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March 21, 2019

Ms. Tanowa M. Troupe
Director, Office of Administration
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

Re: *In the Matter of the Construction Notice Application by Columbia Gas of Ohio, Inc. for a Certificate of Environmental Compatibility and Public Need for the Mansfield North Replacement Project.*
OPSB Case No. 19-0639-GA-BNR

Dear Ms. Troupe:

Columbia Gas of Ohio, Inc. ("Columbia") submits this Construction Notice, pursuant to Ohio Admin. Code 4906-6-03(C) and 4906-6-05, concerning a proposed pipeline replacement known as the Mansfield North Replacement Project (the "Project"). The Project involves the installation of 615 feet of 12-inch steel pipeline with a Maximum Allowable Operating Pressure ("MAOP") of 199 psi. The project also consists of abandoning approximately 350 feet of 12-inch main.

Therefore, as required by Ohio Admin. Code 4906-6-05, please be advised of the following:

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

The Project is identified as the Mansfield North Replacement Project. Columbia will be abandoning approximately 350 feet of 12-inch pipeline with an MAOP of 285 psig and replacing it with 615 feet of 12-inch, coated steel pipe with an MAOP of 199 psig. Columbia will be open cutting to install the pipeline. The location of the Project is shown on **Appendix A**.

The Project meets the requirements of a Construction Notice as it is a pipeline replacement project that is greater than 500 feet in length, but less than one mile in length. *See* Appendix B of Ohio Admin. Code 4906-1-01.

(2) If the proposed construction notice project is an electric power transmission line or gas pipeline, a statement explaining the need for the proposed facility.

Columbia currently uses the Mansfield North main to transport gas to customers in Mansfield, Ohio. Columbia is replacing this portion of line in order to tie into a new point of delivery ("POD"). The Project makes gas delivery to Columbia customers safer and more reliable by improving regulation of gas distribution and adding improved control equipment to monitor delivery pressures, flows and temperatures. The Project strategically places Columbia in the position to eventually abandon over 2,000 feet of 12-inch coated carbon steel pipeline along with aging valves and regulators installed in the mid 1950's, which will improve the integrity and reliability of gas service to Mansfield customers.

(3) The location of the project in relation to existing or proposed lines and substations shown on an area system map of sufficient scale and size to show existing and proposed transmission facilities in the project area.

A map showing the location and proposed work of the Project is attached as **Appendix A**.

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

Columbia considered alternatives for the Project; however, the proposed primary route was chosen because it avoids existing utility piping and services.

(5) Describe the public information program to inform affected property owners and tenants of the nature of the project and the proposed timeframe for project construction and restoration activities.

Columbia has not engaged in a formal public information program and Columbia is not anticipating a formal public information program. The pipeline replacement does not impact any customers or customer service lines.

(6) The anticipated construction schedule and proposed in-service date of the project.

Construction of the 12-inch steel pipeline is planned to start on July 15, 2019, and the in-service date of the Project is expected to be on or about November 15, 2019.

(7) An area map of not less than 1:24,000 scale clearly depicting the facility's centerline, with clearly marked streets, roads, and highways, and an aerial image.

Please see the map attached as **Appendix A**.

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

This project will be within public right-of-way and private easements that have been or will be acquired by Columbia from the following landowners:

- Hale Brothers Properties LLC (Harley Davidson) – Parcel # 289004901000; 10-foot easement, allowing for the facility maintenance of Columbia's proposed 12-inch pipeline to be installed within public right-of-way of Harrington Memorial Road and the Fanello Development Company easement.
- Fanello Development Company – Parcel # 0289003703012; 20-foot easement to cover Columbia's existing 4-inch pipeline, as well as allowing for the tie in and continued facility maintenance.

(9) Technical features of the project.

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

The 615 feet of 12-inch main will have an MAOP of 199 psig. This proposed pipeline will be installed in public right-of-way and private easement. The tie-in of the proposed 12-inch pipeline to the existing 4-inch pipeline will be installed in private easement.

(b) For electric power transmission lines that are within 100 feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line. The discussion shall include:

(i) Calculated electric and magnetic field strength levels at one meter above ground under the lowest conductors and at the edge of the right-of-way for: (a) Normal maximum loading, (b) Emergency line loading, (c) Winter normal conductor rating.

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

Not applicable to this Project.

(c) The estimated cost of the project.

The estimated total cost of the Project is approximately \$4,925,000.

(10) Social and Ecological Impacts of the Project.

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

The Project is located in Mansfield, Ohio, in private easement and public right-of-way. The land use within the vicinity of the Project is commercial. The project affects the State of Ohio, City of Mansfield, and Richland County.

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

The land associated with the Project area is commercial and does not include any agricultural land or agricultural district land.

(c) A description of the applicant's investigation concerning the presence or absence of significant archaeological or cultural resources that may be located within the area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation., needs to be completed prior to filing.

A cultural resource literature review and archaeological survey were completed for the Project, and are attached as **Appendix B**. The area subjected to archaeological investigations and history/architecture assessment consisted of an approximately 615 foot long pipeline route adjacent Harrington Memorial Road within an existing industrial

park setting to the north of Mansfield. A series of shovel probes and a shovel test unit were excavated, with no archaeological material identified as a result. The architectural historian assessed the project for potential effects to above-ground resources, and recorded the adjacent nineteenth century house as Ohio Historic Inventory resource number RIC0093711. As the proposed project is a subterranean pipeline, Columbia's contractor determined the Project will not involve any direct or indirect effects to historical resources, including the newly-recorded RIC0093711. No further cultural resources work is recommended for this project.

(d) A listing of the local, state, and federal government agencies known to have requirements that must be met in connection with the construction of the project, and a list of documents that have been or are being filed with those agencies in connection with siting and constructing the project.

State Permits

Columbia is obtaining a construction general storm water permit from the Ohio Environmental Protection Agency ("EPA"), and an Ohio EPA Air Pollution Permit to Install and Operate in order to temporarily flare off the existing pipeline when it is retired.

Local Permits

The building contractor will be required to obtain the following local permits for the city of Mansfield:

- Right-of-Way Permit for the proposed pipeline route and road crossing
- Maintenance of traffic permit for the proposed pipeline route road crossing and pipeline construction along Harrington Memorial Road
- Street Opening Permit for the proposed pipeline route road crossing

Aside from these permits, Columbia is not aware of any other required permits for Columbia to construct the Project. While the necessity to obtain any additional permits is not anticipated, Columbia will obtain any required federal, state or local permits for the Project.

A copy of this Construction Notice has been sent to the following public officials concurrently with submittal to OPSB.

Richland County

Ms. Marilyn John
Richland County Commissioner
50 Park Avenue East
Mansfield, Ohio 44902

Mr. Darrell Banks
Richland County Commissioner
50 Park Avenue East
Mansfield, Ohio 44902

Mr. Tony Vero
Richland County Commissioner
50 Park Avenue East
Mansfield, Ohio 44902

Mr. Adam Grove, P.E., P.S.
Richland County Engineer
77 N. Mulberry Street
Mansfield, Ohio 44902

Ms. Jotika Shetty
Executive Director
Richland County Planning Commission
19 N. Main Street
Mansfield, Ohio 44902

Mr. Brian Alt
Chairman, Richland Soil and Water
Conservation District Board of Supervisors
1495 W. Longview Ave., Suite 205 B
Mansfield, Ohio 44902

Ms. Erica Thomas
District Administrator
Richland Soil and Water Conservation
District
1495 W. Longview Ave., Suite 205 B
Mansfield, Ohio 44902

City of Mansfield

Mr. Timothy Theaker
Mayor, Mansfield, Ohio
30 North Diamond Street
Mansfield, Ohio 44902

Mr. Phillip Scott
President, Mansfield City Council
30 North Diamond Street
Mansfield, Ohio 44902

Mr. Jason Lawrence
Chairman, Mansfield City Council
Municipalities and Public Utilities
30 North Diamond Street
Mansfield, Ohio 44902

Mr. Robert Bianchi
City Engineer
30 North Diamond Street
Mansfield, Ohio 44902

Mr. David Remy
Interim Director, Public Works

30 North Diamond Street
Mansfield, Ohio 44902

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

Columbia inquired with the U.S. Fish and Wildlife Service and Ohio Department of Natural Resources ("ODNR") requesting information pertaining to the presence or absence federal or state designated species. Columbia received the correspondence in **Appendix C** in response. As noted in the correspondence, there are no anticipated adverse impacts on federal and state designated species and there are no trees requiring removal along the pipeline route.

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

Based on a review of the National Wetlands Inventory (NWI) database and Federal Emergency Management Agency ("FEMA") floodplain maps, Columbia confirmed that there is no need to obtain floodplain or wetlands permits for the Project. Additionally, Columbia confirmed with the U.S. Fish and Wildlife Service (please see correspondence in **Appendix C**) that there are no federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project area.

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

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

Should Staff of the Ohio Power Siting Board desire further information or discussion of this application, please do not hesitate to reach out to me at the information listed above.

Respectfully submitted,

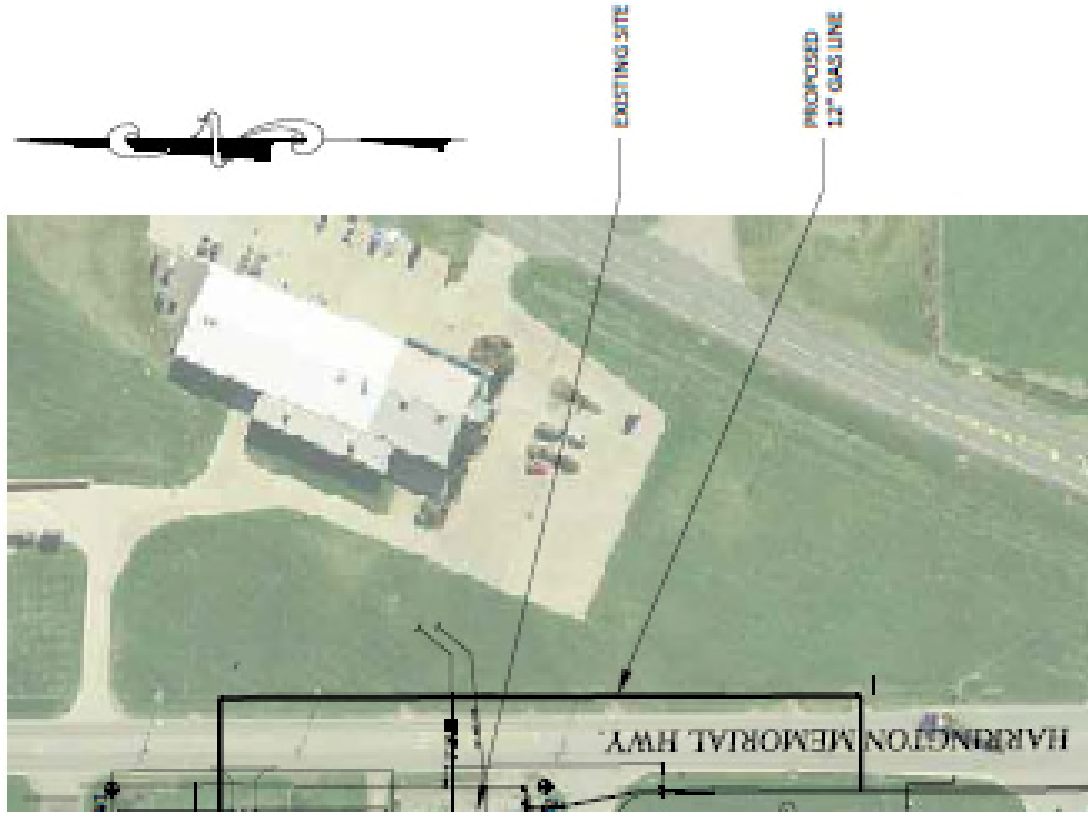
/s/ Joseph M. Clark

Plan View Details:

- Top Left:** CONTRACTOR TO SUPPORT UTILITY POLE BEARING CONSTRUCTION, SEE NOTE 3, THIS SHEET.
- Top Center:** PROTECT 8x4 FT OF 12" GALV. 7" THICK ROW. 32" WIDE PROPOSED CULVERT AND GUTTER.
- Top Right:** 12" GALV. IN SET BACK DRAINAGE AREA EAST SIDE EXISTING BUILDING. TOP OF CASH = 112.19. BUILDING L.L.S. = 112.19. 112.19. 112.19.
- Middle Left:** HARBINGTON MEMORIAL HWY. 100' R.O.W. 10' PLANTING STRIP. 10' PLANTING STRIP. 10' PLANTING STRIP.
- Middle Right:** CONTRACTOR TO SUPPORT UTILITY POLE BEARING CONSTRUCTION, SEE NOTE 3, THIS SHEET.
- Bottom Left:** MAINTENANCE ROAD. 10' PLANTING STRIP. 10' PLANTING STRIP. 10' PLANTING STRIP.
- Bottom Right:** CONTRACTOR TO OBTAIN STREET CLOSURE PERMIT, SEE NOTE 3, THIS SHEET.

Profile View Details:

- Vertical Axis:** ELEVATION (FEET) ranging from 100 to 120.
- Horizontal Axis:** STATIONING (Feet) ranging from 0+00 to 6+00.
- Ground Profile:** SHOWN AS A SOLID LINE.
- Proposed Structures:** INDICATED BY DOTTED LINES AND DIMENSIONS.
- Annotations:**
 - PROPOSED 12" GALV. 7" THICK ROW. 32" WIDE PROPOSED CULVERT AND GUTTER.
 - MAINTENANCE ROAD. 10' PLANTING STRIP. 10' PLANTING STRIP. 10' PLANTING STRIP.
 - HARBINGTON MEMORIAL HWY. 100' R.O.W. 10' PLANTING STRIP. 10' PLANTING STRIP. 10' PLANTING STRIP.





PHASE I CULTURAL RESOURCES SURVEY
Mansfield North Pipeline Project
Richland County, Ohio
L&A Project No: 19-0031



Prepared by:
Lawhon & Associates, Inc.
1441 King Avenue
Columbus, Ohio 43212
January 31, 2019



Prepared for:
Poggemeyer Design Group
1168 N. Main Street
Bowling Green, Ohio 43402

APPENDIX B

**Phase I Cultural Resources Survey for a Proposed Mansfield North Pipeline
Project in Madison Township, Richland County, Ohio**

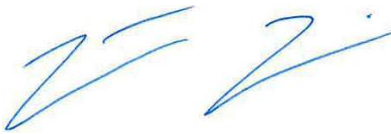
by

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**Lead Agency:
Federal Energy Regulatory Commission**



Justin P. Zink, RPA

January 31, 2019

0.1 ABSTRACT

In January of 2019, Lawhon & Associates, Inc. (L&A) conducted a Phase I cultural resources survey of the proposed Mansfield North pipeline project in Madison Township, Richland County, Ohio. L&A conducted the survey at the request of Poggemeyer Design Group. The Federal Energy Regulatory Commission is the lead agency for the undertaking. The area subjected to archaeological investigations and history/architecture assessment consisted of an approximately 600 foot long pipeline route adjacent Harrington Memorial Road within an existing industrial park setting to the north of Mansfield. A series of shovel probes and a shovel test unit were excavated, with no archaeological material identified as a result. L&A's architectural historian assessed the project for potential effects to above-ground resources, and recorded the adjacent nineteenth century house as Ohio Historic Inventory resource number RIC0093711. As the proposed project is a subterranean pipeline, L&A determined it will not involve any direct or indirect effects to historical resources, including the newly-recorded RIC0093711. No further cultural resources work is recommended for this project.

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APPENDICES

Appendix A: Archaeological Sites within 2km of the Project

1.0 INTRODUCTION

Lawhon & Associates, Inc. (L&A), under contract with Poggemeyer Design Group, conducted a Phase I cultural resources survey for the proposed Mansfield North Pipeline project in Madison Township, Richland County, Ohio (Figures 1-3). The proposed project consists of an approximately 600 foot long pipeline route adjacent Harrington Memorial Road within an existing industrial park setting to the north of Mansfield. The Federal Energy Regulatory Commission (FERC) oversees permitting of natural gas pipelines and thus is the lead federal agency for the project. The project also requires Ohio Power Siting Board (OPSB) concurrence, further necessitating the survey.

The Area of Potential Effects (APE) is different for each project. According to 36 CFR 800, the area of potential effects is “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 area of potential effects is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking.” The APE takes into account the effect that the proposed project will have on the project area itself (direct effect) and on the areas surrounding the project (indirect effect). The APE for direct effects is typically equivalent with the construction footprint of the project. The APE for indirect effects involves areas in the vicinity of the project that might be visually impacted by the proposed project. Archaeological surveys are typically concerned with the APE for direct effects; however, any project action that may result in an indirect effect to an archaeological site outside the construction limits would need to be considered by a survey.

The APE for direct effects is the footprint of the pipeline, which begins on the west side of Harrington Memorial Road at a point 110 feet north of the intersection with Knight Parkway, crosses immediately east under the road, then proceeds approximately 450 feet north, where it turns west under the road again, terminating in the front yard of a nineteenth century farmhouse. As the proposed project will not result in any above ground infrastructure or permanent changes, it is not considered to have the potential to affect historic resources. However, due to the immediately adjacent nineteenth century house, the authors thought it prudent to record this resource to the Ohio Historic Inventory.

L&A conducted the archaeological investigations for this project in accordance with Section 106 of the National Historic Preservation Act of 1966, as amended in 1992, U.S.C. 470f and with Ohio Revised Code § 149.53. The Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (1985) are the standards and guidelines used to develop survey methods. This document meets the standards established by the Advisory Council of Historic Preservation and the new Section 106 (36 CFR Part 800) regulations that went into effect on January 11, 2001. The federal standards and guidelines are supplemented by the procedures presented by the State Historic Preservation Office (OHPO 1994). The goals of this survey are to determine whether archaeological resources exist within the project area, and to determine whether

any identified resources are eligible for inclusion in the National Register of Historic Places (NRHP).

L&A conducted the archaeological fieldwork on January 24, 2019. The field crew included Justin Zink, Samuel Plent, Brett Carmichael and Nick Stillman. Justin Zink served as the Principal Investigator. Brett Carmichael assessed the APE for Indirect Effects for the presence of historic resources. Andrew Sewell served as the primary report author, with contributions by Justin Zink. The following report describes the research design, methods, and results of the literature review and field survey for this project. The results presented in this report are based on information collected from various literature review resources as well as photographs and field records resulting from this study.

2.0 RESEARCH DESIGN

This research design presents a framework within which the Phase I survey was conducted. The purpose of the Phase I survey is to identify any cultural resources that will be affected by the proposed project, typically consisting of archaeological deposits and architectural resources 50 years or older. Once cultural resources are identified, the principal investigator evaluates each archaeological site or historic resource for characteristics of integrity and significance, which are important factors in determining eligibility of each resource for the National Register of Historic Places (NRHP). To be listed in the NRHP, a property must be significant to one or more aspects of American history, architecture, archaeology, or culture. For a property to be considered eligible, it must meet at least one of the following criteria:

- (A) be associated with events that have made significant contributions to the broad patterns of our history; or,
- (B) be associated with the lives of persons significant in our past; or,
- (C) embody the distinctive characteristics of type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction; or,
- (D) have yielded, or be likely to yield, information important to prehistory or history.

In addition to meeting one or more of the above criteria, a property must also possess integrity, which is how a property conveys authenticity through the survival of physical characteristics associated with the period of significance for the property. Cultural resource management (CRM) professionals evaluate integrity according to the following aspects: location, design, setting, materials, workmanship, feeling, and association. A property considered eligible for the NRHP will always display several, if not all, of the aspects of integrity. Aspects of integrity are discussed below (Little et al. 2000).

1. Location – the place where the historic property was constructed or the place where the historic event took place.

2. Design – the combination of elements that create the form, plan, space, structure, and style of the property.
3. Setting – the physical environment of a historic property.
4. Materials – the physical elements of a property. The property must retain the key exterior materials dating from the period of significance.
5. Workmanship – the physical evidence of the crafts of a particular culture during any given period in history.
6. Feeling – a property's expression of the aesthetic or historic sense of a particular period of time.
7. Association – direct link between an important historic event of person and a historic property.

CRM professionals typically evaluate Architectural resources under NRHP Criteria A-C and archaeological sites under NRHP Criterion D. However, certain archaeological sites can also be eligible under Criteria A-C. For an archaeological site to be eligible for the NRHP, it must have the potential to yield data important in answering specific research questions important to the understanding of the past, and it must display sufficient physical integrity to allow proper evaluation of that data. If archaeologists cannot recover sufficient data during the Phase I survey to determine the eligibility of the resource, more intensive work may be required to determine the eligibility of the resource and consequently, the effect of the project on the resource. The principal investigator designed the Phase I survey to answer the following general set of questions in regards to the project:

1. Has the project been subjected to previous cultural resources investigations and are there any previously recorded sites or resources located within or immediately adjacent to the project?
2. What is the likelihood of identifying previously unrecorded cultural resources within the project? Where are these cultural resources most likely to occur?
3. Will the proposed project affect any cultural resources (archaeological or above ground structures)?
4. If cultural resources will be affected, are any of those affected resources listed, eligible, or potentially eligible for inclusion on the National Register of Historic Places?

3.0 ENVIRONMENTAL SETTING

The environmental setting contextualizes the cultural investigations within the natural environment. Since environmental factors influenced much of prehistoric activity, either directly or indirectly, the environmental setting contributes to the understanding of prehistoric behaviors exhibited by the inhabitants of a particular prehistoric site. Environmental and geographical conditions affected the function, social status, and productivity of historical sites as well, among other factors. Understanding the environmental setting is a key element of the interpretation of archaeological sites.

3.1 CLIMATE

The climate in Richland County is considered continental, having relatively cold winters and hot summers. The annual rainfall in the county is approximately 44.2 inches, with February seeing the least rainfall (2.4 in) and June being the wettest month (4.76 in) (U.S. Climate Data 2019). Richland County is moderately snowy, averaging 51 inches of snowfall a year, mostly between December and February.

3.2 PHYSIOGRAPHY AND GEOLOGY

The study area in Richland County is situated near the boundary between the Killbuck-Glaciated Pittsburgh Region of the Glaciated Allegheny Plateaus Province and the Galion Glaciated Low Plateau Region of the Central Lowlands Till Plains (Brockman 1998). The topography within this part of the county contains ridges, hills, and flat uplands. Land within the northern part of the county tends to slope towards the north. The geology of the region consists primarily of Mississippian and Pennsylvanian-age bedrock, which contains conglomerates, coal beds, shales and siltstones under a layer of Wisconsinian-age clay and loam till (Stout and Schoenlaub 1945).

3.3 SOILS

The study area is located primarily within the Rittman-Wadsworth soil association (USDS SCS 2004), which contains nearly level to steep, moderately well-drained and somewhat poorly drained soils formed in glacial till material.

Two individual soil types are present within the APE: Mentor silt loam, 2 to 6 percent slopes (MeB) and Rittman silty clay loam, 6 to 12 percent slopes, severely eroded (RtC3). Mentor soils are well drained and formed from glaciolacustrine deposits on terraces, while Rittman soils are moderately well drained and formed in till deposits on till plains. Soil descriptions are from the USDA NRCS web soil survey (2019).

3.4 HYDROLOGY

The major drainages in Richland County include the Black Fork, the Rocky Fork, and the Clear Fork of the Mohican River. The study area is drained by an unnamed stream that flows to the south to join the Rocky Fork.

3.5 FLORA AND FAUNA

Prior to settlement in the region, natural phenomenon such as glaciations during the Pleistocene and the associated climate changes had a major effect on plant and animal communities (Anderson and King 1976). As the glaciers retreated and the climate warmed, tundra ecosystems with their characteristic plant and animal life retreated north, and forests covered much of Ohio, bringing with them an entirely different community of life. Some areas of Ohio developed into prairies or vast marshes. Small pockets of typically boreal plant and animal communities persisted in some areas, such as ravine habitats in the Hocking Hills and northern Ohio.

The modern animal and plant life in the county bears little resemblance to those present prior to wide-scale nineteenth century settlement in the region. These

changes are attributable to habitat loss and change, purposeful extirpation of predators, unchecked hunting, and introduction of non-native species. Early settler accounts of the region provide useful information on the original ecosystem of this part of the state, supplemented by information from the archaeological record. The earliest recorded land surveys classified the natural vegetation in this region as beech forests (Gordon 1966; Forsyth 1970).

The modern pattern of land use has altered historical animal and plant community distributions and populations. The fauna historically inhabiting the general region of the survey area included several species of mammals, birds, reptiles, amphibians, and fish. Many species are no longer present due to the drastic habitat changes in the region, competition with invasive species, and historical periods of overhunting (Anderson and King 1976).

In summary, the environmental information indicates a rich prehistoric environment with a variety of resources. A variety of plants characterized a diverse floral environment exploitable by humans and animals. Animal life provided a source of protein and raw material for clothing and tools. All of these factors indicate that this area possesses potential for the presence of archaeological sites within the project area.

4.0 LITERATURE REVIEW

The literature review study radius is 2 km (1.2 mi) from each exterior corner of the proposed project limits. This size is usually sufficient to provide the necessary contextual information regarding previously identified cultural resources and historical information on the project area. The report author examined following sources from the State Historic Preservation Office, the State Library of Ohio, and various online resources.

1. Mills' (1914) Archaeological Atlas of Ohio
2. OHPO GIS database
3. Ohio Archaeological Inventory (OAI) forms
4. Contract Cultural Resource Management reports
5. Ohio Historic Inventory (OHI) forms
6. National Historic Landmark listings
7. NRHP files, nomination form files, and Determination of Eligibility files
8. Ohio Historic Bridge Inventory forms
9. Ohio Genealogical Society (OGS) Cemeteries
10. USGS 7.5' and 15' series topographic maps, historical aerial photographs, and Richland County historic atlases

The *Archaeological Atlas of Ohio* (Mills 1914) shows a village site to the northwest of the project area, but no other nearby resources (Figure 5). This resource will not be impacted by the proposed project; however it indicates that this portion of Richland County has potential for significant archaeological sites.

The Ohio Historic Preservation Office online GIS indicates that there are no previously recorded archaeological sites within or adjacent to the project (Figure

6). There are 26 previously recorded archaeological sites within the 2 km study radius for the project; these resources will not be impacted by the undertaking (Appendix A).

A review of the SHPO contract CRM reports indicated that the project area has not previously been surveyed, with four surveys within the study radius (Figure 6). These surveys include an archaeological survey of proposed sewer routes (Morse 1979), an archaeological survey for a proposed transmission line (Leary et al. 2014), an archaeological survey for a cell tower (Meyer-Landis and Brown 2016), and an archaeological survey for a road improvement project (Sewell et al. 2018).

A review of the OHI resources did not indicate any resources within the proposed project, however there are 11 resources located within the literature review study radius (Table 1). None of these resources are within visual range of the study area and they will not be directly impacted by the proposed project.

Table 1. OHI Resources within the Study Radius

OHI Number	Name	Address	Style	Use	Date
RIC0054811	Empire-Detroit Steel/ Mansfield Sheet & Tin Plate Co	913 Bowman St	Neo-Classical Revival	Mill/ Processing/ Manufacturing Facility	1918
RIC0005911	Ohio State Reformatory	Olivesburg Rd	Other	Correctional Facility	1896
RIC0087111	Building 102, Aircraft Maintenance Hangar	1947 Harrington Memorial Rd	Other	Air Facility	1950
RIC0087211	Building 103, General Purpose Aircraft Shop	1947 Harrington Memorial Rd	Other	Air Facility	1959
RIC0087311	Building 104, Fire/Crash Rescue Station	1947 Harrington Memorial Rd	Other	Air Facility	1952
RIC0087411	Building 108, Engine Shop	1947 Harrington Memorial Rd	Other	Air Facility	1963
RIC0087511	Building 203, Base Warehouse and Supply	1947 Harrington Memorial Rd	Other	Air Facility	1950

APPENDIX B

OHI Number	Name	Address	Style	Use	Date
RIC0087611	Building 400, Storage Magazine A, B and C	1947 Harrington Memorial Rd	Other	Arms Storage	1958
RIC0087711	Building 409, Fuel System Maintenance Dock	1947 Harrington Memorial Rd	Other	Air Facility	1978
RIC0087811	Building 414, General Purpose Aircraft Shop	1947 Harrington Memorial Rd	Other	Air Facility	1977
RIC0087911	Building 500, Jet Engine Shop	1947 Harrington Memorial Rd	Other	Air Facility	1972

There are no NRHP listings, nomination form files, or Determination of Eligibility (DOE) files located within or adjacent to the project area. There is 1 NRHP listing and 1 historic district within the 2 km study radius (both being the old Ohio State Reformatory); none of these properties will be impacted by the proposed project. There are no Ohio Historic Bridge Inventory forms indicated within the study radius. There is 1 OGS cemeteries within the 2 km study radius (the Ohio State Reformatory Cemetery, OGSID 10223); however, there are no cemeteries within or adjacent to the project area. The proposed project will not impact the OGS cemetery identified within the study radius.

Examination of historical maps shows that the property in 1856 was owned by Michael Keith (Figure 7). The house at the northwest end of the APE corridor was present by 1873 (Figure 8), and owned by Ann Gribling (Gribling also owned another house directly to the north). In 1896, the property and house were owned by George and Frank Gribling (Figure 9). The 1915 USGS topographic map indicates a fairly undeveloped rural upland setting for the project area (Figure 10). By 1943, the Mansfield Airport was present and more houses began appearing along SR 13 (Figure 11). By the 1960s, SR 13 was diverted around the airport south of the project area, and some of the houses that had sprung up along the road began to be replaced by light industry (Figure 12). Aerial photographs showing the project area were consulted online, showing the development of the project area setting as one of widely spaced residences along a country road to a densely developed industrial park, with a prison complex to the southeast, all of which development has occurred within the last 30 years (NETR 2019).

5.0 CULTURAL SETTING

The historic context provides a framework for evaluating the integrity and significance of any identified cultural resources. The principal investigator uses

the context to assess a sites' ability to contribute to the existing historic knowledge of a region. The report authors derived the following contexts from previously reported information from throughout the region and identified in the immediate area through previous archaeological and historical research. While not all of these contexts may be identified within the project area during the survey, the established contexts are presented in chronological order to understand the relationships between different temporal periods and the continuum of cultural development that occurred in this area. It should be noted that these periods are defined through cultural expressions, and that the ranges of time associated with each period will likely overlap in different parts of the region, as some prehistoric groups may not have adapted a new cultural expression at the same time as other groups, or indeed even at all.

5.1 PREHISTORIC CONTEXT

The prehistoric cultural development of the region began with the influx of the first post-glacial populations and continued throughout prehistory until the arrival of Europeans and settlers from east of the Appalachians. Archaeologists developed temporal periods to distinguish cultural and/or technical advances over time, divided into the Paleoindian; Early, Middle, and Late Archaic; Early, Middle, and Late Woodland; Late Prehistoric and Protohistoric. The temporal ranges given here for each period may differ from other presented material. This should not be construed as either a challenge to, or perceived error on the part of earlier material, but reflects the rather fluid nature of defining temporal periods based on current dating techniques, selective regional data comparisons, and differing opinions on when and where to divide prehistory into arbitrary periods.

5.1.1 PALEOINDIAN PERIOD

Archaeologists estimate that occupation of the Ohio area would have been possible by approximately 11,000 B.C. to 11,500 B.C. By this time, the glacial front that had once covered Ohio had retreated into Ontario (Seeman and Prufer 1982). The Paleoindians, the first known prehistoric population to occupy the Ohio area, were highly mobile, small-band hunters moving on a seasonal basis in order to more fully exploit available natural resources (Dragoo 1976). Although probably in pursuit of herd animals, the Paleoindians were opportunists willing to use a broad spectrum of animal and plant resources.

The database of Paleoindian sites in Ohio has grown over the past 45 years. Prufer and Baby (1963) provided the first systematic information on Paleoindian settlement patterns through an analysis the distribution of diagnostic fluted projectile point types. They noted that the distribution of these artifacts follows a diagonal line across Ohio, which corresponds roughly to the maximum Wisconsinan glacial boundary. Most fluted points recovered in Ohio are isolated surface occurrences associated with the main tributary valleys. The majority of the points were made from locally available chert and flint, suggesting that Paleoindian groups did not range widely, contrary to the image of highly mobile bands (Prufer and Baby 1963). Seeman and Prufer (1982) studied a larger sample of fluted points, concluding that fluted points are frequently found in major

stream valleys and confluences, sites tend to occur close to quality flint resources, and fluted points are rarely found in extensive swampy lowlands or in rugged highlands, such as the unglaciated portions of southeastern Ohio. Lepper (1983) proposed a contrary theory. He believes that, although these early studies may reflect Paleoindian settlement patterns, subsequent studies suggest that modern cultivation and population biases affected the reporting of the artifacts and sites used to construct Paleoindian settlement patterns. Artifact collectors highly prize Paleoindian points, and thus the reported distribution may be artificially skewed towards locations with heavily collected cultivated fields.

Small lithic scatters and isolated finds of diagnostic, fluted projectile points characterize the archaeological record of Ohio's Paleoindian period. Notable exceptions include larger lithic scatters such as those found at the Nobles Pond site in Stark County, a multiple-purpose base camp (Seeman et al. 1994); and the Paleo Crossing site in Medina County (Brose 1994), which contains primary context and remnants of structural features. Paleoindian sites seem to occur on high ground adjacent to major stream valleys, particularly at the confluence of a major tributary, or adjacent to former glacial wetlands, as is the case for the Nobles Pond and Paleo Crossing sites.

5.1.2 ARCHAIC

A period of significant environmental change ensued as the glaciers retreated northward at the end of the Pleistocene. The climate became temperate. Large-game species, such as mastodon, became extinct, and the deciduous forest common today developed, replacing the boreal-coniferous forests. The Archaic period encompasses the notable human adaptations and settlement practices developed in response to the changing environment (Ford 1974). Artifact assemblages from Archaic sites show a wider range of tool types in comparison to the preceding Paleoindian period, some of which have specialized functions for the processing of a wider variety of plant and animal resources (Griffin 1967). Although all Archaic-period human groups exhibited characteristics of classic hunter-gathering lifestyles, environmental differences led to regionally distinctive artifact assemblages by the end of the period, which might reflect the evolution of culturally distinct human social groups (Dragoo 1976).

Changes in human social organization occurred concurrently with expanding food procurement strategies. In eastern North America, organizational changes generally included restricted group mobility, larger aggregations of individuals, development of ritual behavior, development of inter-regional exchange systems, and the first attempts at plant domestication (Ford 1974). Other results included smaller group territories, sites occupied for longer periods, reuse of sites at more frequent and probably more regular intervals, and the use of a wider variety of plants and animals. Storage facilities and vessels also appeared more frequently in Archaic sites, as well as evidence for early cultivation of some plant species. Archaic developed burial ceremonialism and other ritual behavior, and showed signs of becoming formalized in some regions. Ritual activity might be linked to the establishment of social group identities, the maintenance of territorial

boundaries, and the regulation of intergroup alliances and trade. However, archaeologists are still trying to adequately test this proposition.

Research has shown the progression of these adaptations through the Archaic period (9000 B.C. to 900 B.C.), resulting in the subdivision of time into three distinct temporal periods: Early, Middle, and Late Archaic. Some general traits, such as basal styles of projectile points, are common throughout all three Archaic sub-periods, so some Archaic sites cannot be classified to one of these three periods.

5.1.2.1 EARLY ARCHAIC

During the Early Archaic period (9000 B.C. to 6000 B.C.), small mobile groups gradually became more geographically restricted as seasonally oriented hunting-and-gathering activities were focused on smaller, well-exploited territories. This sedentism is a direct link to the expansion of the deciduous forests that produced a more favorable habitat for game species (Chapman 1975). Although hunting was the major subsistence activity, Early Archaic people also used a narrow spectrum of nutritious plant foods (Chapman 1975; Cleland 1966). This expansion of the subsistence base correlates with a change in material culture. Early Archaic hunters switched from lanceolate spear points, ideal for hunting larger animals, to a series of smaller, more diversified notched and stemmed projectile points, scrapers, knives, drills, and ovoid blades. Woodworking and food preparation tools first appear in the tool assemblage during the Early Archaic period. These tools included axes, adzes, mortars and pestles, awls, gouges, and grinding stones (Chapman 1975; Jennings 1968). Sites were small and scattered, largely discovered through surface collection, and usually located in uplands near secondary stream valleys (Benchley 1975).

5.1.2.2 MIDDLE ARCHAIC

During the Middle Archaic period (6000 B.C. to 3000 B.C.), floral communities diversified as the climate warmed and stabilized, allowing for a broader selection of food and material for use. However, Middle Archaic people still appear to have emphasized hunting within an increasingly sedentary lifestyle (Cleland 1966). Middle Archaic material cultural reflects the change in economy as well, adapted to intensive exploitation of forest and riverine environments. Middle Archaic hunters replaced Early Archaic point types with slender, stemmed lanceolates. Plant-processing tools included a variety of ground stone implements, grooved axes, metates, and nutting stones. Atlatl weights and bone tools first appear in the archaeological record during this period (Broyles 1971; Lewis and Lewis 1961).

5.1.2.3 LATE ARCHAIC

In the Late Archaic period (3000 B.C. to 900 B.C.), the expansion of deciduous forests reached its northernmost limit (Cleland 1966). Late Archaic people developed a wide array of specialized objects, including steatite and sandstone bowls, stone tubes and beads, polished plummets, net sinkers, whistles and rattles, birdstones, and boatstones, as well as awls, needles, and perforators

made of bone (Chapman 1975). Brewerton series points are characteristic of this period, and particularly common the Upper Ohio Valley area (Ritchie 1961; Witthoft 1953). Group ceremonialism increased in importance, as demonstrated by more elaborate, formalized burial practices and the presence of exotic materials obtained from emerging trade networks. Scheduled harvesting of seasonal, available plant and animal resources climaxed in the Late Archaic (Caldwell 1964). Coinciding with an increase in territorial permanence was the first appearance of regionally distinct human culture groups in Ohio (e.g., Glacial Kame, Red Ochre, Old Copper Culture) (Cleland 1966).

The Late Archaic period marks the first appearance of cultigens in the archaeological record. Archaeologists recovered chenopodium, sunflower, and gourd seeds dated to approximately 1500 B.C. from the Salts Cave site in Kentucky (Yarnell 1974), while other researchers have dated squash seed as early as 2300 B.C. in Missouri and Kentucky (Yarnell 1963). Exploitation of local plant and animal resources, including aquatic species, became more efficient and broad-based in the Late Archaic period. The success of this subsistence strategy is shown by the recovery of charred botanical remains of a variety of nuts, including acorn, hazel, hickory, and black walnut. Fruit also was an important food resource, as demonstrated by the diversity of fruit seeds in archaeobotanical assemblages, such as wild grape, blueberry, raspberry, and strawberry (Dye 1977; Yarnell 1974).

5.1.3 WOODLAND PERIOD

W. C. McKern first described the Woodland period as an archaeological manifestation within the McKern Taxonomic System (McKern 1939), initially distinguishing it from the preceding Archaic period through the use of pottery and ceremonial construction of earthworks and mounds. Griffin's work (1952) on the Woodland period defined three sub-periods: Early Woodland (1000 B.C.–100 B.C.), Middle Woodland (100 B.C.–A.D. 500), and Late Woodland (A.D. 500–1200). Archaeologists still use the same basic system today, although current research suggests that adaptations and cultural traits assigned to each period are actually quite variable in both time and location. For example, in some regions of the Midwest, the cultural expressions associated with the Middle Woodland are not present, with Early Woodland practices persisting through time. Some Woodland period sites are identified solely through the presence of pottery or burial mounds; these sites are typically not assigned to one of the three sub-periods.

5.1.3.1 EARLY WOODLAND

The Early Woodland period in Ohio extends from approximately 1000 B.C. to 100 B.C. Recent evidence demonstrates a continuum from the end of the Archaic through the Middle Woodland for the intensification of horticulture and the formalization and elaboration of mortuary practices (Dragoo 1976). Woodland people did not uniformly adapt these traits at the same general time. Those traits deemed most useful were the ones acquired first.

Archaeologists most closely associate the Early Woodland period in Ohio with the Adena Culture. The Adena culture dominated much of the northern Eastern Woodlands from upstate New York into the Ohio and Mississippi Valleys, characterized by conical earthen mounds and elaborate burials with ornamental grave goods. The Adena culture may have developed as early as 500 B.C., based on the dating of burial mounds in the central Ohio River Valley region (Seeman 1992:25). Early Woodland people often used conical mounds for mortuary purposes, but some mounds lacking burials may have served as territorial markers, or as a focus for seasonal gatherings (Yerkes 1988:317).

Horticulture likely became more important in the subsistence strategy of Early Woodland people, but how important this adaptation was to different groups varies across time and space within this period. Some areas do not show much evidence of domesticated plants until near the end of the Early Woodland period, coinciding with the beginning of the Middle Woodland period (Fritz 1990:403). Seasonal mast crops continued to be an important resource, and Early Woodland groups still depended on wild versions of plants that would become cultivars, such as squash, sumpweed, gourd and goosefoot.

Although there may have been some tendency for limiting residential mobility in the Early Woodland period, settlement patterns generally resemble those of the preceding Late Archaic period, with large summer base camps in the flood plains and upland resource extraction camps occupied in the fall and winter (Yerkes 1988:319). Clay (1992:80) suggests that Early Woodland groups were likely practicing a semi-sedentary, hunter-gatherer lifestyle organized into egalitarian groups, rather than having a more hierarchical tribal system.

Several projectile point/knife forms are diagnostic of the Early Woodland period. These include Adena Stemmed, Cresap points, and Robbins blades (Converse 2007; Dragoo 1963). Pottery typically consisted of plain wide-mouthed jars and bowls, tempered with granitic rock. Pottery types associated with the Early Woodland period includes Fayette Thick, Adena Plain, Dominion Thick and Leimbach Thick types, among others (Purtill 2008). Ceremonial objects associated with some burials include exotic materials indicative of long-distance trade networks, including copper and galena.

5.1.3.2 MIDDLE WOODLAND

The Middle Woodland period (100 B.C. to A.D. 500) saw a gradual expansion in the general patterns of the Early Woodland. Elaborate burials and distinct ceremonialism increased and mound construction became increasingly complex, with huge, precisely arranged geometric earthworks being the hallmark of the Hopewell cultural manifestation that is associated with this period. Although some Woodland groups continued to live what could be termed the Adena lifestyle, the Hopewell complex dominated the Middle Woodland period in southern and central Ohio and throughout much of North America. Most scholars believe that the characteristics that define the Hopewell tradition originated with the Adena (Prufer 1964). Like the Adena, the Hopewell manifestation likely does

not represent a single monolithic culture, but rather a shared worldview among many different groups of people across the mid-continent.

The current understanding of settlement and subsistence behaviors of the Hopewell and other Middle Woodland populations is unclear at best, with a variety of opinion to explain the data collected to date. Using information from non-mound excavations (e.g., Prufer 1964), Ford (1979) suggested a basic hunting-and-gathering economy with limited horticulture. Prufer interpreted Ohio Hopewell settlement patterns as consisting of a semi-permanent shifting of agricultural farmsteads and hamlets that cluster around ceremonial centers (Prufer 1964). Dancey and Pacheco (1992) formalized the Dispersed Sedentary Community model based on Prufer's model. This model includes three settlement types: the hamlet, the earthwork, and the specialized camp (Dancey and Pacheco 1992:6). In this model, hamlets are permanent, year-round settlements occupied by sedentary farmers, predominately found in terrace settings. Related social groups inhabited the small hamlets (less than 2.5 acres) on a permanent basis. The specialized camps are temporary occupations associated with ceremonial activities at the nearby earthworks. The model also leaves room for other special purpose sites, such as quarries and other resource extraction sites.

Pacheco (1997), whose research tested this model, suggests that the Licking Valley Middle Woodland settlement system supports Prufer's initial interpretation. Pacheco (1997) described archaeological correlates for sedentary Hopewell settlements based on his work in the vicinity of the Newark Earthworks. He identified the locations of several Hopewell settlements in the Licking River valley, including several along Raccoon Creek south of his project area. His detailed analysis of surface collections from a cluster of sites near the confluence of Raccoon Creek and the Licking River indicated the presence of five household areas, or hamlets, inter-household short-term activity areas, and a specialized camp. Pacheco believed that this local pattern could be extended throughout the area.

Distinctive artifacts associated with the Hopewell culture include bladelets and bladelet cores; artifacts produced for mortuary contexts using exotic materials (copper, mica, obsidian); and cord-marked and stamped pottery.

5.1.3.3 LATE WOODLAND

The Late Woodland period can be defined as a period of complex social change. Late Woodland people appear to have rather abruptly stopped the practice of elaborate mound construction and mortuary traditions of the preceding Hopewell culture. A nucleated settlement strategy appears for the first time in the archaeological record of the region during this period. Seeman and Dancey (2000) indicate that the Late Woodland period (A.D. 500 – A.D. 1200) in Ohio is characterized by an “intensification of subsistence and food procuring strategies” (Seeman and Dancey 2000:601). In the Ohio Valley, Late Woodland peoples became increasingly reliant upon the hunting of deer, the gathering of nuts, and, possibly, the growing of cultigens (Munson 1988; Seeman and Dancey 2000).

Late Woodland settlements are generally of one of three types: permanent nucleated settlements that were occupied for hundreds of years such as Turpin, Haag, and Sand Ridge; smaller nucleated settlements that were occupied for relatively brief periods; and small open sites that appear to represent homesteads or task group camps associated with the larger settlements (Seeman and Dancey 2000). Remote camps and the use of local rock shelters compliment these sites. Temporal trends indicate that larger nucleated settlements were preferred before 1300 B.P., with a shift to smaller open settlements after that time. Nucleated Late Woodland settlements were often organized around a central plaza, and may exhibit evidence of surrounding ditches, earthen embankments, or stockades (Seeman and Dancey 2000). Many of these sites are located on upland margins, so that the ditch creates a crescent having its ends at the bluff edge. It is not known whether the open sites, which occur most often in upland stream valleys, are dispersed homesteads or procurement camps.

Sites dated early in the Late Woodland period in northern Ohio consist of small, nucleated settlements that are frequently located on river bluff edges and relic beach ridges (Brose 2001:51). Ceramics are grit tempered, highly decorated, and attributed to the Riviere du Vase and Younge phases, and point types are predominantly Chesser Notched and Lowe Flared Base types. During the latter part of the Late Woodland period, nucleated communities appear to be replaced by smaller, more dispersed, seasonally-occupied settlements that are variably located on terrace or floodplain locales, with an increased use of the uplands. Ceramics are tempered with a variety of materials, such as grit, chert, or limestone, and the predominant point types include Raccoon Notched and Jack's Reef pentagonal points along with small triangular points (Church 1987).

Late Woodland people practiced a subsistence pattern with an increased focus on naturally abundant seed plants, intensifying their consumption and manipulation of these species. Related changes occurred in the production of ceramics that could withstand higher cooking temperatures and greater repetitive use, a shift toward increased regional sedentariness, a concomitant decrease in land-use area, and a simplification of the chipped stone industry. Archaeologists interpret the continuation of mound construction, albeit on a much lesser scale than in the previous Woodland periods, as another indication of village integration.

These changes are evident throughout the Late Woodland period in the archaeological record. Sites dated early in the Late Woodland period consist of small, nucleated settlements, frequently located on bluff edges along major streams or rivers with an encircling ditch or low earthwork feature. Many archaeologists interpret these features as defensive, suggesting an increase in inter-group conflict during this period. Ceramics recovered from early Late Woodland sites are grit tempered, and point types are predominantly Chesser Notched and Lowe Flared Base types. During the latter part of the Late Woodland period, smaller, more dispersed, seasonally-occupied settlements appear to replace nucleated communities, variably located on terrace or

floodplain locales, with an increased use of the uplands. Ceramics recovered from the later-period sites are tempered with a variety of materials, such as grit, chert, or limestone, and the predominant point types include Raccoon Notched and Jack's Reef pentagonal points along with small triangular points (Church 1987). Cultivated plants occur in higher frequencies in these sites, while almost all natural food resources were utilized. Many Late Woodland groups practiced horticulture based on indigenous cultigens and squash. The subsistence strategy focused on nearly all species of edible plants and animals in the bountiful deciduous forest.

5.1.3 LATE PREHISTORIC

The Late Prehistoric period in Ohio extends from approximately A.D. 900 to A.D. 1600, although in neighboring Kentucky, the Late Prehistoric is considered to have persisted to about 1750. In northwest Ohio, both the Western Basin Tradition and the Sandusky Tradition are associated with the Late Prehistoric period. Although they were influenced by Fort Ancient cultures, the Sandusky tradition groups are distinct. Stothers et al (1994) suggest that Late Woodland groups associated with the Western Basin Tradition developed from the Late Woodland Riviere au Vase phase ca. 850, then progressing through the Younger Phase ca. 1100, and finally the Springwells Phase ca. 1200. About 1300, Stothers et al. (1994) argue that Sandusky Tradition groups of the Wolf Phase pushed the Springwells groups out of Ohio into Ontario, Michigan, and Ontario. The Sandusky Tradition groups then developed into the Fort Meigs phase ca. 1450, and the Indian Hills phase ca. 1600 (Brose 2001:54). Analysis of Late Prehistoric sites in northwest Ohio suggest a continuation of Late Woodland settlement patterns and subsistence practices until the Wolf Phase, when ditched and possibly palisaded villages appeared; this trend supports the hypothesis that Sandusky Tradition groups forcibly pushed Western Basin Tradition groups out of Ohio through conflict. Small palisaded villages are also characteristic of the Fort Meigs phase; subsequently, these small villages came together to form a smaller number of large villages in the Indian Hills phase (Brose 2001:55). Notably, it is in the Indian Hills phase that European trade goods appear in archaeological assemblages.

Diagnostic artifacts for Late Prehistoric groups include small triangular projectile points, such as Madison and Levanna types, that indicate the widespread adoption of bow-and-arrow technology. Ceramics for Sandusky Tradition sites in northwestern Ohio include Mixer, Springwells, Baum, Park, Fort Meigs, and Indian Hills types, with a variety of dentate, notched, cord-marked, and other types of surface treatments. Early Late Prehistoric ceramics tend to be grit-tempered, but by the end of the period, shell-tempering is the defining characteristic. Notably, European trade goods are found at some late Fort Ancient sites in Kentucky; however, archaeologists have had difficulty linking Fort Ancient groups to historical Native American groups.

5.1.4 CONTACT PERIOD

Around 1550, Late Prehistoric groups in western Pennsylvania first procured materials that indicate an indirect contact with European settlers (Herbstritt 1983). These materials include wire-wound faceted beads, copper tinklers, and native-manufactured artifacts such as triangular glass and metal pendants made from imported European goods. In contrast to later sites, there is no change in intra-site patterning of subsistence procurement strategy at these sites. Recognition of Contact period sites is based solely on the occasional occurrence of European trade items (Skinner and Brose 1985). This influx of trade items is documented in the Middle Ohio Valley ca. 1650 to 1750 at two contact-period sites in Greenup County, Kentucky (Pollack and Henderson 1983). The difficulty in recognizing these sites, given the limited change in the material culture, undoubtedly has resulted in the lack of proper protohistoric designations.

Until the late eighteenth century, very few Europeans lived in Ohio, primarily consisting of French and British fur traders. Several historical Native American groups claimed the region. From 1641 to 1701, the Iroquois Wars introduced an era of conflict and warfare that displaced many other Native American groups from Ohio. The Erie tribe controlled most of northeast Ohio, although the Shawnee occupied a few villages in extreme southwest Ohio during this era, and the Tionontati had a village at the mouth of the Maumee River. However, exposure to European diseases and military campaigns forced the Iroquois to reach a peace agreement in A.D. 1701 (Tanner 1987). During the A.D. 1730's, the Wyandot, who formed from the merger of remnants of the Huron and Tionontati groups pushed out of Canada by the Iroquois, settled in portions of eastern and northern Ohio. Throughout the first half of the eighteenth century, the Delaware moved west from the Pennsylvania region into the Ohio territory.

The French and Indian War (1754–1763) passed control of the territory east of the Mississippi from France to England. One year later, Ottawa Chief Pontiac led the fight against European expansionists (Tanner 1987). After the American Revolution, Americans and Native Americans negotiated several treaties that ceded Native American lands to the United States, such as the Peace Treaty of 1783 (Bond 1941), the Treaty of Fort McIntosh in 1785, and the Treaty of Greenville in 1795 (Wheeler-Voegelin 1974). Facing continual encroachment and conflict with incoming American settlers hungry for land, Native American populations moved north and west from their settlements along the Ohio River and Lake Erie. The State of Ohio established a number of reservations, primarily in the northwest part of the state, but by 1830 nearly all of the state's Native American groups had been removed (Bond 1941).

5.2 HISTORIC CONTEXT

American settlement of the Ohio country began soon after the conclusion of the American Revolution. Early communities developed along the Ohio River and along the shore of Lake Erie in the 1790s. Originally part of the Northwest Territories, Ohio became the 17th state in the Union on February 19, 1803. Ohio developed slowly in the early nineteenth century, hampered by a lack of a

reliable transportation network. By the 1820s, the road networks improved and the state approved work on a system of canals that opened up large portions of the interior of the state to settlement and development. Numerous communities sprouted up across the state, taking advantage of the new trade opportunities offered by canals and railroads. Industrial centers developed at transportation hubs, such as Cleveland, Cincinnati, Akron, and Toledo. By the end of the nineteenth century, Ohio was one of the most prosperous states in the nation, and today has the seventh-largest economy in the nation.

5.2.1 RICHLAND COUNTY HISTORY

Richland County was organized in March of 1813 and named for the excellent quality of the soil in the county (Howe 1907). It was originally a part of Wayne County and eventually lost area to the creation of Ashland (1845) and Marion (1848) Counties. The earliest settler to the county was Jacob Newman, who settled near Mansfield in 1807. Other early settler surnames included McClure, Craig, Baughman, Van Schoick, and Kinney. These early settlers to the area emigrated from Virginia and Pennsylvania and were of German ancestry. The first sawmill was erected in 1809 by the Newman family and the first grist mill was erected in 1810. In 1817, J. Mull taught one of the earliest recorded schools. Roads and trails created during the War of 1812 were the first transportation routes across Richland County. Tracks for the first railroad were laid in 1836 for a route from Mansfield to New Haven by the Mansfield & New Haven Railroad Company (Andreas 1873; Baughman 1908; Graham 1880).

It was the launch of the railroad in the county that allowed for its industrial growth. The industrial growth was most prominent in the county seat, Mansfield. The city of Mansfield was named after Colonel Jared Mansfield, the Surveyor-General appointed by Thomas Jefferson for the Northwest Territory. James Hedges, Jacob Newman, and Joseph Larwill laid out the city in 1808. Win Winship erected the first frame building in Mansfield. The first doctor was Royal Powers, who settled in Mansfield in 1815. The *Olive* was the first newspaper published in Mansfield in 1818. A machine works was operated in Mansfield by 1840. The decades of the 1860s and 1870s saw more industrial growth in Mansfield, including a flour mill, a paper company, a carriage factory, and a threshing machine factory among several other industries. The first telegraph office was opened in 1849 in the city. Other important communities historically in Richland County include Shelby, Plymouth, and Shiloh (Andreas 1873; Baughman 1908; Graham 1880).

Up until the mid-twentieth century, Richland County remained largely rural in nature outside of the busy city of Mansfield. Typical for a nineteenth century rural county, the population of Richland County grew slowly; beginning in the twentieth century, the population began to grow rapidly, coinciding with the industrial development of Mansfield. The county added about 10,000 people per decade until 1970, reaching a peak of over 131,000 people. The population began a slow decline afterwards, reaching a population of about 121,000 people today (Ohio Developmental Services Agency 2018). Major employment sectors include agriculture, manufacturing, local government/education, and health services. The

housing stock in the county broadly reflects the population trends, with about 46 percent built between 1950 and 1970, and another 29 percent predating 1950. Land use within the county reflects its recent history and the geography of the county. Fully a third of the land area in the county is forested, primarily in the southern half of the county corresponding to the section within the Glaciated Allegheny Plateaus physiographic province. Over 37 percent of the land is under cultivation, with just under 13 percent used for pasture. A little over 14 percent of land area is classified as developed, largely associated with the Mansfield metropolitan area, along with Shelby, Bellville, and Butler.

5.2.2 MADISON TOWNSHIP HISTORY

Madison Township was formed in 1807 and took its name from President James Madison. At its formation, the township was a part of Knox County. The landscape is slightly rolling and was originally covered in hardwood forests. As the majority of Madison Township has been consumed by the incorporated area of the City of Mansfield, their histories are intertwined and are most simply understood as one (Graham 1880).

James Smith was likely the first white person to set foot in the area after he was captured by natives in Pennsylvania in 1755 and was taken westward. The earliest white settlers to the area were mostly Germans and Scotch-Irish from Pennsylvania. General James Hedges surveyed the area in 1806 and built the first cabin on Rocky Fork. This was likely the first cabin in the county as well. The town of Mansfield was laid out early on and was platted on the Rocky Fork River, a bit southeast of its current location. The city was moved to its current location in 1808 by Joseph Larwill, James Hedges, and Jacob Newman. The reasoning behind the move is not entirely clear, but it is likely that the settlers foresaw the formation of a new county. The town's new location was more central and made it a good candidate for the county seat. Larwill and his compatriots named it Mansfield for the U.S. Surveyor General at the time, Colonel Jared Mansfield (Baughman 1908; Graham 1880).

The earliest settlers made long trips to Fredericktown or Mount Vernon in order to mill their wheat and corn and obtain lumber, until the Newmans built a sawmill in 1809 and a grist mill in 1810. These mills were both later bought by Michael Bean and became known as Bean's Mills. The town's first road went to Wooster, while the second was built to Mount Vernon. By 1817, the town consisted of 20 houses and one store. The town was incorporated as a village in 1828 and a fire department was started in 1829 with a single hand crank powered fire engine (Baughman 1908; Graham 1880; OHC 2017).

After 1846, the town experienced the boom in population and industry that accompanied the arrival of the Sandusky, Mansfield, and Newark Railroad. Mansfield would become a major railroad crossroad town with the completion of the Pittsburgh, Fort Wayne, and Chicago Railway in 1849 and the Atlantic and Great Western Railway in 1863. Mansfield was incorporated as a city in 1857 and by 1888, it was a major hub of industry and trade in north central Ohio (Graham 1880; OHC 2017), a characteristic it would maintain for nearly a

century. In the 1970s and 80s, Mansfield experienced economic hardship like many industrial towns with the loss of blue-collar manufacturing jobs. Since then, the city government has been working to revitalize the city with an effort largely surrounding the original platted extent of the town, now known as Public Square.

Meanwhile, Madison Township outside of the city limits of Mansfield remained largely rural in character. Development from Mansfield encroached into the rest of the township towards the end of the nineteenth century, and portions of the northern township remain rural in character, despite such developments as the municipal airport and construction of US 30 in the mid-twentieth century. Today, almost the entirety of Madison Township and some of the surrounding townships have been incorporated into the city of Mansfield. A large percentage of the former township is urbanized or suburban (OHC 2017).

5.2.3 HISTORY OF THE PROJECT AREA

The project area is located within a modern industrial park south of the Mansfield airport. Up until the late twentieth century, this area was rural and agrarian in nature, consisting of farm fields with widely spaced houses and farmsteads. The house is located on what was once the main north road out of Mansfield. Michael Keith is shown as the property owner on the 1856 atlas (Figure 7), and he is noted in Graham (1880) as an early settler operating a tavern stand about a mile and a half north of Mansfield, matching the distance between the city and the current house location. Baughman has slightly more information, stating that Michael Keith came to Richland County from Pennsylvania in 1814 and established “Keith’s Tavern” with the further note that part of the original building was still standing, incorporated into the Gribling house (1908:874). Baughman adds that Keith was one of the first infirmity doctors for the county, receiving 12 dollars a year for his services. Notably, Baughman’s account describes George Gribling’s acquisition of his property as including the “old Keith Tavern, a familiar landmark, as it is located on the old stage road. This home, however, has been remodeled and added to, and Mr. Gribling now has a most comfortable and commodious country residence” (Baughman 1908:978).

Members of the Gribling family are only mentioned in passing twice in the *History of Richland County* (Graham 1880). However, George Gribling, has an extensive entry in Baughman’s history of the county (1908). He was noted as owning the “old Gribling homestead” consisting of 160 acres in Madison Township (matching plat maps of this property), and was born in Washington Township in Richland County in 1848. His parents were German immigrants. Gribling was involved in local politics and served at various times as county commissioner, county supervisor, township trustee, and school board member. Gribling was killed in 1914 when he was struck by a passenger train in Mansfield (*Mansfield News-Journal* 1914). Gribling’s wife, Neosho (Neotia) Gribling, is recorded as transferring three-quarters of his property to the State of Ohio as part of expanding the lands associated with the Ohio State Reformatory in 1919, retaining one-quarter of the property containing the homestead (State of Ohio 1921:951).

The last two decades of the twentieth century saw the expansion of commercial development around the airport and the construction of the Mansfield Correctional Institution to the south, with the resulting removal of most of the historical houses that were once present along this stretch of SR 13 (itself rerouted away from the airport). Very few of these houses are left, including the one immediately adjacent to the project.

5.3 RESEARCH QUESTIONS 1 AND 2 DISCUSSION

The first two research questions address the relationship of previous surveys and previously recorded sites/resources to the proposed project and the likelihood of encountering previously recorded cultural resources within the proposed project. These questions can be answered using the information collected from the literature review and application of the environmental and cultural contexts to the specific ecological history of the project location.

- 1. Has the project been subjected to previous cultural resources investigations, and are there any previously recorded resources located within or immediately adjacent to the project?*

The literature review revealed that this location has not been previously surveyed for cultural resources, and there are no previously recorded cultural resources within or near the APE.

- 2. What is the likelihood of identifying previously unrecorded cultural resources within the project?*

The likelihood to encounter previously unidentified cultural resources seems remote. With the exception of the front yard of the house, the APE for direct effects is located just within an existing road right-of-way (ROW), with previous disturbance through road ditching and prior utility installations. While the front yard portion may be less likely to be disturbed, front yard spaces of historical houses are locations with low potential for significant archaeological deposits, due to high maintenance of appearance of public fronts to residences in the nineteenth and twentieth centuries, and the customary location of privies, cisterns, and refuse pits to the rear of a house. In addition, the location is far from convenient sources of water, so a significant prehistoric occupation is also considered unlikely to be present. While the house is of historic age, this project is not considered to have any indirect effects associated with it, due to the complete lack of any permanent above-ground infrastructure that would construe a change in visual setting. Therefore, no new historical resources would be recorded as part of this project.

6.0 METHODS

6.1 ARCHAEOLOGICAL FIELD METHODS

The field crew used two methods of investigation during the archaeological survey: visual inspection and subsurface excavation.

6.1.1 VISUAL INSPECTION

The crew visually inspected the entire surveyed area to identify readily apparent cultural resources, such as mounds, earthworks, buildings, or structural remnants of such. The crew also documented areas of disturbance, steep slope, and any inundated areas (i.e. wetlands, streams, ponds, etc.), which would preclude physical testing.

6.1.2 SUBSURFACE EXCAVATION

Shovel probe excavation took place in areas with suspect disturbance activity. The shovel probes measured 30 cm on a side and were excavated to a depth that allowed for an accurate depiction of the disturbed nature of the area (usually 15-20 cmbs). The crew excavated probes at 15 m and 30 m intervals depending on the severity and readily identifiable nature of the disturbance. The crew visually inspected and troweled through soil in shovel probes, but did not systematically screen for artifacts. If a crew member found the soils in a shovel probe to be relatively intact, the crew member excavated a full shovel test unit instead.

Systematic STU excavation took place in areas with less than 15 degrees of slope and poor ground surface visibility (less than 50 percent) that had not previously been subjected to standardized archaeological survey. The crew excavated STUs at 15 m (50 ft) intervals, and each unit measured 50 cm² (19.7 in²). Crew members troweled the walls and floor of each unit clean to determine the depth of the plow zone and if *in situ* cultural remains were present. The crew screened all soil from each STU through 0.64 cm (0.25 in) hardware cloth to aid in the recovery of any cultural material present. The field director maintained notes on the soil color, texture, depth, and the presence or absence of artifacts for each STU.

The field director recorded additional information such as field conditions, methods of investigation, and site locations. The crew documented all identified cultural resource locations using a Trimble R1 GNSS receiver (sub-meter accuracy) with a GPS enabled iPad operating Esri ArcGIS for data collection. The crew took photographs of the project as deemed appropriate. The field director kept a photolog record of the photographs, keyed to project mapping.

6.2 ARTIFACT ANALYSIS METHODS

The artifact analysis for any particular project is tailored to the specific classes of material recovered during the survey. As this survey did not result in the recovery of artifacts, this typical section of a Phase I cultural resources survey report is omitted here.

7.0 RESULTS OF THE ARCHAEOLOGICAL SURVEY

The crew conducted fieldwork on January 24, 2019. The weather during the survey was cold (mid-20s Fahrenheit) and overcast, with a light snow cover (Photos 1-4). The weather did not hinder the completion of the fieldwork. The crew used subsurface testing and visual inspection to survey the project. The project was located within an existing ROW and partially in a residential lawn,

and subjected to subsurface excavation. A total of 11 disturbed shovel probes and one shovel test unit were excavated (Figure 13). A typical probe is shown in Photo 5 and the shovel test unit profile is depicted in Figure 14. Underground utilities, existing ROW, and landscaping/ditching along the roadway disturbed nearly the entirety of the project corridor. The shovel probes consisted of fill soils/gravels and were severely mottled. No archaeological material was identified as a result of the survey.

7.1 RESULTS OF THE HISTORY/ARCHITECTURE SURVEY

Brett Carmichael, Architectural Historian, for L&A evaluated potential impacts to the history/architecture resources within the APE of indirect effects in January 2019. The purpose of the history/architecture survey was to determine if the proposed project will impose visual impacts upon any history/architecture resources within the APE that are listed on, or eligible for, the NRHP. Mr. Carmichael assessed the proposed pipeline installation methods and determined that as the finished project will not possess above-ground infrastructure and the current visual setting will not be changed from its current appearance as a result, there is no potential for either direct or indirect effects to historical resources in relation to the project. The nineteenth century house located adjacent to the project area was recorded as a new OHI resource, RIC0093711. The project will not result in any alterations to the house, either directly or indirectly. The pipeline installation in the front yard space will result in a reseeding of grass over the filled trench once the project is complete, returning the lawn to its original appearance.

7.1.1 1591 HARRINGTON MEMORIAL ROAD (RIC0093711)

As noted in section 5.2.3 above, portions of this house may date back to the early nineteenth century as a tavern, then remodeled into a house by George Gribbling sometime around 1860. The house does not display any particular style, although it seems possible that various remodeling episodes may have removed decorative elements which would have indicated an association with a historic architectural style. The two-story wood-frame house features an L-plan with a hipped roof and a central cross-gable covering a polygonal forward projection. The foundation is cut sandstone block, with concrete block foundations for the later porch additions. The house is covered with replacement vinyl siding (including window casings and trim), replacement vinyl 1/1 sash windows, and an asphalt-shingle roof (Photo 6–Photo 9). The front porch is set into the southeast corner of the junction between the main building and the projecting gable, and has a hipped roof. This porch is enclosed with brick walls and wide sliding metal windows. The rear porch is set into the southwest corner of the main building created by the rear ell, and is also enclosed, but features a shed roof and frame construction. It, too, sits on a concrete block foundation. There is no information about the porch additions on the Richland County Auditor's website but they are likely twentieth-century in origin from the use of concrete block. A basement entry is present on the west (rear) elevation, and is enclosed in a small gable-roofed projection. The windows are symmetrically placed on the façade (east) of the house. Most of the windows have a decorative PVC cornice, likely added when the vinyl siding was installed. A single exterior brick chimney is present on the

front (east) façade of the house, situated in the corner of the main building and polygonal front gable, at the eave. It is likely a later addition to the house. The presence of cut sandstone blocks as the foundation material suggests that the building originated in the nineteenth century (Photo 10). By the late nineteenth and early twentieth century, new houses largely began using concrete as a foundation material, either as individual blocks or poured in forms. There are two outbuildings associated with the building, a pole shed built in 1987 and a ca. 1920s garage (Photo 11). The garage is built of concrete block and may be contemporary with the porches.

1591 Harrington Memorial Road retains integrity in location. However, the resource has lost integrity in setting due to the development of an industrial park around the building, which has significantly altered the original setting of this resource as an isolated nineteenth century farmhouse. In addition, the house has lost integrity in design, materials, workmanship, and feeling, due to the replacement of nearly all original exterior materials and the presence of additions. The only characteristics of the house that hearken to its nineteenth century origins are its massing. Although portions of the house may date to the early nineteenth century, subsequent remodeling over the years has removed any exterior indication of an earlier building. Therefore its significance and integrity under Criterion C is low. Its connection with the Gribling and Keith families does not seem to indicate a significant association under Criterion B and no broader themes appear to attach it to a significant association under Criterion A. It is L&A's opinion that there will be no impact by the proposed project on this resource. 1591 Harrington Memorial Road is not recommended as eligible, either individually or as part of a district, to the NRHP.

7.2 RESEARCH QUESTIONS 3 AND 4 DISCUSSION

After completing analysis of the results of fieldwork, the second two research questions regarding whether the proposed project will affect any cultural resources and if so, are those affected resources listed, eligible, or potentially eligible for the NRHP can be addressed.

3. *Will the proposed project affect any cultural resources (archaeological or above ground structures)?*

The proposed project will not affect cultural resources. No archaeological resources were identified through visual inspection or subsurface excavations, and the nature of the project is such that it would not construe any effect on the newly-identified OHI RIC0093711.

4. *If cultural resources will be affected, are any of those affected resources listed, eligible, or potentially eligible for inclusion on the National Register of Historic Places?*

No cultural resources will be affected due to this project.

8.0 SUMMARY AND CONCLUSIONS

In January of 2019, L&A conducted a Phase I cultural resources survey of the proposed Mansfield North pipeline project in Madison Township, Richland

County, Ohio. L&A conducted the survey at the request of Poggemeyer Design Group. The area subjected to archaeological investigations and history/architecture assessment consisted of an approximately 600 foot long pipeline route adjacent Harrington Memorial Road within an existing industrial park setting to the north of Mansfield. A series of shovel probes and a shovel test unit were excavated, with no archaeological material identified as a result. L&A's architectural historian assessed the project for potential effects to above-ground resources, and recorded the house at 1591 Harrington Memorial Road as OHI resource RIC0093711. L&A determined that there would be no direct or indirect impact on this resource resulting from the project. The proposed undertaking should result in a finding of No Historic Properties Effectuated, as our assessment is that none are present within the APE (direct or indirect). No further cultural resources work is recommended for this project.

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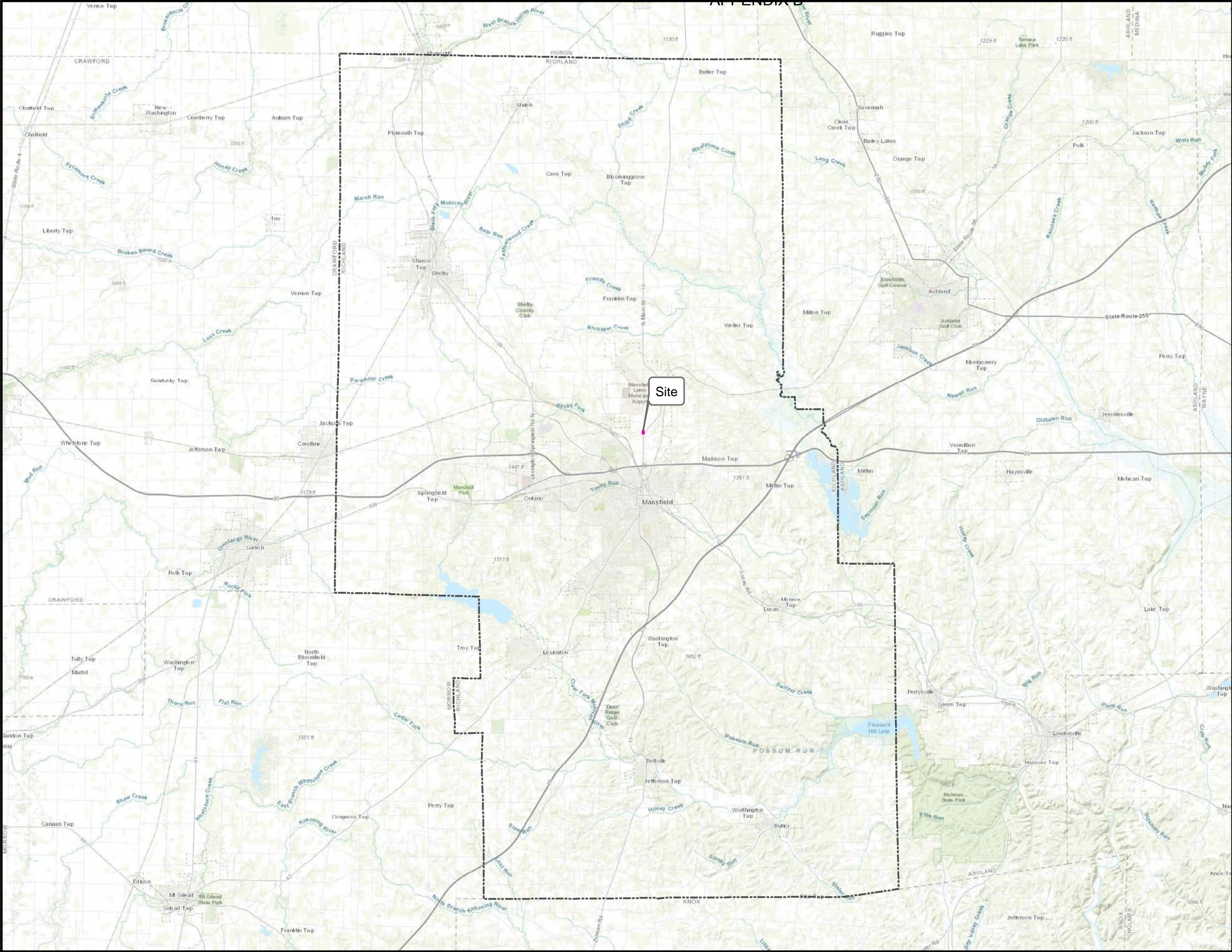
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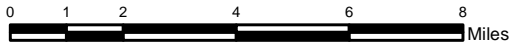
10.0 FIGURES



Overview of Ohio

Legend

- Richland County
- Study Area

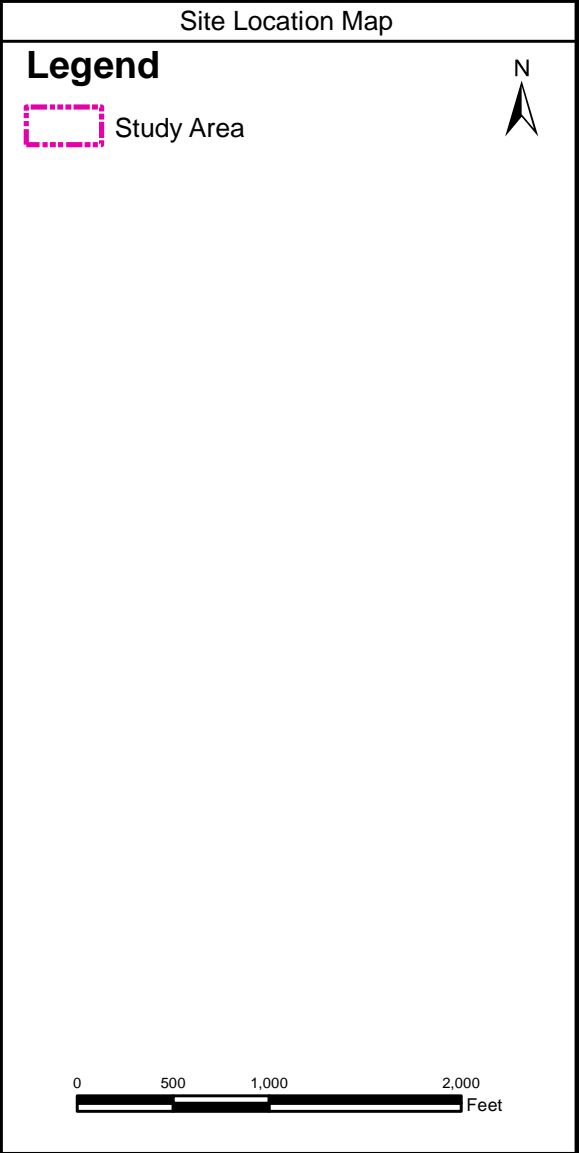
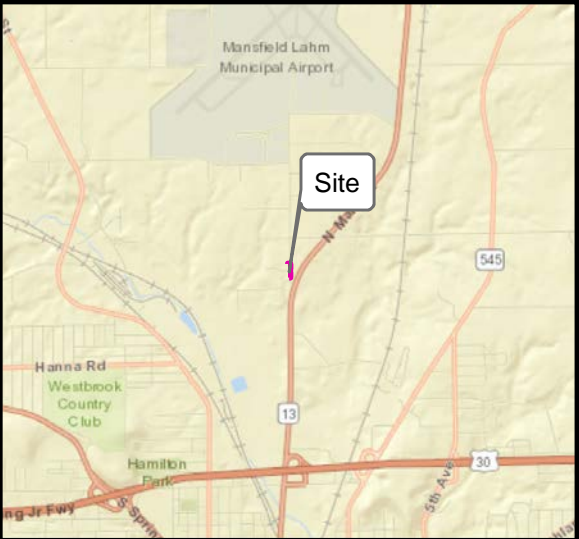
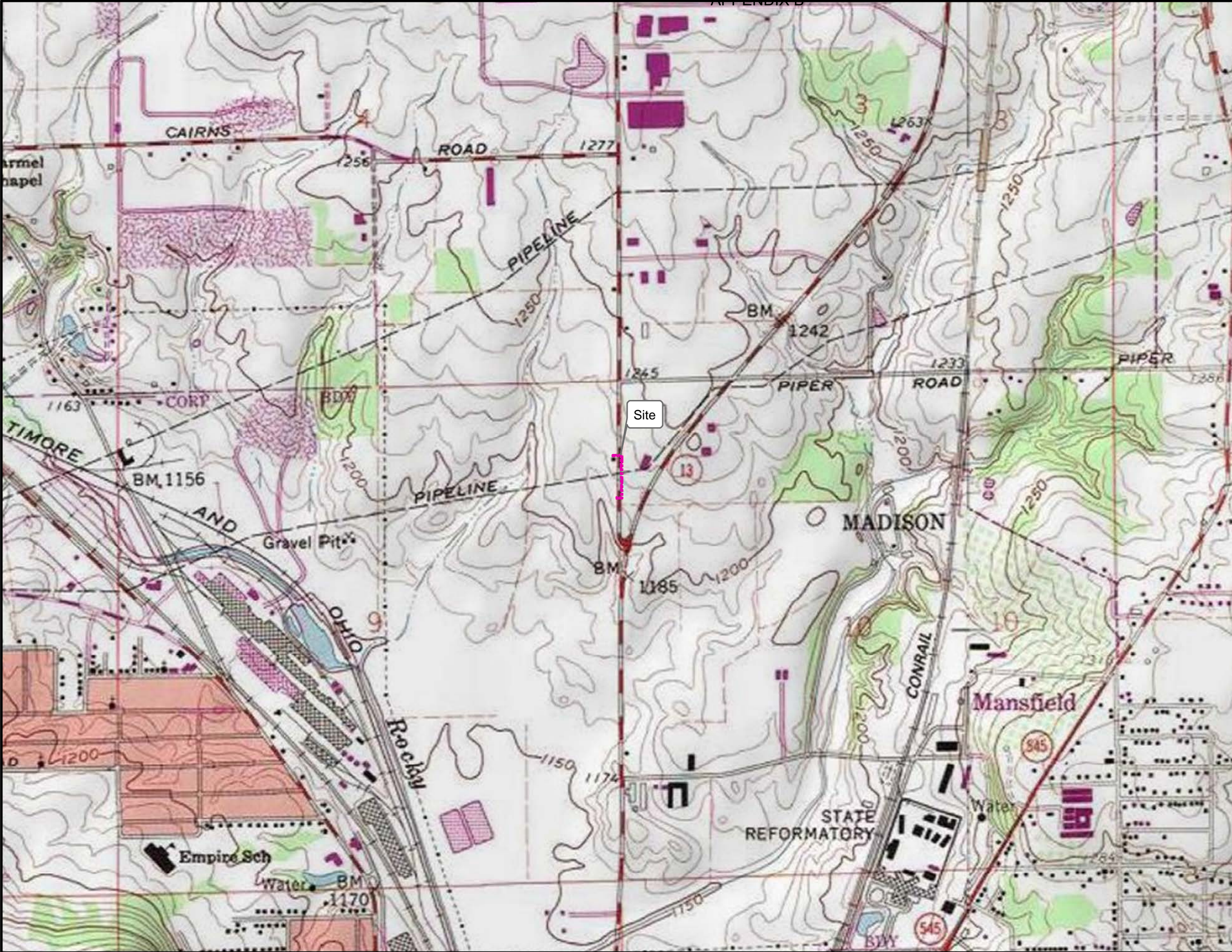


Mansfield North Pipeline

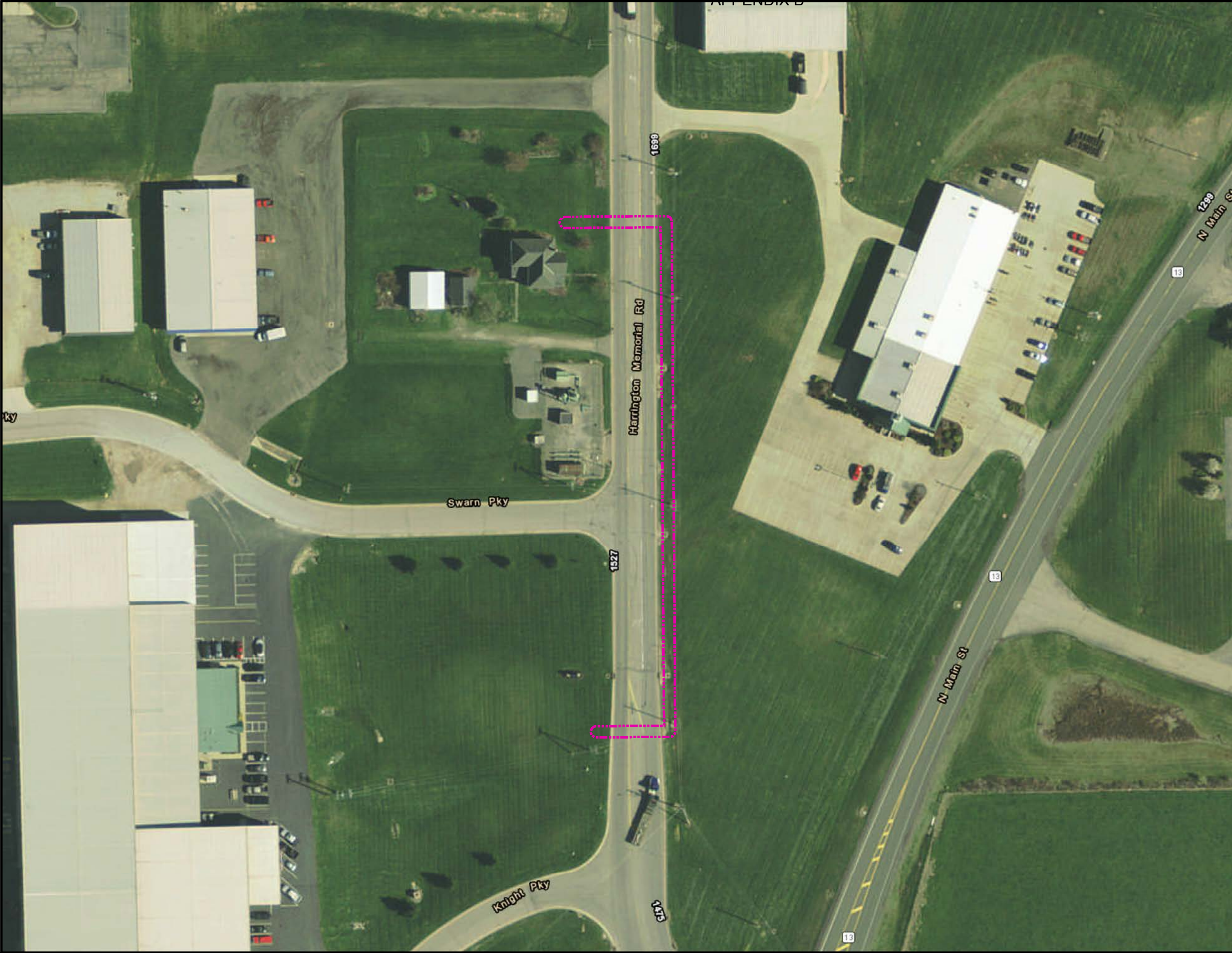
Richland County Map
with an Overview of Ohio



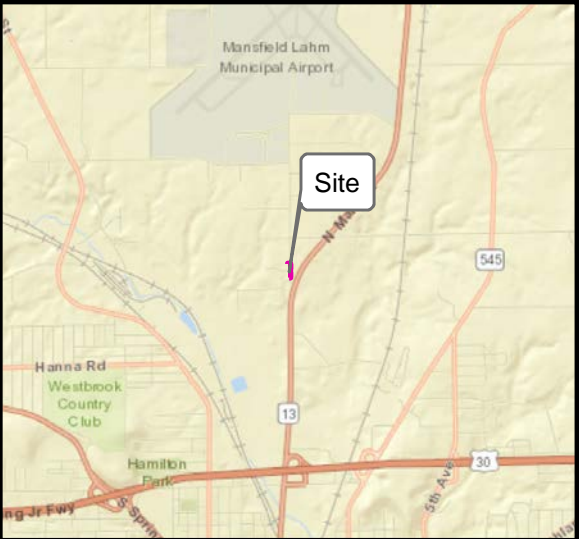
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 1
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Mansfield North Pipeline			
USGS Topographic Map Mansfield North Quad		Lawton & Associates, Inc.	
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 2




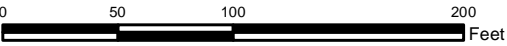
Source: OSIP



Site Location Map

Legend

 Study Area



Mansfield North Pipeline

Modern Aerial Imagery Map

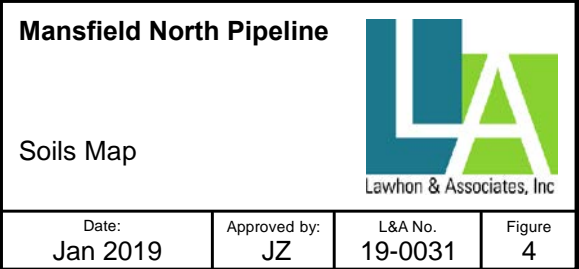
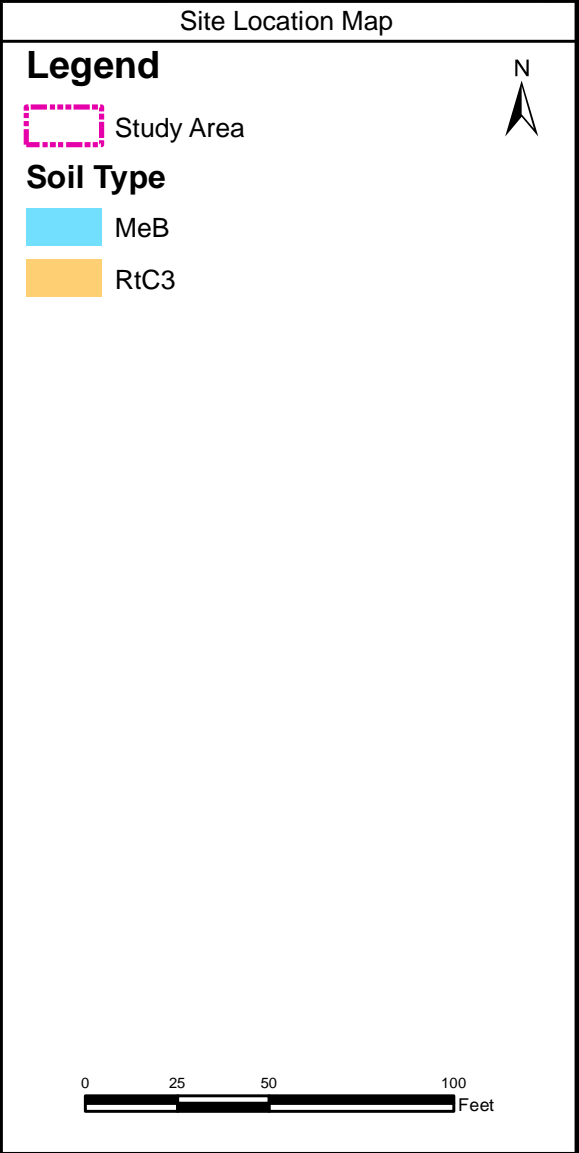
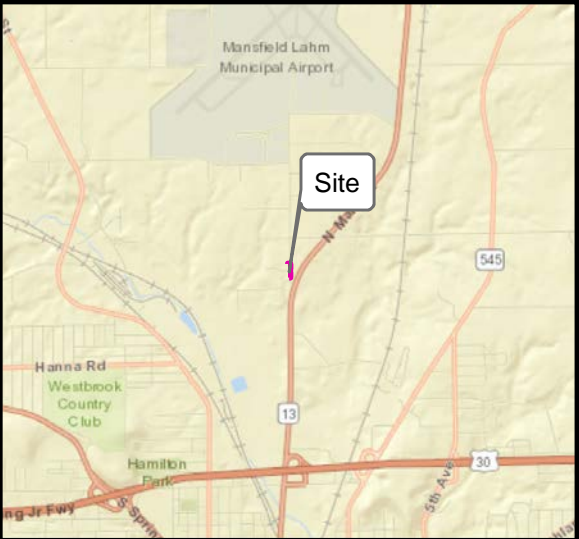
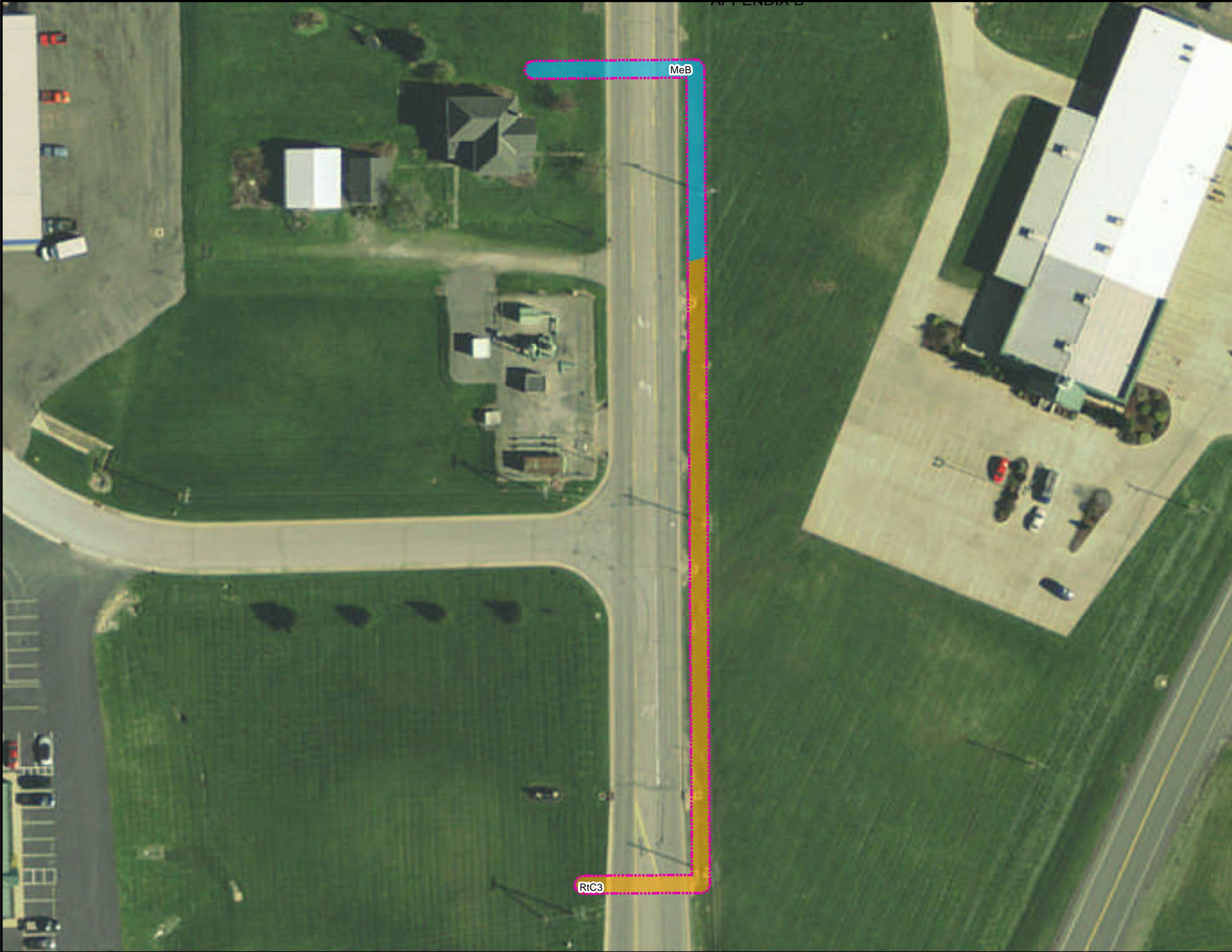


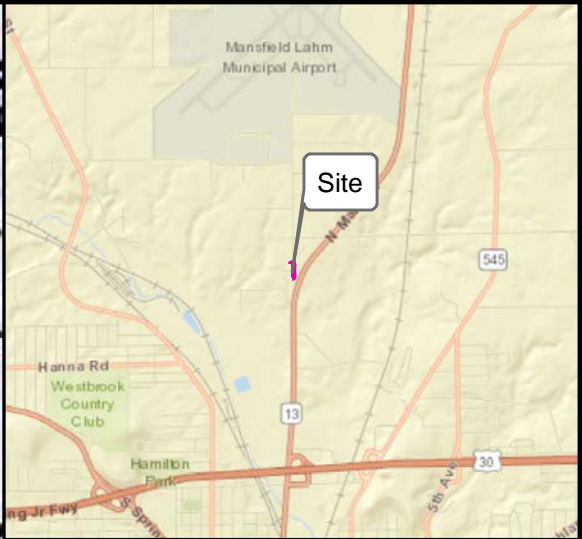
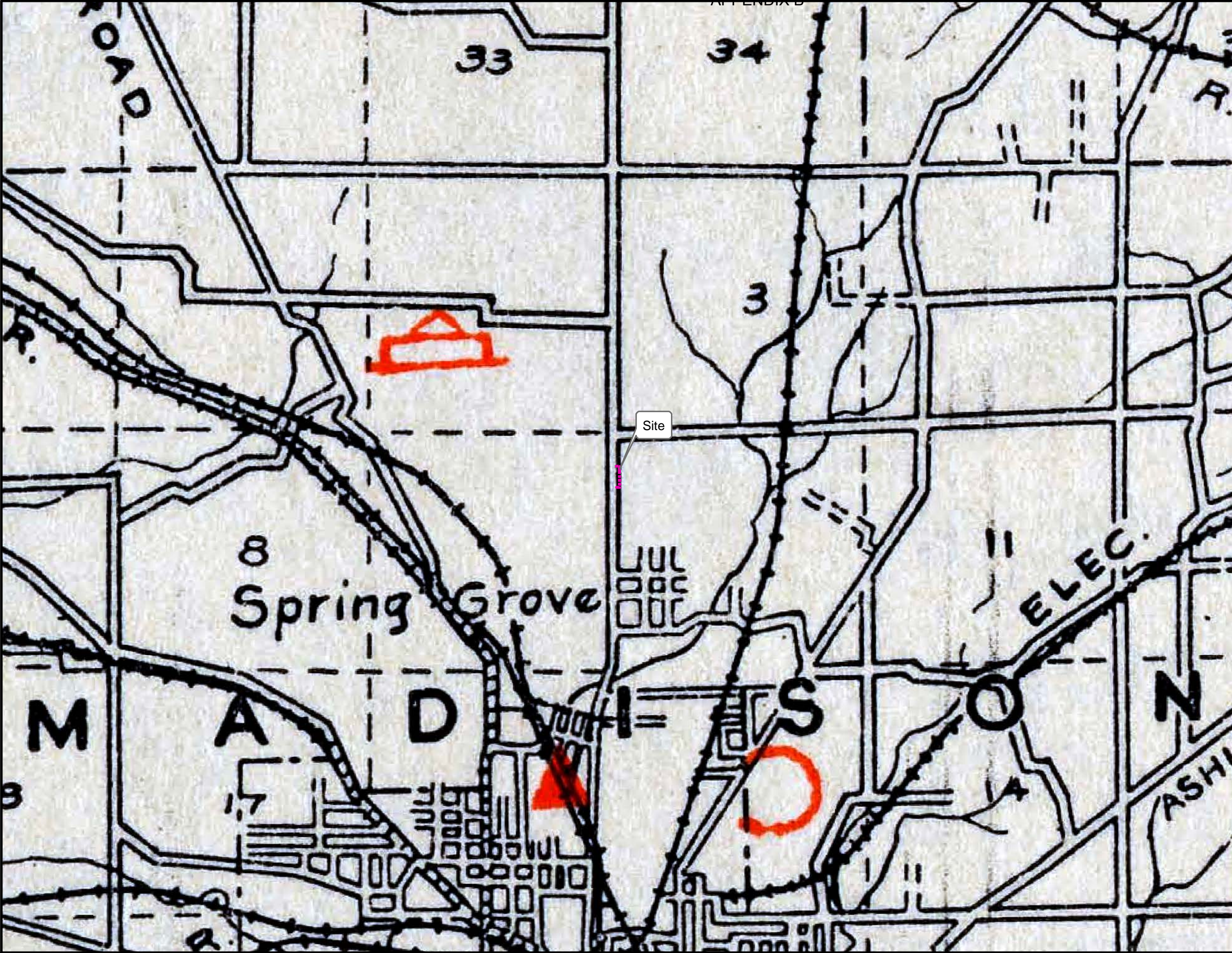
Lawhon & Associates, Inc.

Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 3
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Edited: 1/30/2019 By: dwilliams

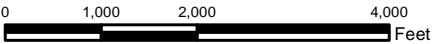




Site Location Map

Legend

 Study Area

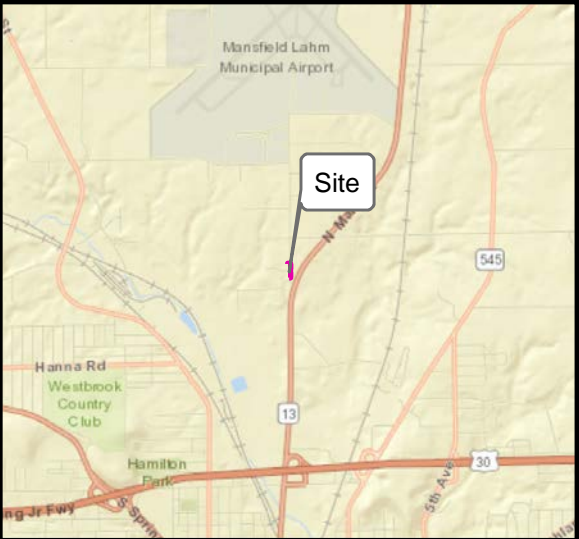


Mansfield North Pipeline

Detail of Richland County
Map from Mills 1914



Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 5
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Site Location Map

Legend

- Study Area
- Archaeological Sites
- Historic Structures
- NR Listings
- OGS Cemeteries
- Phase 1
- NR Boundaries

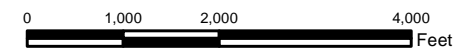
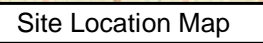


Mansfield North Pipeline

Previously Identified Cultural
Resources and Surveys


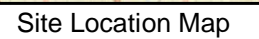
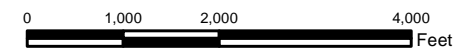


Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 6
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Lawson & Associates, Inc.

Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 7
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 Study Area

Mansfield North Pipeline



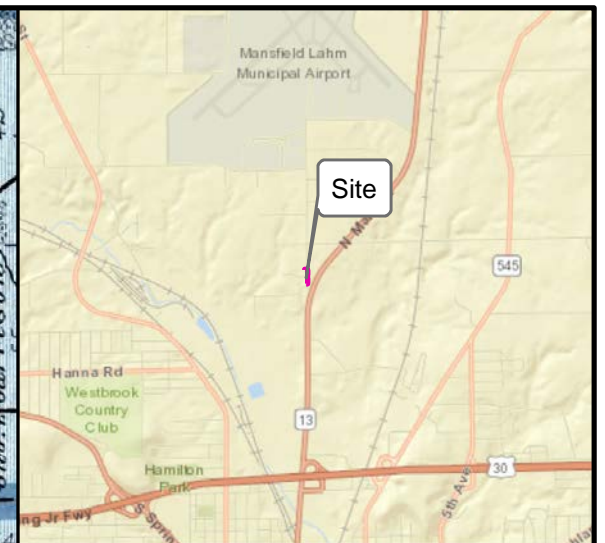
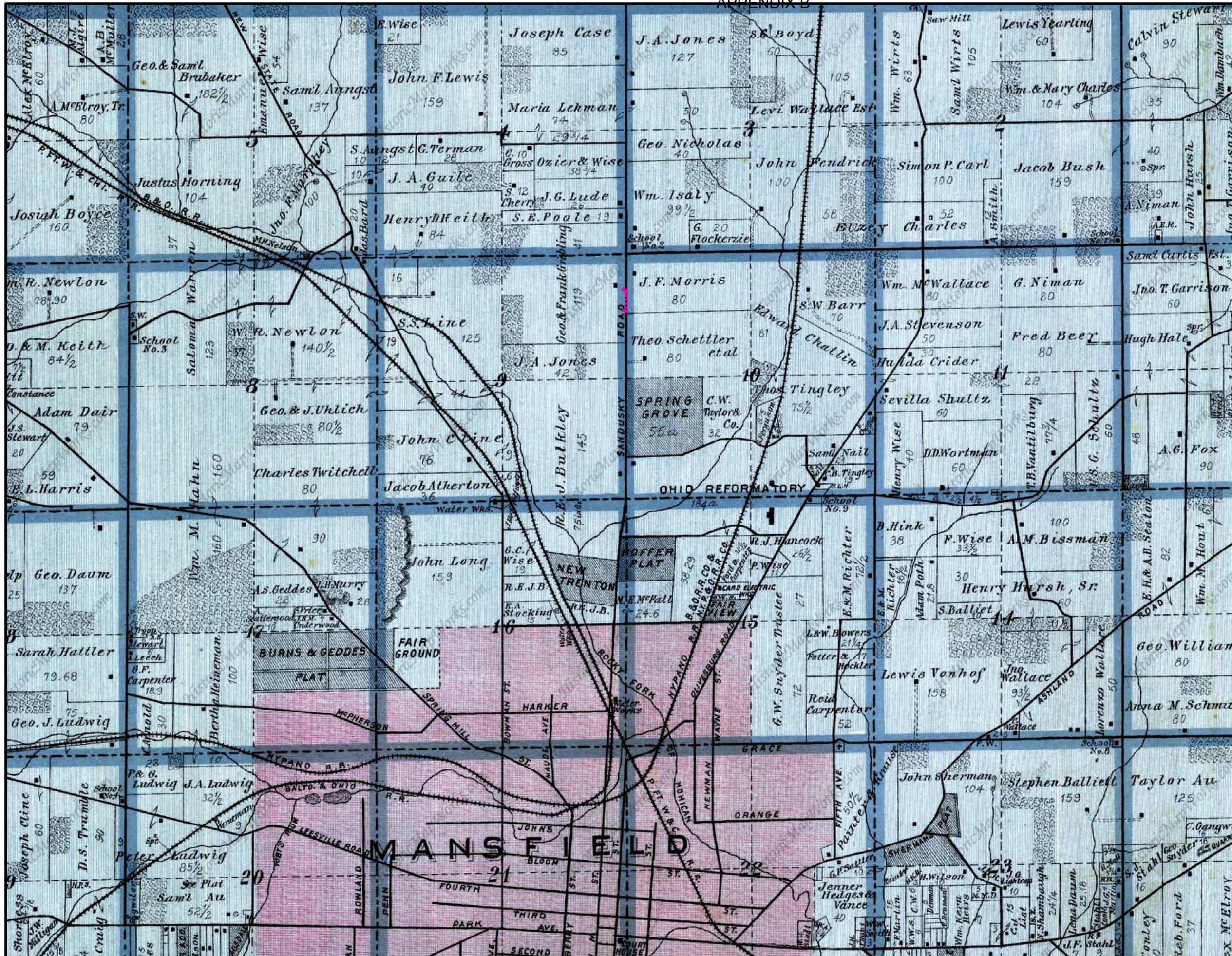
1873 Atlas Map of
Richland County, Ohio

Date:
Jan 20

Approved by:
JZ

L&A No.
19-0031

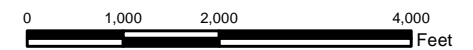
Figure 8



Site Location Map

Legend

Study Area



Mansfield North Pipeline

1896 Atlas of Richland, Ohio



Lawhon & Associates, Inc.

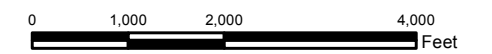
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 9
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Site Location Map

Legend

 Study Area

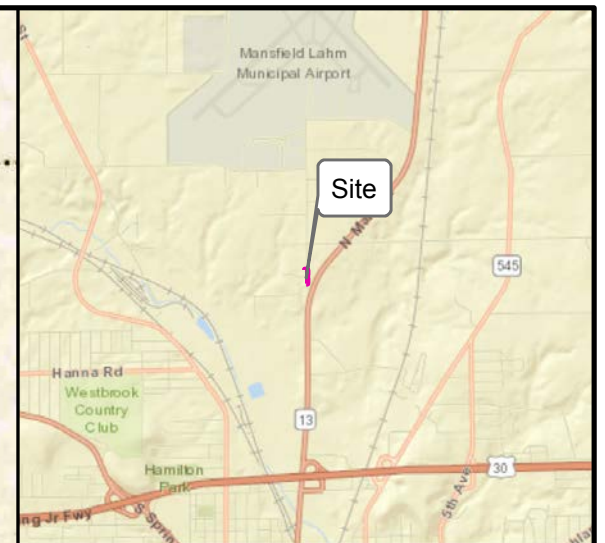
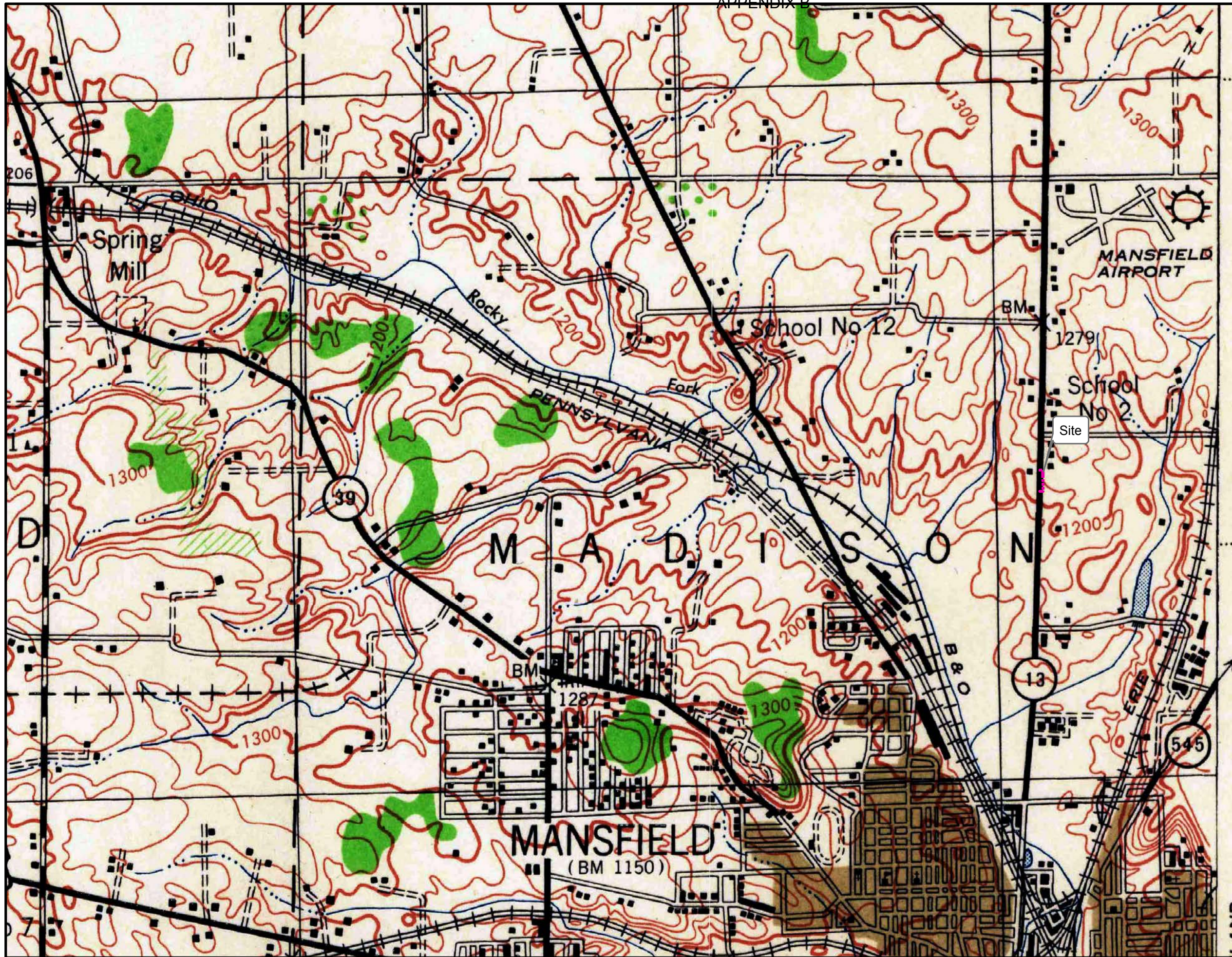


Mansfield North Pipeline

1915 USGS Crestline, Ohio
15' Series Topographic Map



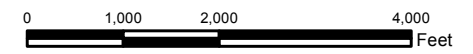
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 10
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Site Location Map

Legend

 Study Area

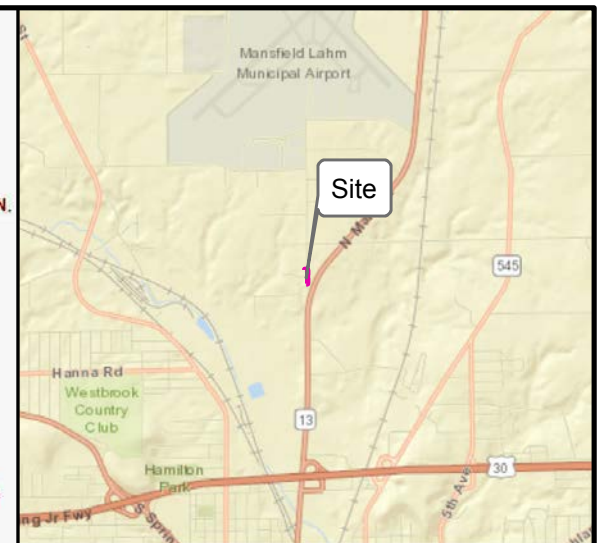
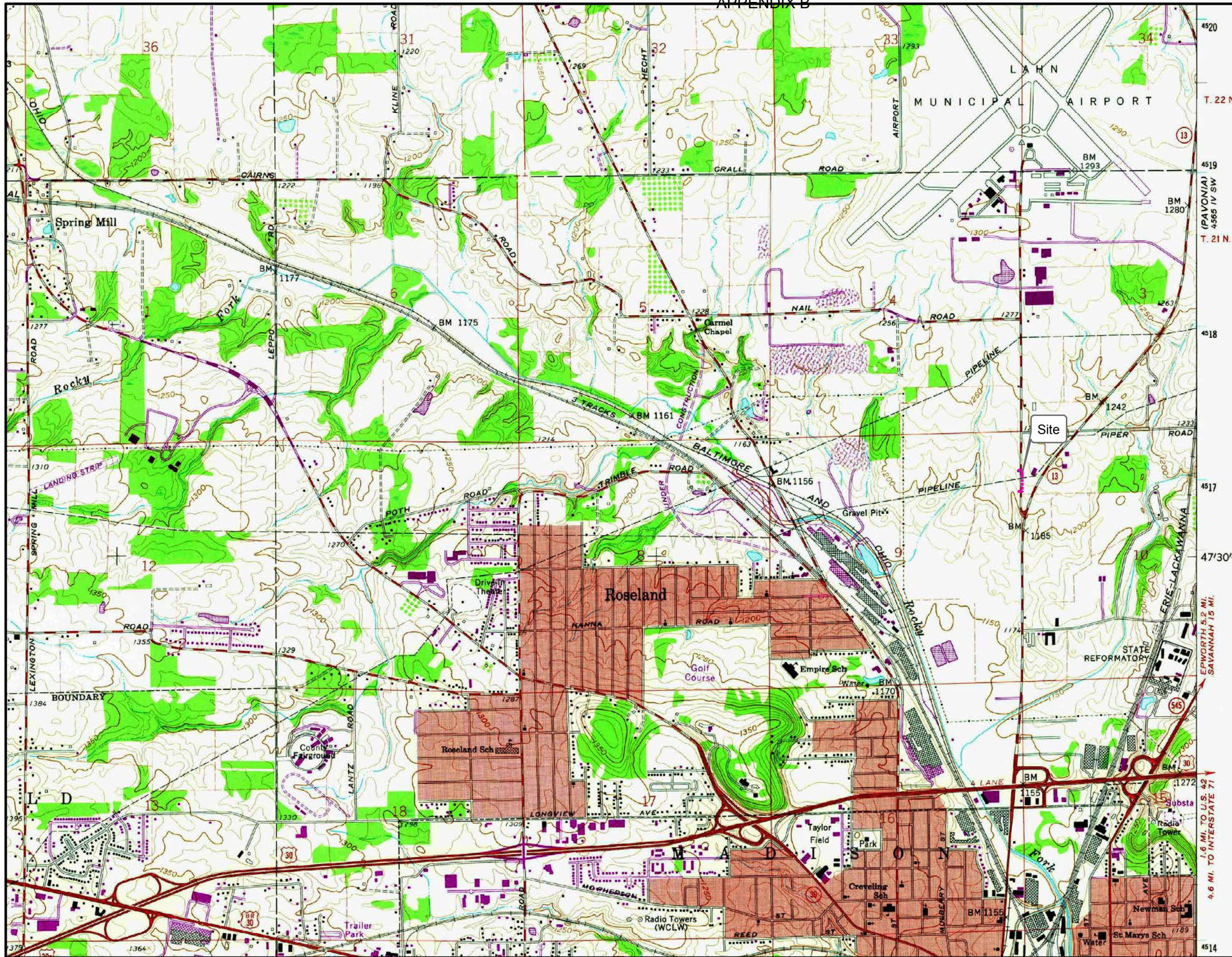


Mansfield North Pipeline

1943 Crestline, Ohio 7.5'
Series Topographic Map



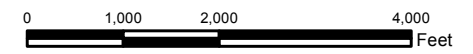
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 11
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Site Location Map

Legend

Study Area

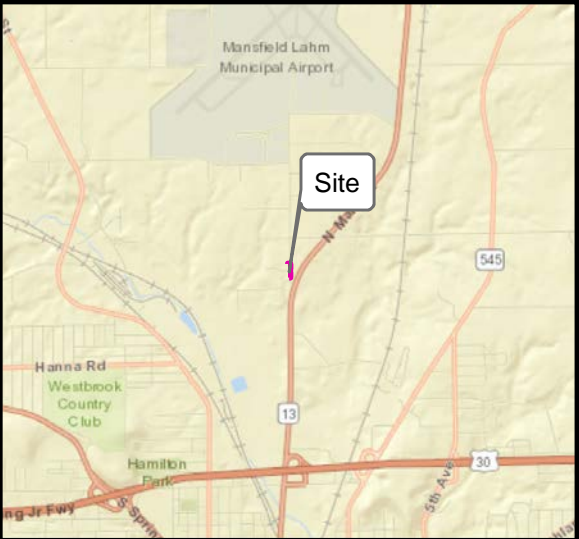
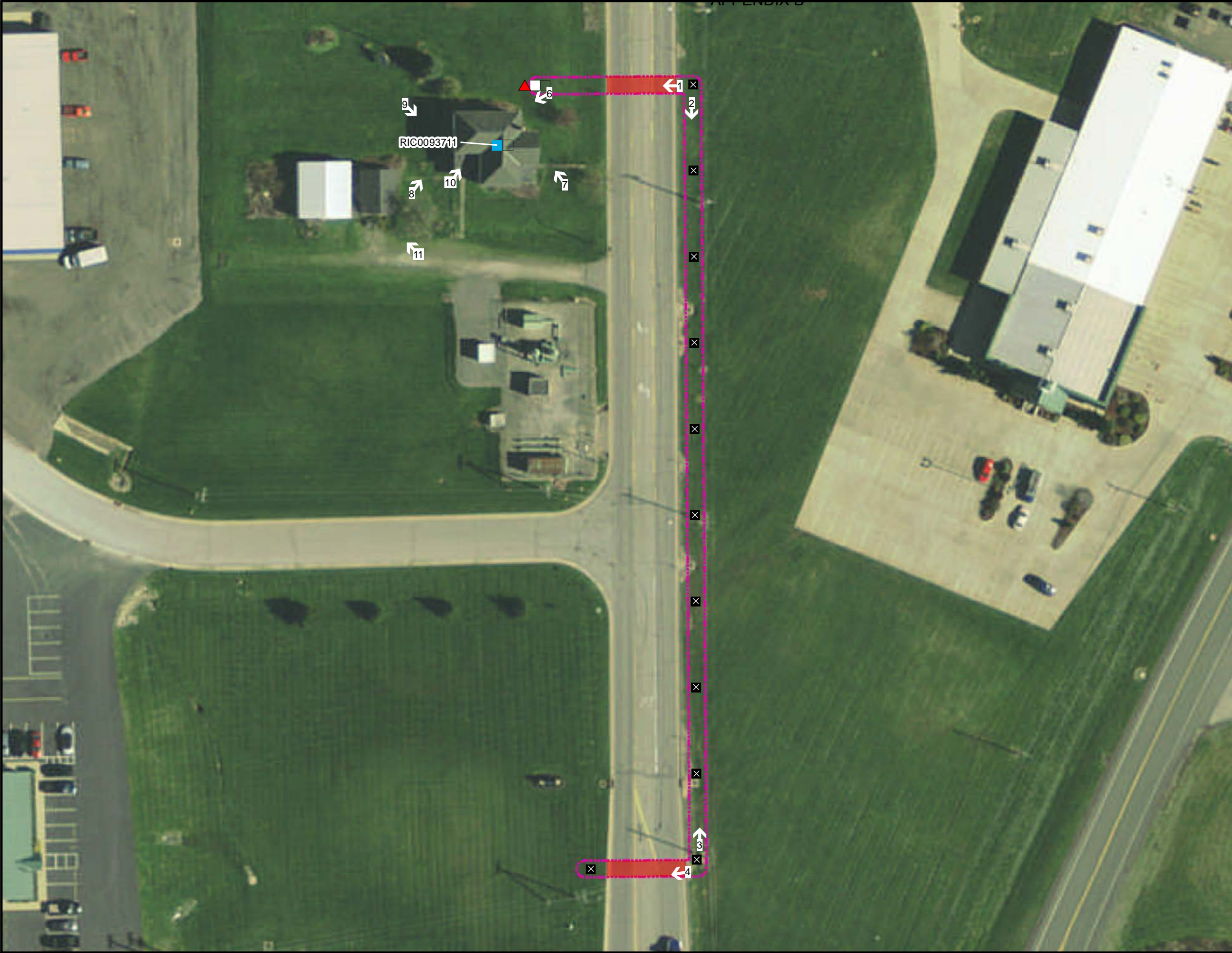


Mansfield North Pipeline

1962 Mansfield North 7.5' Series Topographic Map



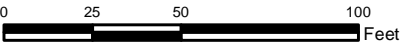
Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 12
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Site Location Map

Legend

- Study Area
- Datum
- Negative Shovel Test Unit
- Disturbed Shovel Probe
- Visually Disturbed Area
- Photo Location
- OHI Resource



Mansfield North Pipeline

Fieldwork Schematic



Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 13
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Series: Mentor silt loam, 2-6% slopes (MeB)
Stratum I (Ap): 0–28 cm, 10YR 4/2 silt loam
Stratum II (BE): 28–32 cm, 10YR 4/6 silt loam
Provenience: 0N, 0E
Excavator: SP



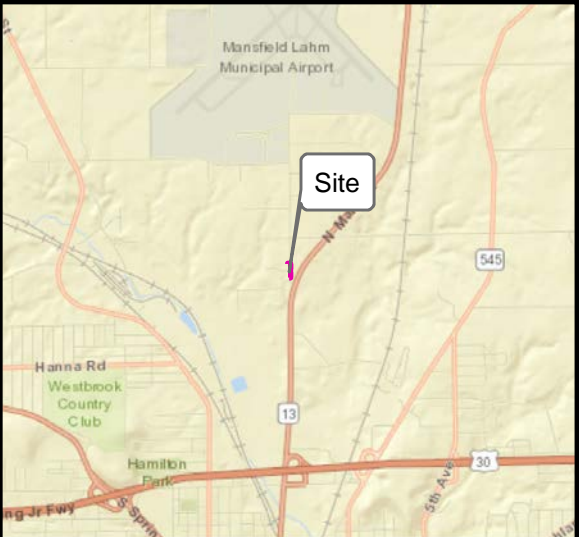
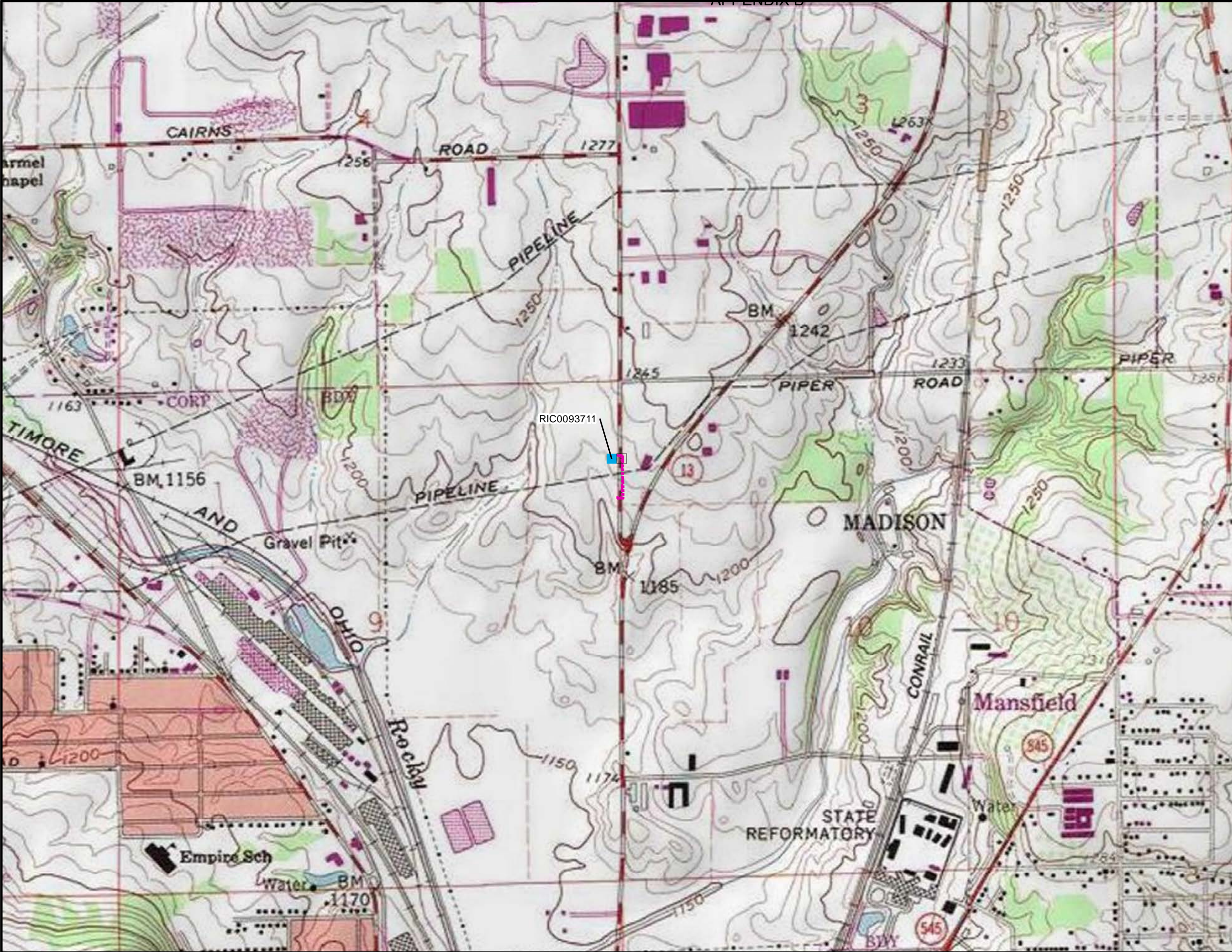
Site Location Map

Mansfield North Pipeline

Typical Test Unit
Profile and Photograph

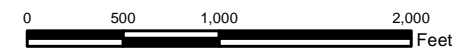


Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 14
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Legend

- Study Area
- OHI Resource



Mansfield North Pipeline

Modern Topographic Map
Showing the Location of Newly
Recorded OHI RIC0093711



Date: Jan 2019	Approved by: JZ	L&A No. 19-0031	Figure 15
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11.0 PHOTOS



Photo 1. Northern part of the pipeline corridor showing manicured lawn and house lot conditions, facing west.



Photo 2: View south along the pipeline corridor parallel to Harrington Memorial Road



Photo 3. View north along the pipeline corridor east of Harrington Memorial Road



Photo 4. Southern part of the pipeline corridor, facing west



Photo 5. View of a typically disturbed shovel probe excavated within the study area.



Photo 6. RIC0093711, facing southwest



Photo 7. RIC0093711, facing northwest



Photo 8. RIC0093711, facing northeast



Photo 9. RIC0093711, facing east-southeast



Photo 10. Detail of RIC0093711 foundation, facing northeast
Main foundation on right is coursed rubble sandstone, and porch foundation on left is concrete block



Photo 11. RIC0093711outbuildings, facing northwest

APPENDIX A. ARCHAEOLOGICAL SITES WITHIN 2KM OF THE PROJECT

APPENDIX B

19-0031 Mansfield North Pipeline

Richland County, Ohio

Site #	Site Type	Temporal Affiliation	Site Size (m ²)
33RI0064	Unknown	Late Archaic	100
33RI0065	Unknown	Unassigned Prehistoric	75
33RI0067	Unknown	Unassigned Prehistoric	12,000
33RI0068	Unknown	Unassigned Prehistoric	100
33RI0678	Residence	20th Century	400
33RI0679	Residence	20th Century	400
33RI0680	Residence	20th Century	400
33RI0681	Residence	20th Century	400
33RI0682	Residence	20th Century	400
33RI0683	Residence	20th Century	400
33RI0684	Residence	20th Century	400
33RI0685	Residence	20th Century	400
33RI0686	Residence	20th Century	400
33RI0687	Residence	20th Century	400
33RI0688	Residence	20th Century	400
33RI0689	Residence	20th Century	400
33RI0690	Residence	20th Century	400
33RI0691	Residence	20th Century	400
33RI0692	Residence	20th Century	400
33RI0693	Residence	20th Century	400
33RI0694	Residence	20th Century	400
33RI0695	Residence	20th Century	400
33RI0696	Residence	20th Century	400
33RI0697	Residence	20th Century	400
33RI0698	Residence	20th Century	400
33RI0699	Residence	20th Century	400

APPENDIX C



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# 03E15000-2019-TA-0550

Dear Ms. Fritchley

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.

Should the proposed site contain trees ≥ 3 inches dbh, we recommend that trees be saved wherever possible. If any caves or abandoned mines may be disturbed, further coordination with this office is requested to determine if fall or spring portal surveys are warranted. If no caves or abandoned mines are present and trees ≥ 3 inches dbh cannot be avoided, we recommend that removal of any trees ≥ 3 inches dbh only occur between October 1 and March 31. Seasonal clearing is being recommended to avoid adverse effects to Indiana bats and northern long-eared bats. While incidental take of northern long-eared bats from most tree clearing is exempted by a 4(d) rule (see <http://www.fws.gov/midwest/endangered/mammals/nleib/index.html>), incidental take of Indiana bats is still prohibited without a project-specific exemption. Thus, seasonal clearing is recommended where Indiana bats are assumed present.

If implementation of this seasonal tree cutting recommendation is not possible, summer surveys may be conducted to document the presence or probable absence of Indiana bats within the project area during the

APPENDIX C

summer. If a summer survey documents probable absence of Indiana bats, the 4(d) rule for the northern long-eared bat could be applied. Surveys must be conducted by an approved surveyor and be designed and conducted in coordination with the Endangered Species Coordinator for this office. Surveyors must have a valid federal permit. Please note that in Ohio summer mist net surveys may only be conducted between June 1 and August 15.

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,



Patrice Ashfield
Ohio Field Office Supervisor

cc: Nathan Reardon, ODNR-DOW
Kate Parsons, ODNR-DOW



APPENDIX C

Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate
Paul R. Baldrige, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6649
Fax: (614) 267-4764

March 1, 2019

Tiffany Fritchley
Columbia Gas of Ohio/Kentucky
1600 Dublin Road E.
Columbus, Ohio 43215

Re: 19-081; COH - Mansfield North Replacement Project

Project: The proposed project involves the installation of a new point of delivery (POD) and approximately 550 feet of 12-inch diameter, high-pressure natural gas pipeline.

Location: The proposed project is located in Mansfield, Richland County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has no records at or within a one-mile radius of the project area.

A review of the Ohio Natural Heritage Database indicates there are no other records of state endangered or threatened plants or animals within the project area. There are also no records of state potentially threatened plants, special interest or species of concern animals, or any federally listed species. In addition, we are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state or national parks, state or national forests, national wildlife refuges, or other protected natural areas within the project area. The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980.

Please note that Ohio has not been completely surveyed and we rely on receiving information from many sources. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although all types of plant communities have been surveyed, we only maintain records on the highest quality areas.

APPENDIX C

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

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

The project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If no tree removal is proposed, this project is not likely to impact this species.

The project is within the range the greater redhorse (*Moxostoma valenciennesi*), a state threatened fish. The DOW recommends no in-water work from April 15 to June 30 to reduce impacts to indigenous aquatic species and their habitat. If no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.

The project is within the range of the eastern hellbender (*Cryptobranchus alleganiensis alleganiensis*), a state endangered species and a federal species of concern. Due to the location, and that there is no in-water work proposed in a perennial stream of sufficient size to provide suitable habitat, this project is not likely to impact this species.

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

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

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

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

APPENDIX C

The local floodplain administrator should be contacted concerning the possible need for any floodplain permits or approvals for this project. Your local floodplain administrator contact information can be found at the website below.

http://water.ohiodnr.gov/portals/soilwater/pdf/floodplain/Floodplain%20Manager%20Community%20Contact%20List_8_16.pdf

ODNR appreciates the opportunity to provide these comments. Please contact Sarah Tebbe, Environmental Specialist, at (614) 265-6397 or Sarah.Tebbe@dnr.state.oh.us if you have questions about these comments or need additional information.

John Kessler
Environmental Services Administrator

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Summary: Application /Construction Notice Application for the Mansfield North Replacement Project electronically filed by Cheryl A MacDonald on behalf of Columbia Gas of Ohio, Inc.