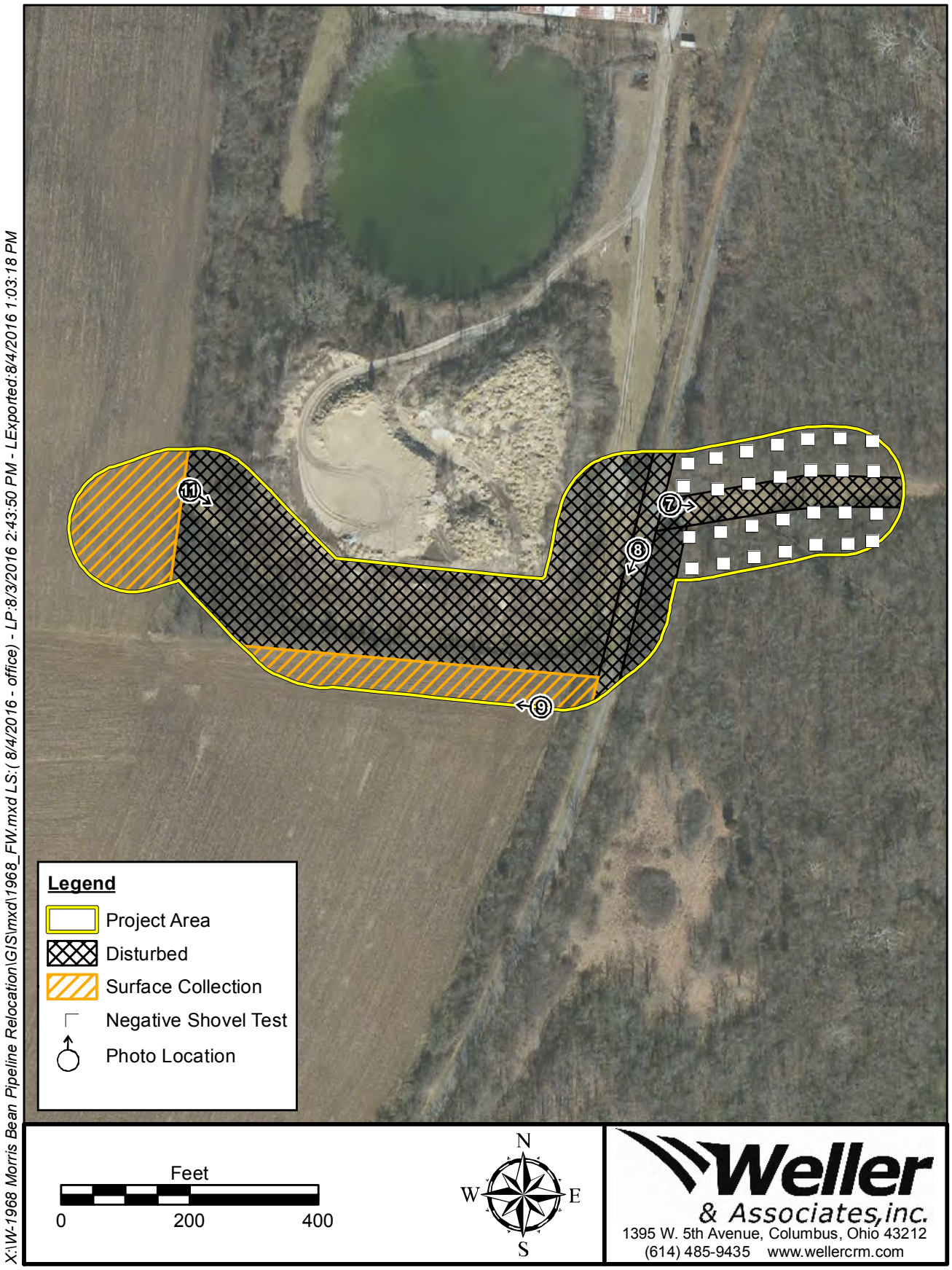

Figure 6. Fieldwork results and photo orientation map.

Figure 7. View of the existing gas pipeline in the project area.

Figure 8. View of the existing bike path in the project area.

Figure 9. View of the surface collected corn field.

Figure 10. View of the surface visibility in the surface collected area.

Figure 11. View of the disturbed area in the project area.

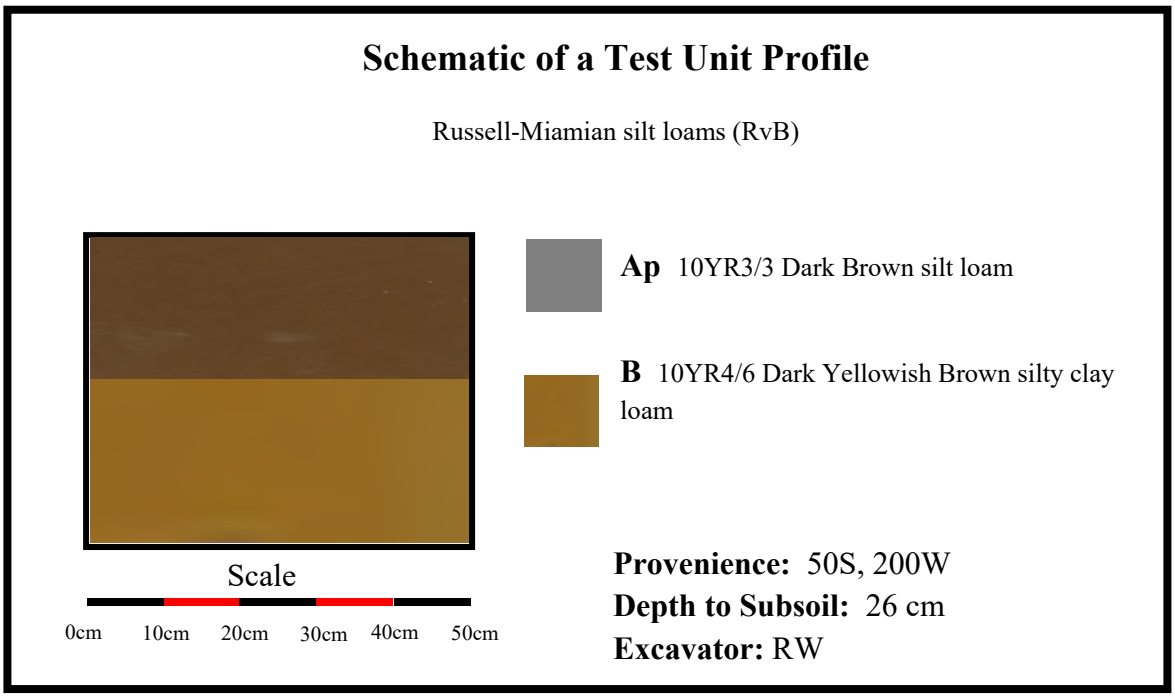

Figure 12. A typical shovel test unit excavated within the project.

ATTACHMENT D-3

Utility Technologies International
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
www.uti-corp.com

September 26, 2016

OHIO HISTORIC PRESERVATION OFFICE
ATTN: RESOURCE PROTECTION AND REVIEW DEPARTMENT HEAD
RESOURCE PROTECTION AND REVIEW
800 EAST 17TH AVENUE
COLUMBUS, OH 43211-2497

RE: Section 106 Review-Project Summary Form
Proposed Natural Gas Pipeline Replacement Project, Vectren Energy Delivery of Ohio,
Cemex-Morris Bean, Greene County, Ohio

Dear OHPO,

Utility Technologies International (UTI), on behalf of Vectren Energy, is working on a Letter of Notification Application for the Ohio Power Siting Board (OPSB) for replacement of an 18-inch natural gas transmission pipeline located in Miami, Beavercreek, Xenia and Bath Townships and the City of Fairborn, Ohio. The existing 18-inch pipeline will be replaced with a 20/24-inch combination diameter pipe. The work will be limited to a disturbed and existing pipeline corridor. There are no alternatives for this project since the permanent easement is being maintained and in use. This project will be completed in two sections.

Weller and Associates was contracted by UTI to conduct a Phase I Cultural Resource Investigation for this project (the Morris Bean section and Cemex section). This investigation indicates a previous site being on the Cemex property identified as 33GR1393 and was further evaluated with additional Phase 1 work. The initial report and extended report are attached for your review.

UTI is requesting the OHPO to review and determine if they concur with the opinion of Weller and Associates. Enclosed for your review is the complete Phase I Cultural Investigation including maps and photos for both sections of this project. Should you have any questions please contact me at 614-482-8080 or jdean@uti-corp.com.

Sincerely,

Joseph Dean CESSWI
Environmental Coordinator

Enclosures:

1. Project Site Map
2. Section 106 Review Project Summary Form
3. Phase 1 Cultural Resource Investigation for Morris Bean

4. Phase 1 Cultural Resource Investigation for Cemex
5. Extended Phase 1 Archeological Investigation for Site 33GR1393.

OHIO HISTORICAL SOCIETY
Ohio Historic Preservation Office

OHIO HISTORIC PRESERVATION OFFICE: RESOURCE PROTECTION AND REVIEW

Section 106 Review - Project Summary Form

For projects requiring a license from the Federal Communications Commission, please use FCC Forms 620 or 621. DO NOT USE THIS FORM.

SECTION 1: GENERAL PROJECT INFORMATION

All contact information provided must include the name, address and phone number of the person listed. Email addresses should also be included, if available. Please refer to the Instructions or contact an OHPO reviewer (mailto:Section106@ohiohistory.org) if you need help completing this Form. Unless otherwise requested, we will contact the person submitting this Form with questions or comments about this project.

Date:	September 26, 2016
Name/Affiliation of person submitting form:	Joseph Dean/UTI
Mailing Address:	4700 Homer Ohio Lane, Groveport, Ohio 43125
Phone/Fax/Email:	614-482-8080 Office, 740-816-5477 mobile jdean@uti-corp.com

A. Project Info:

1. This Form provides information about:
   New Project Submittal:
   YES NO

   Additional information relating to previously submitted project:
   YES NO

   OHPO/RPR Serial Number from previous submission:

   NA

2. Project Name (if applicable): ***Z-50 Cemex-Morris Bean Pipeline Replacement***

3. Internal tracking or reference number used by Federal Agency, consultant, and/or applicant to identify this project (if applicable): ***UTI Project Number: 16080***

B. Project Address or vicinity:

Greene County, City of Fairborn, Bath Township Ohio.

C. City/Township:

Xenia, Bath, Beavercreek, and Miami Townships and City of Fairborn

D. County:

Greene County

E. Federal Agency and Agency Contact. *If you do not know the federal agency involved in your project, please contact the party asking you to apply for Section 106 Review, not OHPO, for this information. HUD Entitlement Communities acting under delegated environmental review authority should list their own contact information.*

None

F. Type of Federal Assistance. *List all known federal sources of federal funding, approvals, and permits to avoid repeated reviews.*

None

G. State Agency and Contact Person (if applicable):

The Ohio Power Siting Board would have jurisdiction for this project.

H. Type of State Assistance:

None

I. Is this project being submitted at the direction of a state agency **solely** under Ohio Revised Code 149.53 or at the direction of a State Agency? *Answering yes to this question means that you are sure that no federal funding, permits or approvals will be used for any part of your project, and that you are seeking comments only under ORC 149.53.*

YES NO ***Federal permits from the U.S. Army Corp of Engineers will be requested as part of this project.***

J. Public Involvement- Describe how the public has been/will be informed about this project and its potential to affect historic properties. Please summarize how they will have an opportunity to provide comments about any effects to historic properties. (This step is required for all projects under 36 CFR § 800.2):

All landowners affected by this project have been notified by mail, phone and in person for this project. The Cemex portion of this line is all on the land owned by Cemex corporation and the Morris Bean section of this line is on land owned by Morris Bean Corporation, Village of Yellow Springs, Hydebrook Farms LLC and The Antioch College Corporation.

K. Please list other consulting parties that you have contacted/will contact about this project, such as Indian Tribes, Certified Local Governments, local officials, property owners, or preservation groups. (See 36 CFR § 800.2 for more information about involving other consulting parties). Please summarize how they will have an opportunity to provide comments:

In addition to notification of all landowners and governance by the Ohio Power Siting Board we will notify or have notified the following entities as part of the permitting process:

U.S. Army Corp of Engineers
Ohio Environmental Protection Agency
Ohio Department of Natural Resources
U.S. Fish and Wildlife Service
Greene County Board of Commissioners
Ohio Department of Transportation
Greene County Engineers Office
Greene County Soil and Water Conservation District
Bath Township Trustees
Xenia Township Trustees
Beaver Creek Township Trustees
City of Fairborn Engineers Office
City of Fairborn Commissioners

Notification to all of these entities will be through the permitting process or through direct mail before any work has started on this project.

SECTION 2: PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECTS (APE)

Provide a description of your project, its site, and geographical information. You will also describe your project's Area of Potential Effects (APE). Please refer to the Instructions or contact an OHPO reviewer if you need help with developing the APE or completing this form.

Utility Technologies International (UTI) has been retained by Vectren Energy Delivery of Ohio (VEDO) to apply for a Letter of Notification (LON) through the Ohio Power Siting Board (OPSB). This LON is for the replacement of a 18 inch gas pipeline with a new 24 inch steel pipeline on the Cemex portion of this project and for replacement of the 18 inch gas pipeline with a 20 inch on the Morris Bean portion of the project. The location of this project is partially within Bath, Xenia, Miami and Beavercreek Townships and the City of Fairborn in Greene County, Ohio. The pipeline replacement is roughly 3.0 (15,634 feet) miles long and in two sections. The furthest east section is the Morris Bean section which is approximately 1300 feet long. This section is located 2400 feet south of East Hyde Road at the address of 777 East Hyde Road, Yellow Springs, Ohio.

The western section is located on parcels owned by Cemex Corporation starts at the eastern point located on West Enon Road approximately 2400 feet south of the intersection of West Hyde Road and ends on Trebein Road approximately 1800 feet south of the intersection of E. Dayton Yellow Springs Road.

Replacement of these two sections will allow for integrity and safety inspections of the pipeline. Currently, the 18-inch pipeline is no longer in use as a standard pipeline size and it is not possible to do in-line integrity inspections. However, the upgrade will allow for these type of inspections and for VEDO to meet the needs of its customers.

For challenging projects, provide as much information as possible in all sections, and then check the box in Section 5.A. to ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties or if there may be challenging procedural issues related to your project. Please note that providing information to complete all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

A. Does this project involve any Ground-Disturbing activity: YES NO
(If **Yes**, you must complete all of Section 2.A. If **No**, proceed directly to Section 2. B.)

1. General description of width, length and depth of proposed ground disturbing activity:

The current permanent easement is a 50 foot wide pipeline corridor. In addition to this permanent easement there will be an additional temporary easement of 20 feet on each side of the permanent easement for a total of 90 feet in width.

The pipeline corridor is approximately 3.0 miles in length. Most ground disturbance within this corridor will be segregation of topsoil prior to excavating a trench and excavation of the trench. Topsoil depth will range anywhere from six to sixteen inches depending upon soil at this location. In addition to soil segregation a trench will be excavated to remove the old pipeline that is approximately six foot in depth. The new pipe will be placed in the existing trench at a depth of approximately six feet in order to obtain four feet of cover over the pipe. The width of the trench will be approximately six feet wide.

This entire corridor is within previously disturbed soil from the previous pipeline installation

2. Narrative description of previous land use and past ground disturbances, if known:

As stated previously this project is divided into two sections. The section furthest east (aka Morris Bean) has the majority of this pipe upgrade for this section. Morris Bean is a commercial manufacturing business. The pipeline corridor is mostly grass, brush and woody vegetation. This corridor also crosses a bike path and ends at a valve station located on the permanent easement on the property owned by Antioch College. The furthest western part of Morris Bean location ends within an existing corn field.

The section located furthest west (aka Cemex) is located on parcels owned wholly by Cemex. The parcels are a mixture of grassland, brush and woody vegetation that has grown up in the permanent easement since it was installed. There is one parcel used for growing crops and is currently an existing cornfield.

3. Narrative description of current land use and conditions:

According to the Greene County Auditor's Office the parcels on the Morris Bean section are classified as either agricultural, industrial, or

exempt. All of the parcels on the Cemex portion of this project are classified as Agricultural.

4. Does the landowner know of any archaeological resources found on the property?
YES NO If yes, please describe:

B. Submit the exact project site location on a USGS 7.5-minute topographic quadrangle map for all projects. Map sections, photocopies of map sections, and online versions of USGS maps are acceptable as long as the location is clearly marked. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map:

1. USGS Quad Map Name: ***Attached in Weller and Associates Report***

2. Township/City/Village Name: ***Xenia, Miami, Beavercreek, and Bath Townships. Also City of Fairborn, Ohio.***

C. Provide a street-level map indicating the location of the project site; road names must be identified and legible. Your map must show the exact location of the boundaries for the project site. Show the project's Area of Potential Effects (APE). It should be clearly distinguished from other features shown on the map: ***Attached in Weller and Associates Report and Project Overview Map***

D. Provide a verbal description of the APE, including a discussion of how the APE will include areas with the potential for direct and indirect effects from the project. Explain the steps taken to identify the project's APE, and your justification for the specific boundaries chosen:

The easement consists of a permanent 50 foot easement with an additional 20 foot of temporary easement located on each side of the permanent easement. The top soil segregation will include this entire easement where possible. All work will be confined within this 90 foot easement other than locations where additional work space is needed. The APE for this investigation was determined to be 200 feet wide (100 feet on each side of the existing pipeline) in order to complete a thorough investigation. However, since work including land disturbance will not be wider than the 90 foot corridor no additional area of investigation is needed.

E. Provide a detailed description of the project. This is a critical part of your submission. Your description should be prepared for a cold reader who may not be an expert in this type of project. The information provided must help support your analysis of effects to historic properties, not other types of project impacts. Do not simply include copies of environmental documents or other types of specialized project reports. If there are multiple project alternatives, you should include information about all alternatives that are still under active consideration:

This project is considered a linear type of project. A linear project is simply one that is confined within narrow corridor and usually is longer in nature than general construction projects. A typical linear project example would be a road or in this case, a pipeline.

This project, the Z-50 Cemex-Morris Bean pipe ugrade, is approximately 3.0 miles long and 90 feet wide. The project includes removal of the existing 18 inch pipeline and replacing it with a 24 inch pipeline in the Cemex section and a 20 inch pipe in the Morris Bean section. The 18 inch pipe that is currently installed is no longer used and in-line integrity inspections cannot occur on this line at its current size. Replacement of the pipeline with a 20/24 inch pipe combination will allow integrity inspections to occur and allow Vectren Energy to deliver gas to its customers.

In order to replace the line and maintain the integrity of the land topsoil will be separated and pushed into a pile at the edge of the easement. Then excavators will dig up the existing pipeline and remove it and replace the line with a 24 inch steel pipe. The new pipe will then be covered and the topsoil pulled back over the subsoil. At that point the contractor will provide nutrients to the soil, seed and mulch to help stabilize the land.

SECTION 3: IDENTIFICATION OF HISTORIC PROPERTIES

Describe whether there are historic properties located within your project APE. To make that determination, use information generated from your own Background Research and Field Survey. Then choose one of the following options to report your findings. Please refer to the Instructions and/or contact an OHPO reviewer if you are unsure about how to identify historic properties for your project.

If you read the Instructions and you're still confused as to which reporting option best fits your project, or you are not sure if your project needs a survey, you may choose to skip this section, but provide as much supporting documentation as possible in all other Sections, then check the box in Section 5.A. to request preliminary comments from OHPO. After reviewing the information provided, OHPO will then offer comments as to which reporting option is best suited to document historic properties for your project. Please note that providing information to complete this Section will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

Recording the Results of Background Research and Field Survey:

A. **Summary of discussions and/or consultation with OHPO** about this project that demonstrates how the Agency Official and OHPO have agreed that no Field Survey was necessary for this project (typically due to extreme ground disturbance or other special circumstances). Please **attach copies** of emails/correspondence that document this agreement. You must explain how the project's potential to affect both archaeological and historic resources were considered.

B. **A table that includes the minimum information** listed in the OHPO Section 106 Documentation Table (which is generally equivalent to the information found on an inventory form). This information must be printed and mailed with the Project Summary Form. To provide sufficient information to complete this Section, you must also include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated in the project APE.

C. **OHI (Ohio Historic Inventory) or OAI (Ohio Archaeological Inventory) forms**- New or updated inventory forms may be prepared using the OHI pdf form with data population capabilities, the Internet IForm, or typed on archival quality inventory forms. To provide

sufficient information to complete this Section, you must include summary observations from your field survey and background research. You must also include eligibility determinations for each property that was evaluated in the project APE

D. **A historic or archaeological survey report** prepared by a qualified consultant that meets professional standards. The survey report should meet the Secretary of the Interior's Standards and Guidelines for Identification and OHPO Archaeological Guidelines. You may also include new inventory forms with your survey, or update previous inventory forms. To complete this section, your survey report must include summary observations from your field survey, background research and eligibility determinations for each property that was evaluated within the APE.

E. **Project Findings**. Based on the conclusions you reached in completing Section 3, please choose one finding for your project. There are (mark one):
   Historic Properties Present in the APE:
   No Historic Properties Present in the APE:

UTI retained Weller and Associates to conduct a Phase 1 Cultural Resource Management Investigation and additional Phase 1 investigation for both the Cemex and Morris Bean sections. During the first investigation Weller was aware of site 33GR1393 on Cemex that had been previously recommended for archaeological assessment. Weller also concluded that the area had been previously disturbed during the initial pipe installation.

Weller determined that after completing the literature review and field work for the Morris Bean section no further archaeological work was necessary.

In conjunction with Vectren Energy Delivery of Ohio, UTI and Weller and Associates it was decided that an additional Phase 1 investigation would proceed with site 33GR1393 in order to determine if further recommendations were needed. The field work was conducted on this site on August 29, 2016 and the results are attached. Weller concluded that site 33GR1393 is not considered to contain significant cultural deposits and further work is not considered necessary.

SECTION 4: SUPPORTING DOCUMENTATION

This information must be provided for all projects.

A. Photographs must be keyed to a street-level map, and should be included as attachments to this application. Please label all forms, tables and CDs with the date of your submission and project name, as identified in Section 1. You must present enough documentation to clearly show existing conditions at your project site and convey details about the buildings, structures or sites that are described in your submission. Faxed or photocopied photographs are not acceptable. See Instructions for more info about photo submissions or 36 CFR § 800.11 for federal documentation standards.
   1. Provide photos of the entire project site and take photos to/from historic properties from/towards your project site to support your determination of effect in Section 5.
   2. Provide current photos of all buildings/structures/sites described.

B. Project plan, specifications, site drawings and any other media presentation that conveys detailed information about your project and its potential to affect historic properties.

C. Copies or summaries of any comments provided by consulting parties or the

public.

SECTION 5: DETERMINATION OF EFFECT

A. **Request Preliminary Comments.** For challenging projects, provide as much information as possible in previous sections and ask OHPO to offer preliminary comments or make recommendations about how to proceed with your project consultation. This is recommended if your project involves effects to significant historic properties, if the public has concerns about your project's potential to affect historic properties, or if there may be challenging procedural issues related to your project. Please be aware that providing information in all Sections will still be required and that asking OHPO for preliminary comments may tend to delay completion of the review process for some projects.

1. We request preliminary comments from OHPO about this project:
   YES NO

2. Please specify as clearly as possible the particular issues that you would like OHPO to examine for your project (for example- help with developing an APE, addressing the concerns of consulting parties, survey methodology, etc.):

Weller and Associates has determined that no further archaeological work is necessary including site 33GR1393 that was found not to contain significant cultural deposists.

UTI is requesting comments from OHPO to confirm if they agree with this statement.

B. **Determination of Effect.** If you believe that you have gathered enough information to conclude the Section 106 process, you may be ready to make a determination of effect and ask OHPO for concurrence, while considering public comments. Please select and mark one of the following determinations, then explain the basis for your decision on an attached sheet of paper:

No historic properties will be affected based on 36 CFR § 800.4(d) (1). Please explain how you made this determination:

This determination was based upon the Phase I investigation completed by Weller and Associates. Site 33GR1393 does not contain significant cultural deposits and is located within previous disturbed soil from pipeline installation.

No Adverse Effect [36 CFR § 800.5(b)] on historic properties. This finding cannot be used if there are no historic properties present in your project APE. Please explain why the Criteria of Adverse Effect, [36 CFR Part 800.5(a) (1)], were found not to be applicable for your project:

Adverse Effect [36 CFR § 800.5(d) (2)] on historic properties. Please explain why the criteria of adverse effect, [36 CFR Part 800.5(a) (1)], were found to be applicable to your project. You may also include an explanation of how these adverse effects might be avoided, reduced or mitigated:

Please print and mail completed form and supporting documentation to:

Ohio Historic Preservation Office
Attn: Resource Protection and Review Department Head
Resource Protection and Review
800 E. 17th Avenue
Columbus, OH 43211-2497

ATTACHMENT D-4

1395 West Fifth Avenue
Columbus, Ohio 43212
Ph: 614-485-9435
Fx: 614-485-9439
Web: www.wellercrm.com

September 12, 2015

Joseph Dean
Environmental Coordinator
Utility Technologies, Inc.
4700 Homer Ohio Lane
Groveport, OH 43125

RE: Extended Phase I Archaeological Investigations for Site 33GR1393 within the boundaries of the proposed Cemex Pipeline replacement right-of-way in Xenia Township, Greene County, Ohio.

On August 29, 2016 Weller & Associates, Inc. (Weller) conducted extended Phase I archaeological investigations for Site 33GR1393 within the boundaries of the proposed Cemex Pipeline replacement right-of-way (ROW) in Xenia Township, Greene County, Ohio (Figures 1-3). This investigation was performed for UTI Corporation (UTI) and for submittal to the Ohio Power Siting Board (OPSB). Initial Phase I archaeological survey for the project was conducted by Weller in July, 2016 (Weller 2016). Site 33GR1393 was previously identified by Versluis (2004) and recommended for further work to determine its significance. Weller re-identified the site in July of 2016 but the site was not fully investigated. The extended Phase I was conducted to make formal recommendations for Site 33GR1393's eligibility for the National Register of Historic Places (NRHP) pursuant to Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470 [36 CFR 800]). This letter summarizes the results of the fieldwork and literature review.

Previous Investigations

Site 33GR1393 was first identified during Phase I archaeological identification survey for the proposed CEMEX mine expansion project in Xenia and Bath Townships, Green County, Ohio (Versluis 2004). The site was identified as a multi-component prehistoric/historic site located in an agricultural field overlooking the head of Ludlow Creek. Historic and prehistoric artifacts were recovered from surface collection and shovel test excavations from plow zone contexts in a 50-x-40 m (2000 m^2) area. The historic assemblage (n=75) was comprised by architectural, agricultural, domestic, personal, and unknown group artifacts (Table 1). Diagnostic historic artifacts were used to infer a temporal period ranging from the late 18th to the mid-twentieth century. No structures or foundations were recorded but domestic group artifacts indicate a house may have been present in the vicinity at one time. Alternatively, a road labeled "Old Road to be vacated" on the 1855 atlas indicates the site may represent a dumping area

(Figure 4). The prehistoric assemblage (n=3) consisted of 2 side scrapers and one secondary flake. Based on the early dates of the historic assemblage, Versluis (2004) recommended additional work be conducted at the site to determine the historic components eligibility for inclusion on the NRHP. The prehistoric component was recommended as not eligible for inclusion on the NRHP.

Table 1. Versluis (2004) 33GR1393 artifact assemblage.

Temporal Period	Type	Total
Historic	Redware, lead glaze	14
	Redware, unglazed	1
	Whiteware, plain	25
	Whiteware, edge molded	1
	Whiteware, transfer print	2
	Whiteware, flow blue	1
	Garden hoe, eye socket	1
	Brick fragment	2
	Window glass	6
	Container glass	16
	Pearlware, plain	1
	Pearlware, transfer print	1
	Stoneware, Albany slip/salted	3
	Stoneware, salt glazed	1
Prehistoric	Side scraper	2
	Secondary flake	1

Weller re-identified Site 33GR1393 during Phase I archaeological survey for the subject project in July of 2016 (Weller 2016). Site 33GR1393 was re-identified in an agricultural field (corn) during surface inspection. A scattering of nineteenth century artifacts were identified and plotted with a GPS unit. The artifacts consisted of pane glass, bottle glass, scroll flask bottle glass, Redware, and plain whiteware. These were left at the same area that they were identified as the function was not to recollect materials, but to re-identify the site. The materials are consistent with what was described for this site, early to middle nineteenth century. Weller recorded that the existing pipeline bisects the site lending disturbances of an unknown extent.

Research Design for Site 33GR1393

The project involves the replacement of approximately 4.27 km (2.65 mi)of existing pipeline. The field investigations are limited to the identified site boundaries within the limits of planned construction, which is defined as the survey area (Figure 5). Based on previous Phase I investigations, it is probable that the site extends outside of the project boundaries.
The purposed extended Phase I research design is to further sample the historic period resources that have been identified during the initial Phase I testing and to establish the integrity of the site regarding its eligibility for the NRHP. The prehistoric component of the site has been recommended not eligible and is not part of the current assessment. The goal of the extended

Phase I investigation is to establish the horizontal and vertical limits of the site, examine the possibility of subsurface/sub-plow zone integrity, and to attempt to locate materials and deposits within the project that would allow for recommendations for the site, and determine if any NRHP eligible sites or properties be affected by the planned construction.

Archaeological Field Methods

The survey conducted within the project area used geophysical prospection and close interval shovel tests.

Geophysical Investigations. Geophysical prospection is an effective and non-invasive manner to investigate sub-surface cultural deposits. There are numerous instruments and techniques for which to conduct geophysical prospection in archaeology; all of which depend upon the nature of soils, characteristics of the archaeological site or parcel, and the conditions of the environment surrounding the archaeological site or parcel. Typical geophysical techniques at the archaeologist's disposal include, but are not limited to, soil resistivity, ground penetrating radar (GPR), and magnetometry. All of these techniques electrically measure soil characteristics in some manner which in turn indicates the presence or absence of archaeological features. Each method has its own benefits and deficiencies.

Magnetometry was employed for the geophysical survey portion at 33GR1393. Magnetometry is a method for measuring and mapping magnetic fluctuations in soils. Archaeological features often manifest as magnetic anomalies in the data due to a difference in magnetic field compared to the surrounding soil matrix. A magnetic anomaly created by an archaeological feature can result from one or both of the following two processes.

The cultural feature itself may have acquired remnant magnetism due to the burning of soil or other material (Kvamme 2006; Clark 2000). For instance, a prehistoric hearth undergoes extreme heating prior to deposition which aligns the magnetic field of the feature to that of the earth at the time of heating. The magnetic field of the hearth remains fixed while the magnetic field of the earth fluctuates over time. The hearth would manifest as a magnetic anomaly during magnetometry survey due to the difference between its remnant magnetic field and the surrounding soil matrix which has fluctuated naturally with the earth's magnetic field.

A cultural feature may also exhibit itself as a magnetic anomaly when there is a difference in fill material compared to the natural surrounding soil matrix. Natural geologic materials, including sediment and stone, contain iron particles in varying amounts and magnetic fields. When human processes alter the natural soils, these geologic materials with their unique magnetic signatures are reorganized so that the localized feature exhibits a magnetic field different from the surrounding soil matrix (Kvamme 2006; Clark 2000). For instance, a burial could be manifested as a magnetic anomaly due to the back-filling of the removed soils which mixes the natural soil horizons within the burial shaft. This mixing of soil horizons would have a magnetic field

distinct from the unaltered soil horizons in the surrounding matrix (Grauer 1995; Clark 2000; Kvamme 2006).

As previously mentioned, each geophysical method presents its own benefits and deficiencies. Magnetometry is an effective means of identifying cultural features due to common magnetic field fluxes inherent in culturally impacted deposits. Unfortunately, the same field fluxes inherent in cultural deposits are also present, and magnified in modern and historic ferrous material such as iron and steel. Ferrous material presents a contaminant in magnetometer survey which manifest as localized, abnormally intense field strengths of both magnetic positive and negative poles (dipoles) [Bevan 1998]. Although strong dipolar anomalies can be created by the remnant magnetism of thermally altered features, they are most often caused by the presence of ferrous metal objects. Additionally, the displacement of natural soils which is seen in magnetometry can be created by natural features such as tree root growth and rodent burrows. The assessment of whether a magnetic anomaly is cultural or natural is difficult as both can appear similar. This is often ameliorated when targeted features are known to exhibit specific traits such as burials which frequently appear rectangular.

Another deficiency in magnetometry, or any geophysical method, is operating error. Magnetometry survey requires the traverse of virtually straight paths on an accurately spaced grid. Natural features including vegetation and slope often prohibit straight transects and accurate spacing.

A Bartington dual sensor Grad601-2 single axis magnetic field gradiometer (Grad601-2) was utilized for the magnetometry survey portion of the Project. The Grad601-2 employs two gradiometer sensors, each containing two fluxgate magnetometers. This configuration allows for the nulling of atmospheric magnetic noise in order to discern cultural features even if they have weak magnetic signatures. The dual sensor setup also allows for a more expeditious survey when compared to a single sensor setup as two transects may be surveyed at once.

Two 20-x-20 m survey grids were established prior to the magnetometer survey. The placement of geophysical survey grids was established based on artifact densities determined during previous Phase I investigations (Figure 5). The Survey grids were aligned with the project area and tree line. All four corners of each survey grid were established with a sub-meter accuracy Trimble Geo7 GPS with an external antenna. The magnetometer survey was conducted in zig-zag traverse pattern at one meter transect spacing with 4 samples per meter.

Close Interval Shovel Test Excavation. Shovel testing was used to identify areas of artifact density, better define the boundaries of the site, detect areas of disturbance, and to present clear vertical depths of the site deposits. Minimal subsurface testing has been completed to this point, so this testing will be useful in collecting sufficient data on the site. Although the traditional interval for shovel test excavations during an archaeological survey is at 15 m intervals, there are certain instances where a closer interval should be utilized. In this instance, the

close interval shovel tests were utilized to test artifact density in a uniform manner throughout the portion of the site within the ROW. In addition, when shovel tests at the traditional 15 m interval are positive for artifacts, closer intervals should be utilized in between. Since it is already known that an archaeological site is present, which dictates the use of reduced shovel test intervals, shovel tests were excavated at 7.5 m intervals throughout the site area that falls within the project ROW. Shovel test units measured 50 cm on a side and were excavated to 10 cm below the topsoil/subsoil interface. Individual shovel test units were documented regarding their depth, content and color (Munsell). All of the undisturbed soil matrices from shovel test units are screened using 0.6 cm hardware mesh and identified artifacts placed in bags with provenience labels.

No cultural features or stratified deposits were identified during test unit excavations.

The application of the resulting field survey methods was documented in field notes, field maps, and project plan maps. The analysis of the artifacts is important in understanding site function, possibly age, and spatial integrity. The following describes historic artifact analysis methodology.

Historic Artifact Analysis

The artifacts recovered during these investigations will be inventoried and analyzed. The inventory will be specific to type and age if the artifact is temporally diagnostic. The functional inventory of the site will be similar to that of South (1977) where artifacts are segregated into categories such as kitchen, arms, architecture, and etcetera. South's (1977) theoretical approach also emphasizes the development and interpretation of artifact patterns found at sites. This method can be used to understand depositional patterning on the intra- and inter-site level. Ball (1984) modified this approach, making it applicable for use in the Ohio Valley.

Artifacts recovered from the subsurface testing will be inventoried and the results analyzed to identify differential patterning of functionally specific artifact groups within areas of high and low artifact density. The specific historic period temporal affiliation of the artifacts will be determined by relative dating. The identification of historic artifacts for purposes of determining age is guided by ceramic/artifact analyses or source books by Carskadden et al. (1985); Cushion (1980); Dalrymple (1989); Deiss (1981); Esary (1982); Ewins (1997); Greer (1981); Hughes and Lester (1981); Hume (1991); Lang (1995); Majewski and O'Brien (1987); Mansberger (1981); Manson and Snyder (1997); McConnell (1992); McCorvie (1987); Miller (1987); Newman (1970); Ramsay (1976); Sonderman (1979); Spargo (1926); Sprague (2002); Sunbury (1979); Sussman (1977); Visser (1997); and Zimler (1987).

Curation

Letters regarding the disposition of the cultural materials identified and collected during survey for this project were in the process of being sent to the landowners at the time this report was compiled. A return letter outlining the disposition of these materials had not been received

at the time of this report. Notes and maps affiliated with this project will be maintained at Weller & Associates, Inc. files.

Fieldwork Results

The extended Phase I investigations were conducted on August 29, 2016; there were no adverse weather conditions experienced at this time. The weather at the time of survey was seasonal and warm. These investigations were conducted throughout he identified site boundaries within the limits of planned construction (Figures 5-8). The site/survey area is fully contained within an agricultural field which was in mature corn during the time of survey. Prior to survey, portions of the site were cleared of corn to allow for the establishment of geophysical survey grids (Figure 7). The boundaries are irregularly shaped and its site size is considered to be 0.16 ha (0.39 ac) and is based on the location of the individual artifacts. An existing pipeline bisects the site in a generally east-west direction. Geophysical survey and close-interval shovel test excavations were utilized to document subsurface/sub-plow zone integrity, and to attempt to locate materials and deposits within the project that would allow for recommendations for site. Geophysical survey was specifically utilized to determine the possible extent of disturbances related to the existing pipeline.

Geophysical Survey

The magnetometer data clearly documents the presence of the existing pipeline in the southern portion of the site (Figure 6). It appears as a very strong linear magnetic dipole. Unfortunately, the magnetic field presented by the ferrous pipe has obscured any magnetic signatures remaining within the survey grids.

Close-interval Shovel Test Excavation

A total of 45 shovel tests were excavated at 7.5 m intervals within and adjacent to site 33GR1393. The testing encountered plow zone depth soils defined with an abrupt interface. The site is at an active agricultural field and is plowed frequently. The plow zone depth varied little across the site from 18-20 cm below the ground surface. A typical shovel test profile was comprised of an 18 cm thick dark yellowish brown (10YR3/4) silt loam plow zone (Ap horizon) directly above a light yellowish brown (10YR6/4) silt loam subsoil (Figure8). Shovel tests excavated in the location of pipeline disturbance yielded slightly mottled and deeper soils (Figure 9). Cultural deposits were limited to the plow zone.

No cultural features or stratified deposits were identified as a result of test unit excavations at 33GR1393. Nine artifacts were recovered from plow zone contexts within three shovel test units (Table 2). The artifact assemblage was comprised by Architecture (n=2) and Domestic (n=7) group artifacts. Architecture group artifacts was limited to two pieces of window pane glass. The majority of Domestic group artifacts consisted of ceramic tableware

manufactured on whiteware (n=5). These specimens postdate 1820 and continue to be manufactured into the present. The remaining two artifacts are one fragment of canning jar glass dating 1858 to present and one fragment of stoneware with Albany slip dating 1805-1920.

Table 2. Site 33GR1393 recovered artifacts by group, class, attributes, and dates.

Provenience	Group	Class	Attribute 1	Attribute 2	Min. Date	Max. Date	Qty
STP0N, 7.5W, Strat 1, 0-18 cmbs	Domestic	Ceramic Tableware	Whiteware	Plain	1820	–	2
STP0N, 7.5W, Strat 1, 0-18 cmbs	Domestic	Glass Storage Container	Canning Jar	Aquamarine Glass	1858	–	1
STP0N, 7.5W, Strat 1, 0-18 cmbs	Architecture	Window Glass	Plate Glass	>3mm	–	–	1
STP0N, 15W, Strat 1, 0-18 cmbs	Domestic	Ceramic Tableware	Whiteware	Plain	1820	–	2
STP0N, 15W, Strat 1, 0-18 cmbs	Domestic	Ceramic Cookware/Storage	Stoneware	Albany Slip	1805	1920	1
STP0N, 22.5W, Strat 1, 0-18 cmbs	Domestic	Ceramic Tableware	Whiteware	Plain	1820	–	1
STP0N, 15W, Strat 1, 0-18 cmbs	Architecture	Window Glass	Pane Glass	1.6mm	–	–	1

The assemblage recovered during extended Phase I investigations supports the interpretations from previous surveys that Site 33GR1393 represents a historic domestic site post-dating the late 18th century. However, no artifacts diagnostic of the late 18th century alone were identified during extended Phase I investigations. With the exception of one artifact, the assemblage has far reaching date ranges extending into the present. The single artifact which does not have an end date extending into the present, a stoneware fragment, has a date range extending over a century (1805-1920).

Summary and Recommendations

On August 29, 2016, Weller & Associates, Inc. completed extended Phase I archaeological investigations for Site 33GR1393 within the boundaries of the proposed Cemex Pipeline replacement right-of-way (ROW) in Xenia Township, Greene County, Ohio. The work conducted for these investigations included geophysical prospection and close-interval shovel test excavations. Both methods of investigations, identified disturbed soils associated with an existing pipeline bisecting the southern portion of the site. Close-interval shovel tests recovered a numerically and functionally limited assemblage confined to plow zone-depth soils. No cultural features or stratified deposits were identified during these investigations and the recovered assemblage does not contain material datable to a narrow time range as to be considered diagnostic or chronologically meaningful. Based on the results of the field investigations, the impacted part of 33GR1393 is not considered to contain significant cultural deposits. Further archaeological work is not considered necessary.

If there are any questions or concerns, please do not hesitate to call.

Sincerely,

Joshua D. Engle, MA/PI
Weller & Associates, Inc.

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Figures

Figure 1. Political map of Ohio showing the approximate location of the project.

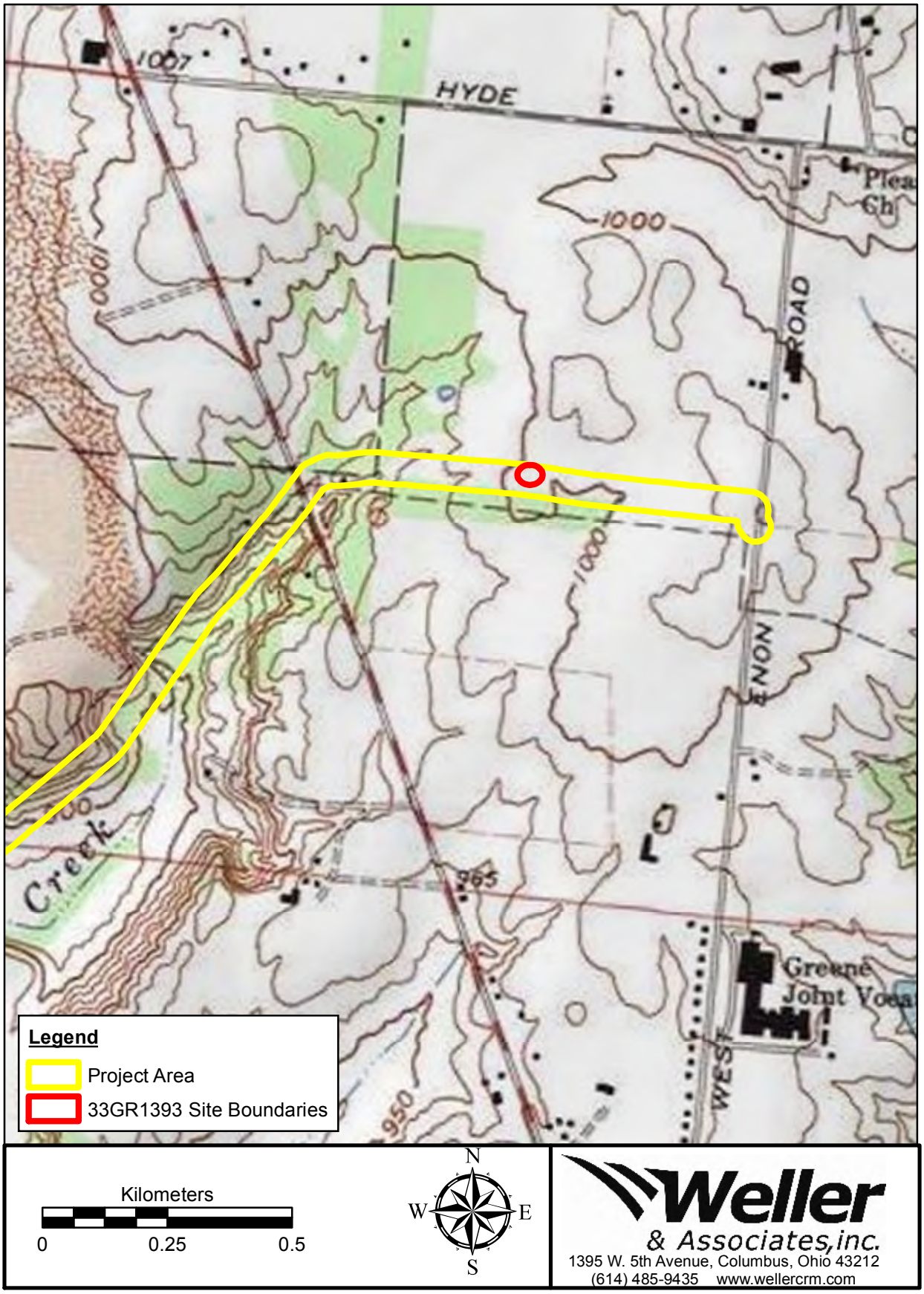


Figure 2. Portion of the USGS *1988 Kilbourne, Ohio 7.5 Minute Series (Topographic)* map indicating the location of Site 33GR1393.

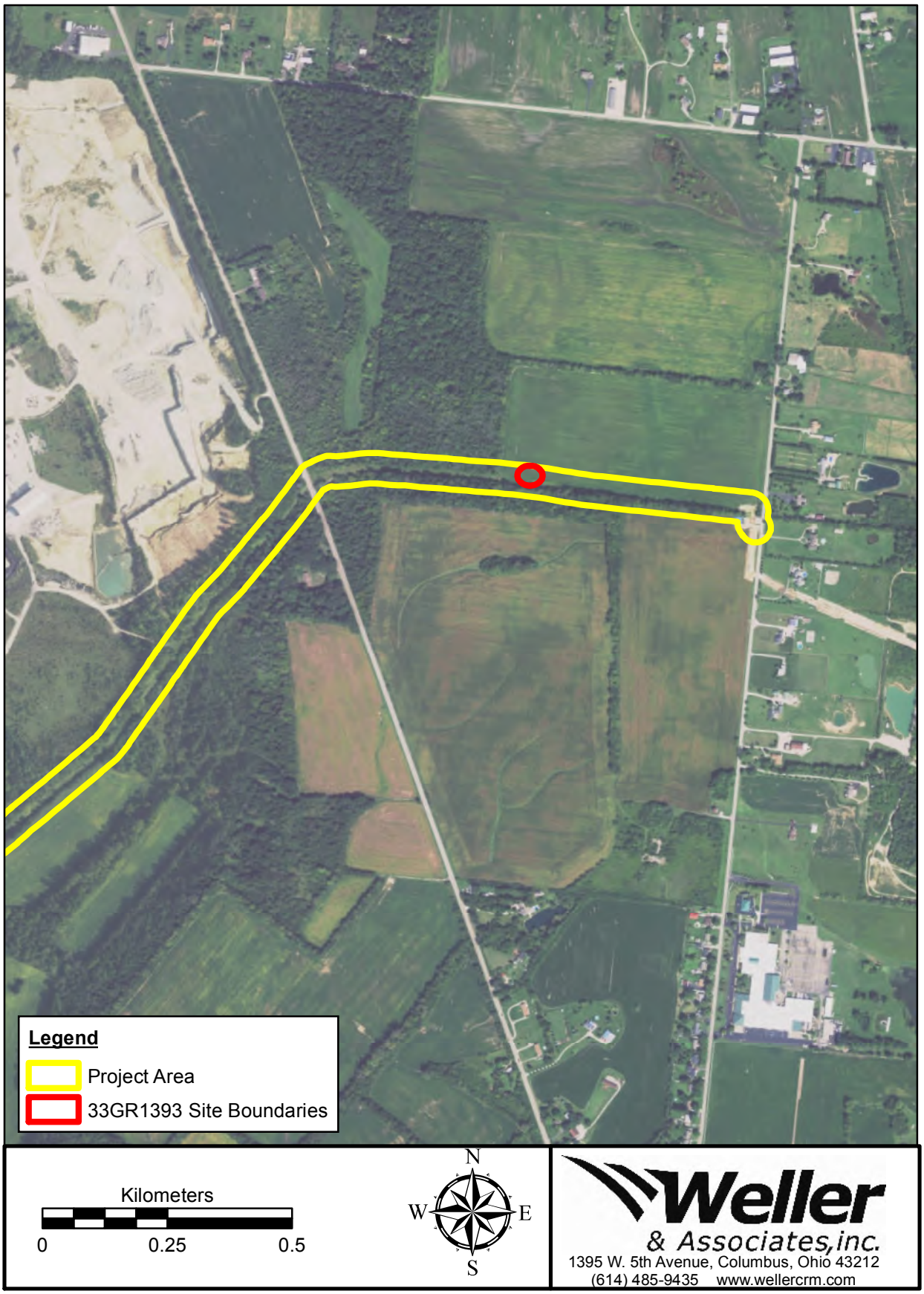


Figure 3. Aerial map indicating the location of Site 33GR1393.

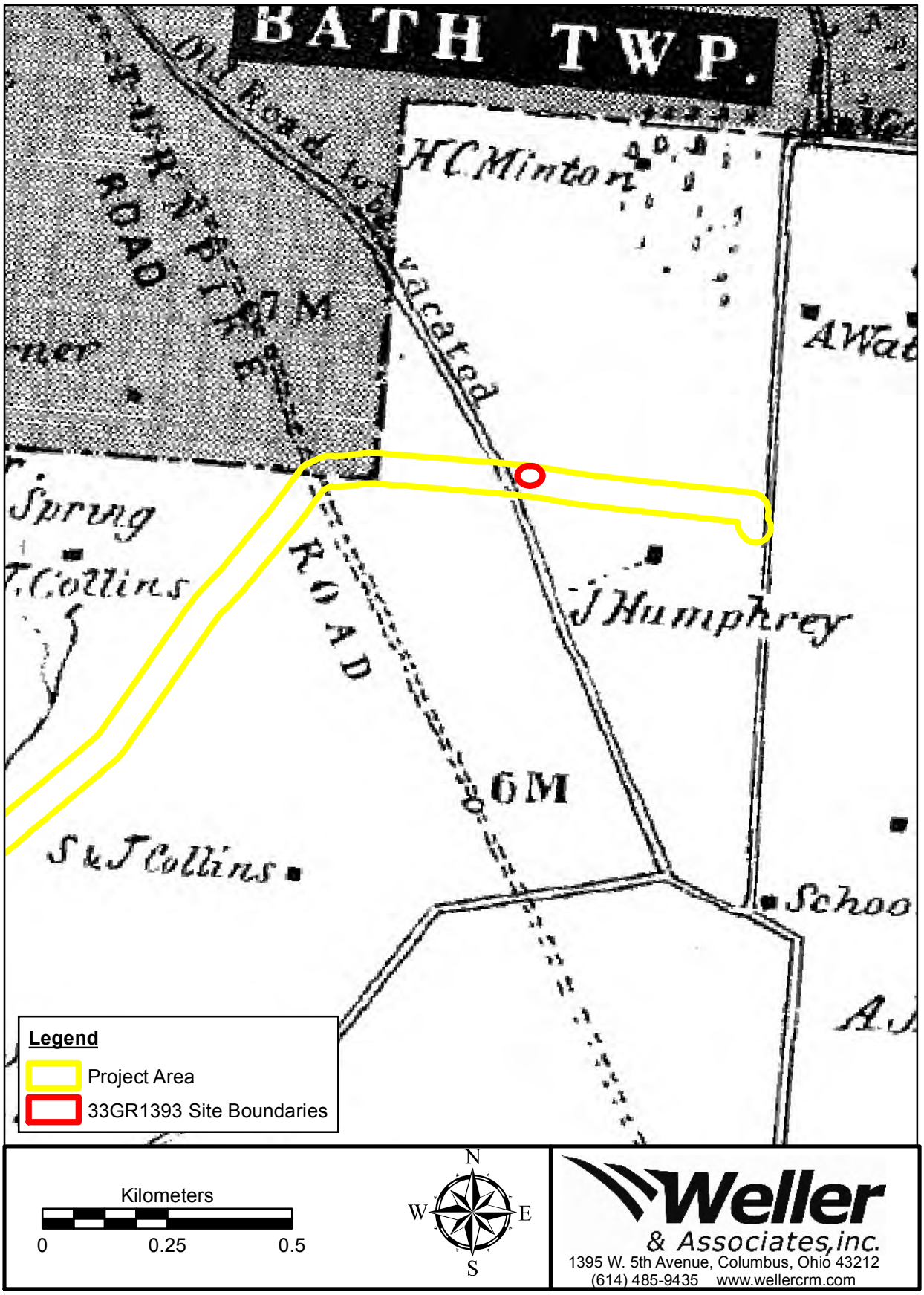


Figure 4. Portion of the 1855 Greene County Atlas indicating the location of Site 33GR1393.

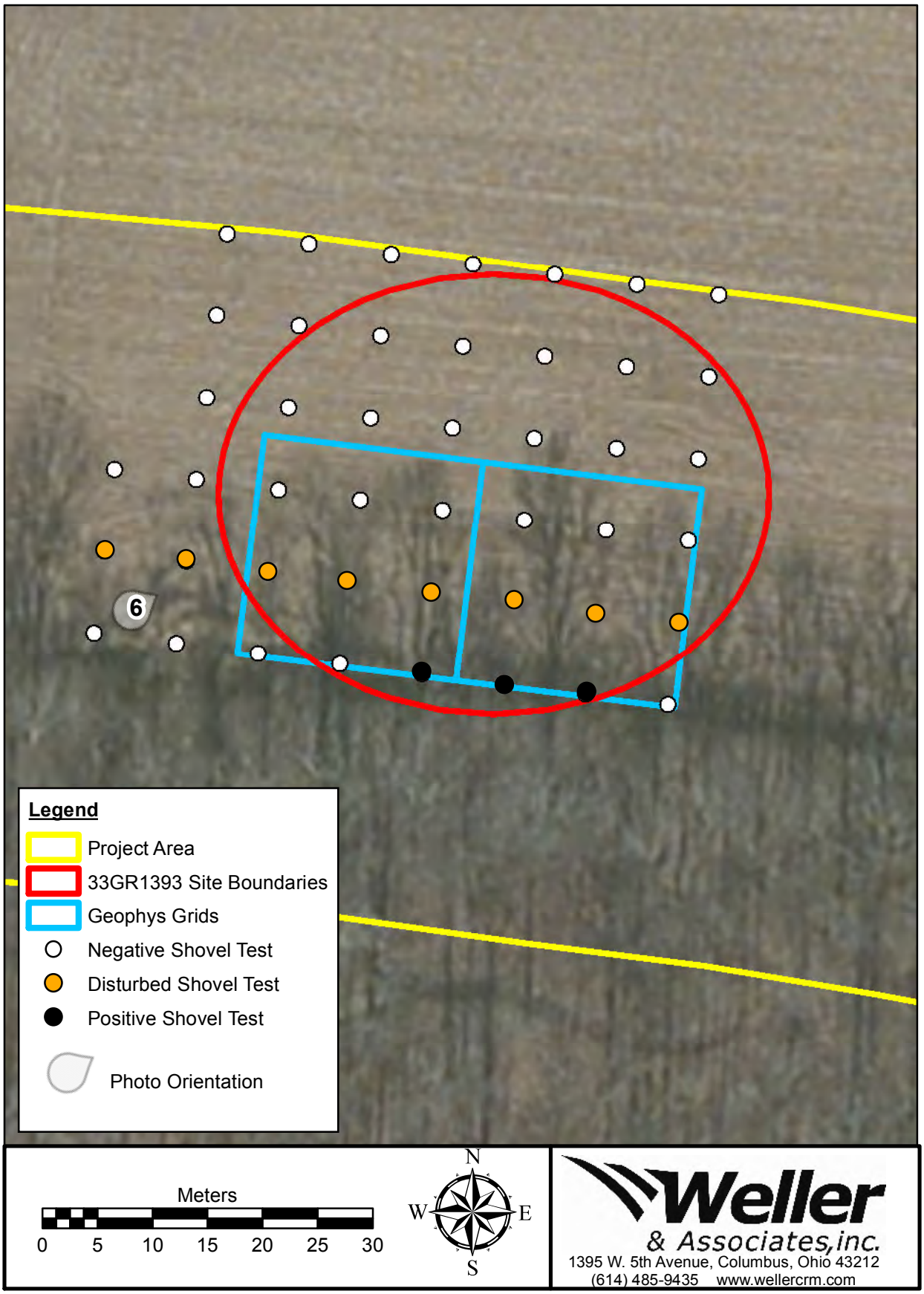


Figure 5. Aerial map indicating the location of 33GR1393, geophysical survey grids, and fieldwork results.

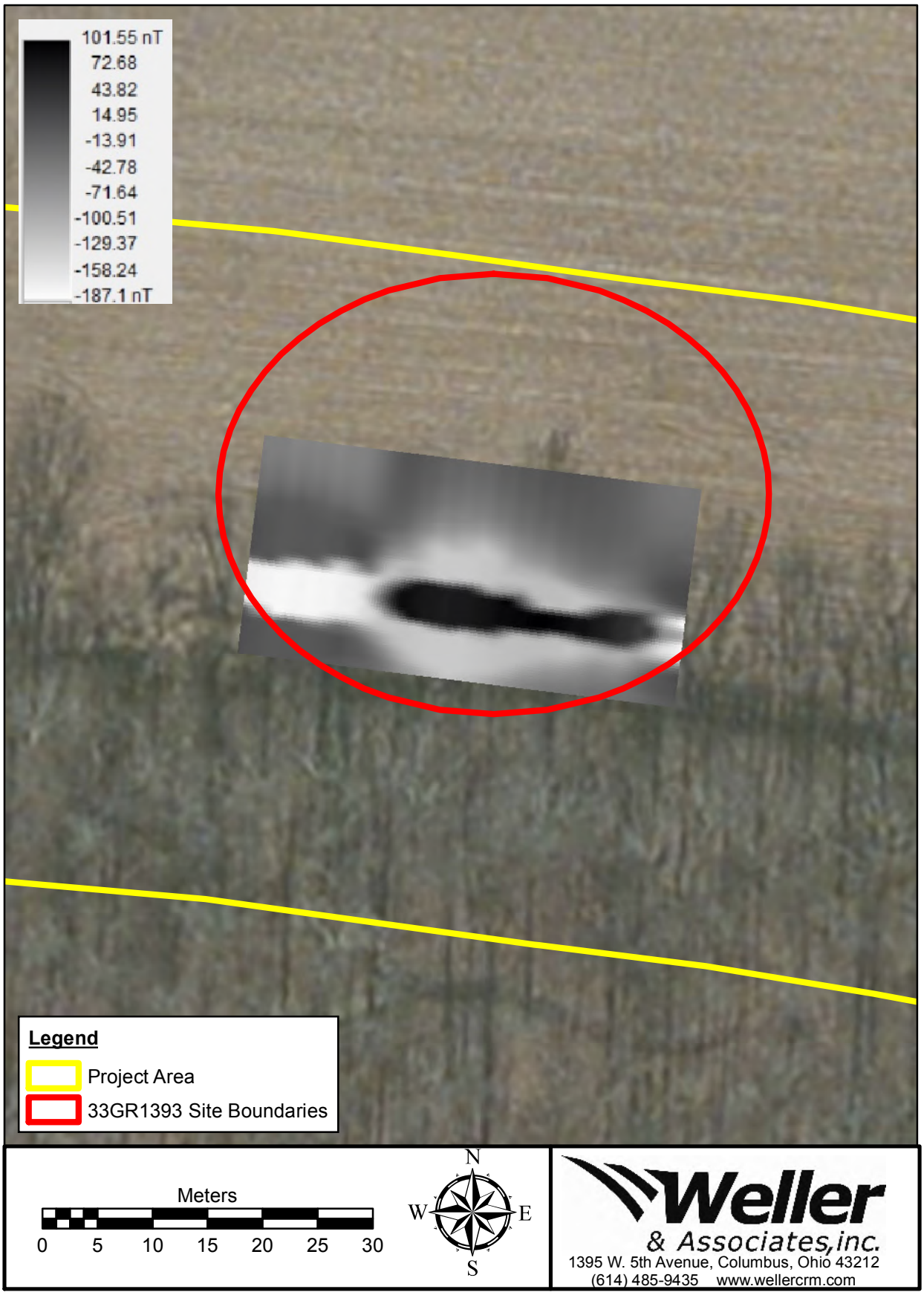


Figure 6. Aerial map indicating the location of Site 33GR1393 and geophysical survey results.

Figure 7. View of 33GR1393 showing standing and cut corn.

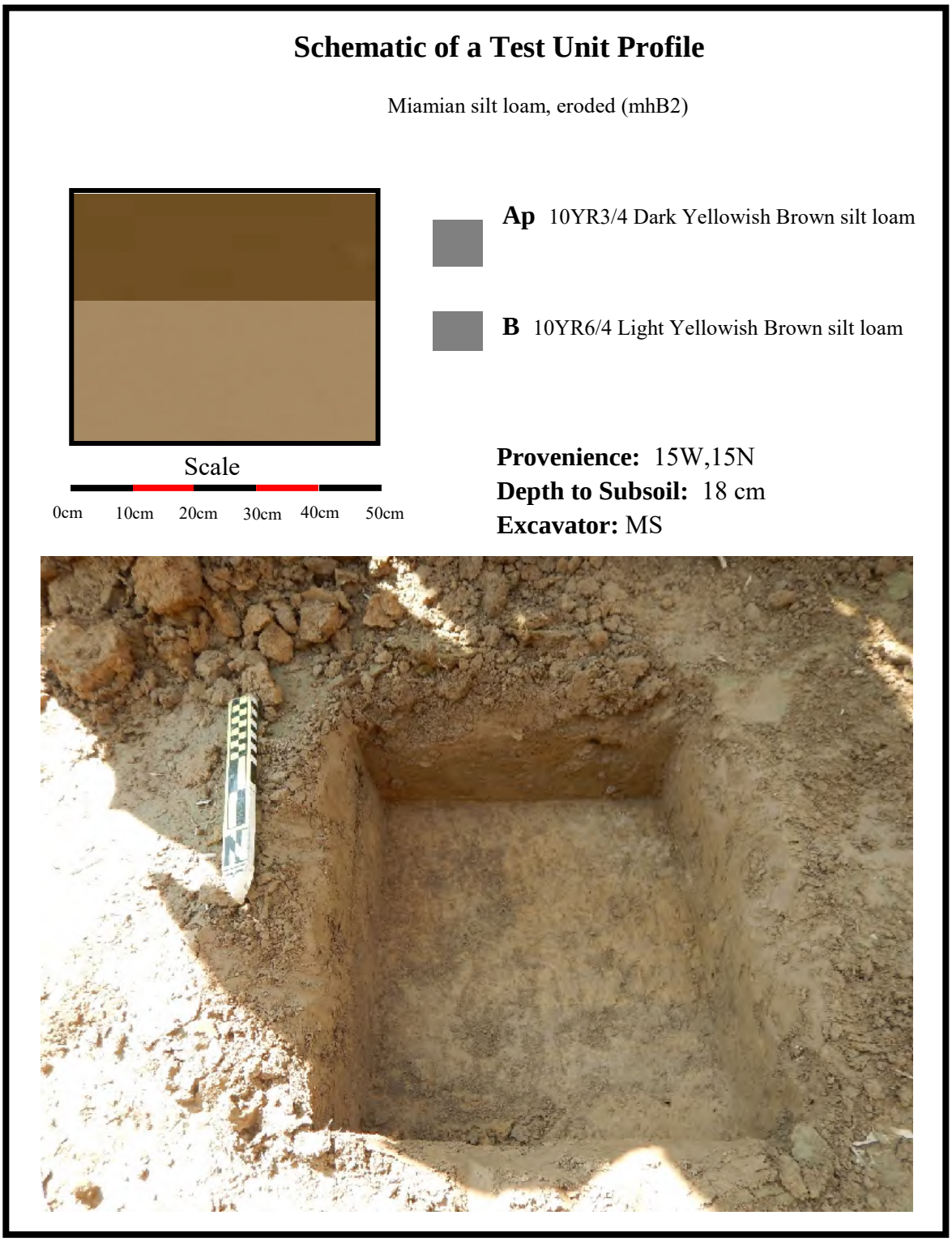


Figure 8. A typical shovel test unit excavated within 33GR1393.

Figure 9. Disturbed shovel test in existing pipeline corridor at 33GR1393.

ATTACHMENT E

FEDERAL AND STATE ENDANGERED SPECIES COORDINATION AND RESPONSE FOR THE CEMEX SECTION

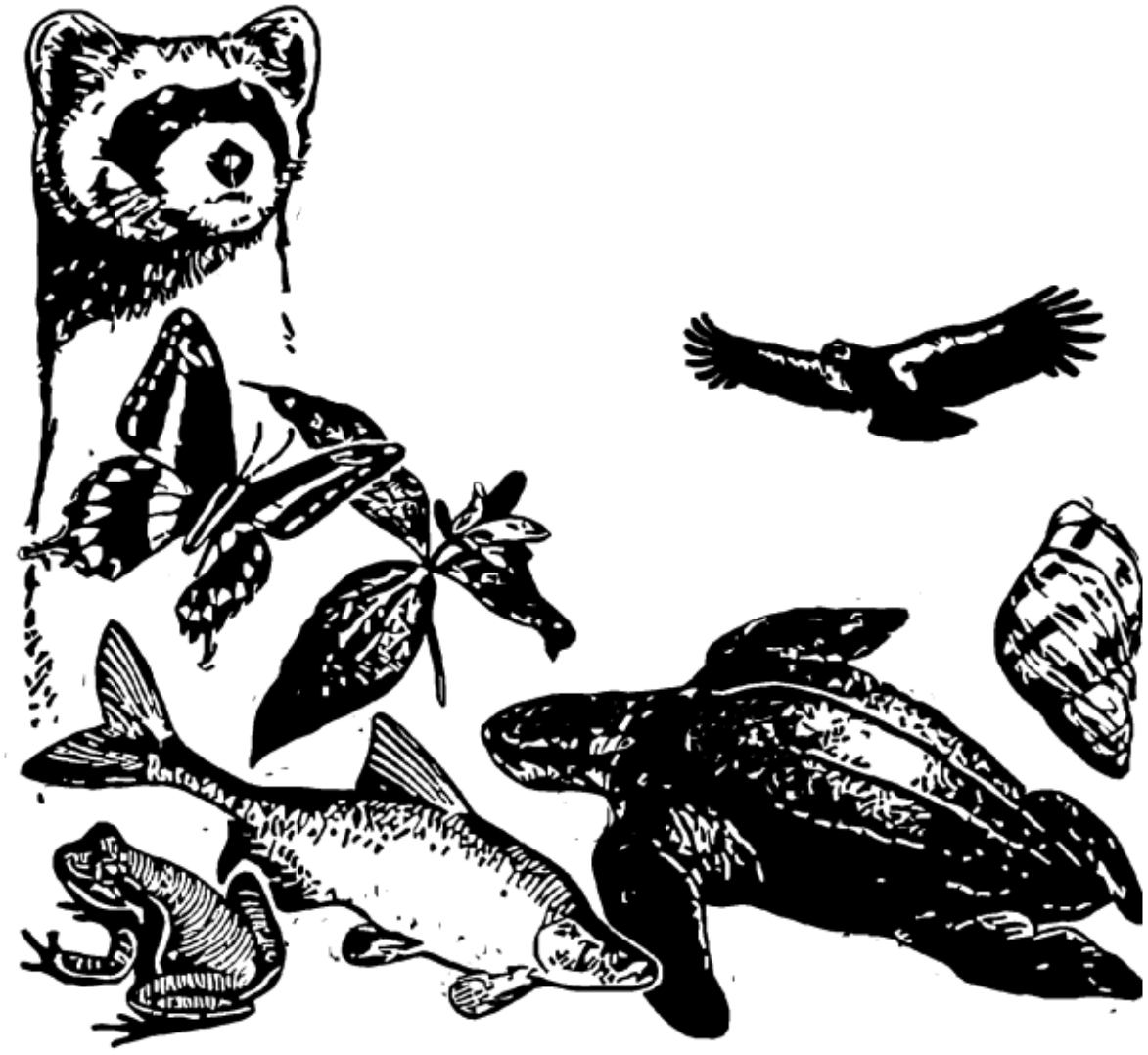
U.S. Fish & Wildlife Service

Cemex Replacement

IPaC Trust Resources Report

Generated June 24, 2016 11:22 AM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

Cemex Replacement

LOCATION

Greene County, Ohio

DESCRIPTION

Replacement of approximately 2.7 miles of existing natural gas pipeline. All work is intended to be completed within the existing pipeline right-of-way. The project is currently in the planning/permitting stage.

IPAC LINK

https://ecos.fws.gov/ipac/project/AKVMY-UXMDB-FD5DU-M5ZGS-RXH7UE

U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Columbus Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Clams

Clubshell Pleurobema clava — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F01D

Rayed Bean Villosa fabalis — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F01A

Snuffbox Mussel Epioblasma triquetra — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F03J

Mammals

Indiana Bat Myotis sodalis — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A000

Reptiles

Eastern Massasauga (=rattlesnake) Sistrurus catenatus — Proposed Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C03P

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

Acadian Flycatcher Empidonax virescens — Bird of conservation concern
Season: Breeding

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Cerulean Warbler Dendroica cerulea — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09I

Dickcissel Spiza americana — Bird of conservation concern
Season: Breeding

Field Sparrow Spizella pusilla — Bird of conservation concern
Season: Year-round

Henslow's Sparrow Ammodramus henslowii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09D

Kentucky Warbler Oporornis formosus — Bird of conservation concern
Season: Breeding

Least Bittern Ixobrychus exilis
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Northern Flicker Colaptes auratus — Bird of conservation concern
Season: Year-round

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prothonotary Warbler Protonotaria citrea — Bird of conservation concern
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Year-round

Rusty Blackbird Euphagus carolinus — Bird of conservation concern
Season: Wintering

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Columbus Ohio Field Office
4625 MORSE ROAD, SUITE 104
COLUMBUS, OH 43230
PHONE: (614)416-8993 FAX: (614)469-8994

Consultation Code: 03E15000-2016-SLI-1272 June 24, 2016
Event Code: 03E15000-2016-E-00496
Project Name: Cemex Replacement

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project.

PROJECT SPECIFIC NORTHERN LONG-EARED BAT COMMENTS: If the **northern long-eared bat** (*Myotis septentrionalis*) has been identified on the attached species list, this indicates that the project area is within 150 feet of a known maternity roost tree and/or within 5 miles of a known hibernaculum and further coordination with this office is requested to determine if the project could result in prohibited take of northern long-eared bats.

If the northern long-eared bat has not been identified on the attached species list but the project has a Federal nexus (e.g., Federal funding provided, Federal permits required to construct) and the project involves tree clearing, consultation under section 7(a)(2) of the Act between the Federal action agency and this office will be necessary for the northern long-eared bat. Consultants working on projects with a Federal nexus are also encouraged to contact this office early during project planning for technical assistance regarding the northern long-eared bat in addition to any other species identified on the attached species list.

The species list, with the inclusion of the northern long-eared bat for all Federal actions, fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.).*

GENERAL COMMENTS: New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or

assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

MIGRATORY BIRD COMMENTS: In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding the MBTA and BGEPA, see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with the MBTA and BGEPA by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more

information on avian stressors and recommended conservation measures see http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

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

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

Attachment

United States Department of Interior
Fish and Wildlife Service

Project name: Cemex Replacement

Official Species List

Provided by:

Columbus Ohio Field Office
4625 MORSE ROAD, SUITE 104
COLUMBUS, OH 43230
(614) 416-8993

Consultation Code: 03E15000-2016-SLI-1272
Event Code: 03E15000-2016-E-00496

Project Type: OIL OR GAS

Project Name: Cemex Replacement
Project Description: Replacement of approximately 2.7 miles of existing natural gas pipeline. All work is intended to be completed within the existing pipeline right-of-way. The project is currently in the planning/permitting stage.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:

Project Coordinates: MULTIPOLYGON (((-83.98749589920044 39.78054131123157, -83.98753881454468 39.778941739387086, -83.98406267166138 39.778644907532325, -83.98245334625244 39.77552809576118, -83.97985696792603 39.77389542374029, -83.9779257774353 39.77105877015949, -83.97623062133789 39.76968987807047, -83.96938562393188 39.767925121598594, -83.96063089370728 39.773252239280765, -83.95683288574219 39.77760598595853, -83.95541667938231 39.77824912973446, -83.94775629043579 39.777589495013444, -83.94779920578003 39.776435119038666, -83.94625425338745 39.776336171625616, -83.94595384597778 39.77879332361974, -83.95715475082397 39.77943645629993, -83.95934343338013 39.77859543543207, -83.96288394927979 39.77410981722458, -83.96957874298094 39.76993727022219, -83.97507190704346 39.771355634731655, -83.9780330657959 39.77524774069353, -83.9801573753357 39.77650108390166, -83.98256063461304 39.78035991835538, -83.98749589920044 39.78054131123157)))

Project Counties: Greene, OH

Endangered Species Act Species List

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Clams	**Status**	**Has Critical Habitat**	**Condition(s)**
clubshell *(Pleurobema clava)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Rayed Bean *(Villosa fabalis)*	Endangered		
Snuffbox mussel *(Epioblasma triquetra)*	Endangered		
Mammals			
Indiana bat *(Myotis sodalis)* Population: Entire	Endangered		
Reptiles			
eastern Massasauga *(Sistrurus catenatus)*	Proposed Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Joe Dean

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, July 19, 2016 12:58 PM
To: Joe Dean
Cc: Jenny Norris; nathan.reardon@dnr.state.oh.us
Subject: Cemex Replacement, Natural Gas Line, Greene Co. OH

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS #03E15000-2016-TA-1272

Dear Mr. Dean,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered**Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense

or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees ≥3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees ≥3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, we recommend that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. **Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.**

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler,

Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

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

Sincerely,

Dan Everson
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW

Jennifer Norris, ODNR-DOW

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Raymond W. Petering, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

June 28, 2016

Joseph Dean
Utility Technologies International Corp.
4700 Homer Ohio Lane
Groveport, OH 43215

Dear Mr. Dean,

Per your request, I have e-mailed you a set of shapefiles with our Natural Heritage Program data for the Cemex Pipeline Replacement project, including a one mile radius, in Bath, Beaver Creek and Xenia Townships, Greene County, Ohio. This data will not be published or distributed beyond the scope of the project description on the data request form.

Records included in the data layer may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, A = recently added to inventory with a state status not yet determined, X = presumed extirpated from Ohio, FE = federal endangered, FT = federal threatened, FC = federal candidate species, and FSC = federal species of concern.

The managed areas layer includes state, federal and county lands, as well as areas owned by non-profits, museums and other entities. Managed areas are sites under formal protection for their natural resources. Please be aware that this layer may not be complete and we are continually updating it as new information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke
Ohio Natural Heritage Program

ATTACHMENT F

FEDERAL AND STATE ENDANGERED SPECIES COORDINATION AND RESPONSE FOR THE MORRIS BEAN SECTION

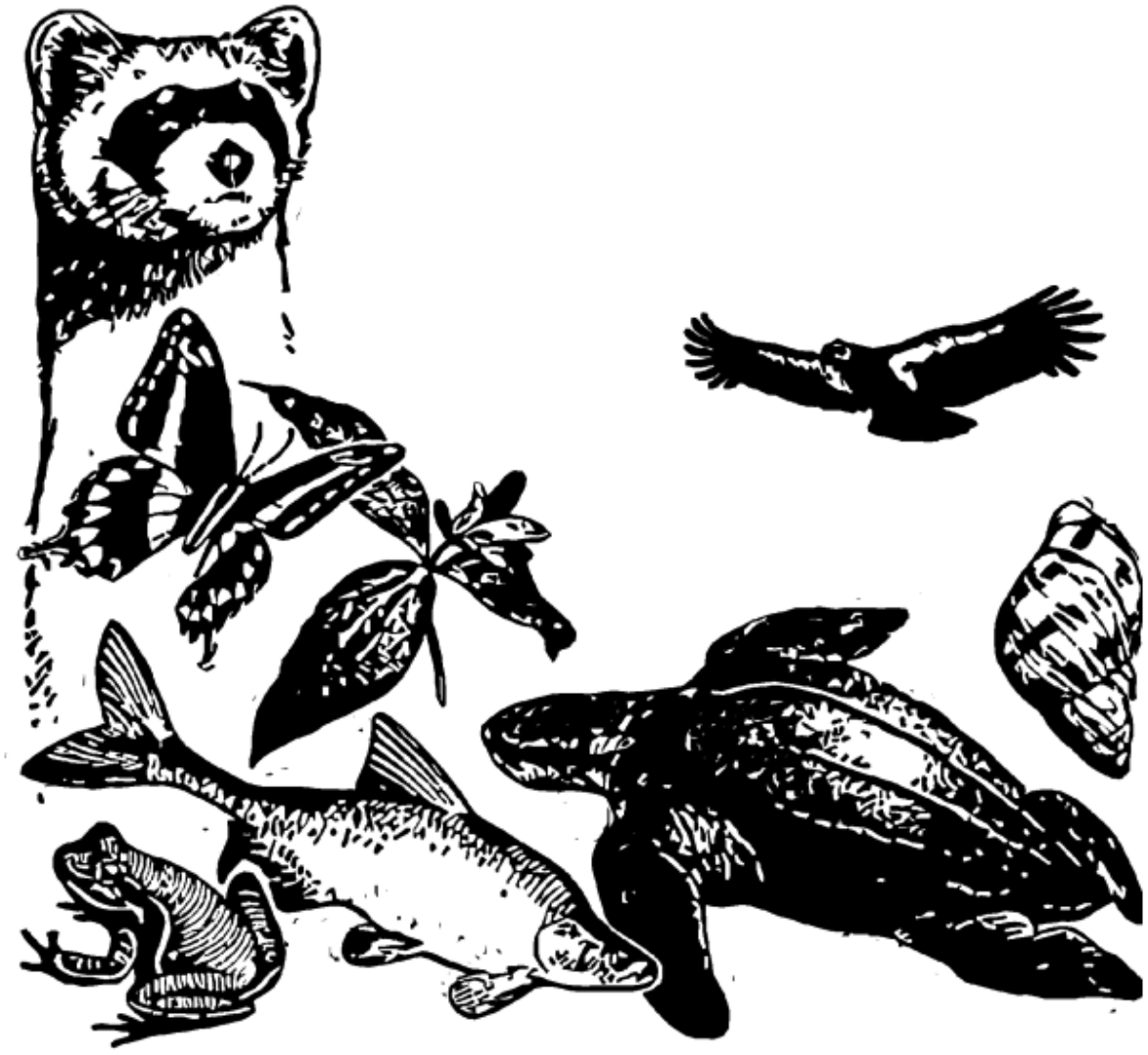
U.S. Fish & Wildlife Service

Morris Bean Replacement

IPaC Trust Resources Report

Generated June 24, 2016 10:17 AM MDT, IPaC v3.0.8

This report is for informational purposes only and should not be used for planning or analyzing project level impacts. For project reviews that require U.S. Fish & Wildlife Service review or concurrence, please return to the IPaC website and request an official species list from the Regulatory Documents page.



IPaC - Information for Planning and Conservation (https://ecos.fws.gov/ipac/): A project planning tool to help streamline the U.S. Fish & Wildlife Service environmental review process.

Table of Contents

U.S. Fish & Wildlife Service

IPaC Trust Resources Report

NAME

Morris Bean Replacement

LOCATION

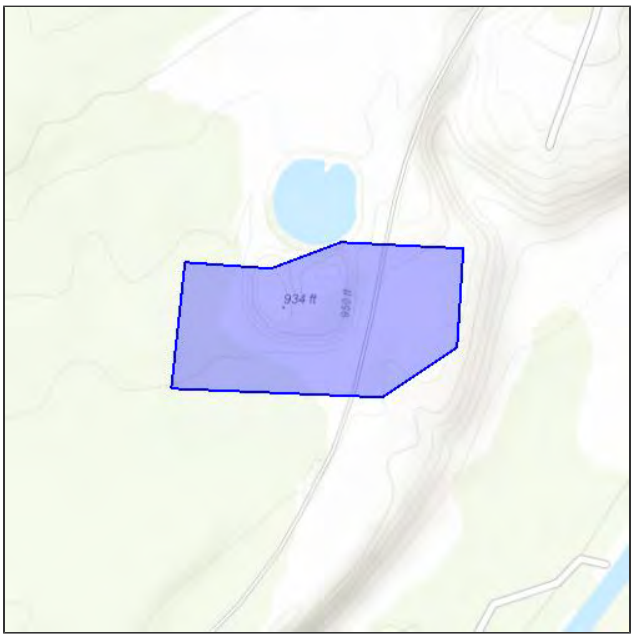
Greene County, Ohio

DESCRIPTION

Replacement of approximately 1400 feet of existing natural gas pipeline. All work is intended to be completed within the existing pipeline right-of-way. The project is currently in the planning/permitting stage.

IPAC LINK

https://ecos.fws.gov/ipac/project/XREH5-KW7EB-CNHLZ-GQR7G-Y24CCA



U.S. Fish & Wildlife Service Contact Information

Trust resources in this location are managed by:

Columbus Ohio Field Office
4625 Morse Road, Suite 104
Columbus, OH 43230-8355
(614) 416-8993

Endangered Species

Proposed, candidate, threatened, and endangered species are managed by the Endangered Species Program of the U.S. Fish & Wildlife Service.

This USFWS trust resource report is for informational purposes only and should not be used for planning or analyzing project level impacts.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list from the Regulatory Documents section.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency.

A letter from the local office and a species list which fulfills this requirement can only be obtained by requesting an official species list either from the Regulatory Documents section in IPaC or from the local field office directly.

The list of species below are those that may occur or could potentially be affected by activities in this location:

Clams

Clubshell Pleurobema clava — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F01D

Rayed Bean Villosa fabalis — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F01A

Snuffbox Mussel Epioblasma triquetra — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=F03J

Mammals

Indiana Bat Myotis sodalis — Endangered

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=A000

Reptiles

Eastern Massasauga (=rattlesnake) Sistrurus catenatus — Proposed Threatened

CRITICAL HABITAT

No critical habitat has been designated for this species.

http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=C03P

Critical Habitats

There are no critical habitats in this location

Migratory Birds

Birds are protected by the Migratory Bird Treaty Act and the Bald and Golden Eagle Protection Act.

Any activity that results in the take of migratory birds or eagles is prohibited unless authorized by the U.S. Fish & Wildlife Service.[1] There are no provisions for allowing the take of migratory birds that are unintentionally killed or injured.

Any person or organization who plans or conducts activities that may result in the take of migratory birds is responsible for complying with the appropriate regulations and implementing appropriate conservation measures.

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1. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

Additional information can be found using the following links:

- Birds of Conservation Concern
  http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Conservation measures for birds
  http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Year-round bird occurrence data
  http://www.birdscanada.org/birdmon/default/datasummaries.jsp

The following species of migratory birds could potentially be affected by activities in this location:

Acadian Flycatcher Empidonax virescens — Bird of conservation concern
Season: Breeding

Bald Eagle Haliaeetus leucocephalus — Bird of conservation concern
Season: Year-round
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B008

Black-billed Cuckoo Coccyzus erythropthalmus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HI

Blue-winged Warbler Vermivora pinus — Bird of conservation concern
Season: Breeding

Cerulean Warbler Dendroica cerulea — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09I

Dickcissel Spiza americana — Bird of conservation concern
Season: Breeding

Field Sparrow Spizella pusilla — Bird of conservation concern
Season: Year-round

Henslow's Sparrow Ammodramus henslowii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B09D

Kentucky Warbler Oporornis formosus — Bird of conservation concern
Season: Breeding

Least Bittern Ixobrychus exilis
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B092

Loggerhead Shrike Lanius ludovicianus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FY

Northern Flicker Colaptes auratus — Bird of conservation concern
Season: Year-round

Peregrine Falcon Falco peregrinus — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0FU

Pied-billed Grebe Podilymbus podiceps — Bird of conservation concern
Season: Breeding

Prothonotary Warbler Protonotaria citrea — Bird of conservation concern
Season: Breeding

Red-headed Woodpecker Melanerpes erythrocephalus — Bird of conservation concern
Season: Year-round

Rusty Blackbird Euphagus carolinus — Bird of conservation concern
Season: Wintering

Short-eared Owl Asio flammeus — Bird of conservation concern
Season: Wintering
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0HD

Willow Flycatcher Empidonax traillii — Bird of conservation concern
Season: Breeding
http://ecos.fws.gov/tess_public/profile/speciesProfile.action?spcode=B0F6

Wood Thrush Hylocichla mustelina — Bird of conservation concern
Season: Breeding

Wildlife refuges and fish hatcheries

There are no refuges or fish hatcheries in this location

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

DATA LIMITATIONS

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

DATA EXCLUSIONS

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

DATA PRECAUTIONS

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

Wetland data is unavailable at this time.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Columbus Ohio Field Office
4625 MORSE ROAD, SUITE 104
COLUMBUS, OH 43230
PHONE: (614)416-8993 FAX: (614)469-8994

Consultation Code: 03E15000-2016-SLI-1271 June 24, 2016
Event Code: 03E15000-2016-E-00495
Project Name: Morris Bean Replacement

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

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project.

PROJECT SPECIFIC NORTHERN LONG-EARED BAT COMMENTS: If the **northern long-eared bat** (*Myotis septentrionalis*) has been identified on the attached species list, this indicates that the project area is within 150 feet of a known maternity roost tree and/or within 5 miles of a known hibernaculum and further coordination with this office is requested to determine if the project could result in prohibited take of northern long-eared bats.

If the northern long-eared bat has not been identified on the attached species list but the project has a Federal nexus (e.g., Federal funding provided, Federal permits required to construct) and the project involves tree clearing, consultation under section 7(a)(2) of the Act between the Federal action agency and this office will be necessary for the northern long-eared bat. Consultants working on projects with a Federal nexus are also encouraged to contact this office early during project planning for technical assistance regarding the northern long-eared bat in addition to any other species identified on the attached species list.

The species list, with the inclusion of the northern long-eared bat for all Federal actions, fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.).*

GENERAL COMMENTS: New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or

assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

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

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

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

MIGRATORY BIRD COMMENTS: In addition to responsibilities to protect threatened and endangered species under the Act, there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding the MBTA and BGEPA, see http://www.fws.gov/migratorybirds/RegulationsandPolicies.html.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with the MBTA and BGEPA by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more

information on avian stressors and recommended conservation measures see http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/BirdHazards.html.

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

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

Attachment

Official Species List

Provided by:

Columbus Ohio Field Office
4625 MORSE ROAD, SUITE 104
COLUMBUS, OH 43230
(614) 416-8993

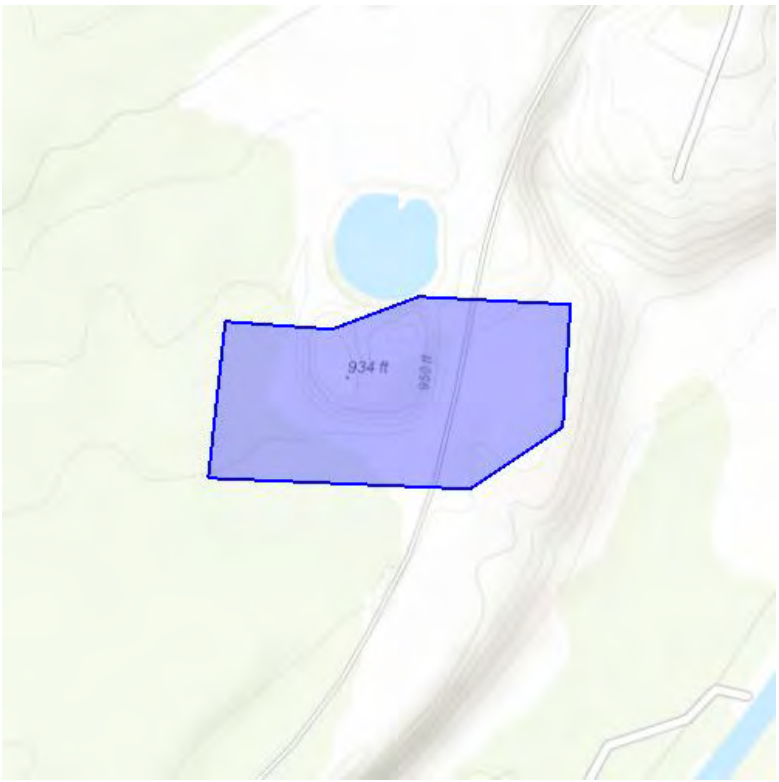
Consultation Code: 03E15000-2016-SLI-1271
Event Code: 03E15000-2016-E-00495

Project Type: OIL OR GAS

Project Name: Morris Bean Replacement
Project Description: Replacement of approximately 1400 feet of existing natural gas pipeline. All work is intended to be completed within the existing pipeline right-of-way. The project is currently in the planning/permitting stage.

Please Note: The FWS office may have modified the Project Name and/or Project Description, so it may be different from what was submitted in your previous request. If the Consultation Code matches, the FWS considers this to be the same project. Contact the office in the 'Provided by' section of your previous Official Species list if you have any questions or concerns.

Project Location Map:



Project Coordinates: MULTIPOLYGON (((-83.89777064323425 39.77481483724308, -83.89401018619537 39.7746952729531, -83.89267981052399 39.77537142689355, -83.89258861541748 39.77671134648056, -83.89475584030151 39.77680204778686, -83.89598429203033 39.776447487455286, -83.89751851558685 39.776525820709, -83.89777064323425 39.77481483724308)))

Project Counties: Greene, OH

Endangered Species Act Species List

There are a total of 5 threatened or endangered species on your species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Critical habitats listed under the **Has Critical Habitat** column may or may not lie within your project area. See the **Critical habitats within your project area** section further below for critical habitat that lies within your project. Please contact the designated FWS office if you have questions.

Clams	**Status**	**Has Critical Habitat**	**Condition(s)**
clubshell *(Pleurobema clava)* Population: Wherever found; Except where listed as Experimental Populations	Endangered		
Rayed Bean *(Villosa fabalis)*	Endangered		
Snuffbox mussel *(Epioblasma triquetra)*	Endangered		
Mammals			
Indiana bat *(Myotis sodalis)* Population: Entire	Endangered		
Reptiles			
eastern Massasauga *(Sistrurus catenatus)*	Proposed Threatened		

Critical habitats that lie within your project area

There are no critical habitats within your project area.

Joe Dean

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Tuesday, July 19, 2016 1:11 PM
To: Joe Dean
Cc: Jenny Norris; nathan.reardon@dnr.state.oh.us
Subject: Morris Bean Replacement of Natural Gas Lines, Greene Co. OH

UNITED STATES DEPARTMENT OF THE INTERIOR
U.S. Fish and Wildlife Service
Ecological Services Office
4625 Morse Road, Suite 104
Columbus, Ohio 43230
(614) 416-8993 / Fax (614) 416-8994

TAILS #03E15000-2016-TA-1271

Dear Mr. Dean,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered**Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or snags ≥3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense

or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees ≥3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees ≥3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, we recommend that removal of any trees ≥3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. **Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.**

If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler,

Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

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

Sincerely,

Dan Everson
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW

Jennifer Norris, ODNR-DOW

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Raymond W. Petering, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

June 28, 2016

Joseph Dean
Utility Technologies International Corp.
4700 Homer Ohio Lane
Groveport, OH 43215

Dear Mr. Dean,

Per your request, I have e-mailed you a set of shapefiles with our Natural Heritage Program data for the Morris Bean Pipeline Replacement project, including a one mile radius, in Miami Township, Greene County, Ohio. This data will not be published or distributed beyond the scope of the project description on the data request form.

Records included in the data layer may be for rare and endangered plants and animals, geologic features, high quality plant communities and animal assemblages. Fields included are scientific and common names, state and federal statuses, as well as managed area and date of the most recent observation. State and federal statuses are defined as: E = endangered, T = threatened, P = potentially threatened, SC = species of concern, SI = special interest, A = recently added to inventory with a state status not yet determined, X = presumed extirpated from Ohio, FE = federal endangered, FT = federal threatened, FC = federal candidate species, and FSC = federal species of concern.

A layer showing state designated scenic rivers is also included. If this project is located within 1000 feet of a state designated scenic river, the approval of the ODNR Director may be required in accordance with Ohio Revised Code section 1547.82. Please contact Scenic Rivers Program Manager Bob Gable at 614-265-6814 for further information.

The managed areas layer includes state, federal and county lands, as well as areas owned by non-profits, museums and other entities. Managed areas are sites under formal protection for their natural resources. Please be aware that this layer may not be complete and we are continually updating it as new information becomes available to us.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke
Ohio Natural Heritage Program

ATTACHMENT G
(PART 2)

PHASE I ENVIRONMENTAL REVIEW FOR THE

CEMEX SECTION AND

MORRIS BEAN SECTION

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 16

SITE NAME/LOCATION Stream 1

SITE NUMBER S1 RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT. 39°46'46.25"N LONG. 83°58'59.98"W RIVER CODE _____ RIVER MILE _____

DATE 19 July 2016 SCORER D Jeffcott COMMENTS _____

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: overflow from pond in cemetary, gravel outside AOI

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]	10%
☐☐	BOULDER (>256 mm) [16 pts]		☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐☐	BEDROCK [16 pt]		☐☐	FINE DETRITUS [3 pts]	
☐☐	COBBLE (65-256 mm) [12 pts]		☒☐	CLAY or HARDPAN [0 pt]	80%
☐☐	GRAVEL (2-64 mm) [9 pts]		☐☐	MUCK [0 pts]	
☐☐	SAND (<2 mm) [6 pts]		☐☐	ARTIFICIAL [3 pts]	10%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 0 (A) 3 (B) 3

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

HHEI Metric Points

Substrate Max = 40 6

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]

4

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

Pool Depth Max = 30 5

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]

0.07

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

Bankfull Width Max=30 5

This information must also be completed

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

RIPARIAN WIDTH (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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Beath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: _____ Quantity: _____

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id, and attach results) Lab Number: _____

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

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

_____

Additional comments/description of pollution impacts: _____

_____

BIOTIC EVALUATION

Performed? (Y/N): 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)____

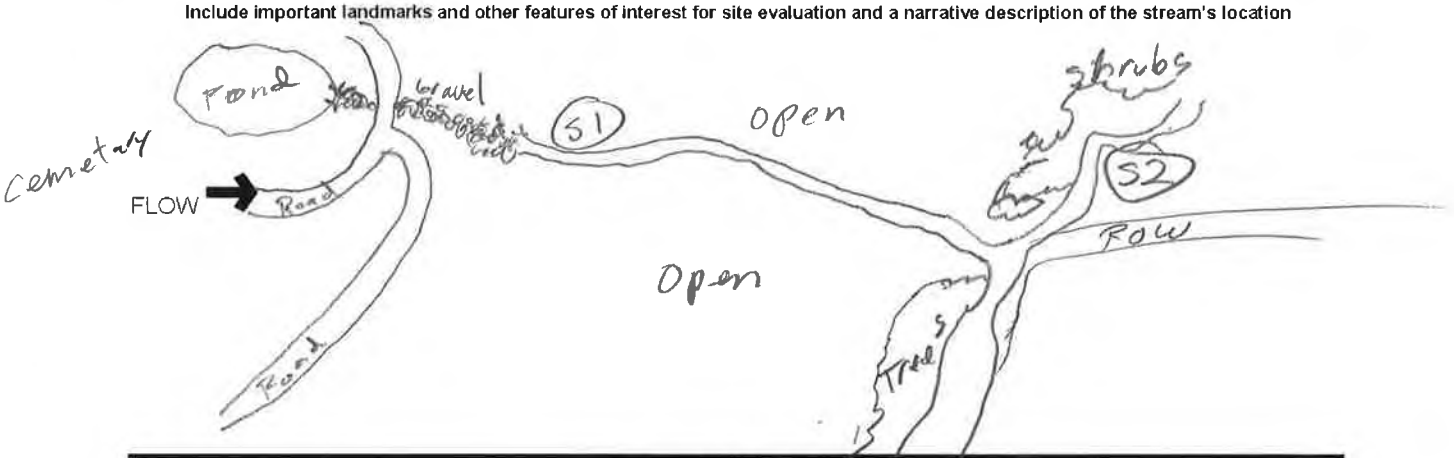
Comments Regarding Biology: _____

_____

_____

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



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 44

SITE NAME/LOCATION Stream 2

SITE NUMBER S2 RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) 200ft LAT. 39°46' LONG. 83°58' W RIVER CODE _____ RIVER MILE _____

DATE 19July 2016 SCORER _____ COMMENTS _____

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☐ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: Pipeline ROW

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]	50%
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☒	COBBLE (65-256 mm) [12 pts]	30%	☐	CLAY or HARDPAN [0 pt]	
☐	GRAVEL (2-64 mm) [9 pts]	20%	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 30% (A) 15

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 3

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40: 18

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]

COMMENTS _____ MAXIMUM POOL DEPTH (centimeters): 20

Pool Depth Max = 30: 25

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): 0.2

Bankfull Width Max=30: 5

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)		
L R		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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☒ 2.5
- ☐ 2.0
- ☐ 3.0
- ☐ >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)

June 20 2008 Revision

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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Beath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: _____ Quantity: _____

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____

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

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

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

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

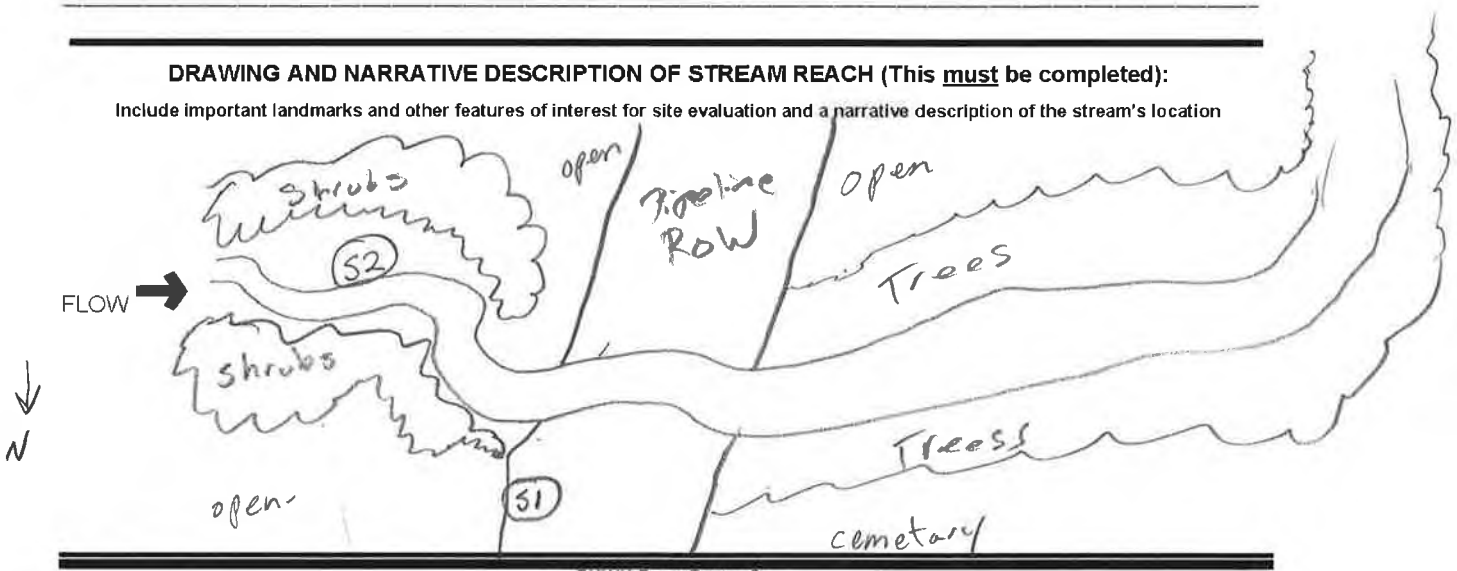
Fish Observed? (Y/N) N Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N

Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: Nothing observed

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



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 13

SITE NAME/LOCATION Stream 3

SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT 39°46'30.43" N LONG 83°57'37.61" W RIVER CODE _____ RIVER MILE _____

DATE 20 July 2016 SCORER D Seffert COMMENTS Temporary outflows from ponds in mining area

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: Concrete added where stream crosses pipline ROW,

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]		☐ ☐	LEAF PACK/WOODY DEBRIS [3 pts]	10%
☐ ☐	BEDROCK [16 pt]		☐ ☐	FINE DETRITUS [3 pts]	
☐ ☐	COBBLE (65-256 mm) [12 pts]	10%	☐ ☐	CLAY or HARDPAN [0 pt]	10%
☐ ☐	GRAVEL (2-64 mm) [9 pts]		☒ ☐	MUCK [0 pts]	40%
☐ ☐	SAND (<2 mm) [6 pts]		☐ ☒	ARTIFICIAL [3 pts]	30%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10% (A) 3

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 5

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40

8

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]

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

Pool Depth Max = 30

0

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

- ☐ > 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)** 0

Bankfull Width Max=30

5

This information must also be completed

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

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

COMMENTS _____

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

- ☐ Stream Flowing
- ☐ 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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Bath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: _____ Quantity: _____

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____

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

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

_____

Additional comments/description of pollution impacts: _____

_____

BIOTIC EVALUATION

Performed? (Y/N): 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)____

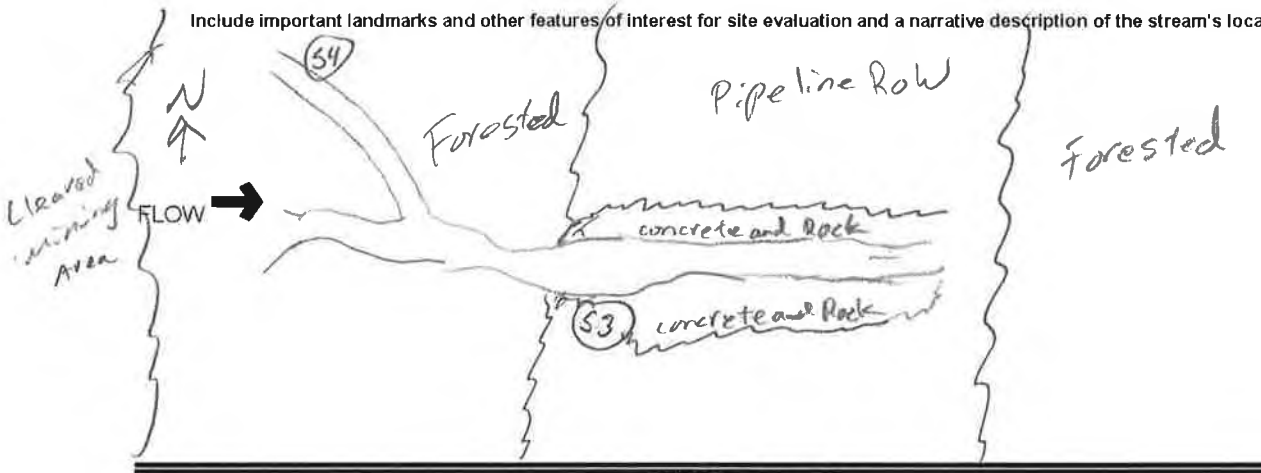
Comments Regarding Biology: _____

_____

_____

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



Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 12

SITE NAME/LOCATION Stream 4

SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) 65 Ft LAT N 39°46'31.05" LONG W 83°57'38.17" RIVER CODE _____ RIVER MILE _____

DATE 26 July 2016 SCORER D. Seffcott COMMENTS Temporary outflows from ponds in mining area

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]		☒	LEAF PACK/WOODY DEBRIS [3 pts]	40%
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	10%	☐	CLAY or HARDPAN [0 pt]	10%
☐	GRAVEL (2-64 mm) [9 pts]		☒	MUCK [0 pts]	40%
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) 3

(B) 4

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

HHEI Metric Points

Substrate Max = 40 7

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]

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

Pool Depth Max = 30 0

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)**

Bankfull Width Max=30 5

This information must also be completed

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

RIPARIAN WIDTH (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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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)

June 20, 2006 Revision

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:_____ NRCS Soil Map Page:_____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Bath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N):_____ Date of last precipitation:_____ Quantity:_____

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number:_____

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

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

_____

Additional comments/description of pollution impacts:_____

_____

BIOTIC EVALUATION

Performed? (Y/N): No (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)___

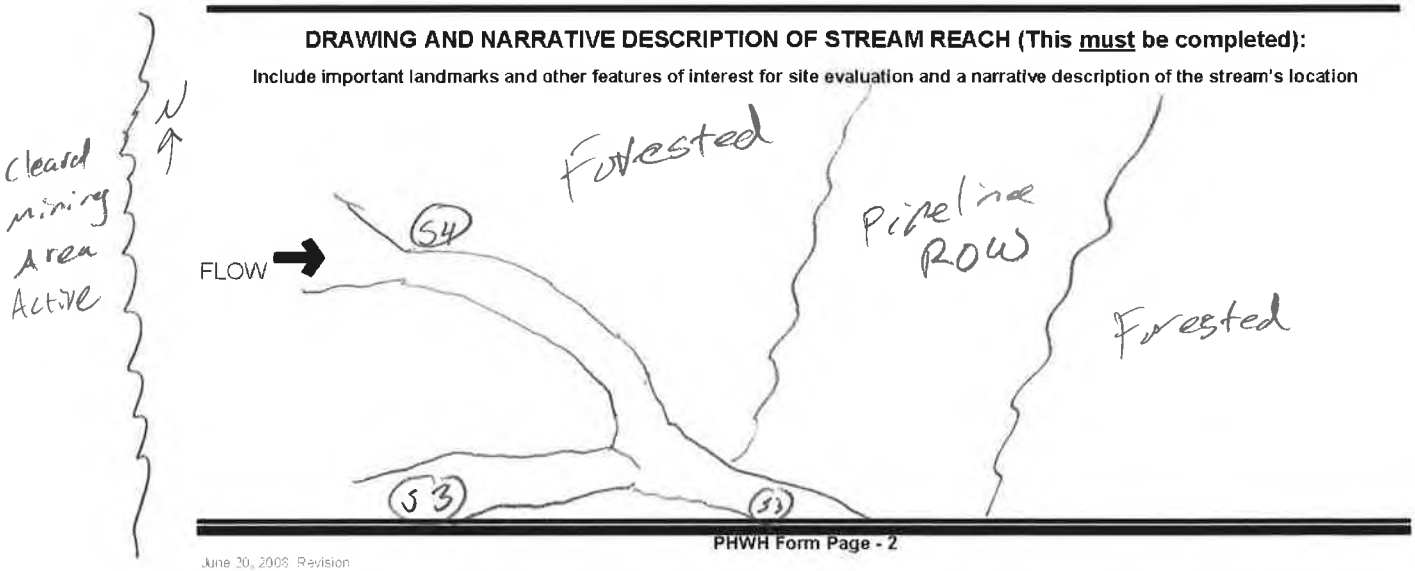
Comments Regarding Biology:_____

_____

_____

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



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 46

SITE NAME/LOCATION Stream 5 / Stream 6

SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) _____ LAT N 39°46'36.649" LONG W 83°57'30.809" RIVER CODE _____ RIVER MILE _____

DATE 20 July 2016 SCORER D Jeffcott 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]	30%
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pt]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	10%	☐	CLAY or HARDPAN [0 pt]	
☒	GRAVEL (2-64 mm) [9 pts]	50%	☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]	10%	☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 10% (A) 12

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 4 **TOTAL NUMBER OF SUBSTRATE TYPES:**

HHEI Metric Points

Substrate Max = 40: 16

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]

COMMENTS _____ **MAXIMUM POOL DEPTH (centimeters):** 20

Pool Depth Max = 30: 25

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)** 0.8

Bankfull Width Max=30: 5

This information must also be completed

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

RIPARIAN WIDTH (Per Bank)		FLOODPLAIN QUALITY (Most Predominant per Bank)		
L R		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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☒ >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)

June 20 2008 Revision

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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Beath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): _____ Date of last precipitation: _____ Quantity: _____

Photograph Information: _____

Elevated Turbidity? (Y/N): No Canopy (% open): 10%

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number: _____

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

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

Additional comments/description of pollution impacts: _____

BIOTIC EVALUATION

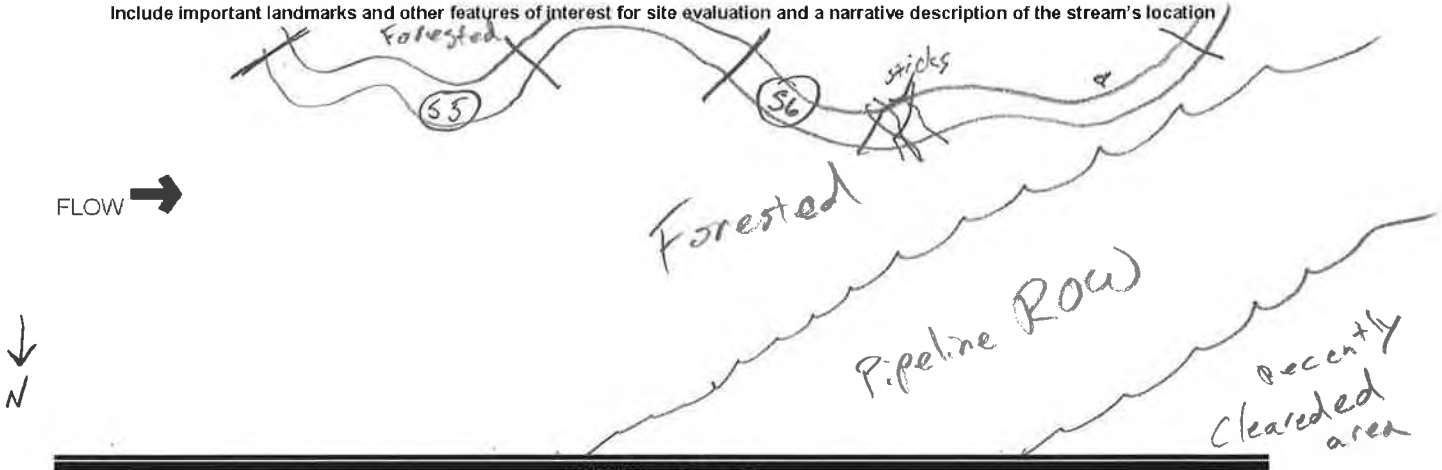
Performed? (Y/N): Yes (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

Fish Observed? (Y/N) NO Voucher? (Y/N) N Salamanders Observed? (Y/N) N Voucher? (Y/N) N
Frogs or Tadpoles Observed? (Y/N) N Voucher? (Y/N) N Aquatic Macroinvertebrates Observed? (Y/N) N Voucher? (Y/N) N

Comments Regarding Biology: _____

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

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



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 13

SITE NAME/LOCATION Stream 7

SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

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

DATE 20 July 2016 SCORER D Jeffcott COMMENTS _____

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

STREAM CHANNEL ☐ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: old mining road with bridge and culvert, pipeline ROW, concrete within ROW

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]		☐☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐☐	BEDROCK [16 pt]	2%	☐☐	FINE DETRITUS [3 pts]	
☐☐	COBBLE (65-256 mm) [12 pts]	10%	☒☐	CLAY or HARDPAN [0 pt]	40%
☐☐	GRAVEL (2-64 mm) [9 pts]		☐☐	MUCK [0 pts]	18%
☐☐	SAND (<2 mm) [6 pts]		☐☒	ARTIFICIAL [3 pts]	30%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 12% (A) 3 (B) 5

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

HHEI Metric Points

Substrate Max = 40 8

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]

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

Pool Depth Max = 30 0

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

- ☐ > 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)** 0

Bankfull Width Max=30 5

This information must also be completed

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

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

COMMENTS _____

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

- ☐ Stream Flowing
- ☐ 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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☐ >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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Bath / Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): _____ Date of last precipitation: _____ Quantity: _____

Photograph Information: _____

Elevated Turbidity? (Y/N): _____ Canopy (% open): 60%

Were samples collected for water chemistry? (Y/N): No (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

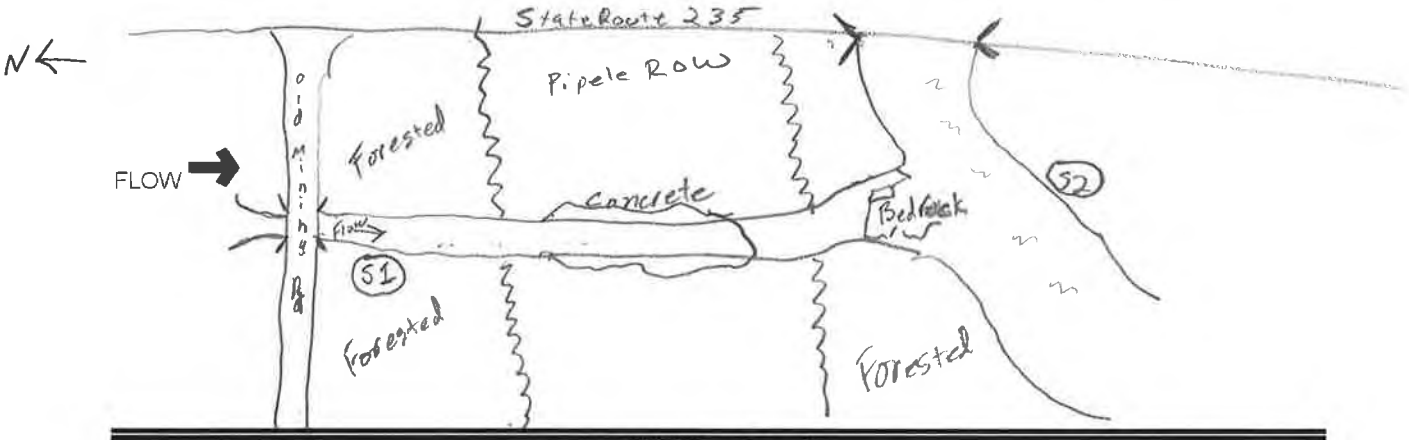
Performed? (Y/N): No (If Yes, Record all observations. Voucher collections optional. NOTE: all voucher samples must be labeled with the site ID number. Include appropriate field data sheets from the Primary Headwater Habitat Assessment Manual)

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



OhioEPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 24

SITE NAME/LOCATION Stream 8

SITE NUMBER 58 RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) 200ft LAT 39° N LONG. 83° W RIVER CODE _____ RIVER MILE _____

DATE 21 July 2016 SCORER D Seffrott COMMENTS Stream enters pipeline Row and narrows crosses road and widens

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

STREAM CHANNEL ☒ NONE / NATURAL CHANNEL ☐ RECOVERED ☒ RECOVERING ☐ RECENT OR NO RECOVERY

MODIFICATIONS: Pipeline Row / large road with concret culvert

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]	10%
☐☐	BOULDER (>256 mm) [16 pts]		☒☒	LEAF PACK/WOODY DEBRIS [3 pts]	20%
☐☐	BEDROCK [16 pt]	15%	☐☐	FINE DETRITUS [3 pts]	
☐☐	COBBLE (65-256 mm) [12 pts]	10%	☐☐	CLAY or HARDPAN [0 pt]	20%
☒☐	GRAVEL (2-64 mm) [9 pts]	20%	☐☐	MUCK [0 pts]	
☐☐	SAND (<2 mm) [6 pts]		☐☐	ARTIFICIAL [3 pts]	5%

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock _____ (A) 12

SCORE OF TWO MOST PREDOMINATE SUBSTRATE TYPES:

(B) 7

TOTAL NUMBER OF SUBSTRATE TYPES:

HHEI Metric Points

Substrate Max = 40: 19

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]

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

Pool Depth Max = 30: 0

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)**

Bankfull Width Max=30: 5

This information must also be completed

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

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

COMMENTS _____

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

- ☐ Stream Flowing
- ☐ 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
- ☐ 0.5
- ☐ 1.0
- ☐ 1.5
- ☐ 2.0
- ☐ 2.5
- ☐ 3.0
- ☒ >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:_____ NRCS Soil Map Page:_____ NRCS Soil Map Stream Order _____

County: Greene Township / City: Bath/Yellow Springs

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation:_____ Quantity:_____

Photograph Information: _____

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

Were samples collected for water chemistry? (Y/N): _____ (Note lab sample no. or id. and attach results) Lab Number:_____

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

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

_____

Additional comments/description of pollution impacts:_____

_____

BIOTIC EVALUATION

Performed? (Y/N): 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)____

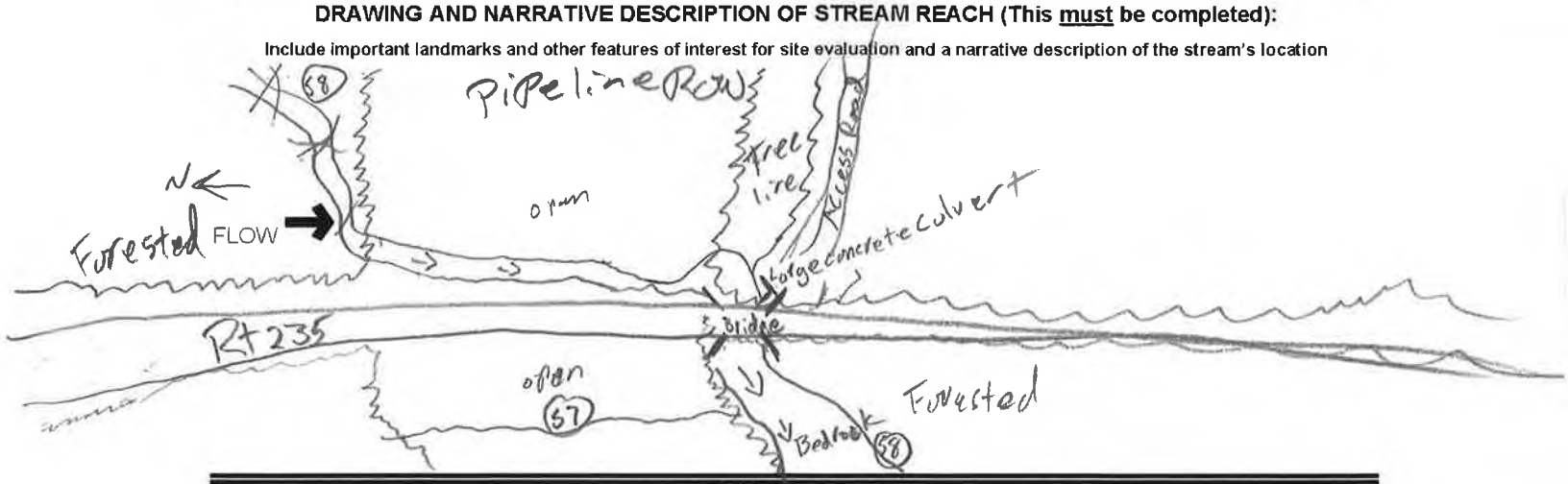
Comments Regarding Biology:_____

_____

_____

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



Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

1. Wetland W1

2. Sample Point U-01

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

3. Wetland W2

4. Sample Point U-02

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

5. Wetland W3

6. Sample Point U-03

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

7. Wetland W4

8. Sample Point U-04

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

9. Stream S1

10. Stream S2

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

11. Stream S3

12. Stream S5

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Cemex Pipeline	Greene Co, OH	850

13. Stream S7

14. Stream S8

Property of: Environmental Solutions & Innovations, Inc.
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Potential Roosts

Project Number 850 Project Name Cemex Site Name Cemex

Primary Biologist David Jeffcott Secondary Biologist State Ohio County Greene

Date	Roost Tree ID	Roost Tree species	Tree DBH	Tree Status	Exfoilatng Bark	Crevices	Hollow	Roosting Potential *M. sodalis*	Latitude (DMS)	Longitude (DMS)
07/20/2016	PRT001	*Fraxinus americana*	39	Dead	Yes	No	No	Primary	83° 57' 50.773" W	83° 57' 50.773" W
07/19/2016	PRT002	*Quercus alba*	60	Dead	Yes	No	No	Secondary	83° 58' 43.182" W	83° 58' 43.182" W
07/19/2016	PRT003	*Ulmus americana*	39	Dead	Yes	No	No	Secondary	83° 58' 39.219" W	83° 58' 39.219" W
07/19/2016	PRT004	*Gleditsia triacanthos*	50	Dead	Yes	No	No	Secondary	83° 58' 39.014" W	83° 58' 39.014" W
07/20/2016	PRT005	*Ulmus rubra*	39	Dead	Yes	No	No	Secondary	83° 57' 51.442" W	83° 57' 51.442" W
07/20/2016	PRT006	*Carya ovata*	63	Live	Yes	No	No	Secondary	83° 57' 30.891" W	83° 57' 30.891" W

DBH measurement units are within centimeters

ATTACHMENT G-2

Pesi 848

ENVIRONMENTAL REVIEW
FOR THE PROPOSED
VECTREN - MORRIS BEAN PIPELINE PROJECT
YELLOW SPRINGS TOWNSHIP
GREENE COUNTY, OHIO

2 September 2016

Prepared for:

Utility Technologies International Corporation

Utility Technologies International
4700 Homer Ohio Lane
Groveport, OH 43125

Prepared by:

ESI

Environmental Solutions & Innovations, Inc.

4525 Este Avenue
Cincinnati, Ohio 45232
Phone: (513) 451-1777
Fax: (513) 451-3321
Syracuse, NY • Stow, OH • Indianapolis, IN • Orlando, FL • Springfield, MO • Pittsburgh, PA • Teays Valley, WV

TABLE OF CONTENTS

LIST OF TABLES

Appendices
Appendix A: Figures
Appendix B: USFWS and ODNR Project Review Responses
Appendix C: Wetland/Upland, ORAM, and HHEI Datasheets
Appendix D: Aquatic Resource Photos
Appendix E: PRT Table

1.0 Introduction

A section (Morris Bean) of existing Vectren pipeline in Yellow Springs Township, Greene County, Ohio (Appendix A, Figure 1) is proposed for replacement/upgrade/maintenance. Environmental Solutions & Innovations, Inc. (ESI) was retained by Utility Technologies International Corporation (UTI) to complete an environmental assessment. This report outlines the findings of an aquatic resources delineation, Indiana bat potential roost tree (PRT) identification, and initial coordination with U.S. Fish and Wildlife Service (USFWS) and Ohio Department of Natural Resources (ODNR), Division of Wildlife. Field work was completed on 17 August 2016.

2.0 Methods

2.1 Agency Coordination

Project review requests are sent to USFWS and ODNR to solicit feedback regarding rare, threatened, or endangered species or other sensitive areas within the vicinity of the project. Responses facilitate coordination regarding Section 7 and/or Section 10 of the Endangered Species Act (ESA) as well as state permitting requirements.

2.2 Desktop Evaluation

Prior to visiting the site, available topographic, aerial, soils, flood, National Wetlands Inventory (NWI), and other resource mapping is reviewed to determine potential areas of concern. State stream designations, as well as navigability and other criteria that would determine agency jurisdiction are also reviewed.

2.3 Aquatic Resource Delineations

Wetland delineation procedures follow the 2010 Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region, Version 2.0 (USACE 2010) and the 1987 Corps of Engineers Wetland Delineation Manual (USACE 1987). The federally regulated Ordinary High Water Mark (OHWM) of streams is delineated using the USACE Regulatory Guidance Letter 05-05 – Guidance on Ordinary High Water Mark Identification. Each stream is categorized in regard to its flow regime as perennial, intermittent, or ephemeral, as defined by the USACE. Delineated aquatic resources are classified according to the Classification of Wetland and Deepwater Habitats of the United States (Cowardin et al. 1979). Each of the identified wetlands is evaluated consistent with the Ohio Rapid Assessment Method (ORAM, Version 5.0), developed by the Ohio Environmental Protection Agency (OEPA). Streams with drainage areas less than one square mile are evaluated using the Field evaluation

manual for Ohio's primary headwater habitat streams (OEPA 2012). Aquatic resource boundaries, sample point, and photograph locations are surveyed using a Trimble GPS unit with sub-meter accuracy.

2.4 Potential Indiana Bat Roost Tree Identification and Portal Search

Because Indiana bats (*Myotis sodalis*), which are federally endangered and protected under the ESA, summer in trees and winter in mines and caves; tree removal and mine/cave disturbance is restricted by the USFWS. Identification of PRTs and portals to mines and caves can be useful in coordination with the USFWS.

During field investigations, PRTs within the pipeline Area of Interest (AOI) are identified and locations are recorded using submeter GPS. PRTs are ranked as exhibiting primary or secondary roosting potential. Assessment and ranking determination considers diameter at breast height (dbh), roosting structures (exfoliating bark, cracks and crevices, cavities), solar exposure, and tree health (live, partially dead, or dead). Emphasis is placed on roost structure (as opposed to tree species) because Indiana bats roost in many species of trees.

Finally, biologists systematically search for portals to mines and caves that may support overwintering Indiana bats within the proposed project area. If found, portal suitability (or lack thereof) for bat use is documented.

3.0 Results

3.1 Agency Coordination

USFWS and ODNR project review responses can be found in Appendix B. The USFWS noted the project lies within the range of the federally threatened northern long-eared bat (*Myotis septentrionalis*) and federally endangered Indiana bat. Assuming no caves or abandoned mines are present and tree removal is unavoidable, USFWS recommend removing any trees ≥3 inches dbh between 1 October and 31 March.

If the project maintains the currently proposed alignment, clearing trees within the date range specified by USFWS satisfies ESA compliance. The findings of ESI's PRT identification may be used for additional USFWS coordination, should trees require removal outside of the clearing period.

The proposed project location does not intersect most of the resources within the vicinity identified by ODNR's Natural Heritage Database. The only area of intersection is with the Glen Helen Nature Sanctuary. However, the proposed activity is limited to less than 250 feet of existing ROW at the edge of the

property. UTI has reached out to representatives at the preserve to coordinate all work responsibly.

3.2 Desktop Evaluation

3.2.1 Topography and Drainage

The project appears on the Yellow Springs, Ohio U.S. Geological Survey (USGS) 7.5-minute topographic quadrangle (Appendix A, Figure 1). The AOI consists of elevations that range from approximately 917 feet to 933 feet. The site drains to unknown tributaries (UNT) to Little Miami River. Ohio Administrative Code (Chapter 3745-1, Water Quality Standards) designates Little Miami River as Exceptional Warmwater Habitat (EWH) at this location.

3.2.2 Soil Survey

Within the AOI, four unique soil series were mapped. No mapped soils within the AOI are listed as hydric, according to the U.S. Department of Agriculture, Natural Resource Conservation Service Web Soil Survey. Soil mapping is provided in Appendix A, Figure 2.

3.2.3 National Wetlands Inventory

No NWI-mapped wetlands were identified within the AOI. Note that NWI maps are derived from aerial photo interpretation and are suitable for general planning purposes only; they typically do not show all the wetland or watercourse resources within any given area. NWI mapping is provided in Appendix A, Figure 2.

3.2.4 Aerial Imagery

Aerial mapping from 1994 through 2015 shows little change to the land cover type. The existing right-of-way (ROW) is apparent back to 1994. Aerial representation of the site is provided in Appendix A, Figure 2.

3.3 Aquatic Resource Delineations

The field investigation revealed the site is dominated by existing, cleared ROW and immature forest. One stream segment and one wetland were identified and delineated within the AOI. Field data sheets for wetland and upland sample points, ORAMs, and Ohio Primary Headwater Habitat Evaluation Forms (HHEI) are provided in Appendix C. Representative photographs of aquatic resources are provided in Appendix D. The aquatic resource delineation map depicting sample points and resource locations is provided as Appendix A, Figure 2.

3.3.1 Uplands

The upland community consists of cleared ROW and undeveloped immature forest. One upland sample point was taken within the AOI to characterize upland site conditions. Upland data sheets are provided in Appendix C.

3.3.2 Wetlands

One Palustrine Emergent (PEM) wetland was identified within the AOI (Table 1). This wetland appears to fall under the jurisdiction of the Ohio Environmental Protection Agency (OEPA) and USACE.

Table 1. Summary of wetlands delineated within the AOI.

ID	Cowardin Class	Drains to	Sample Point	Acres *	ORAM Score	ORAM Category	Photo No.
A	PEM	UNT Little Miami River	A-WET	0.0628	10	1	A

*Within the AOI

3.3.3 Streams

One stream segment was identified within the AOI (Table 2).

Table 2. Summary of streams delineated within the AOI.

Stream	Stream Designation/ HHEI Score	OHWM (ft)	Stream Depth (in)	Stream Flow	Drains to	Photo No.
S1	28	1.5	3	Intermittent	UNT Little Miami River	S-1

3.4 Potential Indiana Bat Roost Tree Identification and Portal Search

One Indiana bat PRT was identified and ranked as a secondary roost within the AOI. A summary of PRT information is provided in Appendix E and the PRT is shown in Appendix A, Figure 2. No portals to mines or caves were found.

4.0 Conclusion

ESI's environmental assessment of the Morris Bean Pipeline project documented initial project review with USFWS and ODNR with no impacts anticipated assuming tree clearing occurs in winter. An Indiana bat PRT was identified to continue coordination with USFWS if the applicant wishes to do so. The field investigation for aquatic resources documented one stream segment and one wetland within the AOI that would require CWA 401/404 permitting if the project is to cause temporary or permanent impacts. No other significant environmental resources were noted.

5.0 Literature Cited

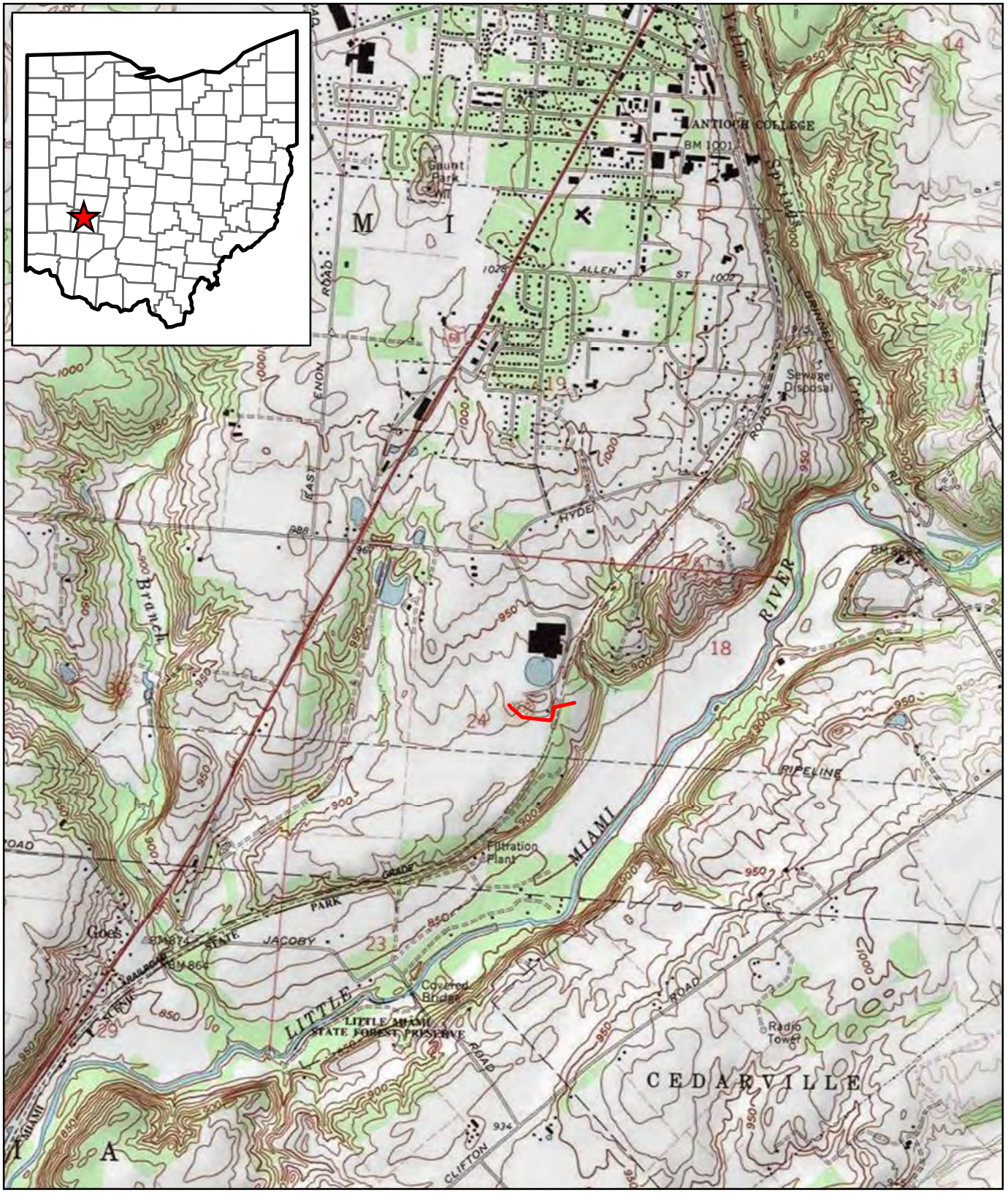
Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetlands and deepwater habitats of the United States. U. S. Department of the Interior, Fish and Wildlife Service, Washington, D.C. (available at: Northern Prairie Wildlife Research Center, Jamestown, North Dakota website http://www.npwrc.usgs.gov/resource/1998/classwet/classwet.htm).

OEPA. 2012. Field evaluation manual for Ohio's primary headwater streams, Version 3.0. Ohio Environmental Protection Agency, Division of Surface Water, Columbus, Ohio. 117 pp

USACE. 1987. Corps of Engineers Wetlands Delineation Manual. Final Report. Wetlands Research Program Technical Report Y-87-1 (on-line edition), Waterways Experiment Station, Environmental Laboratory, Vicksburg, Mississippi. 143 pp.

USACE. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0). ERDC/EL TR-10-16, U.S. Army Engineer Research and Development Center, Vicksburg, Mississippi. 154 pp

APPENDIX A
FIGURES



N
W E
S

Figure 1. Location of the Morris Bean Replacement Pipeline Project in Greene County, Ohio.

Project No. 848

0 500 1,000 Meters

Base Map: USGS Topographic Map

ESI

ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

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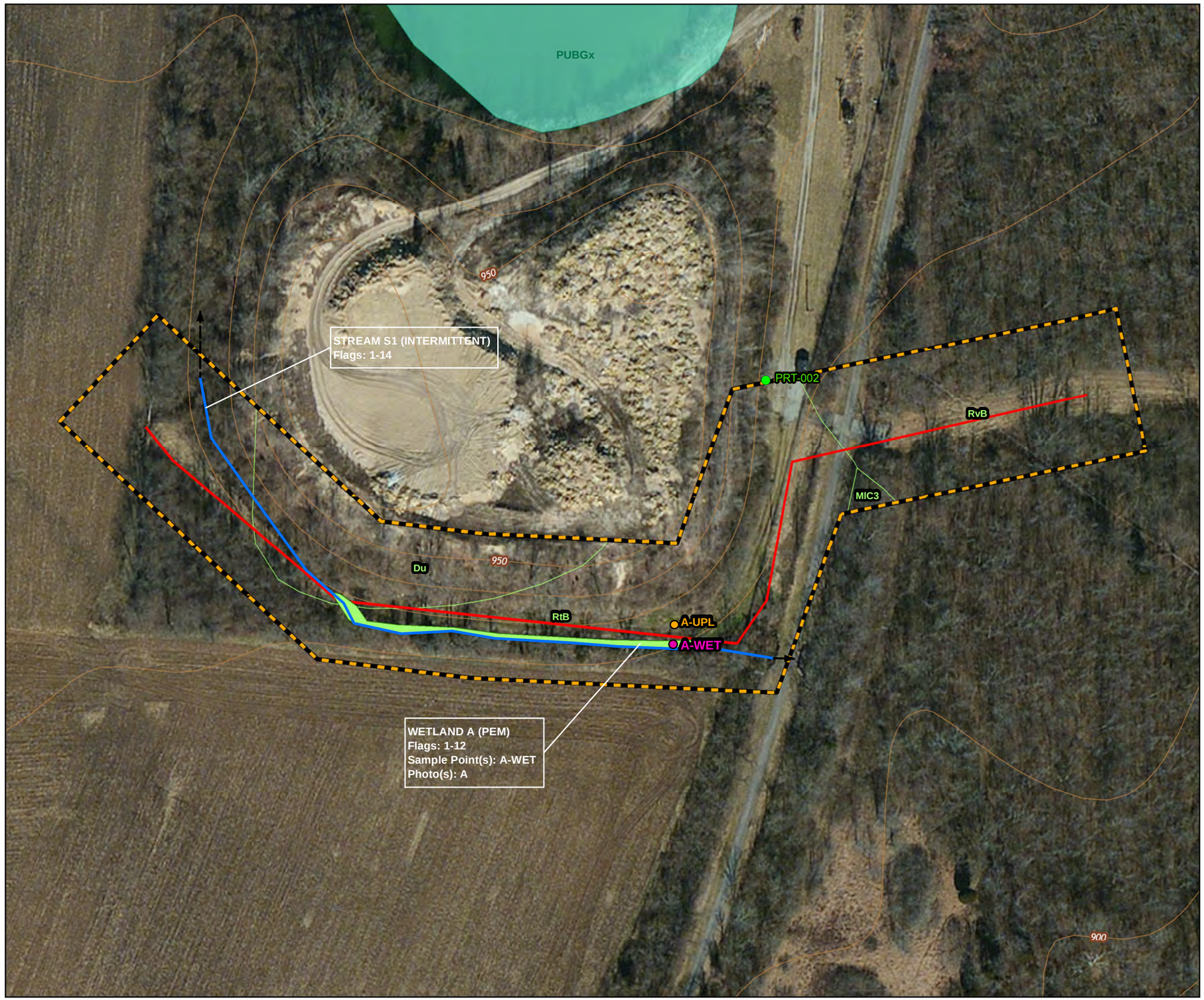


Figure 2. Environmental review of the proposed Morris Bean Replacement pipeline project

- Project Centerline
- Continues Off Site
- Field-Delineated Stream Centerline
- Field-Delineated Wetland
- National Wetland Inventory (NWI) Mapped Resource
- Soils
- Area of Investigation (AOI)

Sample Point

- Upland
- Wetland

Potential Roost Tree (PRT) Location

- *M. sodalis* Secondary

N W E S

0 100 200 Feet

Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

ESI

ENVIRONMENTAL SOLUTIONS & INNOVATIONS, INC.

Project No. 848

Path: G:\Current\848_OTI_Morris_Bean\MXD\Delineation\Report_Figures\Fig2_848_Del_and_PRT.mxd: thunter - 8/22/2016

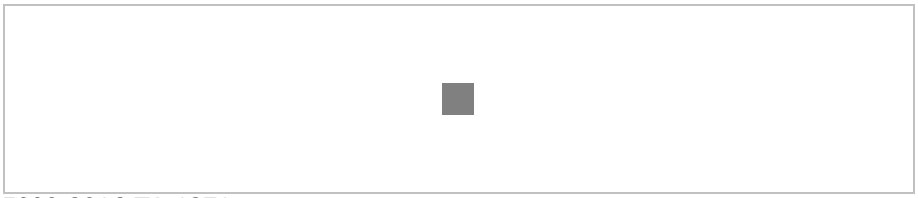
APPENDIX B
USFWS AND ODNR PROJECT REVIEW RESPONSES

From:	Joe Dean
To:	Michael Wellman
Subject:	FW: Morris Bean Replacement of Natural Gas Lines, Greene Co. OH
Date:	Wednesday, July 20, 2016 8:06:18 AM
Attachments:	image001.jpg image002.png

Results from USFWS on Morris Bean/Vectren Energy.

Joe Dean

From: susan_zimmermann@fws.gov [mailto:susan_zimmermann@fws.gov] **On Behalf Of** Ohio, FW3
Sent: Tuesday, July 19, 2016 1:11 PM
To: Joe Dean
Cc: Jenny Norris; nathan.reardon@dnr.state.oh.us
Subject: Morris Bean Replacement of Natural Gas Lines, Greene Co. OH



TAILS #03E15000-2016-TA-1271

Dear Mr. Dean,

We have received your recent correspondence requesting information about the subject proposal. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. The following comments and recommendations will assist you in fulfilling the requirements for consultation under section 7 of the Endangered Species Act of 1973, as amended (ESA).

The U.S. Fish and Wildlife Service (Service) recommends that proposed developments avoid and minimize water quality impacts and impacts to high quality fish and wildlife habitat (e.g., forests, streams, wetlands). Additionally, natural buffers around streams and wetlands should be preserved to enhance beneficial functions. If streams or wetlands will be impacted, the Corps of Engineers should be contacted to determine whether a Clean Water Act section 404 permit is required. Best management practices should be used to minimize erosion, especially on slopes. All disturbed areas should be mulched and revegetated with native plant species. Prevention of non-native, invasive plant establishment is critical in maintaining high quality habitats.

FEDERALLY LISTED SPECIES COMMENTS: All projects in the State of Ohio lie within the range of the federally endangered **Indiana bat** (*Myotis sodalis*) and the federally threatened **northern long-eared bat** (*Myotis septentrionalis*). In Ohio, presence of the Indiana bat and northern long-eared bat is assumed wherever suitable habitat occurs unless a presence/absence survey has been performed to document absence. Suitable summer habitat for Indiana bats and northern long-eared bats consists of a wide variety of forested/wooded habitats where they roost, forage, and travel and may also include some adjacent and interspersed non-forested habitats such as emergent wetlands and adjacent edges of agricultural fields, old fields and pastures. This includes forests and woodlots containing potential roosts (i.e., live trees and/or

snags =3 inches diameter at breast height (dbh) that have any exfoliating bark, cracks, crevices, hollows and/or cavities), as well as linear features such as fencerows, riparian forests, and other wooded corridors. These wooded areas may be dense or loose aggregates of trees with variable amounts of canopy closure. Individual trees may be considered suitable habitat when they exhibit the characteristics of a potential roost tree and are located within 1,000 feet (305 meters) of other forested/wooded habitat. Northern long-eared bats have also been observed roosting in human-made structures, such as buildings, barns, bridges, and bat houses; therefore, these structures should also be considered potential summer habitat. In the winter, Indiana bats and northern long-eared bats hibernate in caves and abandoned mines.

The proposed project is in the vicinity of one or more confirmed records of Indiana bats. Therefore, we recommend that trees =3 inches dbh be saved wherever possible. Because the project will result in a small amount of forest clearing relative to the available habitat in the immediately surrounding area, habitat removal is unlikely to result in significant impacts to these species. Since Indiana bat presence in the vicinity of the project has been confirmed, clearing of trees =3 inches dbh during the summer roosting season may result in direct take of individuals. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and tree removal is unavoidable, we recommend that removal of any trees =3 inches dbh only occur between October 1 and March 31. Following this seasonal tree clearing recommendation should ensure that any effects to Indiana bats and northern long-eared bats are insignificant or discountable. **Please note that, because Indiana bat presence has already been confirmed in the project vicinity, any additional summer surveys would not constitute presence/absence surveys for this species.**

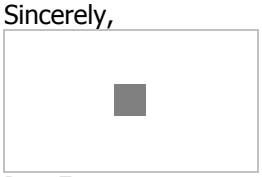
If there is a federal nexus for the project (e.g., federal funding provided, federal permits required to construct), no tree clearing should occur on any portion of the project area until consultation under section 7 of the ESA, between the Service and the federal action agency, is completed. We recommend that the federal action agency submit a determination of effects to this office, relative to the Indiana bat and northern long-eared bat, for our review and concurrence.

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

These comments have been prepared under the authority of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), the ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

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

Sincerely,



Dan Everson
Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Jennifer Norris, ODNR-DOW

Ohio Department of Natural Resources
JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife
Raymond W. Petering, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693
Phone: (614) 265-6300

June 9, 2016

Michael Wellman
Environmental Solutions & Innovations, Inc.
3425 Kent Rd.
Stow, OH 44224

Dear Mr. Wellman,

I have reviewed the Natural Heritage Database for the Morris Bean Pipeline Relocation project area, including a one mile radius, in Miami Township, Greene County, Ohio. The numbers/letters on the list below correspond to the areas marked on the accompanying map. Common name, scientific name and status are given for each species.

A. Glen Helen Nature Sanctuary – Glen Helen Nature Sanctuary
B. Little Miami State and National Scenic River
C. Little Miami Jacoby Road Scenic River Access – ODNR Scenic Rivers Program
1. *Lampsilis fasciola* – Wavy-rayed Lampmussel, species of concern
2. Mussel Bed (breeding animal concentration)

If this project is located within 1000 feet of a state designated scenic river, the approval of the Director of ODNR may be required in accordance with Ohio Revised Code section 1547.82. Please contact Scenic River Program Manager Bob Gable at 614-265-6814 for further information.

We are unaware of any geologic features, state wildlife areas, nature preserves, parks or forests or national wildlife refuges, parks or forests within a one mile radius of the project area.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

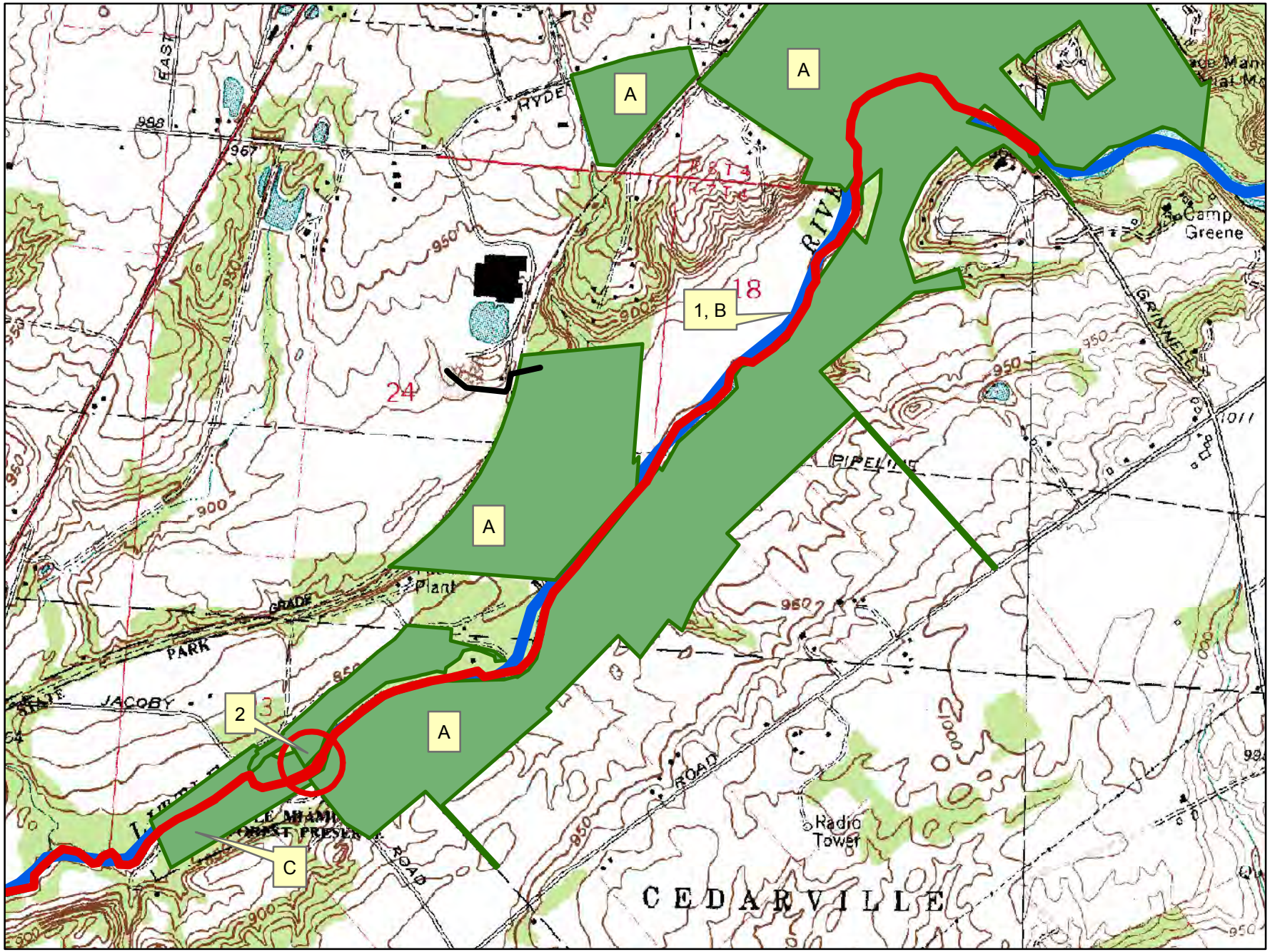
Please contact me at 614-265-6818 if I can be of further assistance.

Sincerely,

Debbie Woischke

Debbie Woischke
Ohio Natural Heritage Program

Morris Bean Pipeline Replacement Project



APPENDIX C
WETLAND/UPLAND, ORAM, AND HHEI DATASHEETS

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: MB City/County: Yellow Springs / Montgomery Sampling Date: 8/17/07

Applicant/Owner: UT1 State: OH Sampling Point: A WET

Investigator(s): A Cimpi A Rooks Section, Township, Range: ______

Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Concave

Slope (%): 0-2% Lat: 39.77530116° Long: -83.84478988° Datum: WGS84

Soil Map Unit Name: R+B NWI or WWI classification: NA

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

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

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

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

Hydrophytic Vegetation Present?	Yes X	No ____
Hydric Soil Present?	Yes X	No ____
Wetland Hydrology Present?	Yes X	No ____

Is the Sampled Area within a Wetland? Yes X No ____

Remarks:

VEGETATION – Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Indicator Status
Tree Stratum (Plot size: 30)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
= Total Cover			
Herb Stratum (Plot size: 5)			
1. Boehmeria cylindrica	15	N	OBL
2. Leersia oryzoides	20	Y	OBL
3. Microstegium vimineum	35	Y	FAC
4. Polygonum pensylvanica	15	N	FACW
5. Solidago gigantea	15	N	FACW
6.			
7.			
8.			
9.			
10.			
= Total Cover	100		
Woody Vine Stratum (Plot size: 30)			
1.			
2.			
= Total Cover			

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

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

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

__ Prevalence Index is ≤3.0[1]

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

__ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: A-WET

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ 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:

Was not allowed to dig

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- X Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- X Geomorphic Position (D2)
- X FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): Surf

Wetland Hydrology Present? Yes X No _____

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

Remarks:

WETLAND DETERMINATION DATA FORM – Midwest Region

Project/Site: MB City/County: Yellow Spring / Montgomery Sampling Date: 8/17/17

Applicant/Owner: UT1 State: OH Sampling Point: A-UPL

Investigator(s): A Campi A Rooks Section, Township, Range:

Landform (hillslope, terrace, etc.): sideslope Local relief (concave, convex, none): Convex

Slope (%): 0-2% Lat: 39.77535645° Long: -83.84478595° Datum: WGS84

Soil Map Unit Name: R+B NWI or WWI classification: NA

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

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

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

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

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

Remarks: Pipeline corridor / active construction area

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 30)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Sapling/Shrub Stratum (Plot size: 15)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		

Herb Stratum (Plot size: 5)			
1. Plantago lanceolata	10	N	FACU
2. Poa pratensis	25	Y	FAC
3. Phalaris arundinacea	10	N	FACW
4. Microstegium vimineum	15	Y	FAC
5.			
6.			
7.			
8.			
9.			
10.			
	100 = Total Cover		

Woody Vine Stratum (Plot size: 30)			
1.			
2.			
	____ = Total Cover		

Dominance Test worksheet:

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

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

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (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	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

X Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

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

___ Problematic Hydrophytic Vegetation[1] (Explain)

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

Hydrophytic Vegetation Present? Yes X No ____

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

SOIL

Sampling Point: A-WPL

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

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-20	10YR 4/3	100					SIL	

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

Hydric Soil Indicators:

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ 2 cm Muck (A10)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ 5 cm Mucky Peat or Peat (S3)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ Coast Prairie Redox (A16)
- ___ Iron-Manganese Masses (F12)
- ___ 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:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9)
- ___ Aquatic Fauna (B13)
- ___ True Aquatic Plants (B14)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres on Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Gauge or Well Data (D9)
- ___ Other (Explain in Remarks)

Secondary Indicators (minimum of two required)

- ___ Surface Soil Cracks (B6)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Stunted or Stressed Plants (D1)
- ___ Geomorphic Position (D2)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No X Depth (inches): _____

Water Table Present? Yes _____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes _____ No X Depth (inches): _____

Wetland Hydrology Present? Yes _____ No X

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

Remarks:

Background Information

Name:	Morris Beam
Date:	8/17/16
Affiliation:	
Address:	
Phone Number:	
e-mail address:	
Name of Wetland:	A
Vegetation Communit(ies):	PEM
HGM Class(es):	Mineral Soil Flats
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc. See attached map	

Lat/Long or UTM Coordinates	39.7753286 -83.8954112
USGS Quad Name	Yellow Springs
County	Montgomery
Township	Yellow Springs
Section and Subsection	
Hydrologic Unit Code	05080202
Site Visit	8/17
National Wetland Inventory Map	NA
Ohio Wetland Inventory Map	NA
Soil Survey	R+B
Delineation report/Map	

Name of Wetland:	A	
Wetland Size (acres, hectares):	0.0628 ac	0.0254 ha

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

See attached map

Comments, Narrative Discussion, Justification of Category Changes:

N/A

Final Score	16	Category:	I

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.	Y	
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.	Y	
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.	Y	
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.	Y	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.		NA
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.	Y	

End of Scoring Boundary Determination. Being 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 an as 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 characteristic: 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 2	(No) Go to Question 9a
9a	**Lake Erie coastal and tributary wetlands.** Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	(No) Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	No Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation?	YES Go to Question 9d	No Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	No Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	No Go to Question 10
10	**Lake Plain Sand Prairies (Oak Openings)** Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland Go to Question 11	(No) Go to Question 11
11	**Relict Wet Prairies.** Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1? Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	(No) Complete Quantitative Rating

Table 1. Characteristic plant species.

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

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

ORAM v 5.0 Field Form Quantitative Rating

Site: MB	Rater(s): AC	Date: 8/17/06

Metric 1. Wetland Area (size).

max 6pts.	subtotal
0	0

Select one size class and assign score.

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

Metric 2. Upland buffers and surrounding land use.

max 14pts.	subtotal
1	1

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)
- [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

max 30pts.	subtotal
8	9

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

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

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [x] 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.

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

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

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

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

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

Check all disturbances observed

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

Metric 4. Habitat Alteration and Development

max 20pts.	subtotal
3	12

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

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

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

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

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

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

Check all disturbances observed

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

subtotal this page
12

last revised 1 February 2001 jjm

ORAM v 5.0 Field Form Quantitative Rating

Site: MB	Rater(s): AC	Date: 8/17/16

12
subtotal first page

0	12
max 10pts.	subtotal

Metric 5. Upland buffers and surrounding land use.

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
- [ ] 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)
- [ ] Cateogry 1 Wetland. See Question 1 Qualitative Rating (-10)

-2	10
max 20pts.	subtotal

Metric 6. Plant communities, interspersion, microtopography

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

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

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

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

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

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

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

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

Vegetation Community Cover Scale

0	Absent or comprises <0.1 ha (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

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

Microtopography

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

10

End of Quantitative rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative rating	Question 1. Critical Habitat	YES (NO)	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES (NO)	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES (NO)	If yes, Category 3.
	Question 4. Significant bird habitat	YES (NO)	
	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	6	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6 Plant communities, interspersion, microtopography	-2	
	TOTAL SCORE	10	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

Ohio EPA Primary Headwater Habitat Evaluation Form

HHEI Score (sum of metrics 1, 2, 3) : 26

SITE NAME/LOCATION MS

5-1 SITE NUMBER _____ RIVER BASIN _____ DRAINAGE AREA (mi²) _____

LENGTH OF STREAM REACH (ft) 200 LAT. _____ LONG. _____ RIVER CODE _____ RIVER MILE _____

DATE 8/16/17 SCORER AC 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]	18%
☐	BOULDER (>256 mm) [16 pts]		☐	LEAF PACK/WOODY DEBRIS [3 pts]	
☐	BEDROCK [16 pts]		☐	FINE DETRITUS [3 pts]	
☐	COBBLE (65-256 mm) [12 pts]	2%	☐	CLAY or HARDPAN [0 pt]	
☐	GRAVEL (2-64 mm) [9 pts]		☐	MUCK [0 pts]	
☐	SAND (<2 mm) [6 pts]		☐	ARTIFICIAL [3 pts]	

Total of Percentages of Bldr Slabs, Boulder, Cobble, Bedrock 2% (A) 6 (B) 2

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

HHEI Metric Points

Substrate Max = 40

8

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]

COMMENTS _____ **MAXIMUM POOL DEPTH (centimeters):** 8

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]

COMMENTS _____ **AVERAGE BANKFULL WIDTH (meters)** .16

Bankfull Width Max=30

5

This information must also be completed

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

RIPARIAN WIDTH (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: _____ NRCS Soil Map Page: _____ NRCS Soil Map Stream Order _____

County: _____ Township / City: _____

MISCELLANEOUS

Base Flow Conditions? (Y/N): N Date of last precipitation: 8/16/17 Quantity: >1"

Photograph Information: _____

Elevated Turbidity? (Y/N): N Canopy (% open): 25%

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): _____ (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)

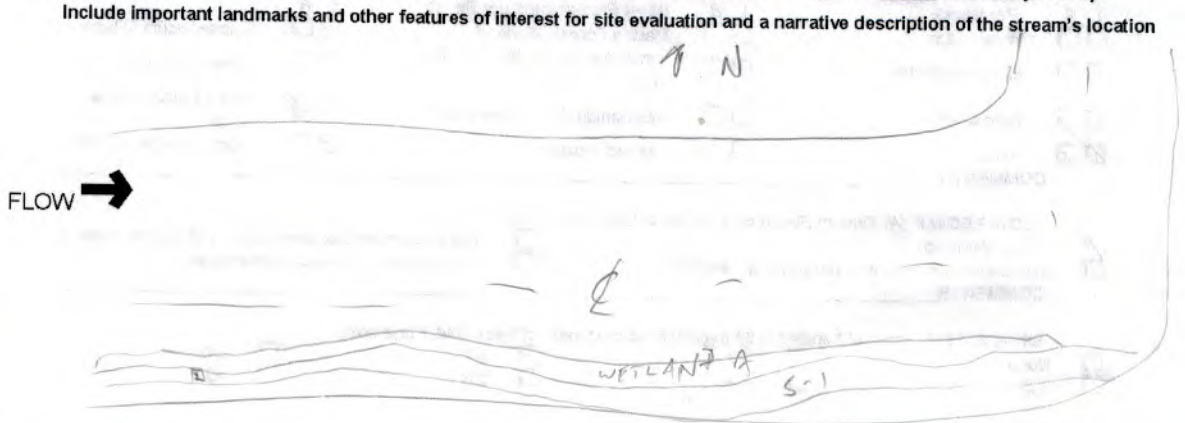
Fish Observed? (Y/N)_____ Voucher? (Y/N)_____ Salamanders Observed? (Y/N)_____ Voucher? (Y/N)_____

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



APPENDIX D
AQUATIC RESOURCE PHOTOS

Environmental Solutions & Innovations
Photo Documentation

Client:	**Site Name:**	**Site Location:**	**Project #:**
UTI	Morris Bean Pipeline	Greene Co, OH	848

1. Wetland A

2. Stream S-1

APPENDIX E
PRT TABLE

Property of: Environmental Solutions & Innovations, Inc.
4525 Este Avenue. Cincinnati, OH 45232 (Phone: 513-451-1777)

Potential Roosts

Project Number 849 Project Name Morris Bean Site Name Morris Bean

Primary Biologist Tony Cimpi Secondary Biologist Alyssa Rooks State Ohio County Greene

Date	Roost Tree ID	Roost Tree species	Tree DBH	Tree Status	Exfoilatng Bark	Crevices	Hollow	Roosting Potential *M. sodalis*	Latitude (DMS)	Longitude (DMS)
08/17/2016	PRT-002	*Populus deltoides*	45	Partial	Yes	No	No	Secondary	39° 46' 33.807" N	83° 53' 40.065" W

DBH measurement units are within centimeters

ATTACHMENT H

U.S. ARMY CORP OF ENGINEERS
JURISDICTIONAL DETERMINATION REQUEST

Utility Technologies International
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
www.uti-corp.com

September 28, 2016

U.S. Army Corp of Engineers, Huntington District
Regulatory Branch (OR-F)
502 8th Street
Huntington, WV 25701-2070

Re: Vectren Energy Delivery of Ohio Cemex-Morris Bean Z-50 Pipeline Upgrade

Dear U.S. Army Corp of Engineers,

We have enclosed a Jurisdictional Determination Request for a pipeline upgrade project that will be taking place in Greene County, Ohio starting March 1, 2017. This project is in two sections. The longer section is called the Cemex Section and is approximately 2.7 miles long. The shorter section is called the Morris Bean Section and is approximately a quarter mile in length.

This project will take place in a current 50 foot wide existing permanent easement with an additional 20 foot temporary easement on each side of the permanent easement. The total width will be 90 feet wide to allow for work space, removal of the existing 18 inch natural gas pipe and replacement with a 20/24 inch combination pipe. With the current 18 inch pipe that was installed many years ago it is not possible to conduct inline integrity inspections. With the replacement of this lien with a 20/24 inch pipe Vectren Energy Delivery of Ohio (VEDO) will be able to conduct integrity inspections and meet the needs of its customers.

To assist in making this Jurisdictional Determination we retained Environmental Solutions and Innovations (ESI) to conduct an environmental review of this project. Their report is attached and there is one report for each section. In addition, we have provided ArcGIS maps for your reference. Please review the attached material and let us know if there is any additional information you need.

Sincerely,

Joseph Dean

Joseph Dean
Environmental Coordinator
Office: 614-482-8080
Mobile: 740-816-5477
Email: jdean@uti-corp.com

Enclosures:

1. USACE-Huntington District Jurisdictional Determination Request

2. ESI Environmental Review for Vectren-Cemex
3. ESI Environmental Review for Vectren-Morris Bean
4. ArcGIS maps – pages 1-15

Huntington District

USACE-Huntington District
Jurisdictional Determination Request

This form can be used when you want to determine if areas on your property fall under regulatory requirements of the U.S. Army Corps of Engineers (USACE) Please supply the following information and supporting documents described below. This form can be filled out online and then printed. It must be signed by the property owner to be considered a formal request. Submitting this request authorizes the US Army Corps of Engineers to field inspect the property site, if necessary, to help in the determination process. The printed form and supporting documents should be mailed or faxed to:

U.S. Army Corps of Engineers, Huntington District
Regulatory Branch (OR-F)
502 8th Street
Huntington, WV 25701-2070
FAX: (304-399-5085)

Please contact us at 304-399-5710 (WV), 304-399-5210 (OH) if you need any assistance with filling out this form.

Location and Information about Property to be subject to a Jurisdictional Determination

Property Address/Location: Multiple, Linear Project, Yellow Springs, Fairborn, OH

City (name) or Unincorporated: Fairborn State: OH Zip:

County: Greene Township name: Beavercreek, Bath, Miami, Xenia

Lat/Long in Decimal Degrees: _____ °N _____ °W

Size of Property in Acres: _____ (Include a survey of the property)

Prior or related USACE project number: None

Is the property subject to a conservation easement or deed restriction? (☐Yes or ☐No)
If yes, please explain and submit details of the project area.

Was the property a site for mitigation pursuant to a project previously permitted by USACE?
(☐Yes or ☑No) If yes, please explain and submit details of the project area

Is the property neighboring/adjacent to/bordering a project previously permitted by the USACE?
(☐Yes or ☑No) If yes, please explain and submit the name of the project, the permittee's name and/or address, and Corps permit number, if available

None known

Property Owner Contact Information:

Property Owner Name: Kevin Preece, PE for Vectren Energy

Mailing Address: 1 North Main Street, PO Box 209

City: Evansville, State: IN Zip: 47702

Daytime Telephone: 812-491-5922 Fax: 812-491-5858

E-Mail Address: kpreece@vectren.com

If the person requesting the Jurisdictional Determination is not the Property Owner, please also supply the Requestor's contact information here:

Requestor Name: Joseph Dean/Utility Technologies Int'l/Env. Coordinator

Mailing Address: 4700 Homer Ohio Lane

City: Groveport State: OH Zip: 43125

Daytime Telephone: 614-482-8080 Fax: 614-482-8070

E-Mail Address:

Please provide the following information concerning the property under consideration: a drawing and/or copy of the plat map identifying the physical boundaries of the property with all potential waters of the U.S., including streams and wetlands, delineated and clearly identified, site location maps, site and aerial photographs, topographic surveys (i e USGS topographic maps), soil surveys, wetland delineation report (when applicable), and any other relevant maps and documents.

If work on the above property is anticipated, please identify on a separate site map, plat map, or drawing the following: proposed project footprint, location, and type of proposed work. This will assist us in determining how to proceed and reduce unnecessary delays in processing subsequent permit actions, if required.

I hereby certify that the information contained herein is accurate and complete:

Signature of Property Owner: X

Date: 9/29/16

Cemex-Morris Bean Map 1

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

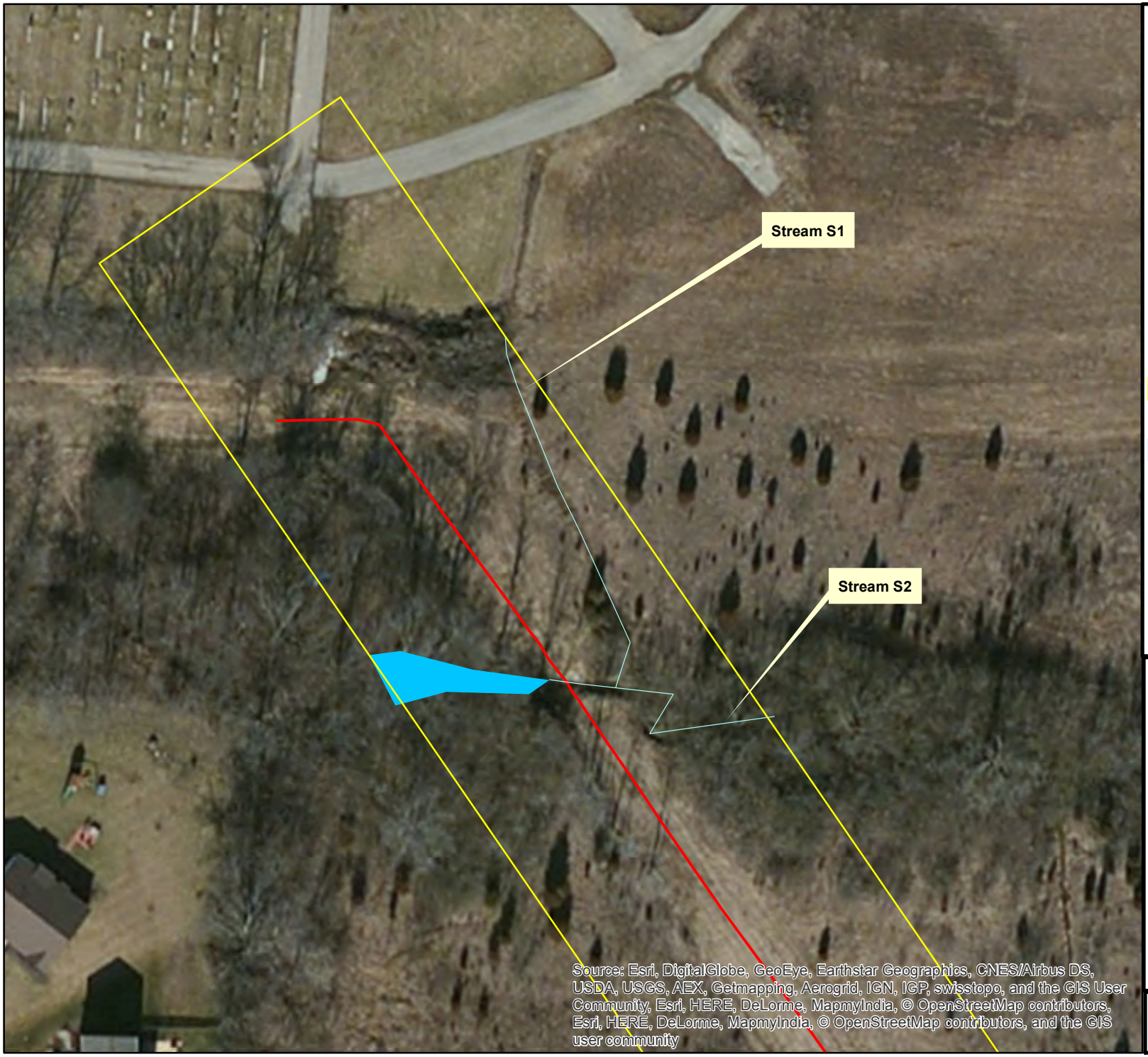
- parcels
- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

UTI

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Stream S1, S2



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Wetland W1

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

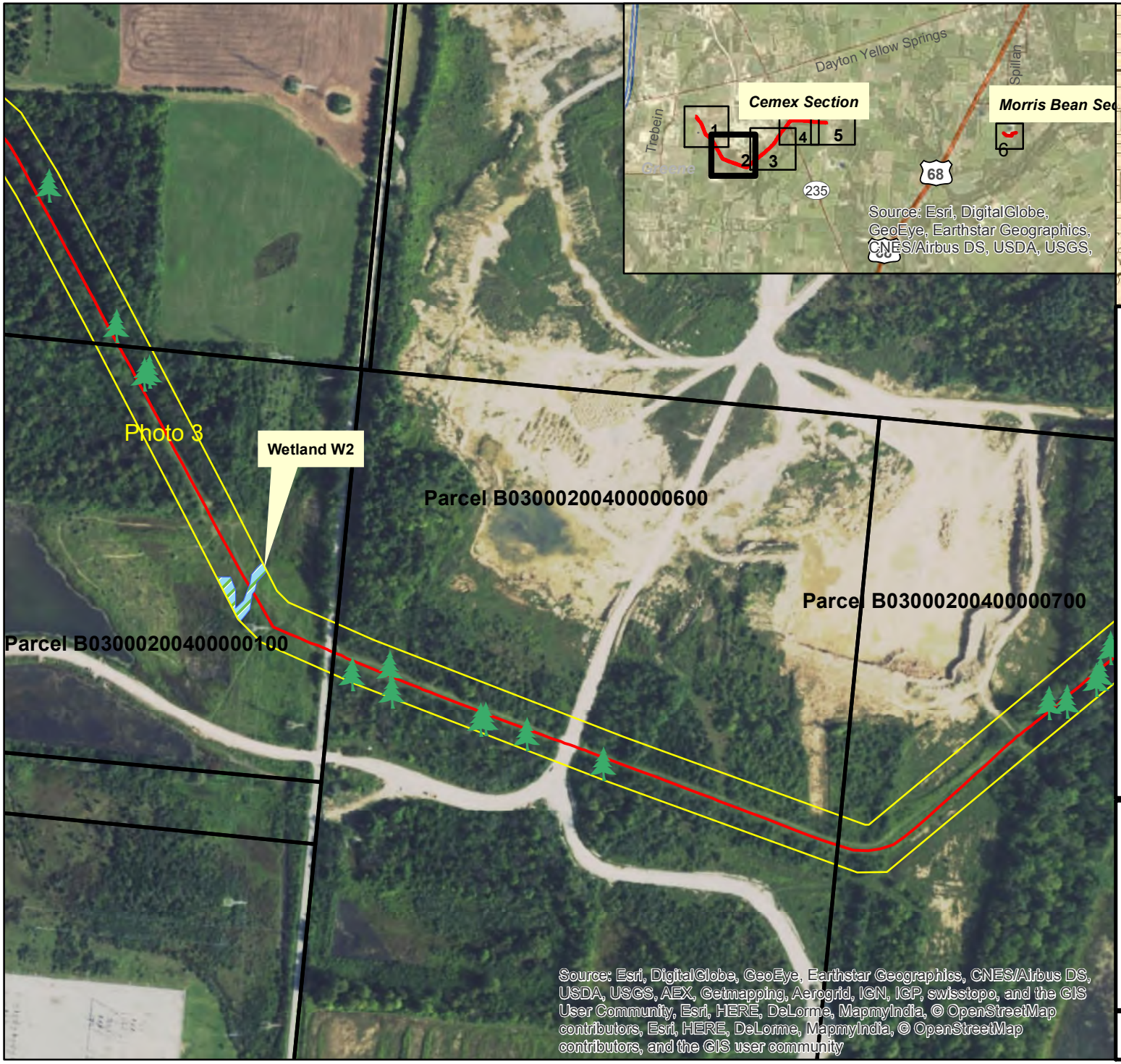
Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Map 2



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

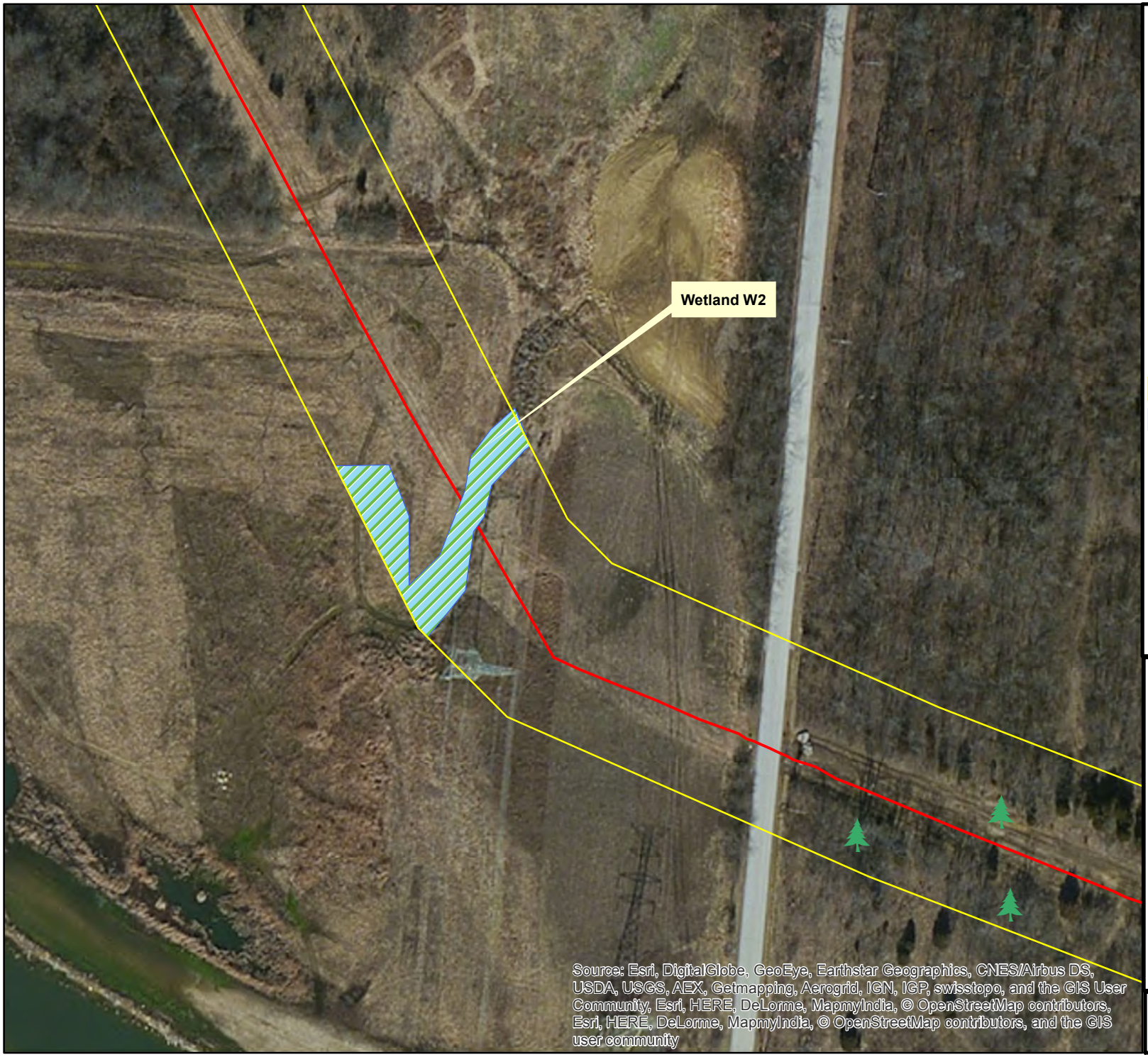
Legend

- parcels
- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Wetland W2



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

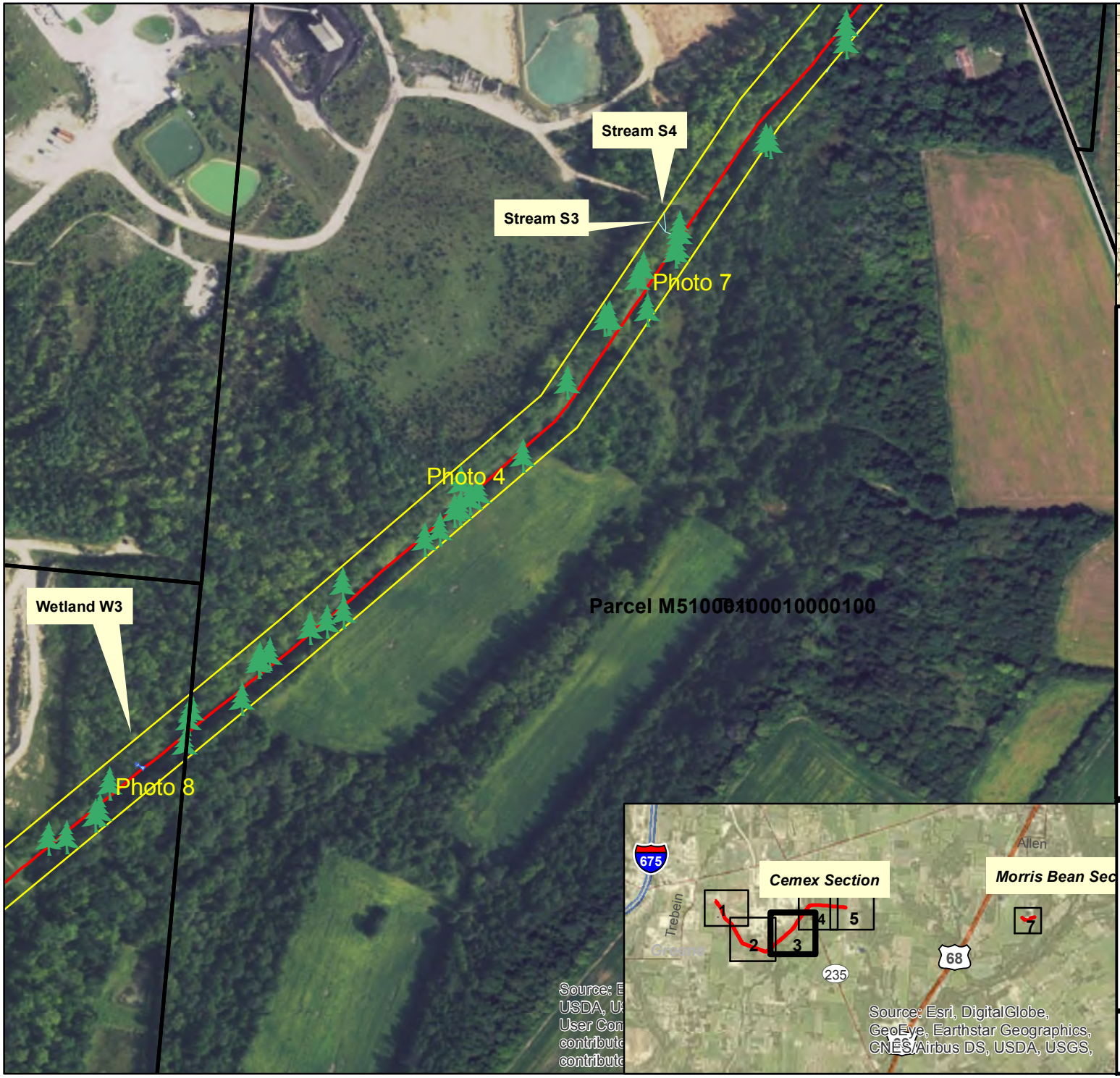
Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Map 3



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

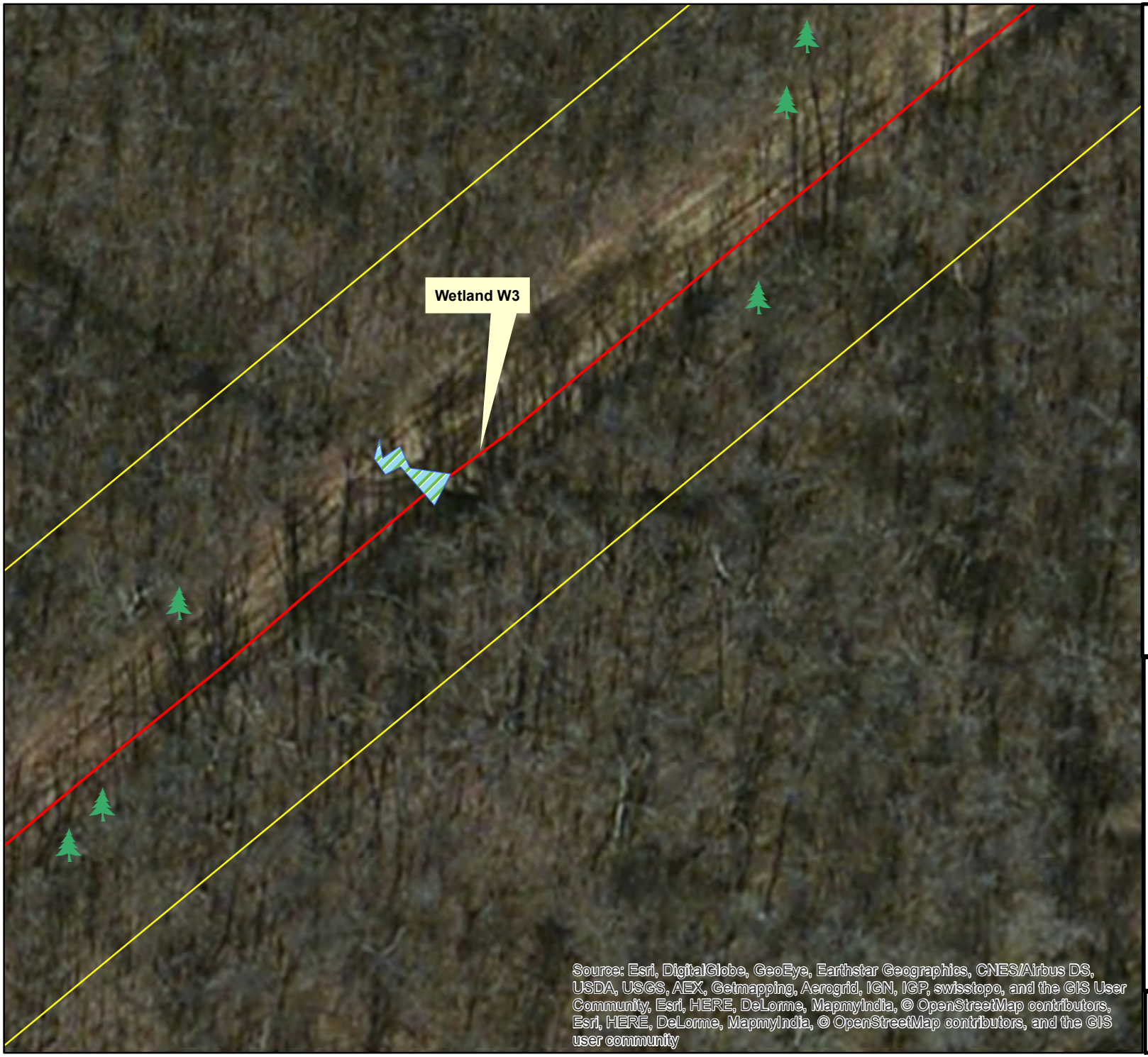
Legend

- parcels
- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Wetland W3



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Stream S3, S4

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

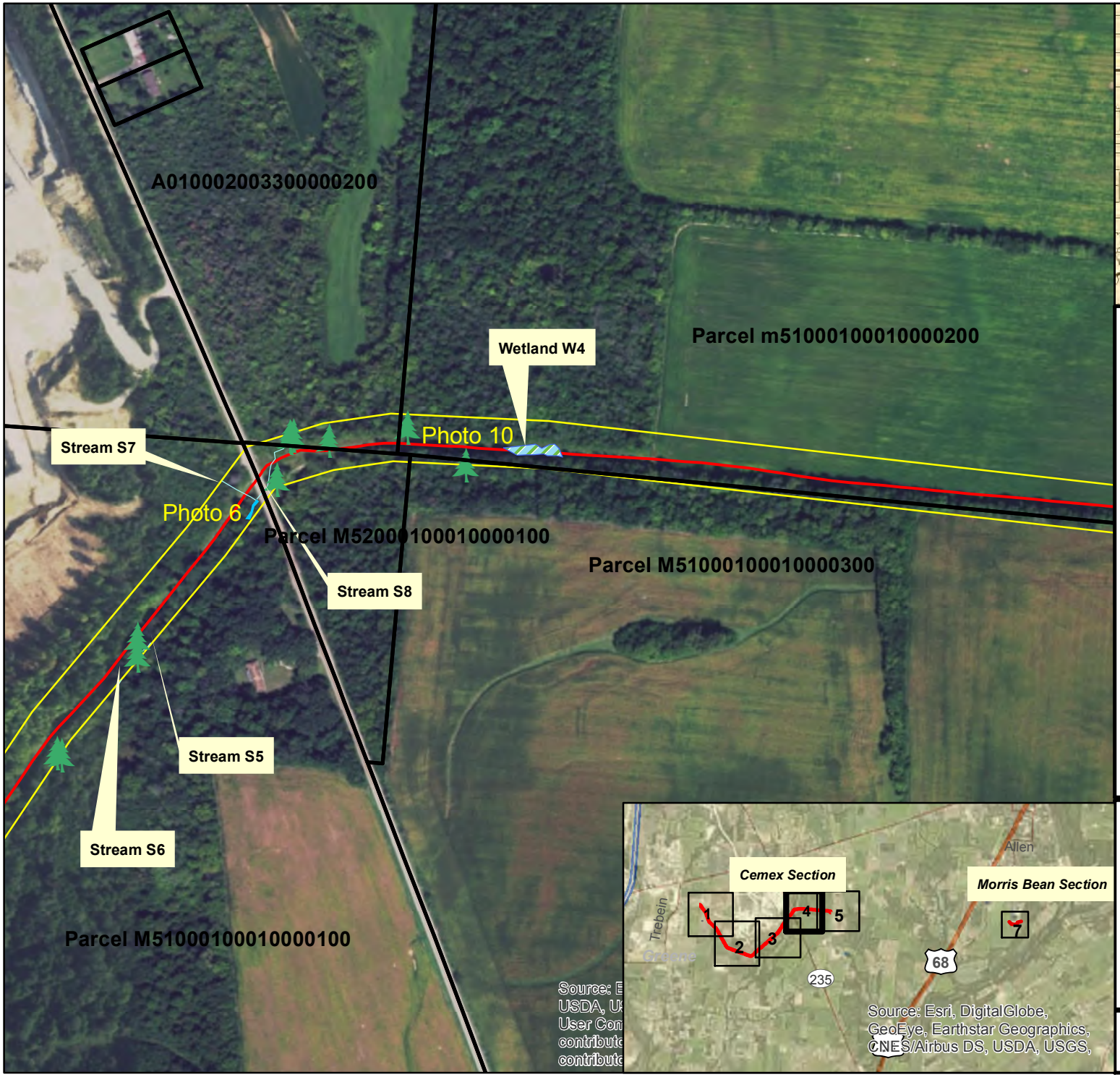
Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Map 4



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

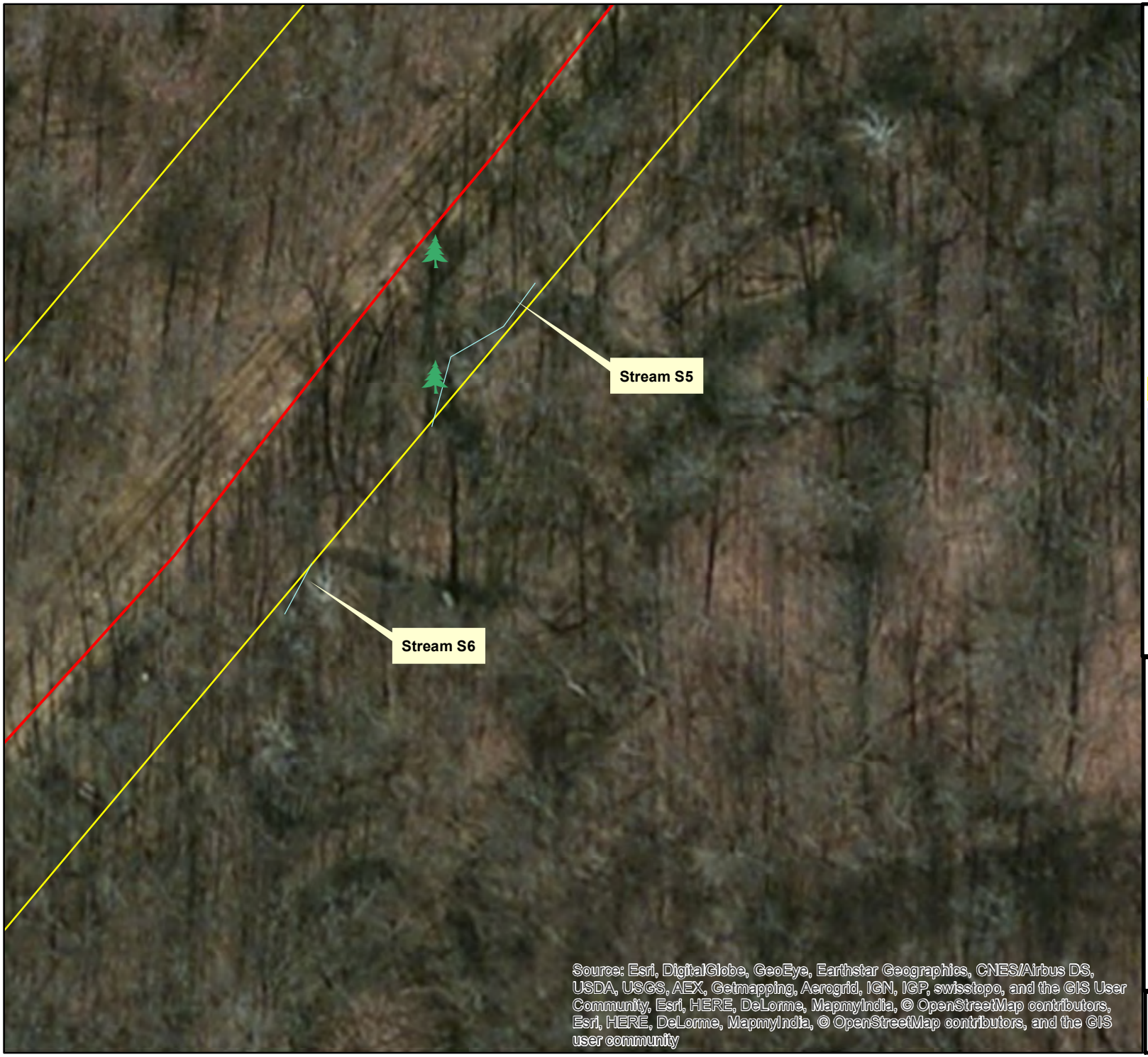
Legend

- parcels
- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Stream S5, S6



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Stream S7, S8

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Wetland W4

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Wetland
- Field Delineated Stream
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Map 5

VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

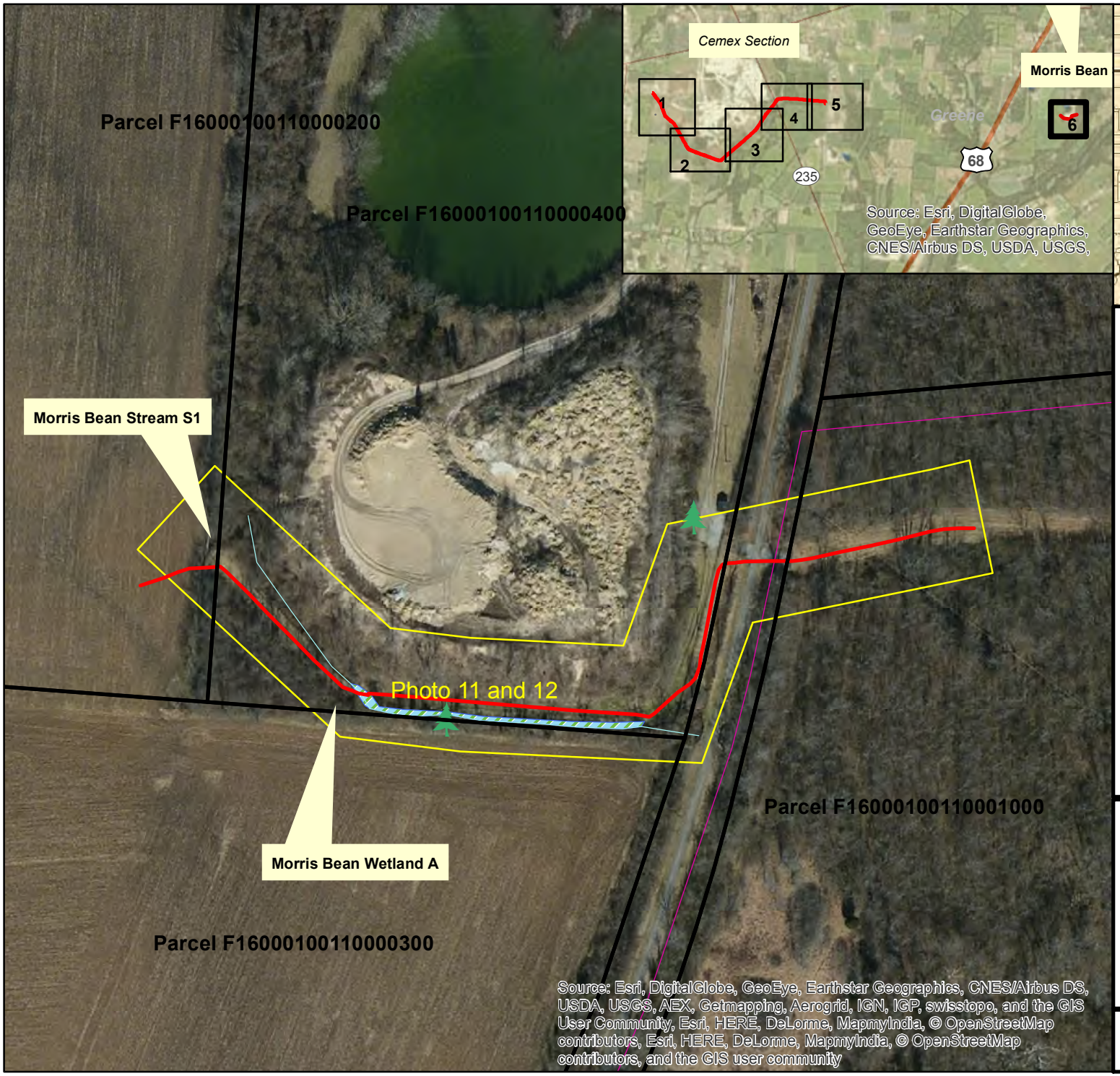
Legend

- Field Delineated Stream Centerline
- Area of Investigation
- Field Delineated Stream
- Wetland
- Pipeline
- Potential_Roost_Tree_Location

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

Cemex-Morris Bean Map 6



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

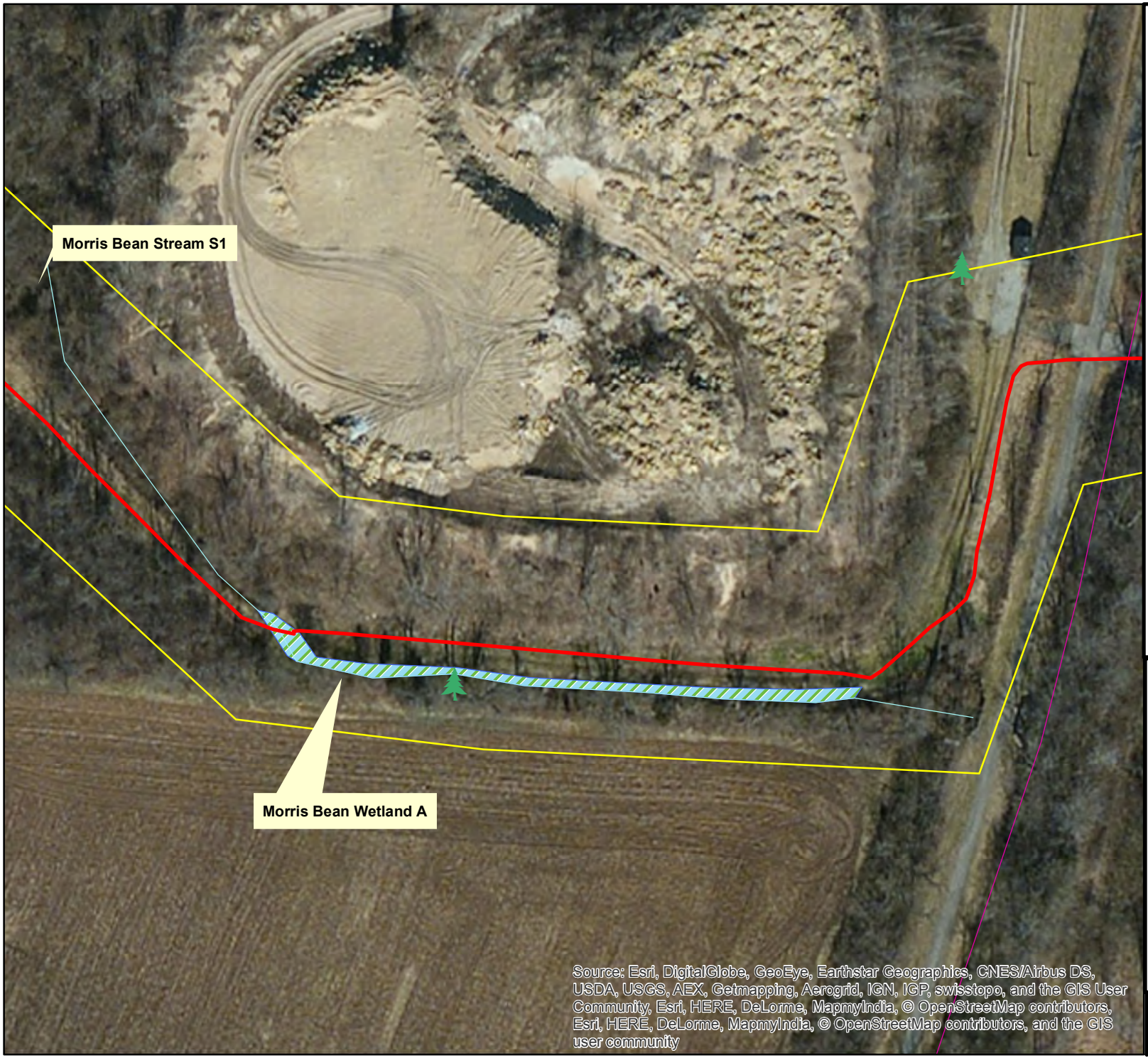
Legend

- parcels
- Potential_Roost_Tree_Location
- Field Delineated Stream
- Wetland
- Pipeline

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

MB Stream S1, Wetland A



VECTREN

Vectren
Cemex-Morris Bean
Z-50 20/24-inch
Replacement

Legend

- Potential_Roost_Tree_Location
- Field Delineated Stream
- Wetland
- Pipeline

UTI

Utility Technologies International
4700 Homer Ohio Lane
Groveport, Ohio 43125
614-482-8080

UTI Project #16-080

ATTACHMENT I

COVER LETTERS TO ODNR AND USFWS
WITH ENVIRONMENTAL REVIEW

ATTACHMENT I-1

Utility Technologies International
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
www.uti-corp.com

September 27, 2016

U.S. Department of the Interior
U.S. Fish and Wildlife Service
Ecological Services Office
Attn: Dan Everson
4625 Morse Road, Suite 104
Columbus, OH 43230

Re: Vectren Energy Delivery of Ohio, Cemex, Z-50 20/24" Pipeline Replacement
TAILS #03E15000-2016-TA-1272

Dear Dan Everson,

In June of 2016 we requested information regarding critical habitat, endangered or threatened species and impact information for a proposed project in Greene County, Ohio. I have enclosed the response received dated July 19, 2016. Thank you for your response.

Since then we requested an Environmental Review that was completed by Environmental Solutions and Innovations (ESI). We have attached this report for review. In this report ESI concludes that there are no potential conflicts with tree removal provided that winter clearing occurs (Oct 1- March 31). In this report there are four wetlands and eight streams. We are submitting a jurisdictional ruling to the USACE for the streams and wetlands and we will follow up with the USACE with permitting as well as the Ohio EPA.

Please let us know if you agree or have any comments regarding this report from ESI. Please feel free to contact me at either phone number listed below or by email.

Sincerely,

Joseph Dean CESSWI
Environmental Coordinator
jdean@uti-corp.com
Office: 614-482-8080
Mobile: 740-816-5477

ATTACHMENT I-2

Utility Technologies International
4700 Homer Ohio Lane
Groveport, OH 43125
P: 614-482-8080
www.uti-corp.com

October 14, 2016

Ohio Department of Natural Resources
Attn: Debbie Woischke
Office of the Director
2045 Morse Road
Columbus, OH 43229-6693

Re: Vectren Energy Delivery of Ohio Cemex-Morris BeanZ-50 20/24" Pipeline Replacement

Dear Debbie Woischke,

In June of 2016 we requested Natural Heritage Data for a proposed project in Greene County. I have enclosed the response(s) received dated June 28, 2016. Thank you for your response.

Since then we requested an Environmental Review that was completed by Environmental Solutions and Innovations (ESI) for the now combined Cemex-Morris Bean project. We have attached the two reports for review. In the reports ESI concludes that there are no potential conflicts with tree removal provided that winter clearing occurs (Oct 1- March 31). ESI has determined that there are four wetland locations and nine delineated streams in the area of investigation. We have submitted an application to the U.S. Army Corp of Engineers for Jurisdictional Determination and will follow up with the USACE with an application for impact to streams and wetlands that cannot be avoided. In addition, we will file the necessary 401 permit with the Ohio EPA for any isolated wetlands

Please let us know if you agree or have any comments regarding these reports from ESI. Please feel free to contact me at either phone number listed below or by email.

Sincerely,

Joseph Dean CESSWI
Environmental Coordinator
jdean@uti-corp.com
Office: 614-482-8080
Mobile: 740-816-5477

ATTACHMENT J

TRANSMITTAL LETTER TO PUBLIC OFFICIALS

Bricker & Eckler
ATTORNEYS AT LAW

COLUMBUS I CLEVELAND
CINCINNATI I DAYTON
MARIETTA

BRICKER & ECKLER LLP
100 South Third Street
Columbus, OH 43215-4291
MAIN: 614.227.2300
FAX: 614.227.2390

www.bricker.com
info@bricker.com

Sally W. Bloomfield
614.227.2368
sbloomfield@bricker.com

November 29, 2016

Via UPS Ground

«Address»

Re: Vectren Energy Delivery of Ohio, Inc., Cemex-Morris Bean Pipeline Replacement Project, Greene County, Ohio
OPSB Case No. 16-2175-GA-BLN

Dear «Salutation»,

Vectren is planning to replace approximately 3.0 miles (~15,700 feet) of 18-inch pipeline with a 20-inch pipeline. The Morris Bean portion of the project is approximately 1,300 feet long, and is named after the Morris Bean Corporation which owns a majority of the property where this section is located. The Cemex portion is approximately 2.7 miles long, and is named after Cemex Construction Materials Atlantic, LLC, which owns a majority of the property where this section is located. The Cemex-Morris Bean Pipeline Project will traverse through portions of Miami, Xenia, Bath and Beavercreek Townships, and the City of Fairborn Corporation.

The pipeline project will be constructed in the right-of-way. Construction of the replacement pipeline will begin March 1, 2017 and the estimated completion date is October 31, 2017.

In accordance with the provisions of Ohio Revised Code Section 4906.03(F)(3), this project falls within the Ohio Power Siting Board's ("Board") accelerated review or within its requirements for a Letter of Notification. Therefore, in compliance with Ohio Administrative Code ("OAC") Rule 4906-6-07(1) of the Board's rules, enclosed please find a disk containing a copy of the Letter of Notification application that has been filed today with the Board for its review and approval. You may request a paper copy of the Letter of Notification by contacting Teresa Orahood at (614) 227-4821 or torahood@bricker.com.

If you have any questions concerning this pipeline installation project, please contact Thomas Jones, Project Manager, at (937) 440-1880 or by e-mail at tfjones@vectren.com.

Sincerely,

Sally W Bloomfield

Sally W. Bloomfield

Enclosure: Disk Containing Copy of Application

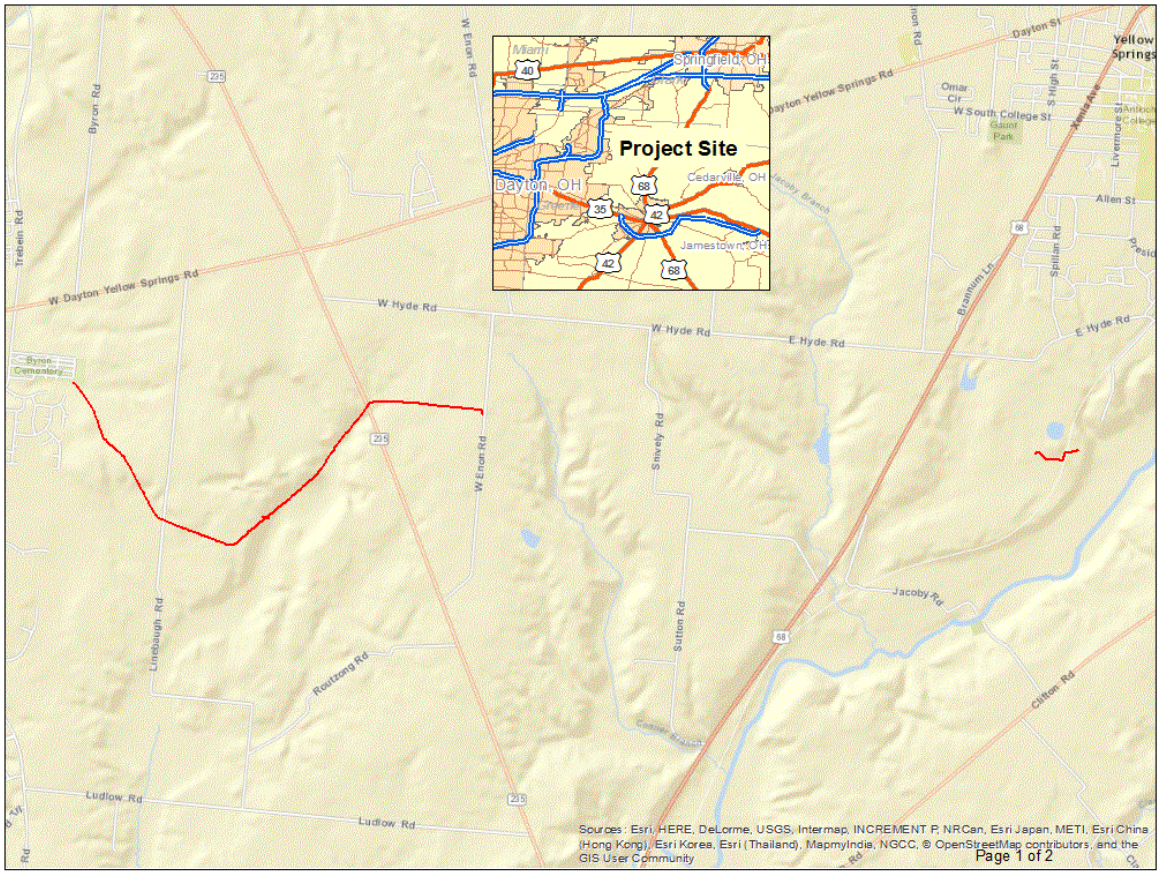
ATTACHMENT K

NEWSPAPER NOTICE

Notice of Proposed Major Utility Facility (New Pipeline Construction)

Vectren Energy Delivery of Ohio, Inc. ("Vectren") proposes to replace approximately 3.0 miles of an existing pipeline with a 20/24-inch pipeline. The new pipeline will traverse through the portions of Miami, Xenia, Beavercreek and Bath Townships and through portions of the City of Fairborn Corporation.

The location of the proposed new pipeline is shown on the map below:



A Letter of Notification has been filed with the Ohio Power Siting Board (Board) as Case No. 16-2175-GA-BLN in order to construct, operate and maintain the proposed pipeline described above.

The following public officials were served a complete copy of the Letter of Notification:

Tom Koogler, Alan Andersen, and Bob Glaser Greene County Board of Commissioners; Ken LeBlanc, Executive Director of Greene County Regional Planning & Coordinating Commission; Robert N. Geyer, Greene County Engineer; Amanda Middleton, District Administrator, Greene County Soil & Water Conservation; Mayor Dan Kirkpatrick of the City of Fairborn; Don O'Connor, Engineer City of Fairborn; Rob Anderson, Fairborn Development Corporation: Steve Ross Tom Pitstick, John Martin, Bath Township Trustees; Mark Crockett, Chris Mucher, and Lamar Spracklen, Miami Township Trustees; Carol Graff, Tom Kretz, and Jeff Roberts, Beavercreek Township Trustees; and Scott Miller, Susan Spradlin, and L. Stephen Combs, Xenia Township Trustees.

The Letter of Notification is available for public inspection at the Fairborn Community Library located at 1 East Main Street, Fairborn, Ohio 45324; the Yellow Springs Community Library, 415 Xenia Avenue, Yellow Springs, Ohio 45387; and the Xenia Community Library, 76 East Market Street, Xenia, Ohio 45385.

A copy of the Letter of Notification may be reviewed at Vectren's local office at 4285 North James H McGee Boulevard, Dayton, Ohio 45417. Office hours are from 8:00 a.m. to 4:00 p.m. A copy of the Letter of Notification can also be viewed on Vectren's web page at www.vectren.com/ohiopipeline . Copies of all filings in this case can be located at the Ohio Power Siting Board website at http://www.opsb.ohio.gov by scrolling down to "Pending Cases" and selecting the case by name or docket number.

The Ohio Power Siting Board will review the Letter of Notification in accordance with Ohio Revised Code Section 4906.10(A) which states that the Board shall not grant a certificate for the construction, operation, and maintenance of a major utility facility, either as proposed or as modified by the Board, unless it finds and determines all of the following: (1) The basis of the need for the facility; (2) The nature of the probable environmental impact; (3) That the facility represents the minimum adverse environmental impact, considering the state of available technology and the nature and economics of the various alternatives, and other pertinent considerations; (4) In the case of an electric transmission line, that the facility is consistent with regional plans for expansion of the electric power grid of the electric systems serving this state and interconnected utility systems and that the facility will serve the interests of electric system economy and reliability; (5) That the facility will comply with Chapters 3704., 3734., and 6111. of the Revised Code and all rules and standards adopted under those chapters and under Sections 1501.33, 1501.34, and 4561.32 of the Revised Code. In determining whether the facility will comply with all rules and standards adopted under Section 4561.32 of the Revised Code, the board shall consult with the office of aviation of the division of multi-modal planning and programs of the department of transportation under Section 4561.341 of the Revised Code; (6) That the facility will serve the public interest, convenience, and necessity; (7) In addition to the provisions contained in divisions (A)(1) to (6) of this section and rules adopted under those divisions, what its impact will be on the viability as agricultural land of any land in an existing agricultural district established under Chapter 929 of the Revised Code that is located within the site and alternative site of the proposed major utility facility; rules adopted to evaluate impact under Division (A)(7) of this section shall not require the compilation, creation, submission, or production of any information, document, or other data pertaining to land not located within the site and alternative site; and (8) That the facility incorporates maximum feasible water conservation practices as determined by the board, considering available technology and the nature and economics of the various alternatives.

Affected persons may file comments or motions to intervene in accordance with Ohio Administrative Code Rule 4906-2-12 with the Board up to ten (10) days following the publication of this notice. Comments or motions should be addressed to the Ohio Power Siting Board, 180 East Broad Street, Columbus, Ohio 43215-3793 and cite Case No. 16-2175-GA-BLN. Persons may contact the Ohio Power Siting Board at 1-866-270-OPSB (6772) or contactOPSB@puc.state.oh.us.