

LETTER OF NOTIFICATION FOR THE

**Duke Energy Ohio, Inc.
Cumminsville 5B Rebuild Project**

PUCO Case No. 20-134-EL-BLN

Submitted to:

The Ohio Power Siting Board

Pursuant to OAC 4906-06

Submitted by:

Duke Energy Ohio, Inc.

February 2020



TABLE OF CONTENTS

4906-6-05(B) General Information	2
4906-6-05 B(1) Project Description	2
4906-6-05 B(2) Statement of Need	3
4906-6-05 B(3) Project Location	3
4906-6-05 B(4) Alternatives Considered	3
4906-6-05 B(5) Public Information Program	4
4906-6-05 B(6) Construction Schedule	4
4906-6-05 B(7) Area Map	4
4906-6-05 B(8) Property Agreements	4
4906-6-05 B(9) Technical Features	5
4906-6-05 B(9)(a) Operating Characteristics	5
4906-6-05 B(9)(b) Electric and Magnetic Fields	5
4906-6-05 B(9)(c) Project Cost	5
4906-6-05 B(10) Social and Ecological Impacts	5
4906-6-05 B(10)(a) Land Use Characteristics	5
4906-6-05 B(10)(b) Agricultural Land Information	6
4906-6-05 B(10)(c) Archaeological and Cultural Resources	6
4906-6-05 B(10)(d) Local, State, and Federal Agency Correspondence	6
4906-6-05 B(10)(e) Threatened, Endangered, and Rare Species	7
4906-6-05 B(10)(f) Areas of Ecological Concern	9
4906-6-05 B(10)(g) Unusual Conditions	10
4906-6-07 Document of Letter of Notification Transmittal and Availability for Public Review	10

ATTACHMENTS

- Attachment A – Figures
- Attachment B – Cultural Resources Review
- Attachment C – Agency Coordination
- Attachment D – Regulated Waters Delineation Report

LETTER OF NOTIFICATION

This Letter of Notification has been prepared by Duke Energy Ohio, Inc. (hereafter "Duke Energy Ohio") in accordance with Ohio Administrative Code (OAC) Section 4906-6-05 for the review of Accelerated Certificate Applications for the Duke Energy Ohio Cumminsville 5B Rebuild Project (Project). The following sections correspond to the administrative code sections for the requirements of a Letter of Notification.

4906-6-05(B) GENERAL INFORMATION

4906-6-05 B(1) Project Description

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

Name of Project:

Duke Energy Ohio Cumminsville 5B Rebuild Project (Project)

Reference Numbers:

PUCO Filing Number:	The Project has been assigned Public Utilities Commission of Ohio (PUCO) Case Number 20-134-EL-BLN.
PJM Number:	No PJM number, the Project does not affect the model.
2019 LTFR:	The Project will be in the 2020 Long-Term Forecast Report (LTFR).
Circuit Reference:	This is the F1286 Circuit.

Brief Description of the Project:

The Project involves the replacement of three double-circuited lattice towers (69-kV and 138-kV) with seven (7) monopole structures with foundations and the separation of the circuits. The 138-kV circuit will have five (5) structures total associated: two 190-foot steel structures, two (2) 195-foot steel structures, and one 135-foot steel structure. The Project also involves the installation of approximately 2,200 feet of new 138-kV transmission line. Reconductor, removal, and new installation activities will occur within the existing 100-foot wide Duke Energy Ohio transmission line corridor right-of-way (ROW). The new monopoles' above-ground heights range from 135 to 195 feet.

Letter of Notification Requirement:

This Project qualifies for a Letter of Notification filing because it meets the requirements of OAC 4906-1-01, Appendix A, item (1)(b), *Application Requirement Matrix for Electric Power Transmission Lines*:

1. New construction, extension, or relocation of single or multiple circuit electric power transmission line(s), or upgrading existing transmission or distribution line(s) for operation at a higher transmission voltage, as follows:

(b) Line(s) greater than 0.2 miles in length but not greater than two miles in length.

4906-6-05 B(2) Statement of Need

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

The Cumminsville 5B Rebuild Project located in Cincinnati, Ohio, will comprise the removal and installation of overhead structures and their associated transmission line in order to make clearance for the Ohio Department of Transportation (ODOT) improvements to I-75 and to improve the reliability of the local community's electricity. The existing transmission line provides 138-kV electric transmission service to residential and commercial/industrial facilities and serves as a pathway in the transmission grid with the city of Cincinnati and surrounding areas. The rebuilt transmission line will continue to provide the service area with 138-kV transmission service, but will be rebuilt with upgraded conductor due to age of the conductor (over 50-years old) and increased capacity to meet our current standard. The separation of the circuits and the reconductoring with our current standard conductor for 138-kV transmission line will improve the reliability of the transmission line.

4906-6-05 B(3) Project Location

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

The location of the Project is depicted in Attachment A: Figures 1 and 2. Figure 1 shows the Project's general vicinity depicted on a United States Geological Survey (USGS) quadrangle topographic map. Figure 2 depicts the planned transmission line location, associated GIS layers, and additional details depicted on an aerial imagery map.

The location of the Project in relation to existing transmission lines and substations is shown on Figure 3 in Attachment A – Figures. The Project is located just east of the Cumminsville substation (located at the intersection of Colrain Avenue and Spring Grove Avenue and north of the Mill Creek) and crosses the Mill Creek and I-75 and Ludlow Avenue in Cincinnati, Ohio.

4906-6-05 B(4) Alternatives Considered

The applicant shall describe the alternatives considered and reasons why the proposed location or route is best suited for the proposed facility. The discussion shall include, but

not be limited to, impacts associated with socioeconomic, ecological, construction, or engineering aspects of the project.

The proposed Project will occur entirely within existing Duke Energy Ohio ROW. No long-term impacts to adjacent properties are anticipated as a result of the Cumminsville 5B Rebuild Project. Therefore, the current alignment is the only reasonable alternative available and no alternatives were considered.

4906-6-05 B(5) Public Information Program

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

Property owners within 150 feet of the work will be notified by mail prior to the initiation of any construction. Information on the ongoing status of this Project and other Duke Energy Ohio projects can be found at the following website: <https://www.duke-energy.com/our-company/about-us/electric-transmission-projects>.

4906-6-05 B(6) Construction Schedule

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

Work on the Project is scheduled to start in June 2020 (foundation work), pending approval of this application. Construction is scheduled to be complete and the line energized by December 31, 2020.

4906-6-05 B(7) Area Map

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

Figures 1 and 2 in Attachment A – Figures, depict the general location of the Project. Figure 1 depicts the general Project vicinity depicted on USGS quadrangle topographic map. Attachment A, Figure 2 depicts the planned transmission line location on an aerial imagery, associated GIS layers, and additional features in the Project vicinity.

Figure 3 Attachment A – Figures provide an aerial map of the existing and proposed facilities at 1:24,000.

4906-6-05 B(8) Property Agreements

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

The proposed Project takes place entirely within existing Duke Energy Ohio transmission ROW and easements.

4906-6-05 B(9) Technical Features

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

Duke Energy Ohio proposes to remove and replace approximately 0.42-mile (2,200-ft) of 138-kV transmission line, located in the City of Cincinnati, Hamilton County, Ohio. A total of three (3) steel lattice structures will be removed and replaced with seven (7) steel engineered monopole structures. Five (5) of the new steel engineered monopoles will be associated with the 138-kV portion of the Project. These five (5) monopoles will be installed on foundations. There will be two (2) 195-ft monopoles (structures HMO-26349, & HMO-26352, See Figure 2), two (2) 190-ft monopoles (structures HMO-26350 & HMO-26351, See Figure 2), and one (1) 135-ft monopole (structure HMO-26354) above ground.

4906-6-05 B(9)(a) Operating Characteristics

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

Voltage:	138-kV
Structure Type:	Steel monopole
Conductors:	Three (3) 954 ACSS/TW 20x7 "Cardinal"
Static Wire:	One (1) Centra Core 54/472
Insulators:	138-kV glass insulators
ROW:	Existing easement

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

Information concerning the electric and magnetic fields will not be required as the proposed Project is not within 100 feet of an occupied residence or institution.

4906-6-05 B(9)(c) Project Cost

The estimated capital cost of the project.

The estimated cost for the Project is approximately \$9,000,000, and fully funded by ODOT.

4906-6-05 B(10) Social and Ecological Impacts

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

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

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

The Project is located in the City of Cincinnati, Hamilton County, Ohio. The City of Cincinnati, which covers approximately 79.54 square miles, contained a population of 302,605 people based

on 2018 census data. The land use immediately surrounding the Project area is predominantly urban turf/impervious surfaces, scrub-shrub, secondary growth forest, and maintained ROW.

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

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

Agricultural land vegetation assemblage does not exist within the Project Area.

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

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

The Ohio Historic Preservation Office's (OHPO) online mapping system was consulted to identify previously recorded cultural resources within 1.6 km (1-mi) of the Study Area (1-mi buffer). The OHPO records check indicates that eight (8) archaeological sites, one hundred and fifty-six (156) historic structures, seven (7) cemeteries, one (1) of which is listed as a National Historic Landmark (NHL), fifteen (15) National Register of Historic Places (NRHP) Determination of Eligibility (DOE) structures, and thirty-four (34) NRHP-listed resources have been previously recorded in the 1-mi buffer. None of the resources are located within the Project Area.

Large portions of the Project Area have been previously investigated for cultural resources (Schneider and Sudnik 2007; Grob and Parsell 2018).

The majority of the Project Area appears to have been heavily graded as a result of the construction of the adjacent buildings, interstate, railroad, state route, and existing transmission pole structures. Due to the previously disturbed soils and limited amount of ground disturbance related to the removal of existing transmission structures and installation of new transmission pole structures, no archaeological reconnaissance is recommended for the Project to proceed as planned.

4906-6-05 B(10)(d) Local, State, and Federal Agency Correspondence

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

No impacts to the one (1) identified onsite stream (Mill Creek) are anticipated by the Project. A permit from ODOT District 8 will be submitted in March 2020 for the construction entrance off I-75 access Duke Energy Structure M11-X1-31.

Duke Energy Ohio will use the Federal Aviation Administration (FAA) "notice criteria tool" to determine if further coordination is required for the Project to verify there is not an impact to navigable airspace.

No other local, state, or federal permit or other authorizations are required or anticipated for the Project.

4906-6-05 B(10)(e) Threatened, Endangered, and Rare Species

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

Several sources of information were consulted to further define the potential habitat of listed species that occur within the county of the Project. Attachment C – Agency Coordination Letters, contains a list of the Rare, Threatened and Endangered (RTE) species known to occur within Hamilton County and their potential to occur within the Project Area based on their habitat requirements and observations during the field survey.

Coordination with the U.S. Fish and Wildlife Service (USFWS) and the Ohio Department of Natural Resources Division of Wildlife (ODNR-DOW) was initiated on October 10, 2019. The correspondence from USFWS indicated that there are no verified records of federally listed endangered, threatened, or candidate species, or their habitats, existing within the Project Area or vicinity (Attachment C). A response from ODNR-DOW was received on November 25, 2019. ODNR-DOW indicated the Project falls within a 1-mi radius of recorded sitings of the maypop (*Passiflora incarnata*, state threatened) and black-crowned night-heron (*Nycticorax nycticorax*, state threatened). The Project falls within the range of the following threatened and endangered species:

Maypop (*Passiflora incarnate*, state-threatened). The state-threatened maypop occurs in thickets, disturbed areas, near riverbanks, and near unmowed pastures, roadsides, and railroads. In Ohio, indigenous populations have almost entirely been recorded in the southernmost counties along the Ohio River. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area with streambanks entirely lined in concrete - a little to no riparian buffer that does not support the maypop habitat.

Black-crowned night-heron (*Nycticorax nycticorax*, state-threatened). The state-threatened black-crowned night-heron roost in thick vegetation along streams, lakes, and wetlands. These largely nocturnal herons are likely more common than suspected, but tend to hide in thick vegetation during the day. At night, they often give a very distinctive, deep quawk call that reveals their presence. They are hardy and sometimes overwinter in favored spots. They typically eat fish, leeches, earthworms, aquatic and terrestrial insects. No nesting sites were identified within the Project Area during the field investigation. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area that lacks appropriate vegetative cover necessary to support black-crowned night-heron habitat.

Indiana bat (*Myotis sodalis*, state and federally endangered). The state and federally endangered Indiana bat summer habitat includes small to medium river and stream corridors with well-developed riparian woods; woodlots within 1 to 3 miles of small to medium rivers and streams; and upland forests. Potential Indiana bat roost trees 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. No trees exhibiting traits characteristic of potential Indiana bat roost trees were identified within the Project Area. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area that lacks sufficient suitable wooded habitat and therefore does not support Indiana bat habitat.

Kirtland's snake (*Clonophis kirtlandii*, state-threatened). The state-threatened Kirtland's snake is usually found in open wetlands such as wet prairies, prairie fens, wet meadows and marshes, but they also occur in openings or along the edges of forested wetlands and floodplains (e.g., grass/sedge openings in tamarack swamps). No wetlands or floodplains were located within the Project Area. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area that does not support the Kirtland's snake habitat.

Cave salamander (*Eurycea lucifuga*, state-endangered). The state-endangered cave salamander is found in and around caves, seeps, springs, springhouses, and small forested limestone creeks associated with groundwater. Cave salamanders live in rock crevices or under rocks, logs, or other debris, and feed on insects. Mill Creek is highly channelized and lacks appropriate in-stream habitat necessary to support cave salamander habitat. No impacts to Mill Creek are anticipated by the Cumminsville 5B Rebuild Project therefore no impacts to cave salamander habitat will occur as a result of construction activities associated with the Project.

American bittern (*Botaurus lentiginosus*, state-endangered). The state-endangered American bittern prefers large undisturbed wetlands that have scattered small pools amongst the dense vegetation. They occasionally occupy bogs, large wet meadows, and dense, shrubby swamps. No wetlands, bogs, or wet meadows were identified within the proposed Project Area. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area that does not support the American bittern habitat.

Lark sparrow (*Chondestes grammacus*, state-threatened). The state-threatened lark sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. The Cumminsville 5B Rebuild Project Area is located within a highly developed urban area that does not support the lark sparrow habitat.

The Project falls within the range of the following threatened and endangered mussel species: **sheepnose** (*Plethobasus cyphus*, state and federally endangered), **fanshell** (*Cyprogenia stegaria*, state and federally endangered), the **pink mucket** (*Lampsilis abrupta*, state and federally endangered), **rayed bean** (*Villosa fabalis*, state and federally endangered), **snuffbox** (*Epioblasma triquetra*, state and federally endangered), **ebonyshell** (*Fusconaia ebena*, state-endangered), **long-solid** (*Fusconaia maculata*, state-endangered), **butterfly** (*Ellipsaria lineolata*, state-endangered), **washboard** (*Megaloniais nervosa*, state-endangered), the **elephant-ear** (*Elliptio crassidens crassidens*, state-endangered), the **Ohio pigtoe** (*Pleurobema cordatum*, state-endangered), **monkeyface** (*Theliderma sparsa*, state-endangered), **wartyback** (*Plethobasus cicatricosus*, state-endangered), the **black sandshell** (*Ligumia recta*, state-endangered), **fawnsfoot** (*Truncilla donaciformis*, state-endangered), and the **threehorn wartyback** (*Obliquaria reflexa*, state-endangered). Due to the location, and the absence of any in-water work proposed in a perennial stream, this Project is not likely to impact these species.

The Project also falls within the range of the following fish species: **shortnose gar** (*Lepisosteus platostomus*, state-endangered), **shoal chub** (*Macrhybopsis hyostoma*, state-endangered), **shovelnose sturgeon** (*Scaphirhynchus platyrhynchus*, state-endangered), the **lake sturgeon** (*Acipenser fulvescens*, state-endangered), the **northern madtom** (*Noturus stigmosus*, state-endangered), the **bigeye shiner** (*Notropis boops*, state-threatened), the **mountain madtom** (*Noturus eleutherus*, state-threatened), the **river darter** (*Percina shumardi*, state-threatened), the **channel darter** (*Percina copelandi*, state-threatened), the **blue sucker** (*Cycleptus elongates*, state-threatened), and the **paddlefish** (*Polyodon spathula*, state-threatened). No impacts to Mill Creek are anticipated by the Cumminsville 5B Rebuild Project therefore no impacts to mussel or fish species will occur as a result of construction activities associated with the Project.

A copy of the USFWS and ODNR-DOW response letters are included in Attachment C – Agency Coordination Letters.

The Project Area was field surveyed by Cardno, Inc. (Cardno), as part of contracted services to assess ecological impacts. This included habitat assessments to identify RTE species and their habitat, specifically Indiana bat and northern long-eared bat roost trees. Based on Cardno's field inspection, the Project Area consisted of secondary growth deciduous forest, urban turf/impervious surfaces, scrub shrub, and maintained ROW. Urban turf vegetation assemblage dominated the majority of the Project Area and includes impervious surfaces in addition to maintained turf. Dominant species in this habitat type consisted of red fescue (*Festuca rubra*), tall fescue (*Festuca arundinaceus*), dandelion (*Taraxacum officinale*), white clover (*Trifolium repens*), and broadleaf plantain (*Plantago major*). Scrub/shrub vegetation assemblage comprised of approximately 0.97 acres and was located sporadically throughout the Project Area. Dominant shrub species in this habitat type consisted of white mulberry (*Morus alba*), tree-of-heaven (*Ailanthus altissima*), Siberian elm (*Ulmus pumila*), and Amur honeysuckle (*Lonicera maackii*). The secondary deciduous forest vegetation assemblage comprised approximately 0.28 acres was located east of Mill Creek and adjacent to the existing ROW within the eastern portion of the Project Area. Dominant tree species in this habitat type consisted of eastern box elder (*Acer negundo*), white mulberry (*Morus alba*), tree-of-heaven (*Ailanthus altissima*), and silver maple (*Acer saccharinum*). Understory vegetation was dominated by Amur honeysuckle (*Lonicera maackii*) and saplings of the canopy species. Although a formal study was not part of this scope, there was low potential habitat for listed species identified within this habitat. Average diameter at breast height (DBH) for these canopy species was approximately four (4) to six (6) inches with a maximum of approximately ten (10) inches.

No trees with characteristic habitat indicators of primary maternity roost trees were identified within the Project Area. Due to the location, and the absence of in-water work proposed in the perennial stream, this Project is not likely to impact these species.

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

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

Duke Energy Ohio contracted Cardno to conduct an investigation for areas of ecological concern within the Project Area. As a part of Cardno's investigation, a request was submitted to the ODNR Environmental Review Services and USFWS on October 10, 2019, to research the presence of any unique ecological sites, geological features, animal assemblages, scenic rivers, state wildlife area, nature preserves, parks or forest, national wildlife refuges, or other protected areas within one (1) mile of the Project, using the ODNR Natural Heritage Database. The USFWS response was received on December 5, 2019. A response from ODNR-DOW was received on November 25, 2019. ODNR-DOW indicated the Project falls within a 1-mi radius of Mt. Storm Park – City of Cincinnati Parks and the Mill Creek Conservancy District. Coordination with Tim Gilday and Donald Mottley was received February 7, 2020. Mr. Mottley response was received on February 7, 2020. A copy of the USFWS and ODNR-DOW response letters and coordination letter to the Mill Creek Conservancy District are included in Attachment C – Agency Coordination.

Cardno conducted a wetland delineation and stream assessment of the Project Area. Cardno's investigation included approximately 6.02 acres along the proposed centerline, access roads, and additional workspace areas. During the investigation, Cardno identified one (1) stream and no wetlands within the Project Area. See Attachment D, Regulated Waters Delineation Report.

The proposed construction access plan as shown in Attachment A – Figures, Figure 2.01, was developed by Cardno to avoid and/or minimize disturbance to all streams and wetlands. No impacts to regulated wetlands, streams, or RTE habitat are anticipated by the Project.

Cardno also identified 100-year floodplains using the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer within the Project Area. One floodway (Mill Creek) and no 100-year floodplains were identified within the Project Area; refer to Attachment A – Figures, Figure 2.

4906-6-05 B(10)(g) Unusual Conditions

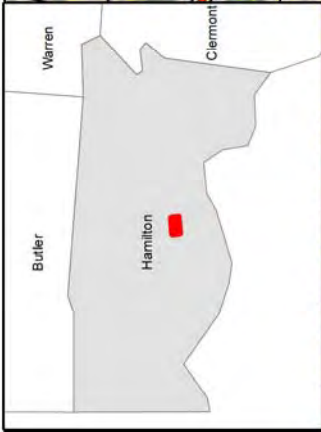
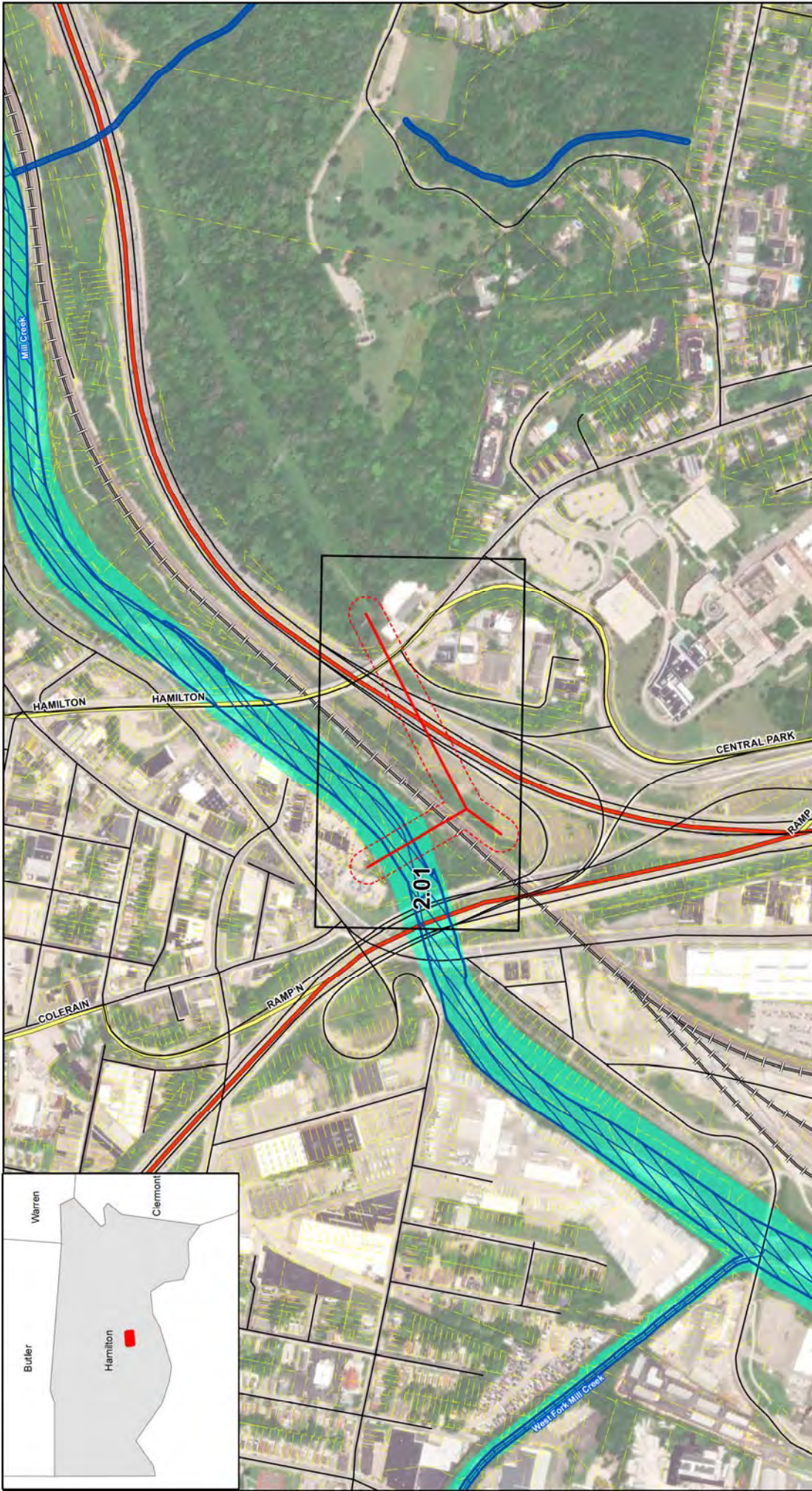
Provide any known additional information that will describe any unusual conditions resulting in significant environmental, social, health, or safety impacts.

To the best of Duke Energy Ohio's knowledge, no unusual conditions exist that would result in environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration, and will be in accordance with the requirements specified in the latest revision of the National Electric Safety Code as adopted by the PUCO.

4906-6-07 DOCUMENT OF LETTER OF NOTIFICATION TRANSMITTAL AND AVAILABILITY FOR PUBLIC REVIEW

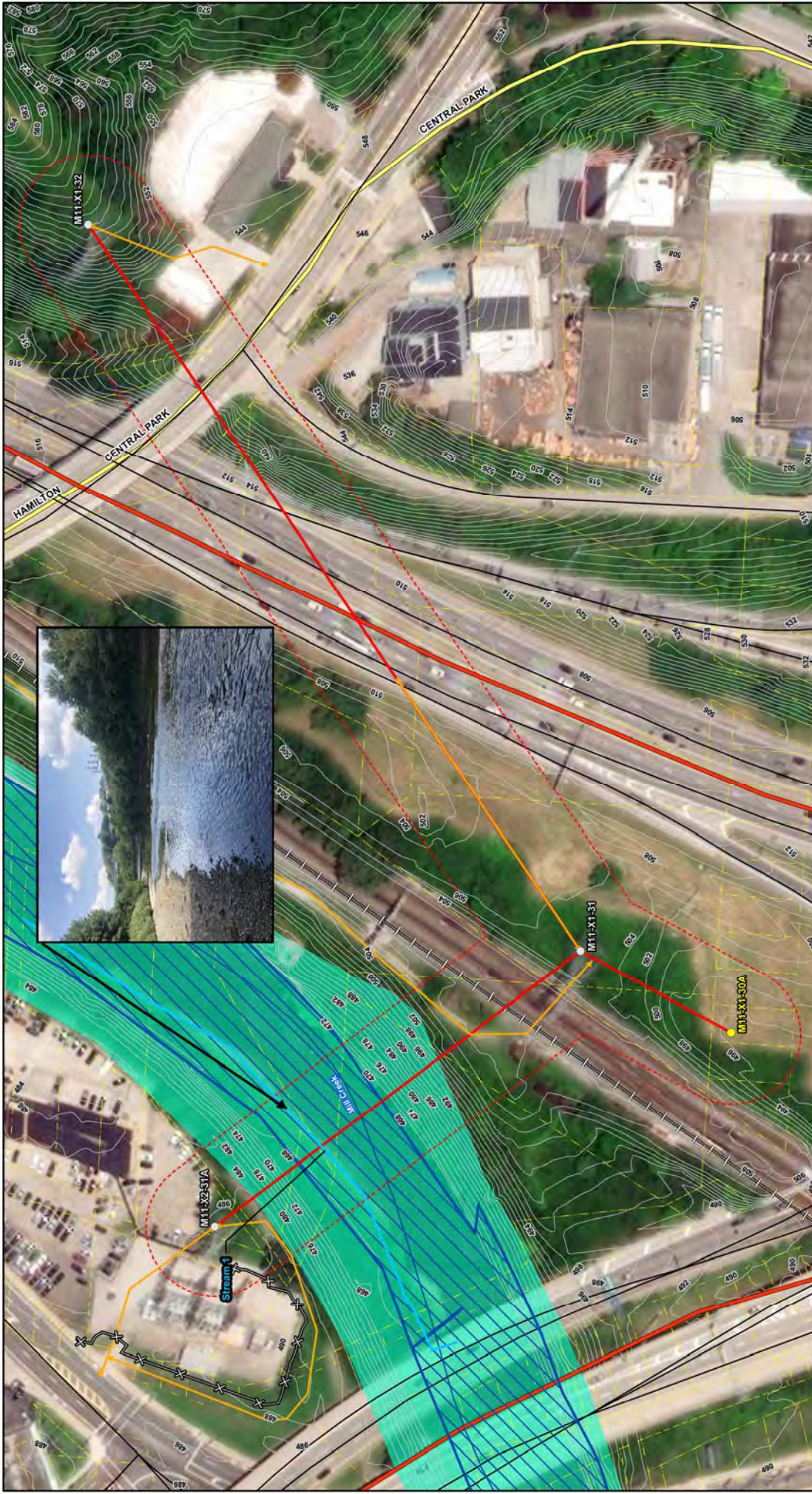
Copies of the Letter of Notification have been sent to the Northside Branch Library and the Public Library of Cincinnati and Hamilton County as well as the appropriate public officials for the City of Cincinnati and Hamilton County. A newspaper notice will be provided in the Cincinnati Enquirer within 7 days of filing this application.

Attachment A – Figures



<p>PROJECT LOCATION</p> <p>HAMILTON COUNTY, OH</p>	<p>REFERENCE: USGS 7.5 TOPOGRAPHIC QUADRANGLE CINCINNATI WEST, OHIO, OBTAINED FROM USGS, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSSED 6/12/2017.</p>	<p> 150-ft Corridor Existing Facility Interstate NHD Flowline State Highway US Highway Railroad Project Centerline Parcels Municipal Boundary Floodway NWI Wetlands Sheet Index 100-year Floodplain </p>	<p> DUKE ENERGY Cardno </p>	<p> FIGURE 2. OPSB BLN FILING CUMMINSVILLE PHASE 6B REBUILD PROJECT DUKE ENERGY OHIO ENVIRONMENTAL ACCESS PLAN INDEX SHEET </p> <p> DRAWN BY: SKL CHECKED: CAJ DATE: 2/10/2020 APPROVED: CAJ </p>
---	---	---	--	---

R:\Projects\15156156721M_DukeEnergy_9183M04_SOW59_M19013301_CumminsVille5B\GIS\MXD\OPSB_BLNDE_OPSB2_CumminsVille_Environmental Access Plan KEYMAP.mxd



REFERENCE USGS 7.5 TOPOGRAPHIC QUADRANGLE CINCINNATI WEST, OHIO, OBTAINED FROM USGS, NATIONAL GEOGRAPHIC TOPO, AND USGS, ACCESSED 01/2017.

PROJECT LOCATION

DUKE ENERGY
Cardno

FIGURE 2.01
OPSB RUN FILING
CUMMINSVILLE PHASE 58 REBUILD PROJECT
DUKE ENERGY, OHIO
ENVIRONMENTAL ACCESS PLAN

DRAWN BY: SKL
CHECKED: CAJ
DATE: 2/10/2020
APPROVED: CAJ

0 25 50 100 Feet

Proposed Structure
Existing Structure
150-ft Corridor
2-ft Contours
Fence Line

Municipal Boundary
Floodway
100-year Floodplain
NWI Wetlands
State Highway
US Highway
Railroad
Project Centerline
Parcels
Delineated Stream
Existing Facility
Interstate
NHD Flowline
Potretial_Access

R:\Projects\15156\156721M_DukeEnergy_9133M04_SOW59_M19013301_Cumminsville58GISMXDOPSB_BUNDE_OPSB3_Cumminsville_Environmental Access Plan.mxd

Attachment B – Cultural Resources Review

Cultural Resources Literature Review

Duke Energy Ohio Cumminsville
Phase 5B Project

Hamilton County, Ohio



Document Information

Prepared for Duke Energy Ohio
Project Name Cultural Resources Literature Review Duke Energy Ohio
Cumminsville Phase 5B Project, Hamilton County, Ohio
Project Number J156721M04
Client Contact Dustin Geisler (Duke Energy Ohio)
Project Manager Cori Jansing (Cardno)
Date October 21, 2019

Prepared and Submitted By Kaye Grob and Veronica Parsell

Principal Investigator


Veronica Parsell

Prepared for:



Duke Energy Ohio
1000 E Main St, Plainfield, IN 46168

Prepared by:



Cardno
11121 Canal Road, Cincinnati, Ohio, 45241

Table of Contents

Executive Summary	iv
1 Introduction	1
2 Background Research	3
2.1 Literature Review	3
2.1.1 National Historic Landmarks List	3
2.1.2 National Register of Historic Places (NRHP)	3
2.1.3 Ohio Archaeological Inventory Forms (OAI)	6
2.1.4 Ohio Historic Inventory Forms (OHI)	9
2.1.5 Ohio Genealogical Society (OGS) Cemetery Survey files	15
2.1.6 Cultural Resource Management (CRM) Reports	15
2.1.7 Historic Maps and Atlases	18
2.2 Brief Environmental Context	19
2.2.1 Project Area Soils	19
2.2.2 Prehistoric Cultural Setting	21
2.2.3 Historic Cultural Setting	24
2.3 Summary and Discussion	25
3 Summary and Recommendations	26
3.1 Project Overview	26
3.2 Applicable Regulations and Guidelines	26
3.3 Summary of Results and Recommendations	27
4 References Cited	28

Appendices

Appendix A	Historic Maps and Aerials
Appendix B	Photopages

Tables

Table 1. Previously Recorded NRHP and NRHP DOE Resources in the 1.6 km (1 mi) Study Area	4
Table 2. Previously Recorded OAI Sites in the 1.6 km (1 mi) Study Area.....	6
Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area	9
Table 4. Previously Recorded OGS Cemeteries in the 1.6 km (1 mi) Study Area	15
Table 5. Previous Cultural Resource Investigations in the 1.6 km (1 mi) Study Area	16
Table 6. Soil Units within the Project Area	19

Figures

Figure 1. Project Location	2
Figure 2. Previously Identified Cultural Resources	8
Figure 3. Previous Cultural Resource Investigations	17
Figure 4. Project Area Soils	20

Executive Summary

Cardno, Inc. (Cardno) conducted a cultural resources literature review for the 0.50 kilometer (km) (0.31 mile [mi]) long and 45.72 meter (m) (150 foot [ft]) wide Duke Energy Ohio Cumminsville Phase 5B Project Area in Hamilton County, Ohio. Research focused on documenting known prehistoric and historic resources within a 1.6 km (1 mi) radius of the Project Area (the Study Area) to ascertain the likelihood for encountering unidentified cultural resources within project boundaries. The literature review centered on the 1.6 km (1 mi) Study Area but also examined the region on a larger scale when appropriate.

The current project plans will replace three existing transmission towers. The locations of the excavation will be restricted to the locations where the removal of the old structure and installation of the new structures will occur.

The literature review indicates that no previously identified cultural resources are located within the Project Area. A total of 8 archaeological sites, 156 historic structures, 7 cemeteries, one of which is listed as a National Historic Landmark (NHL), 15 NRHP Determination of Eligibility (DOE) structures, and 34 NRHP-listed resources have been identified within the 1.6 km (1 mi) Study Area. A large portion of the Project Area was previously reviewed for cultural resources; however, no fieldwork was conducted as the consulting firm determined through archival research that there was no probability for intact cultural resources due to previous ground disturbance (Schneider and Sudnik 2007). Additional portions of the Project Area were subjected to shovel test survey in 2018 (Grob and Parsell 2018). The majority of the Project Area is located in areas that have been heavily disturbed by mechanical equipment. These areas are unlikely to contain intact cultural deposits.

Due to the presence of heavily graded and disturbed soils as well as the limited amount of ground disturbance that will occur as a result of the transmission pole structures removal, installation, and line replacement, no archaeological reconnaissance is recommended for the project to proceed as planned.

1 Introduction

In response to a request from Duke Energy Ohio, Cardno, Inc. (Cardno) conducted a cultural resources records review for the Duke Energy Ohio Cumminsville Phase 5B Project Area in Hamilton County, Ohio (the Project Area). Based on information provided by Duke Energy Ohio, the Project Area is located in the NE 1/4 of Section 27, on the Cincinnati West, Ohio 7.5' topographic map in Hamilton County, Ohio (Figure 1). The Project Area consists of a 0.50 km (0.31 mi) long and 45.72 m (150 ft) wide transmission improvement project. The Cumminsville Phase 5B Project initiates at Duke Energy Ohio Structure M11-X2-31a (Zone 16S, 712466.46 m E, 4336757.22 m N) located north of I-75, north of Mill Creek, east of I-74, and south of Spring Grove Avenue, and terminates at Duke Energy Ohio Structure M11-X1-32 (Zone 16S, 712801.00 m E, 4336795.88 m N) located south of I-75 and east of South Ludlow Avenue.

The current project plans will replace three existing transmission towers. The remainder of the Project Area consists of the installation of new overhead line on poles. No subsurface disturbance will occur in these areas. The poles are all currently located in and will be replaced in heavily disturbed and graded areas that would not be conducive to intact archaeological deposits. Excavation will be restricted to the locations where the removal of old structures and installation of new structures will occur. Earth moving activities are anticipated to be minimal, if any.

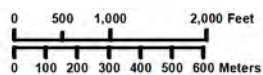
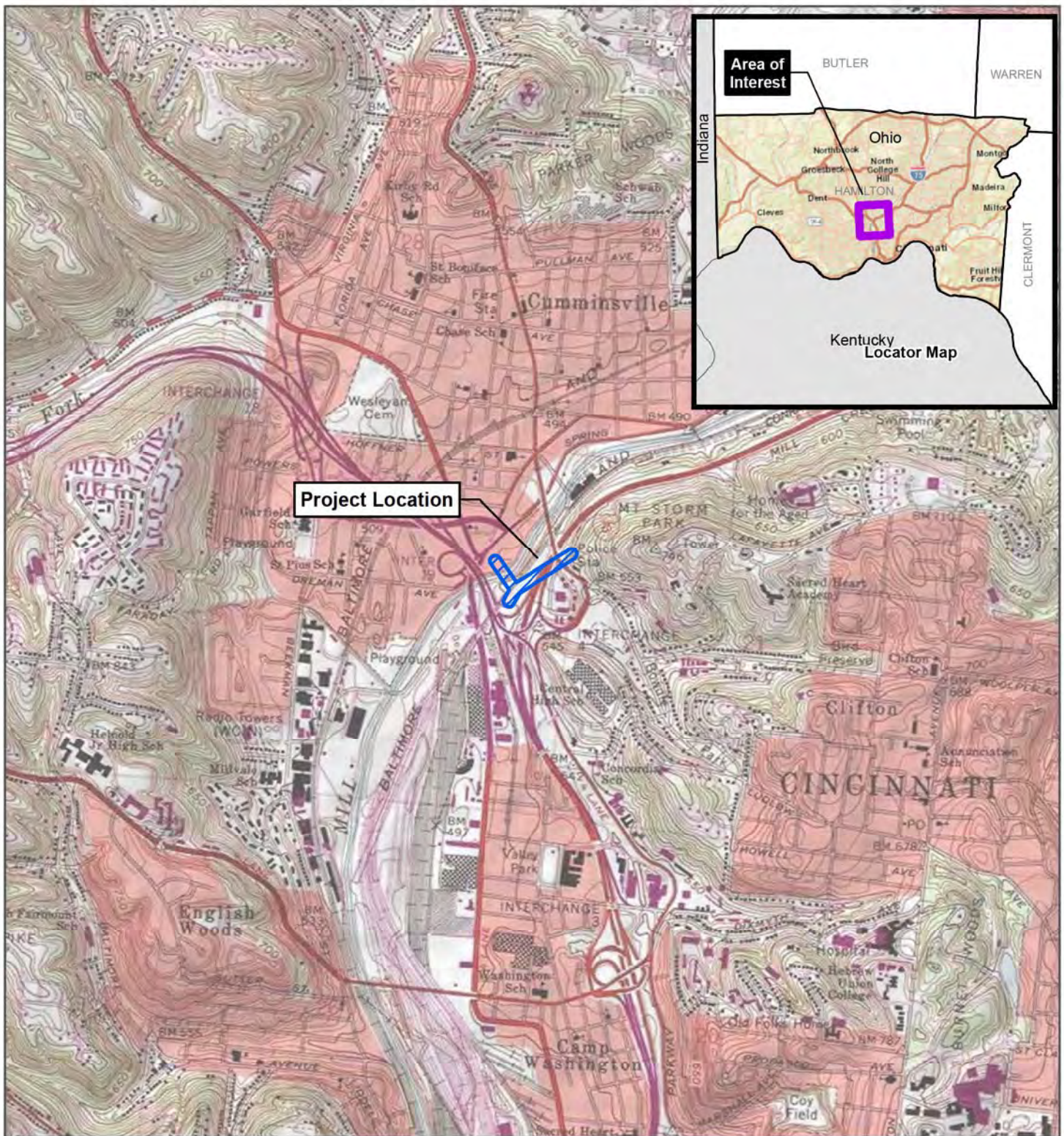
The proposed Cumminsville Phase 5B Project is necessary in order to conform with the Ohio Department of Transportation (ODOT) guidelines for the clearance of the transmission lines over the road. The transmission line route consists of an existing transmission line corridor and Duke Energy Ohio easement.

Construction will be accomplished largely through the use of bucket trucks with truck-mounted augers for structure installation and other construction vehicles transporting cable spools to install the transmission cable along the route.

Background research conducted in August 2019 focused on a 1.6 km (1 mi) Study Area around the proposed project footprint. Cardno gathered information about previously conducted cultural resource investigations and documented cultural resources as well as the environmental and cultural context of the region to assess the potential for additional undocumented cultural resources in and around the Project Area.

Key personnel committed to the project include Ms. Veronica Parsell and Ms. Kaye Grob, who served as report co-authors. Mr. Stephen LaFon created the report graphics.

This report presents the results of the background research in Section 2.0. Section 3.0 discusses the conclusions and recommendations. The references cited in this report appear in Section 4.0. Appendix A includes historic maps and Appendix B includes project overview photos.



Project Location

N
W E
S

7.5' Quadrangle:
CINCINNATI WEST
T3e R2n Sec27
Project No.
J156721m04

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Figure 1: Project Location
Cultural Resources Literature Review
Duke Energy Ohio Cumminsville
Phase 5B Project
Duke Energy Ohio
Hamilton County, Ohio

Cardno

11121 Canal Road, Cincinnati, OH 45241
Phone (+1) 513-489-2402 Fax (+1) 513-489-2404
www.cardno.com

Date: 2/10/2020

File Path: R:\Projects\15156\156721M_DukeEnergy_9193M04_SOW59_M19013301_Cumminsville5B\GISMXD\LitReview\LR1_Location.mxd

Saved By: Christine.Dittmar

Basemap: Copyright © 2013 National Geographic Society, i-cubed, Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community

2 Background Research

The objective of the current study is to identify and evaluate previously documented archaeological resources present within the proposed Project Area, as well as assess the potential for the Project Area to contain additional cultural resources.

This section provides a basic context through which to evaluate the results of our investigation, and will briefly outline the environmental and cultural background of the region in and around Hamilton County, Ohio.

2.1 Literature Review

Research was conducted using data from online files provided by the Ohio Historic Preservation Office (OHPO) in August 2019 (OHC 2019). Cardno focused on previously recorded resources within 1.6 km (1 mi) of the Project Area, but also examined the larger region where appropriate. For the literature review the following resources were consulted:

- National Historic Landmark list;
- National Register of Historic Places (NRHP) list;
- Ohio Archaeological Inventory Forms (OAI);
- Ohio Historic Inventory Forms (OHI);
- Cultural Resource Management reports;
- Ohio Genealogical Society (OGS) Cemetery Survey files;
- County Histories and Atlas Maps;
- Mills (1914) Archaeological Atlas of Ohio.

Reviewed records indicate that 8 archaeological sites, 156 historic structures, 7 cemeteries, one of which is listed as a National Historic Landmark (NHL), 15 NRHP Determination of Eligibility (DOE) structures, and 34 NRHP-listed resources are located within the 1.6 km (1 mi) Study Area (Figure 2).

2.1.1 National Historic Landmarks List

Research indicates one National Historic Landmark is located in the 1.6 km (1 mi) Study Area. The Spring Grove Cemetery (NPS Ref. No. 76001440) is located approximately 1.21 km (0.75 mi) northeast of the Project Area. The cemetery was listed as a NHL resource in 2007. The first burial in the cemetery occurred in 1845 and the cemetery continues to be used for interments. This resource will not be directly affected by the proposed project.

2.1.2 National Register of Historic Places (NRHP)

Thirty-four NRHP-listed resources are located within the Study Area (Figure 2). None of these resources are located within or adjacent to the Project Area and none will not be directly affected by the proposed project. The NRHP resources are listed in Table 1 and depicted on Figure 2.

In addition, 15 NRHP DOE structures are located in the 1.6 km (1.0 mi) Study Area. These structures have been determined eligible for the NRHP; however, are not currently listed on the NRHP. Seven of the NRHP DOE resources are also listed as historic structures in Section 2.1.4. None of the NRHP DOE resources are located within or adjacent to the Project Area.

Table 1. Previously Recorded NRHP and NRHP DOE Resources in the 1.6 km (1 mi) Study Area

Structure Number	Resource Name	Resource Address	Approx. Date
NPS Ref. No. 76001440	Spring Grove Cemetery	4521 Spring Grove Avenue	1845
NPS Ref. No. 78002073	Cincinnati Street Gas Lamps	Various locations	ca. 1843 to 20 th century
NPS Ref. No. 78002077	Hoffner Historic District	Twelve buildings in an area of 5 acres in Cumminsville	Late 19 th -Century
NPS Ref. No. 03000806	Freund-Heintz House	3332 Whitfield Ave	
NPS Ref. No. 05001186	Oesterlein Machine Company-Fashion Frocks, Inc. Complex	3301 Colerain Ave, 1326 Monmouth Ave	1918
NPS Ref. No. 07001092	American Can Company Building	4101 Spring Grove Ave	1921
NPS Ref. No. 07001295	Bullerdick, Frederick E and Catherine, House	4321 Hamilton Ave	ca. 1907
NPS Ref. No. 10000191	Mount Airy Forest	Mt. Airy	1911
NPS Ref. No. 13000681	Kirby Road School	1710 Bruce Ave	1910
NPS Ref. No. 15000042	Crosley Building	1329-1333 Arlington St	ca. 1920s
NPS Ref. No. 72001022	Probasco, Henry, House	430 W Cliff Lane	ca. 1859
NPS Ref. No. 73001461	Lloyd, John Uri, House	3901 Clifton Ave	ca. 1879
NPS Ref. No. 73001463	Morrison House	750 Ludlow Ave	1873
NPS Ref. No. 73001465	Rawson House	3767 Clifton Ave	ca. 1870s
NPS Ref. No. 73001466	Resor, William, House	254 Greendale Ave	1843
NPS Ref. No. 73001467	Sacred Heart Academy	525 Lafayette Ave	ca. 1868
NPS Ref. No. 73001468	Scarlet Oaks	440 Lafayette Ave	1867
NPS Ref. No. 78002074	Clifton Avenue Historic District	Cincinnati	N/A
NPS Ref. No. 78002081	St Patrick's Catholic Church	1662 Blue Rock	ca. 1873
NPS Ref. No. 79001857	Hewson-Gutting House	515 Lafayette Ave	Not Listed

Table 1. Previously Recorded NRHP and NRHP DOE Resources in the 1.6 km (1 mi) Study Area

Structure Number	Resource Name	Resource Address	Approx. Date
NPS Ref. No. 80003036	Balch House	267 Greendale Ave	1896
NPS Ref. No. 80003040	Calvary Episcopal Church Sunday School	3770 Clifton Ave	ca. 1867
NPS Ref. No. 80003044	Cincinnati Work House and Hospital (DELISTED)	3208 Colerain Ave	ca. 1867-1869
NPS Ref. No. 80003047	Domhoff Buildings	4201-4203 Hamilton Ave & 1604-1614 Chase Ave	ca. 1893
NPS Ref. No. 80003051	Eighteenth District School (DELISTED)	1326 Hopple St	1882
NPS Ref. No. 80003059	Hummel, George, House	3423 Whitfield Ave	ca. 1890s
NPS Ref. No. 80003064	Miller, Charles A., House	1817 Chase St	ca. 1890
NPS Ref. No. 80003068	Northside United Methodist Church	1674 Chase	1892
NPS Ref. No. 80003077	Probasco Fountain	Clifton Ave	1887
NPS Ref. No. 80003086	Spring Grove Cemetery Chapel	4521 Spring Grove Ave	ca. 1870s
NPS Ref. No. 82003580	Goldsmith, Moses, Building	356 Bryant	1900
NPS Ref. No. 82003583	Hulbert House and McAlpin Bridal Cottage	333 & 341 Lafayette Ave	ca. 1886
NPS Ref. No. 99000512	Boulter, Cedric G., and Patricia Neils, House	1 Rawson Woods Circle	ca. 1956
SG100000666	Lowrie, S Gale & Agnes P, House	20 Rawson Woods Cir	ca. 1935
DOE Ref. No. 65004901	Not Listed	4008-4010-4012 Gulow St.	Not Listed
DOE Ref. No. 65004949	Not Listed	4217 Mad Anthony St.	Not Listed
DOE Ref. No. 65004813	Not Listed	1422 Apjones St.	Not Listed
DOE Ref. No. 65004823	Not Listed	Beech Hill Ave	Not Listed
DOE Ref. No. 65005058	Not Listed	4224 Williams Place	Not Listed

Table 1. Previously Recorded NRHP and NRHP DOE Resources in the 1.6 km (1 mi) Study Area

Structure Number	Resource Name	Resource Address	Approx. Date
DOE Ref. No. 65005059	Not Listed	4267 Williams Place	Not Listed
DOE Ref. No. 65004966	Not Listed	Hamilton Ave. btwn. Cooper/Spring Grove & Hobart	Not Listed
DOE OHI No. HAM0762840	Cincinnati Street Railway Station	3240 Colerain Avenue	ca. 1927
DOE OHI No. HAM0634327	Wesleyan Cemetery	4003-4035 Colerain Ave	1855
DOE OHI No. HAM0788140	Hopple Street Subway Tunnel Portals	Central Parkway near Hopple	1914
DOE OHI No. HAM0176327	McGound House	1612 Cooper St	1860
DOE OHI No. UNK0000000	Unknown	1863 Chase Ave	Unknown
DOE OHI No. HAM0161307	Temple of Love	Mount Storm Park	1850
DOE OHI No. HAM0753907	Mount Storm Park Pavilion	660 Lafayette Ave (in Mount Storm Park)	1935
DOE OHI No. HAM0167240	Hausenfluck House	1245 Bates Ave	1890

2.1.3 Ohio Archaeological Inventory Forms (OAI)

The OAI files indicate 8 archaeological sites within the 1.6 km (1 mi) Study Area (Table 2). Site 33-Ha-0317 consists of a burial or village site with unknown temporal affiliation. During the excavation of the St. Boniface church buildings and church yard, a witness reported that many burials were found. The site is thought to have been destroyed. This site is located approximately 1.2 km (0.75 mi) north northwest of the Project Area.

Site 12-Ha-0796 consists of a historic scatter located approximately 0.24 km (0.15 mi) northeast of the Project Area. The site has been determined ineligible for the NRHP.

Site 12-Ha-0844 consists of a historic scatter located approximately 0.6 km (0.38 mi) north of the Project Area. This site has not been assessed for NRHP eligibility.

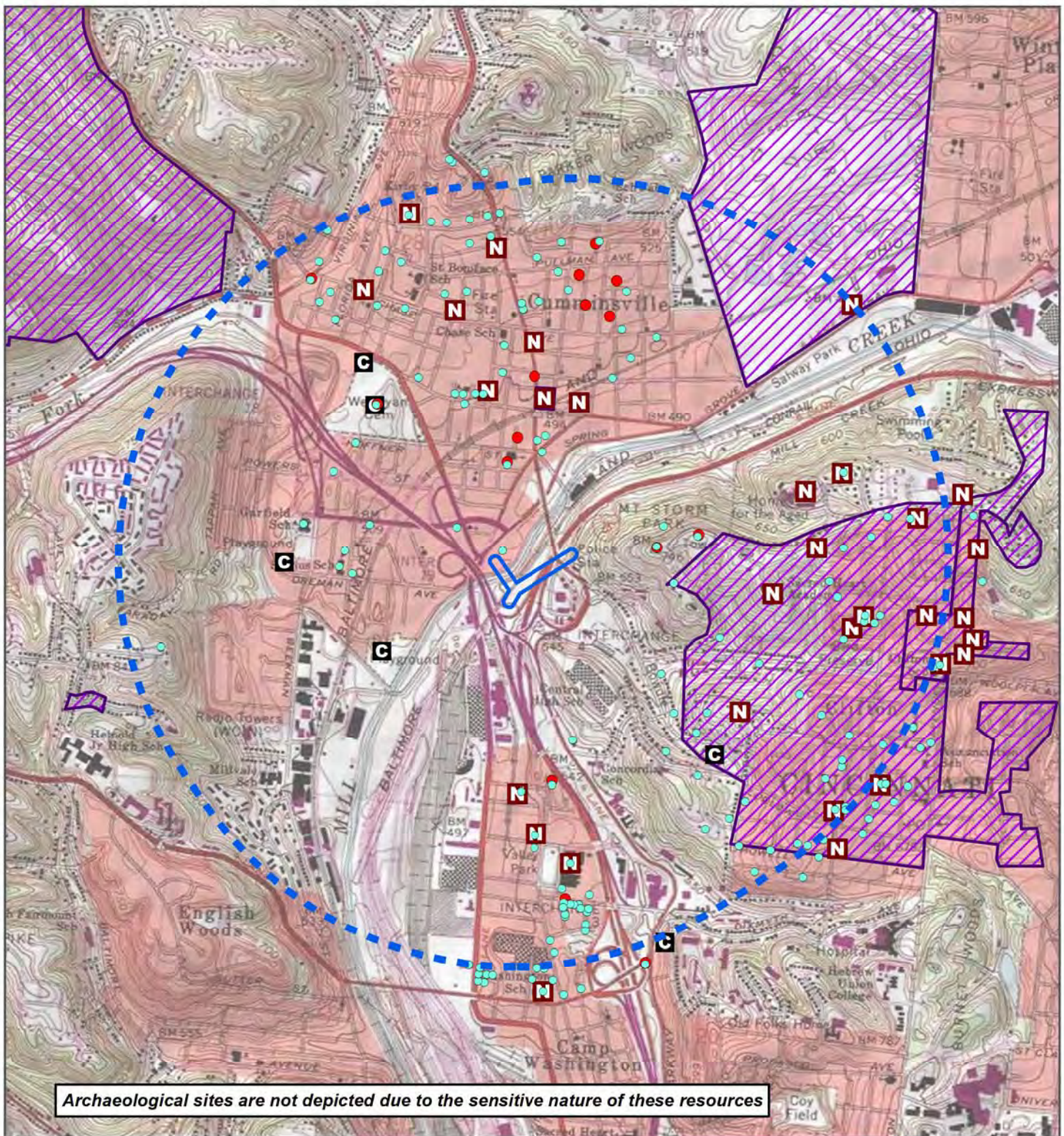
The remainder of the sites are nineteenth and twentieth century historic scatters that include features such as cisterns and foundations that are located over 1.45 km (0.9 mi) northwest of the Project Area. No archaeological sites have been previously identified in or adjacent to the Project Area. Archaeological sites are not depicted on Figure 2 due to the sensitive nature of the resource.

Table 2. Previously Recorded OAI Sites in the 1.6 km (1 mi) Study Area

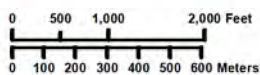
Site Number	Site Type	Site Affiliation	NRHP Eligibility
33-Ha-0317	Burial or Village Site	Unidentified Prehistoric	Not Assessed, site thought to be destroyed

Table 2. Previously Recorded OAI Sites in the 1.6 km (1 mi) Study Area

Site Number	Site Type	Site Affiliation	NRHP Eligibility
33-Ha-0749	Historic Scatter, Cistern, Foundation	Nineteenth and Twentieth Century	Not Assessed, Phase II recommended
33-Ha-0751	Historic Scatter, Cistern, Walkway	Nineteenth and Twentieth Century	Not Assessed, Phase II recommended
33-Ha-0752	Historic Scatter, Cistern, Foundation	Nineteenth and Twentieth Century	Not Assessed, Phase II recommended
33-Ha-0753	Historic Scatter, Cistern	Nineteenth and Twentieth Century	Not Assessed, Phase II recommended
33-Ha-0754	Historic Scatter, Cistern, Foundation	Nineteenth and Twentieth Century	Not Assessed, Phase II recommended
33-Ha-0796	Historic Scatter	Mid-Twentieth Century	Ineligible
33-Ha-0844	Historic Scatter	Nineteenth and Twentieth Century	Not Assessed



Archaeological sites are not depicted due to the sensitive nature of these resources



- Historic Structures
- NR Determinations of Eligibility
- N NR Listings
- C OGS Cemeteries
- NR Boundaries
- Y Project Location
- 1-Mile Radius



7.5' Quadrangle:
CINCINNATI WEST
T3e R2n Sec27
Project No.
J156721m04

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Figure 2: Previously Identified Cultural Resources

Cultural Resources Literature Review Duke Energy Ohio Cumminsville Phase 5B Project Duke Energy Ohio Hamilton County, Ohio



11121 Canal Road, Cincinnati, OH 45241
Phone (+1) 513-489-2402 Fax (+1) 513-489-2404
www.cardno.com

2.1.4 Ohio Historic Inventory Forms (OHI)

The OHI files list 156 structures within the 1.6-km (1-mi) Study Area (Figure 2) (Table 3). The structures include dwellings, mills, schools, commercial buildings, a park, a stockyard, funeral home, and churches. In addition, 7 of the structures have been determined eligible for the NRHP; however, are not currently listed on the NRHP. One resource, HAM0795627, consists of two mid-century industrial truck terminals of similar design with International-style influences. They are located approximately 34 m (111.5 ft) northeast of the current Project Area. The remaining resources are not located within or adjacent to the Project Area and they will not be directly affected by future endeavors in the Project Area.

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0147924	Residential Domestic	Greek Revival	1865
HAM0148127	Residential Domestic	Greek Revival	1860
HAM0148227	School	Romanesque Revival	1897
HAM0149040	Correctional Facility	Romanesque Revival	1866
HAM0149240	Residential Domestic	Richardsonian Romanesque	1890
HAM0149340	Residential Domestic	Italianate	1875
HAM0149440	Mill/Processing/Manufacturing Facility	Vernacular	1900
HAM0151807	Residential Domestic	Greek Revival	1860
HAM0151907	Residential Domestic	Chateausque	1885
HAM0160607	Church/Religious Structure	Neo-Classical Revival	1929
HAM0160707	Landscape/Open Space		1887
HAM0161207	Residential Domestic	Shingle	1888
*HAM0161307	Landscape/Open Space	Greek Revival	1850
HAM0166840	Double	Greek Revival	1870
HAM0166940	Residential Domestic	Queen Anne	1880
HAM0167040	Commercial	Vernacular	1890
HAM0167140	Residential Domestic	Queen Anne	1890
*HAM0167240	Residential Domestic	Queen Anne	1890

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0167340	Residential Domestic	Second Empire/Mansard	1880
HAM0168740	Commercial	Queen Anne	1890
HAM0168840	Commercial	Vernacular	1890
HAM0168940	Row House	Italianate	1870
HAM0169040	Residential Domestic	Queen Anne	1885
HAM0169240	Residential Domestic	Vernacular	1890
HAM0169340	Residential Domestic		1895
HAM0169440	Residential Domestic	Second Empire/Mansard	1890
HAM0170540	Residential Domestic	Not Discernable from OHI Form	1890
HAM0170640	Residential Domestic	Vernacular	1900
HAM0170740	Residential Domestic	Second Empire/Mansard	1880
HAM0170840	Residential Domestic	Second Empire/Mansard	1890
HAM0176127	Residential Domestic	Eastlake	1895
HAM0176227	Commercial	Greek Revival	1865
*HAM0176327	Residential Domestic	Greek Revival	1860
HAM0176427	Commercial	Queen Anne	1891
HAM0176527	Commercial	Queen Anne	1895
HAM0179407	Street Furniture/Object		1895
HAM0179507	Street Furniture/Object		1895
HAM0180707	Residential Domestic	Mediterranean	1900
HAM0181207	Residential Domestic	Richardsonian Romanesque	1900
HAM0181307	Residential Domestic	Gothic Revival	1855
HAM0181507	Residential Domestic	Queen Anne	1895
HAM0181607	Residential Domestic	Queen Anne	1895

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0181907	Animal Facilities	Not Discernable from OHI Form	1850
HAM0182107	Apartment House	Neo-Classical Revival	1905
HAM0182207	Residential Domestic	Second Empire/Mansard	1880
HAM0182307	Residential Domestic	Shingle	1900
HAM0182407	Residential Domestic	Not Discernable from OHI Form	1880
HAM0182507	Residential Domestic	Not Discernable from OHI Form	1900
HAM0182607	Residential Domestic	Vernacular	1885
HAM0182707		International	1940
HAM0182907	Residential Domestic	Stick	1890
HAM0195140	Stock Yard	Vernacular	1950
HAM0195640	School	Italianate	1882
HAM0195740	Mill/Processing/Manufacturing Facility	Commercial/Chicago Style	1929
HAM0206607	Single Dwelling	Richardsonian Romanesque	1892
HAM0206707	Residential Domestic	Shingle	1895
HAM0206807	Residential Domestic	Colonial Revival	1900
HAM0206907	Residential Domestic	Mission	1905
HAM0207007	Residential Domestic	Shingle	1890
HAM0230307	Residential Domestic	Colonial Revival	1892
HAM0542140	Residential Domestic	Queen Anne	1895
HAM0542240	Warehouse	Vernacular	1905
HAM0542340	Residential Domestic	Second Empire/Mansard	1880
HAM0542540	Commercial	Italianate	1880
HAM0542640	Residential Domestic	Italianate	1875
HAM0542840	Mill/Processing/Manufacturing Facility	Vernacular	1895

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0542940	Commercial	Vernacular	1918
HAM0543040		Neo-Classical Revival	1918
HAM0543140	Commercial	Vernacular	1920
HAM0546607	Single Dwelling	Romanesque Revival	1859
HAM0549026	Commercial		1890
HAM0550326	Residential Domestic	Second Empire/Mansard	1890
HAM0550426	Residential Domestic	Vernacular	1870
HAM0618907	School	Beaux-Arts	1906
HAM0620626	School	Neo-Classical Revival	1910
HAM0627307	Street Furniture/Object		1895
HAM0627507	Street Furniture/Object		1895
HAM0630226	Church/Religious Structure	Gothic Revival	1873
HAM0632426	Rectory/Parsonage	Queen Anne	1903
HAM0634226	Residential Domestic	Italianate	1875
*HAM0634327	Residential Domestic	Gothic Revival	1855
HAM0651526	Commercial	Art Deco	c.1938
HAM0651626	Single Dwelling	Italianate	c.1880
HAM0729907	Street Furniture/Object		ca. 1895
HAM0739907	Single Dwelling	Richardsonian Romanesque	1895
HAM0750207	Apartment House	Jacobethan	ca. 1902-1903
*HAM0753907	Park	Art Deco	1935
*HAM0762840	Rail Related	Romanesque Revival	c 1927
HAM0767507	Residential/ Domestic		1911
HAM0772326	Residential/ Domestic	Queen Anne	1883
HAM0787827	Church/Religious Structure	Romanesque Revival	1924
HAM0787927	Single Dwelling	Italianate	1890
*HAM0788140	Transportation		1914
HAM0788240	Industrial/Engineering	Commercial/Chicago Style	1925

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0794326	Single Dwelling	Second Empire/Mansard	1897
HAM0794426	Single Dwelling	No academic style - Vernacular	1885
HAM0794526	Single Dwelling	No academic style - Vernacular	1900
HAM0794626	Retail store/shop	Greek Revival	ca. 1870
HAM0794726	Single Dwelling	Second Empire/Mansard	1895
HAM0794826	Single Dwelling	Queen Anne	1910
HAM0794926	Single Dwelling	Queen Anne	1907
HAM0795026	Single Dwelling	Queen Anne	1898
HAM0795126	Single Dwelling	Italianate	1865
HAM0795226	Single Dwelling	Second Empire/Mansard	1890
HAM0795326	Single Dwelling	Colonial Revival	1905
HAM0795426	Single Dwelling	Queen Anne	1913
HAM0795526	Single Dwelling	No academic style - Vernacular	1909
HAM0795627	Road (vehicular) Related	Modern Movements	1949
HAM0795726	Single Dwelling	Neo-Classical Revival	ca. 1900
HAM0795826	Single Dwelling	Colonial Revival	1906
HAM0795926	Single Dwelling	Prairie	1912
HAM0796026	Single Dwelling	Bungalow	1904
HAM0796126	Church/Religious Structure	High Victorian Gothic	1885-86
HAM0796226	Other Use	International	1955
HAM0796326	Communications Facility	Byzantine	1924
HAM0796426	Single Dwelling	Richardsonian Romanesque	1896
HAM0796526	Single Dwelling	Queen Anne	1898
HAM0796626	Single Dwelling	Prairie	1907
HAM0796726	Single Dwelling	Queen Anne	1911
HAM0796826	Single Dwelling	Queen Anne	1903
HAM0796926	Single Dwelling	Prairie	1913
HAM0797126	Single Dwelling	No academic style - Vernacular	1898
HAM0797226	Single Dwelling	No academic style - Vernacular	1900
HAM0797326	Single Dwelling	Eastlake	1890

Table 3. Previously Recorded OHI Structures in the 1.6 km (1 mi) Study Area

Structure Number	Historic Use	Architectural Style	Approx. Date
HAM0797426	Ceremonial Structure/Space	Greek Revival	1916
HAM0797526	Single Dwelling	Queen Anne	1885
HAM0797626	Single Dwelling	No academic style - Vernacular	1890
HAM0797726	Single Dwelling	Queen Anne	1905
HAM0797826	Restaurant/bar	Other	1967
HAM0798026	Single Dwelling	Craftsman/Arts and Crafts	1908
HAM0804107	Single Dwelling	International	1963
HAM0804507	Funeral Home	French Colonial/Norman Revival	1932
HAM0804707	Single Dwelling	Modern Movements	1962
HAM0804807	Single Dwelling	Modern Movements	1958
HAM0805007	Single Dwelling	Wrightian	1959
HAM0805107	Double	Prairie	1906
HAM0805207	Single Dwelling	Prairie	1905
HAM0805307	Single Dwelling	Queen Anne	1909
HAM0805907	Single Dwelling	Tudor/English Revival	1929
HAM0806507	Single Dwelling	Colonial Revival	ca. 1900
HAM0806607	Single Dwelling	International	1970
HAM0806707	Single Dwelling	Tudor/English Revival	1913
HAM0806807	Apartment House	Tudor/English Revival	1898
HAM0806907	Single Dwelling	Queen Anne	1898
HAM0807007	Single Dwelling	International	1934
HAM0807107	Single Dwelling	Tudor/English Revival	1923
HAM0807207	Church/Religious Structure	International	1952, 1959
HAM0807307	Single Dwelling	Second Empire/Mansard	1850
HAM0807407	Single Dwelling	Tudor/English Revival	1926
HAM0807607	Single Dwelling	Queen Anne	1890
HAM0807707	Single Dwelling	Italianate	1855
HAM0807807	Single Dwelling	International	1938-40
HAM0808007	Single Dwelling	Wrightian	1953
HAM0852126	Multiple Dwelling	Italianate	1886
HAM0852226	Residential/Domestic	Second Empire/Mansard	1880
HAM0852326	Double	Greek Revival	1875

* NPS DOE: Structures determined eligible for the NRHP but not currently NRHP listed

2.1.5 Ohio Genealogical Society (OGS) Cemetery Survey files

Seven cemeteries were identified within the 1.6-km (1-mi) Study Area (Figure 2). These cemeteries are listed in Table 4. None of these cemeteries are located within or adjacent to the Project Area. In addition, the Roll Cemetery (OGS ID 4595) and Third Quaker-Friends Church Cemetery (OGS ID 4593) are reported to have been moved.

Table 4. Previously Recorded OGS Cemeteries in the 1.6 km (1 mi) Study Area

OGS ID Number	Name	Location	Establishment Date
15168	Wright Pioneer Methodist	Northwest corner of Wesleyan	1833
4613	Wesleyan	In Cumminsville. Northwest corner of Colerain Avenue and Hoffner Streets. Entrance at 4003 Colerain Avenue	9 Feb 1843
4544	Ahabath Achim-Clifton United Jewish Cemetery	In Clifton. 730 Ludlow Avenue	1848
4593	Third Quaker-Friends Church	In South Cumminsville. 600 feet west of Beekman Street. North side of Dremen Street	
4595	Roll Cemetery	End of Roll Lane. 200 feet south of Ralston Avenue	1819
4555	Cincinnati Crematory and Mausoleum	South side of and at 525 W. Martin Luther King Drive. Opposite Whitfield Avenue. Oldest crematory in Ohio	1897
NA	Spring Grove Cemetery	4521 Spring Grove Avenue	1845

2.1.6 Cultural Resource Management (CRM) Reports

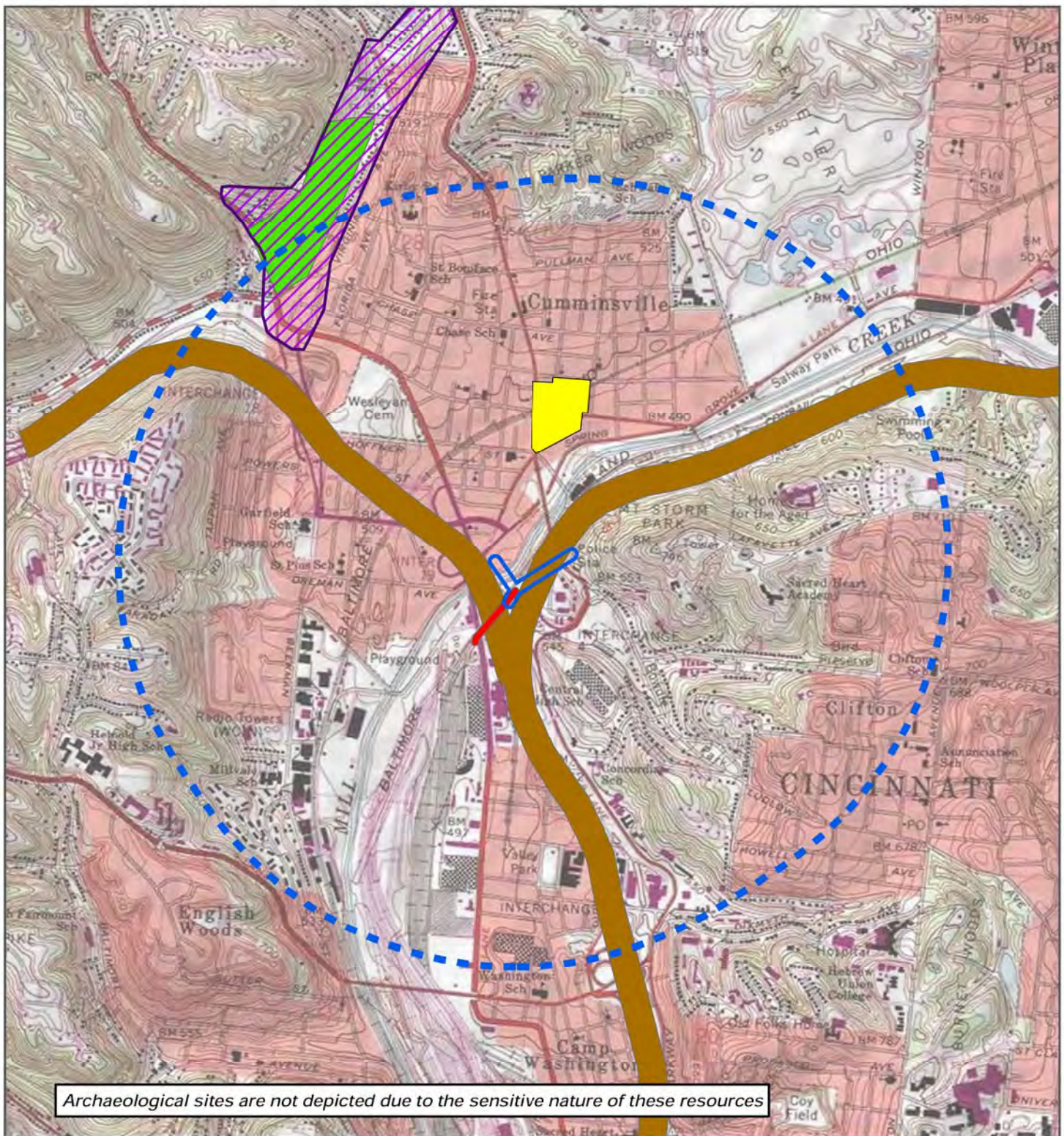
Records on file at OHPO indicate that four cultural resource investigations have previously been conducted within 1.6 km (1 mi) of the Project Area, one of which reviewed large portions of the current Project Area (Schneider and Sudnik 2007). These investigations are listed in Table 5 and depicted on Figure 3.

In 2007, TransSystems Corporation conducted a Phase I Archaeological Reconnaissance for proposed improvements to Interstate I-75 in the Mill Creek Valley (Schneider and Sudnik 2007). The project investigated a significant portion of the current Project Area (Figure 3); however, the majority of the project consisted of archival research and only several portions of the large Project Area within Mt. Storm Park, were determined to have potential to contain intact, non-urban soils. Subsurface survey was only conducted in these areas. One shovel test contained a fragment of historic glass and was assigned site trinomial 33-Ha-0796 (Schneider and Sudnik 2007). This isolate artifact site was outside of the current Study Area.

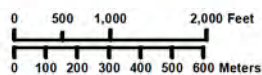
In addition to records provided by OHPO, Cardno conducted a 2018 survey which investigated the central transmission pole structure replacement location (M11-X1-31) (Grob and Parsell 2018; Table 5). No cultural resources were identified at this structure location. The majority of the soils within the Project Area were found to be heavily disturbed, which correlates with the soil survey of the area (USDA/SCS 2014).

Table 5. Previous Cultural Resource Investigations in the 1.6 km (1 mi) Study Area

Year	Author(s)	Title	Archaeological Sites Identified
1989	Genheimer, Robert A.	A Preliminary Historical Archaeological Assessment of the Feasible Alternative Segment of the Proposed Colerain Corridor (HAM-127-5.47) in the City of Cincinnati, Hamilton County, Ohio	Multiple, all outside Study Area
1999	Miller, Orloff and John Picklesimer	Phase I Archaeological Field Survey of the Colerain Corridor (HAM-127-5.47), within the City of Cincinnati, in Hamilton County, Ohio	33-Ha-0748 through 33-Ha-0757
2007	Schneider, Andrew M. and Rachel H. Sudnik	Phase I Archaeological Reconnaissance Survey for the Proposed Improvements to Interstate I-75 in the Mill Creek Valley, Cincinnati, Hamilton County, Ohio	33-Ha-0796
2015	Burden, Jennifer, Danielle Meiners, and Morgan Wampler	Phase I Archaeological and History/Architecture Report for the Proposed Southwest Ohio Regional Transit Authority, Northside Transit Center and Park & Ride, (Cincinnati) Hamilton County, Ohio	33-Ha-0844
2018	Grob, Kaye and Veronica Parsell	Phase I Archaeological Reconnaissance for the F1286 138kV Cumminsville (I-75) Improvement Project, Hamilton County, Ohio	None



Archaeological sites are not depicted due to the sensitive nature of these resources



- Grob and Parcell, 2018
- Burden et al., 2015
- Miller and Picklesimer, 1999
- Schneider and Sudnik, 2007
- Genheimer, 1989
- Project Location
- 1-Mile Radius

7.5' Quadrangle:
CINCINNATI WEST
T3e R2n Sec27
Project No.
J156721m04

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

Figure 3: Previous Cultural Resources Investigations
Cultural Resources Literature Review
Duke Energy Ohio Cumminsville
Phase 5B Project
Duke Energy Ohio
Hamilton County, Ohio



11121 Canal Road, Cincinnati, OH 45241
Phone (+1) 513-489-2402 Fax (+1) 513-489-2404
www.cardno.com

2.1.7 Historic Maps and Atlases

Three available historic maps were referenced for information pertaining to the historic use of the Project Area between 1869 and 1955 (Titus 1869; USGS 1914, and 1955) (Appendix A).

The 1869 atlas depicts a railroad and Mill Creek bisecting the Project Area (Titus 1869). No structures are depicted within the Project Area. Mill Creek has not yet been channelized in the vicinity of the Project Area. The location within Cincinnati does not appear to reflect the urban nature of the Project Area today (Titus 1869).

The 1914 1:62,500-scale topographic quadrangle reflects the growing urban nature of the area surrounding the Project Area. The Project Area is slightly outside of the population center of Cincinnati at the time, but nonetheless, the surrounding area contains multiple urban neighborhoods such as Fairmount. The hilly topography slightly west of the Project Area is not yet heavily populated (USGS 1914). The portion of Mill Creek east of the Project Area appears to have been channelized; however, it has not yet been channelized south of the Project Area (USGS 1914). A railroad is still located within the Project Area and a railyard and stockyards are depicted east of Mill Creek and south of the Project Area (USGS 1914). No structures appear to be directly within the Project Area.

By 1955, the Cincinnati West topographic quadrangle depicts multiple rail lines south of the Project Area. These rail lines are associated with a rail yard located along the eastern bank of Mill Creek, which remains extant today. In addition, Mill Creek appears to have been channelized and straightened on this map (USGS 1955; Appendix A). No structures are located within the Project Area (USGS 1955).

In the *Archaeological Atlas of Ohio*, Mills (1914) lists a total of 186 prehistoric sites in Hamilton County including mounds, enclosures, villages, and burials. Research indicated multiple mounds and enclosures east of Mill Creek in Cincinnati. No mapped archaeological sites appear to be in the current Project Area; however, it should be noted that the Miami and Erie Canal is located east of the Project Area.

2.2 Brief Environmental Context

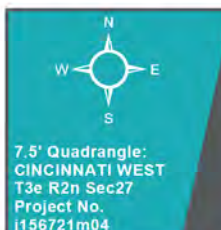
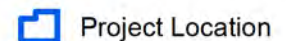
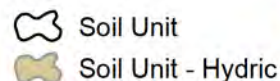
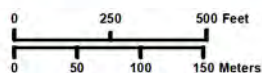
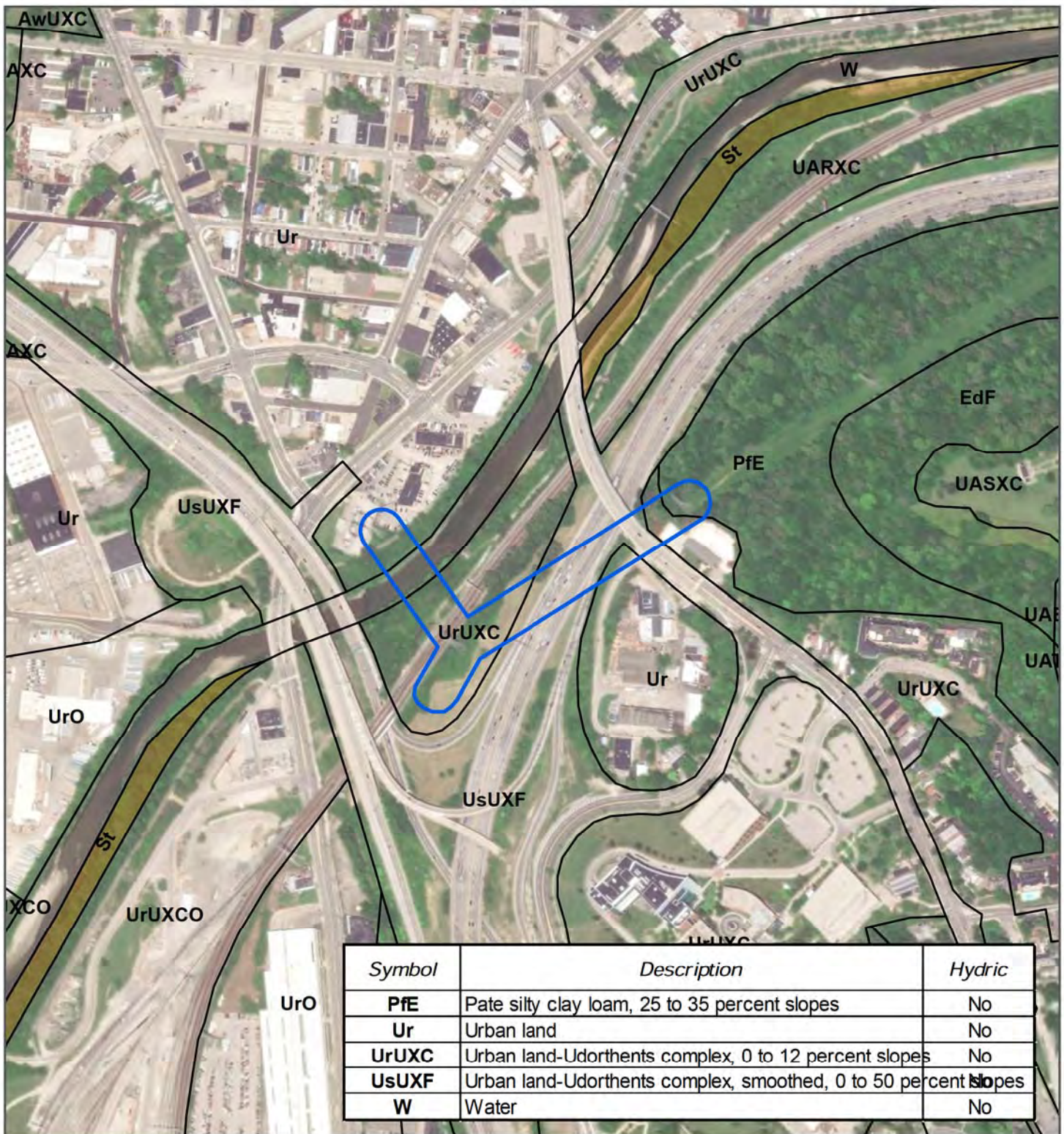
The Project Area is located within the Central Lowland Till Plains Physiographic Region, in the Illinoian Till Plain region (Brockman 1998). The proposed Project Area is located in the Ohio River Watershed. The Ohio River is located nearly 5.8 km (3.65 mi) south. The Project Area crosses Mill Creek. The Project Area is located in an area where multiple interstate highways, a railroad, and roads intersect, and has likely been heavily disturbed by the construction of these features as well as substation structures adjacent to the northern terminus of the Project Area.

2.2.1 Project Area Soils

The Project Area is located within the Genesee-Stonelick-Urban soil association, which consists of “deep, nearly level, well drained medium textured and moderately coarse textured soils and urban land on flood plains” (USDA/SCS 1982) (Figure 4). Soils within the Project Area are depicted in Table 6. The soils in the Project Area are predominantly disturbed, urban soil units.

Table 6. Soil Units within the Project Area

No	Soil Characteristics	Hydric
UsUXF	Urban land-Udorthents Complex, smoothed, 0-50% slopes	No
Ur	Urban Land	No
UrUXC	Urban Land Udorthents Complex, 0-12% slopes	No



This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs. This map was not created as survey data, nor should it be used as such. It is the user's responsibility to obtain proper survey data, prepared by a licensed surveyor, where required by law.

**Figure 4: Soil Survey
(2017 Aerial)**
Cultural Resources Literature Review
Duke Energy Ohio Cummins ville
Phase 5B Project
Duke Energy Ohio
Hamilton County, Ohio



11121 Canal Road, Cincinnati, OH 45241
Phone (+1) 513-489-2402 Fax (+1) 513-489-2404
www.cardno.com

2.2.2 Prehistoric Cultural Setting

Archaeological sites are well-documented in Hamilton County, Ohio. The county is located in a region with a temperate climate, well-drained soils, topography, and riverine corridors, making it an ideal location for settlement and subsistence throughout history. Nearly 870 archaeological sites have been documented in Hamilton County to date, including many with a historic component (OHC 2019). The prehistoric occupation of Ohio is generally divided into three broad periods: Paleoindian, Archaic, and Woodland. Hamilton County contains sites dating to each of these time periods; however, many of the recorded prehistoric sites in the county do not contain diagnostic artifacts and therefore cannot be attributed to specific cultural occupations (OHC 2019). This section will outline each of these broad time periods, including smaller divisions within each.

2.2.2.1 Paleoindian Period (ca. 13,000 – 10,000 B.P.)

The Paleoindian period encompasses the cultural remains of the earliest recorded occupants of the region, after about 13,000 years before present day (B.P.), shortly following the retreat of the last glaciers to cover the land. Paleoindians were nomadic groups comprised of small kin-based bands that primarily practiced a foraging subsistence strategy. Current research suggests that these Paleoindian bands moved within a circumscribed geographic range to intercept large herd animals during their migratory cycles (Gramly 1988; Stothers 1996). Over time, the focus likely shifted from large-scale hunting expeditions to a more regular procurement of game, accompanied by a decrease in the overall size of territory exploited by these groups.

Paleoindian sites are most easily recognized in the archaeological record by the presence of lanceolate spear points. These points may be fluted (a large flake removed from each side of the base) or unfluted. Early Paleoindian projectile points are often made of high quality materials, usually from a widely dispersed area, which suggest a high level of mobility. Later Paleoindian points are more often made from local chert types, which may reflect a reduction in this mobility.

Documented archaeological sites dating to this time period are relatively rare in this part of state. The Ohio Archaeological Inventory lists approximately 10 sites dating to the Paleoindian period in Hamilton County (OHC 2019).

2.2.2.2 The Archaic Period (10,000 – 2,500 B.P.)

The Archaic period is identified by archaeologists as the period when settlements organized around local environmental resources replaced the broad seasonal migration patterns of the Paleoindian period. Approximately 26 sites in Hamilton County can be broadly attributed to the Archaic Period, often through the presence of characteristic projectile points (OHC 2019).

2.2.2.2.1 Early Archaic (10,000 – 8,000 B.P.)

The Early Archaic time period is often identified in the archaeological record by the transition from large, lanceolate bifaces of Paleoindian assemblages to smaller, notched and bifurcated bifaces. Groundstone tools and other lithic tools such as graters, scrapers, and notched knives are also observed in the Early Archaic. Local cherts continue to appear in the archaeological record as a common resource. Early Archaic subsistence strategies continued the focus on large migrating Pleistocene herd animals, but Early Archaic groups also began to exploit more local environmental resources including smaller game animals. Early Archaic artifacts tend to display more diversity in style and function, which also may reflect diversity in resource exploitation. Currently, 34 documented sites in Hamilton County have an Early Archaic component (OHC 2019).

2.2.2.2.2 Middle Archaic Period (8,000 – 5,000 B.P.)

Archaeologists observe little change between the Early and Middle Archaic periods. The Middle Archaic period is reflected by changes in projectile point and blade types, but these variations are more prominent

in southern portions of the U.S., and are not evident in southern Ohio (Vickery and Litfin 1992). The Middle Archaic may be described simply as a transitional period between the Early and Late Archaic periods. Only 2 sites in Hamilton County have a documented Middle Archaic component (OHC 2019).

2.2.2.2.3 Late Archaic Period (5,000 – 2,500 B.P.)

The Late Archaic Period sees an increased focus on regional mobility patterns as well as an increase in resource diversity. Late Archaic groups incorporated plants into a larger part of their subsistence strategy. Late Archaic sites often represent repeated occupation over a long period of time, which suggests a regular, more localized pattern of movement across the landscape. Projectile points and other lithic tools also show an increase in variation. Small side-notched and corner-notched points and side and end scrapers appear frequently in Late Archaic assemblages. Groundstone tools are also increasingly evident. Pottery begins to appear in the transition between the Late Archaic and Early Woodland periods. There are approximately 43 documented sites with a Late Archaic component in Hamilton County (OHC 2019).

2.2.2.3 The Woodland Period (2,500 – 500 B.P.)

Wide exchange of materials, the innovation of ceramic technology, the emergence of domesticated crops and animals, and an increasing shift toward permanent settlements generally identify the transition to the Woodland time period. Populations in the Woodland period tended to be broad spectrum hunter-gatherers, living in semi-sedentary occupations made up of small groups, likely based on kinship. These occupations were typically located around riverine environments and organized around communal burials. Innovations such as a more intensive reliance on pottery, horticulture, as well as the bow and arrow also occur during the Woodland time period. Hamilton County contains over 170 sites with artifacts dating to the Woodland period (OHC 2019).

2.2.2.3.1 Early Woodland Period (2,500 – 1,900 B.P.)

The Early Woodland period marks the transition from the more nomadic Archaic subsistence strategy to a more localized, semi-sedentary subsistence strategy. The Adena culture is representative of the Early Woodland period in southern Ohio. Cultural material associated with the Adena are stemmed projectile points with weak shoulders, ceramic vessels with flat bottoms and lug handles, drills, scrapers, and a variety of ornamental and ceremonial materials (Tuck 1978). The earliest earthworks and burial mounds in southern Ohio are attributed to the Adena. These earthworks were often constructed over another structure, indicated by the presence of post-hole features. Burials are often associated with a variety of exotic materials, such as cut mica, copper, beads, gorgets, and shell. It is important to note, however, that “Adena”, like “Hopewell” in the Middle Woodland, refers more to a pattern of mortuary practices and exchange of goods, rather than to a discrete group of peoples. Currently, 31 sites in Hamilton County date to the Early Woodland Period (OHC 2019).

2.2.2.3.2 The Middle Woodland Period (1,900 – 1,400 B.P.)

Archaeologists generally describe the Middle Woodland period in Ohio as the period associated with the development of the Hopewell culture. The subsistence strategy was organized around a seasonal pattern of resource procurement and an increasing reliance on horticulture. The Middle Woodland period saw a continued increase in population and social organization, reflected in the numerous earthworks constructed in this period. These earthworks, often constructed in geometric figures, may have represented ceremonial centers suggesting that populations may have been organized at some larger scale. The prehistoric trade of exotic materials also reached a high during the Middle Woodland as populations within the “Hopewell Interaction Sphere” traded materials from as far away as the Upper Peninsula of Michigan (copper), the Gulf Coast (shell and shark teeth), and the Carolinas (mica). It is likely that the Hopewell Interaction Sphere represents a broad but loosely organized pattern of exchange rather than a well-defined system of trade (Pacheco 1996). While pottery tends to be more utilitarian in nature, vessels with an engraved duck motif

appear in funerary contexts. In general, Middle Woodland vessels have thinner walls than earlier ceramics. There are approximately 53 sites in Hamilton County with a Middle Woodland component (OHC 2019).

2.2.2.3.3 The Late Woodland/Late Prehistoric Period (1,400 – 1,000 B.P.)

A significant reduction in the extensive, extra-regional trade of exotic goods and materials marks the Late Woodland period. The construction of large ceremonial earthworks also ends in the Late Woodland, as there is a shift in mortuary practices to interring burials into existing, older mounds or small stone mounds. Isolated, individual burials are also observed. This period is also characterized by an increasingly sedentary residential pattern of large nucleated villages supported by a growing reliance on maize and other cultigens as a substantial part of the Late Woodland diet. Palisades or ditches were sometimes constructed around these villages. This need for defensive structures suggests an increasing instability at times. Resource diversity also continued to increase, although reliance on aquatic resources was less pronounced in southern Ohio than in other areas of the Midwest. The deeply dissected drainages of southern Ohio do not produce the oxbow pond or lake features as seen in the Mississippi, Missouri or Illinois River valleys (Seeman and Dancey 2000). Late Woodland artifacts include small triangular points, scrapers, mortars and pestles, celts, and hoes. A distinct technological innovation of the period was the use of earthen ovens for steaming or baking food (Seeman and Dancey 2000). Pottery in the early portion of the Late Woodland exhibits thick angular shoulders (Newtown shoulder) and contrasts with Middle Woodland containers (Seeman and Dancey 2000). The bow and arrow became prevalent, though likely in the later portion of the Late Woodland. Hamilton County contains approximately 32 documented sites with artifacts dating to the Late Woodland Period (OHC 2019).

2.2.2.4 Fort Ancient (1,000 B.P. – contact)

In southwest Ohio, archaeologists have described a settlement system marked by sedentary villages located along floodplains, with smaller resource-specific occupations in the uplands and lowlands (Pollack and Henderson 2000). The Fort Ancient period has been described as an in situ development from Late Woodland groups in the Ohio valley, extending into southeastern Indiana, northern Kentucky, southern Ohio, and eastern West Virginia (Drooker 1997). The Mississippian influence is evident in designs and forms, but made from locally available materials such as spatula shaped celts, triangular projectile points, and the falcon motif. Fort Ancient villages are typically located along the Ohio River and its major tributaries. In the late pre-contact period, the majority of settlements were located within 12.4 mi (20 km) of the Ohio River (Drooker 1997). Many of these villages are organized around a central plaza and some were surrounded by palisades. Structures varied in size from as small as 107 square feet (10 square meters) to as large as 1930 square feet (180 square meters) (Drooker 1997). Semi-subterranean pit houses provided cooler temperatures in the summer and warmer temperatures in the winter. Storage pits also became more extensive, with some measuring 3.4 ft (1 m) in diameter and 6.5 ft (2 m) in depth, capable of storing over 45 bushels of shelled corn (Cowan 1987).

Use of burial mounds declined after approximately 700 B.P., as people began interring their deceased in the villages around plazas as well as in and around houses. Funerary items include pots and pipes, but more exotic materials such as marine shell also are seen. The presence of marine shell and other engraved Mississippian goods along with the location of Fort Ancient groups along the Ohio River suggest some level of regional interaction. The late pre-contact period, however, is characterized by more concentrated settlement locations and more intraregional similarities in goods such as ceramics.

By the later part of the Fort Ancient period (post 1400 A.D.), most settlements were located within 20 km of the Ohio River and appear to represent a collection of formerly dispersed groups (Drooker and Cowan 2001). This period also includes increased intra and extra-regional interaction among eastern and western populations (Drooker and Cowan 2001). The mid-sixteenth century marks the beginning of the Protohistoric period, when European goods begin to arrive in the region, but prior to substantial European establishment.

One of the most prominent sites in the area dating to the Fort Ancient period is the Madisonville site located near Cincinnati. Currently, there are approximately 48 sites that date to this time period in Hamilton County (OHC 2019).

2.2.3 Historic Cultural Setting

The establishment of Detroit (1701) as a major center for fur trade and as the seat of European political and military power in the region led to an increase of non-Native people and a resurgence of Native Americans in the Ohio area throughout the eighteenth century (Nester 2000). By the mid-eighteenth century, British and French traders began to rival each other in the Ohio region. Following the French and Indian War (1756-1763), the French relinquished control of all Ohio lands to the British (Nester 2000). In the years following the treaty that ended the war, British colonists were often engaged in skirmishes and battles with the Native Americans, who were disgruntled with the postwar policies of the British. In an attempt to maintain peaceful relations with the tribes that participated as allies to the French during the war, Great Britain passed the Royal Proclamation of 1763, which restricted settlement west of the Appalachian Mountains (Ohio History Central 2015a). The proclamation only served to anger the colonists, who continued to move west and settle. The British victory in the French and Indian War and the events that followed shortly thereafter sparked the upheaval that would lead to the American Revolution against Great Britain (Ohio History Central 2015a). After the Revolutionary War (1775–1783), most of the Native American territory was ceded to the United States through a series of treaties, including the Treaty of Fort McIntosh (Pennsylvania) in 1785 and the Treaty of Greenville (Ohio) in 1795 (Ohio History Central 2015b).

The 1795 Treaty of Greenville, which was signed at Fort Greenville (now the city of Greenville located northwest of Montgomery County in Darke County), effectively ended war with the Native Americans and meant that southwest Ohio could develop along the Great and Little Miami Rivers. The stage had been set for this development by John Cleves Symmes, an investor who purchased the entire area between the Great and Little Miami Rivers, from the Ohio River north to the Mad River (in present-day Montgomery County) (Honious 2003). Symmes had purchased the land in 1787, for 66 cents an acre; however, it was not until the Treaty of Greenville, which created a boundary line between land owned by Native American tribes and the area open to European settlement, that Symmes could profit from his purchase (Honious 2003). Two weeks after the treaty was signed, Symmes sold a portion of his property to a group of developers that included Arthur St. Clair (the Governor of the Northwest Territory), Israel Ludlow, James Wilkinson, and Congressman Jonathan Dayton (Honious 2003). Known as the “Dayton Purchase,” this tract included land in present-day eastern Montgomery County and western Greene County, and included the land that would become the city of Dayton. The investors chose “Dayton” for the name as the most pleasant of their four surnames (Honious 2003). Ohio officially became a state in February 1803, when President Jefferson endorsed the United States Congress's decision to grant Ohio statehood; however, Ohio celebrates statehood in March 1, when the Ohio General Assembly met for the first time (Ohio History Central 2015c).

2.2.3.1 *Hamilton County*

Hamilton County, Ohio, established on January 2, 1790, was the second county formed in the Northwest Territory. The county was named in honor of Alexander Hamilton, the first Secretary of the Treasury of the U.S. The Symmes Purchase of 1787, also known as the Miami Purchase, included what is now Hamilton and Butler Counties. By January 1789, the Town of Losantiville, which would become Cincinnati, was platted and divided into plots and the area began to grow slowly (Ohio History Central 2015d). In 1789 Fort Washington was constructed to protect the settlers in the Symmes Purchase and northern Kentucky (Ohio History Central 2015d). In 1790, the governor of the Northwest Territory established Hamilton County, and made Losantiville, the county seat (Ohio History Central 2015d).

After the battle of Fallen Timbers in 1794, which led to the signing of the Treaty of Greenville and the ceding of much of present day Ohio, Hamilton County really began to grow, reaching nearly 15,000 people by 1820 (Ohio History Central 2015d). During the nineteenth century, Hamilton County continued to prosper

(Ohio History Central 2015d). The Ohio River provided numerous opportunities for business and travel up and down the river valley (Ohio History Central 2015d). The addition of the Miami and Erie Canal made transportation of cattle and crops much easier and less expensive. By the late nineteenth century, Cincinnati was the largest city in Ohio, with almost 300,000 people (Ohio History Central 2015d). More than 15 railroads connected Cincinnati to other parts of Ohio and the U.S. By 1890, Hamilton County had become an important industrial, political, literary, and educational center in Ohio and the U.S. (Ohio History Central 2015d). For most of the twentieth century, Hamilton County experienced continued growth.

2.3 Summary and Discussion

This section presented the results of the cultural resources records review. The records check indicates that 8 archaeological sites, 156 historic structures, 7 cemeteries, one of which is listed as a NHL), 15 NRHP DOE structures, and 34 NRHP-listed resources have been recorded within 1.6 km (1 mi) of the Project Area. The literature review indicates that no previously identified cultural resources are located within the Project Area. The results of the literature review indicate that a large portion of the Project Area has been previously investigated for cultural resources; however, no excavation was conducted, rather it was determined that the Urban soils within the current Project Area were unlikely to contain intact cultural deposits (Schneider and Sudnik 2007). Additional portions of the Project Area were also subject to shovel test survey in 2018 (Grob and Parsell 2018). The cultural context of the region suggests that it is unlikely that intact cultural resources would be extant within the Project Area. The majority of the Project Area is located in disturbed and heavily graded areas related to the installation of adjacent buildings, construction of the adjacent interstate, state route, and railroad tracks, and existing transmission pole structures. Photographs of the Project Area are located in Appendix B.

3 Summary and Recommendations

3.1 Project Overview

In response to a request from Duke Energy Ohio, Cardno conducted a cultural resources records review for the Cumminsville Phase 5B Project in Hamilton County, Ohio. Based on information provided by Duke Energy Ohio, the Project Area is located in the NE 1/4 of Section 27, on the Cincinnati West, Ohio 7.5' USGS topographic map in Hamilton County, Ohio. The Cumminsville Phase 5B Project initiates at Duke Energy Ohio Structure M11-X2-31a (Zone 16S, 712466.46 m E, 4336757.22 m N) located north of I-75, north of Mill Creek, east of I-74, and south of Spring Grove Avenue, and terminates at Duke Energy Ohio Structure M11-X1-32 (Zone 16S, 712801.00 m E, 4336795.88 m N) located south of I-75 and east of South Ludlow Avenue. The Project Area consists of a 0.50 km (0.31 mi) long and 45.72 m (150 ft) wide future transmission line improvement project located in areas that have been subjected to previous mechanical earthmoving.

Background research conducted in August 2019 focused on a 1.6 km (1 mi) Study Area around the proposed project footprint. Cardno gathered information about previously conducted cultural resource investigations and documented cultural resources as well as the environmental and cultural context of the region to assess the potential for additional undocumented cultural resources in and around the Project Area.

3.2 Applicable Regulations and Guidelines

Section 106 of the National Historic Preservation Act (NHPA) requires that federal agencies assess the effect(s) of their projects on cultural resources eligible for listing in the NRHP. Section 106 of the NHPA applies to any federal agency undertaking that has the potential to affect cultural resources eligible for listing in the NRHP, should they be present. This federal agency action may include permitting, funding, or other approval of project activities.

Section 106 of the NHPA requires that the federal agency assess effects of their undertakings in areas where the effects are likely to occur, known as the Area of Potential Effects (APE). The APE takes into account both direct and indirect effects. Direct effects are limited to the areas of likely ground disturbance in the planned area of improvements and in associated easements. Direct effects in these areas may affect archaeological or architectural resources if present. Indirect effects includes areas where visual, noise, or other effects caused by the project occur outside the footprint of the Project Area. Indirect effects may affect architectural resources, certain types of archaeological resources, or other cultural resources if present.

Ohio Administrative Code 4906-06 outlines the requirements regarding filing an accelerated certificate application with the Ohio Power Siting Board (OSBS). This regulation requires the applicant "provide a description of the applicant's investigation concerning the presence or absence of significant archeological or cultural resources that may be located within the potential disturbance area of the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation". The current project is being undertaken under OPSB guidelines, but Section 106 may be applicable if Federal involvement (i.e. permitting) is needed.

Pursuant to Ohio Revised Code §149.53, if archaeological artifacts or human remains are identified during project activities in any location, work within the area must stop and the OHPO must be notified within two (2) business days.

3.3 Summary of Results and Recommendations

The records check indicates that 8 archaeological sites, 156 historic structures, 7 cemeteries, one of which is listed as a NHL), 15 NRHP DOE structures, and 34 NRHP-listed resources have been recorded within 1.6 km (1 mi) of the Project Area, none of which are in the Project Area. Large portions of the Project Area have been previously reviewed for cultural resources (Schneider and Sudnik 2007; Grob and Parsell 2018).

The majority of the Project Area appears to have been heavily graded as a result of the construction of the adjacent buildings, interstate, railroad, state route, and existing transmission pole structures. Due to the previously disturbed soils and limited amount of ground disturbance related to the removal of existing transmission structures and installation of new transmission pole structures, no archaeological reconnaissance is recommended for the project to proceed as planned.

4 References Cited

Brockman, C. Scott

- 1998 Physiographic Regions of Ohio. Electronic document, http://www.epa.state.oh.us/portals/27/SIP/Nonattain/F2-physiographic_regions_of_Ohio.pdf, accessed August 2019.

Burden, Jennifer, Danielle Meiners, and Morgan Wampler

- 2015 Phase I Archaeological and History/Architecture Report for the Proposed Southwest Ohio Regional Transit Authority, Northside Transit Center and Park & Ride, (Cincinnati) Hamilton County, Ohio. Prepared by Gray and Pape, Inc. Copy on file at the Ohio History Connection, Columbus, Ohio.

Cowan, C. Wesley

- 1987 First Farmers of the Middle Ohio Valley. Cincinnati Museum of Natural History, Cincinnati, Ohio.

Drooker, P.

- 1997 The View from Madisonville: Protohistoric Western Fort Ancient Interaction Patterns. *Memoirs of the Museum of Anthropology* No. 21. The University of Michigan, Ann Arbor.

Drooker, P.B. and C.W. Cowan

- 2001 Transformation of the Fort Ancient cultures of the central Ohio Valley. In *Societies in Eclipse: Archaeology of the Eastern Woodlands Indians, A.D. 1400-1700*, ed. D.S. Brose, C.W. Cowan, and R.C. Manifort, Jr. Smithsonian Institution Press, Washington, D.C., 83-106.

Genheimer, Robert A.

- 1989 A Preliminary Historical Archaeological Assessment of the Feasible Alternative Segment of the Proposed Colerain Corridor (HAM-127-5.47) in the City of Cincinnati, Hamilton County, Ohio. Copy on file at the Ohio History Connection, Columbus, Ohio.

Gramly, R.

- 1988 Paleoindian Sites South of Lake Ontario, Western and Central New York State. In *Late Pleistocene and Early Holocene Paleoecology and Archaeology of the Eastern Great Lakes Region*, edited by R.S. Laub, N. Miller and D. Steadman, pp. 265-280. *Bulletin of the Buffalo Society of Natural Sciences* 33.

Grob, Kaye and Veronica Parsell

- 2018 Phase I Archaeological Reconnaissance for the F1286 138kV Cumminsville (I-75) Improvement Project, Hamilton County, Ohio. Prepared by Cardno, Inc. Prepared for Duke Energy Ohio.

Honious, Ann

- 2003 What Dreams We Have: The Wright Brothers and Their Hometown of Dayton, Ohio. U.S. Department of the Interior, National Park Service. Electronic document
http://www.nps.gov/parkhistory/online_books/daav/chap1.htm, accessed March 2016.

Miller, Orloff and John Picklesimer

- 1999 Phase I Archaeological Field Survey of the Colerain Corridor (HAM-127-5.47), within the City of Cincinnati, in Hamilton County, Ohio. Prepared by Gray and Pape. Copy on file at the Ohio History Connection, Columbus, Ohio.

Mills, W. C.

- 1914 Archaeological Atlas of Ohio. Ohio State Archaeological and Historical Society, Columbus.

Nester, William

- 2000 The Great Frontier War: Britain, France, and the Imperial Struggle for North America, 1607-1755. Praeger Publishers. Westport, Connecticut.

Ohio History Connection (OHC)

- 2019 Ohio State Historic Preservation Office Online Mapping System. Electronic document,
<https://www.ohiohistory.org/preserve/state-historic-preservation-office/mapping>, accessed August 2019.

Ohio History Central

- 2015a Ohio History Central: French and Indian War. Electronic document,
http://www.ohiohistorycentral.org/w/French_and_Indian_War, accessed July 2017.
- 2015b Ohio History Central: Treaty of Greeneville (1795). Electronic document,
[http://www.ohiohistorycentral.org/w/Treaty_of_Greeneville_\(1795\)](http://www.ohiohistorycentral.org/w/Treaty_of_Greeneville_(1795)), accessed July 2017.
- 2015c Ohio History Central: Ohio Statehood. Electronic document,
http://www.ohiohistorycentral.org/w/Ohio_Statehood, accessed July 2017.
- 2015d Ohio History Central: Hamilton County. Electronic document,
http://www.ohiohistorycentral.org/w/Hamilton_County, accessed August 2018.

Pacheco, P.

- 1996 Ohio Hopewell Regional Settlement Patterns. In A View From the Core: A Synthesis of Ohio Hopewell Archaeology, edited by P. J. Pacheco, pp. 18-35. Ohio Archaeological Council, Columbus.

Pollack, David and A. Gwyn Henderson

- 2000 "Insights Into Fort Ancient Cultural Change: A View from South of the River." In *Cultures Before Contact: the Late Prehistory of Ohio and Surrounding Regions*, ed. R.A. Genheimer. Columbus: Ohio Archaeological Council, 194-227.

Schneider, Andrew M. and Rachel H. Sudnik

- 2007 Phase I Archaeological Reconnaissance Survey for the Proposed Improvements to Interstate I-75 in the Mill Creek Valley, Cincinnati, Hamilton County, Ohio. Prepared by TranSystems Corporation. Copy on file at the Ohio History Connection, Columbus, Ohio.

Seeman, M. and W. Dancey

- 2000 The Late Woodland Period in Southern Ohio: Basic Issues and Prospects. In *Late Woodland Societies: Tradition and Transformation Across the Midcontinent*, edited by T. E. Emerson, D. L. McElrath, and A. C. Fortier, pp. 583-611. University of Nebraska Press, Lincoln.

Stothers, D.

- 1996 Resource Procurement and Band Territories: A Model for Lower Great Lakes Paleoindian and Early Archaic Settlement Systems. *Archaeology of Eastern North America* 24: 173-216.

Titus, C.O.

- 1869 Atlas of Hamilton County, Ohio. C.O. Titus Publishing. Philadelphia.

Tuck, J.

- 1978 Regional Cultural Development, 3,000-300 B.C. *Handbook of North American Indians* (15). Smithsonian Institution Press, Washington, D.C.

USDA/SCS

- 1982 Soil Survey of Hamilton County, Ohio. United States Department of Agriculture/Natural Resources Conservation Service
- 2014 Websoil Survey. Electronic document, <http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx>, accessed August 2019.

United States Geological Survey (USGS)

- 1914 West Cincinnati, Ohio-Kentucky Quadrangle [map]. 1:62,500. United States Department of the Interior. Hamilton County, Ohio (WCI).
- 1955 Cincinnati West, Ohio [map]. 1:24,000. 7.5 Minute Series. United States Department of the Interior. Hamilton County, Ohio (WCI). Updated from 1953.

Vickery, K. and J. Litfin

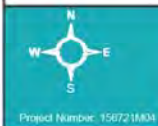
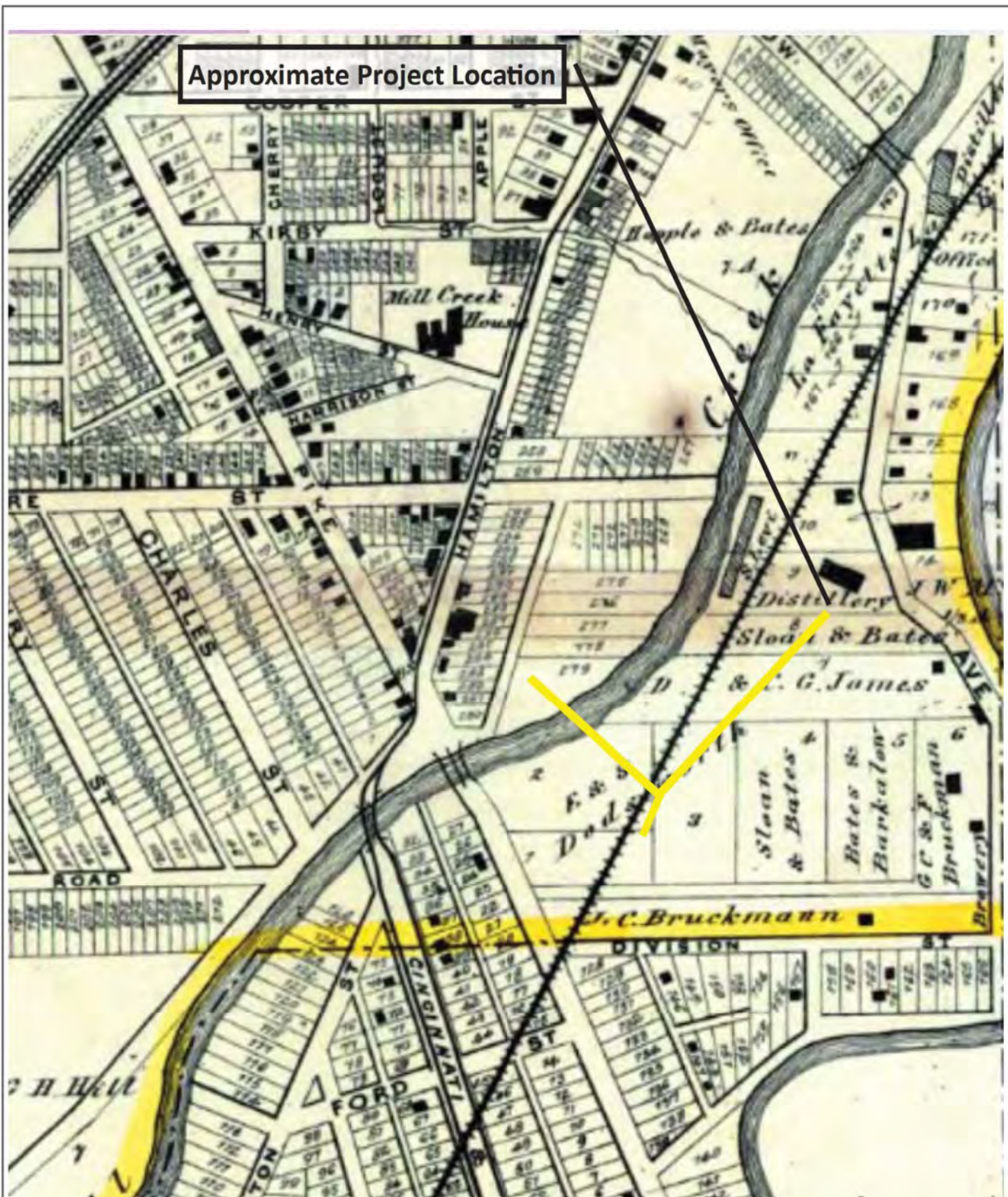
1992 A Proposed Revision of the Classification of Midwestern Paleoindian, Early Archaic, and Middle Archaic Projectile Points. Department of Anthropology, University of Cincinnati, Cincinnati.

Cultural Resources Literature
Review Duke Energy Ohio
Cumminsville Phase 5B Project
Hamilton County, Ohio

APPENDIX

A

HISTORIC MAPS

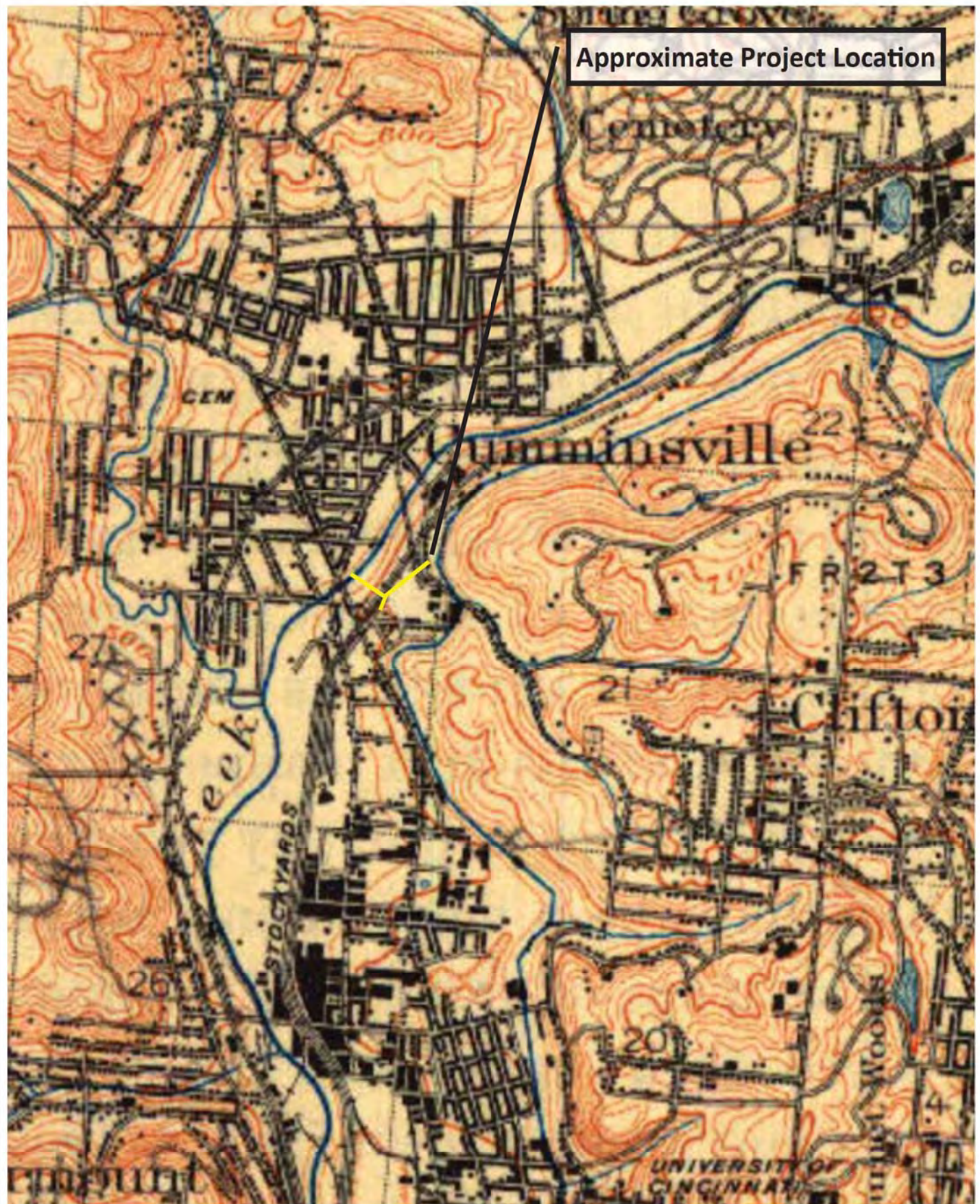


This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs.

Appendix A: 1869 Map



Approximate Project Location



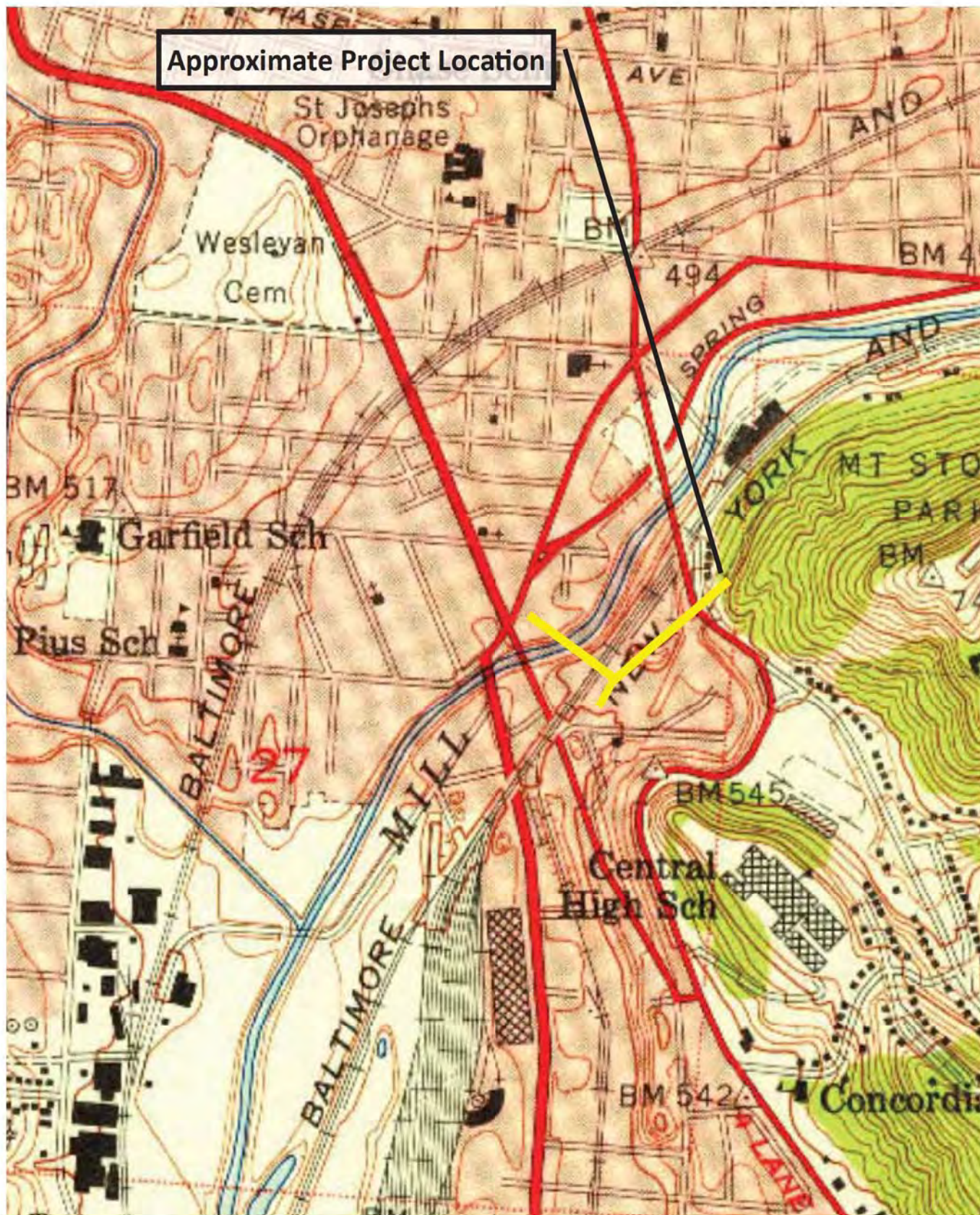
Project Number: 150721A001

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs.

Appendix A: 1914 Map

Cultural Resources Literature Review for the Cumminsville
Phase 5B Project
Duke Energy Ohio
Hamilton County, Ohio





Project Number: 150721M00

This map and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of this map. It is the sole responsibility of the user to determine if the data on this map meets the user's needs.

Appendix A: 1955 Topographic Map
Cultural Resources Literature Review for the Communityville
Phase 5B Project
Duke Energy Ohio
Hamilton County, Ohio



Cultural Resources Literature Review
Duke Energy Ohio
Cumminsville Phase 5B Project
Hamilton County, Ohio

APPENDIX

B

PHOTOPAGES



Photo 1: Project area overview.



Photo 2: Project area overview.



Photo 3: Project area overview.



Photo 4: Project area overview.

These photographs and all data contained within are supplied as is with no warranty. Cardno, Inc. expressly disclaims responsibility for damages or liability from any claims that may arise out of the use or misuse of these photographs. It is the sole responsibility of the user to determine if the photographs meet the user's needs.

Project Number:
156721M04

Project Area Photographs
Cultural Resources Literature Review for the Cumminsville 5B Project
Duke Energy Ohio
Hamilton County, Ohio



Attachment C – Agency Coordination



Ohio Department of Natural Resources

MIKE DeWINE, GOVERNOR

MARY MERTZ, DIRECTOR

Office of Real Estate

John Kessler, Chief
2045 Morse Road – Bldg. E-2
Columbus, OH 43229
Phone: (614) 265-6621
Fax: (614) 267-4764

November 25, 2019

Cori Jansing
Cardno
11121 Canal Road
Cincinnati, Ohio 45241

Re: 19-883; Duke Energy Cumminsville Phase 5B Rebuild Project

Project: The proposed project involves removal of three existing lattice structures and replace them with updated engineered steel monopoles.

Location: The proposed project is located in the City of Cincinnati, Hamilton 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 the following records at or within a one-mile radius of the project area:

Maypop (*Passiflora incarnata*), State threatened
Black-crowned night-heron (*Nycticorax nycticorax*), State threatened
Mt. Storm Park – City of Cincinnati Parks
Mill Creek Conservancy – Mill Creek Conservancy

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. This information is provided to inform you of features present within your project area and vicinity.

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.

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

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

2/11/2020 11:34:22 AM

in

Case No(s). 20-0134-EL-BLN

Summary: Application of Duke Energy Ohio, Inc. for the Cumminsville 5B Rebuild Project
electronically filed by Carys Cochern on behalf of Duke Energy