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**CONSTRUCTION NOTICE FOR
THE DAYTON POWER AND LIGHT COMPANY –
SUGARCREEK 138KV REACTOR PROJECT**

PUCO Case No. 21-0151-EL-BNR

Submitted to:
The Ohio Power Siting Board
Pursuant to OAC 4906-6

Submitted by:
The Dayton Power and Light Company

March 2021

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CONSTRUCTION NOTICE

The Dayton Power & Light Company, Sugarcreek 138kV Reactor Project

The Dayton Power and Light Company (DP&L) is providing the following information to the Ohio Power Siting Board (OPSB) in accordance with the procedures delineated in Ohio Administrative Code Section 4906-6: Accelerated Certificate Applications.

4906-6-05 (B) CONSTRUCTION NOTICE APPLICATION REQUIREMENTS

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 of a construction notice.

The name of this project is *The Dayton Power & Light – Sugarcreek 138kV Reactor Project* and the OPSB Case No. is: 21-0151-EL-BNR.

The Dayton Power and Light Company is proposing the Sugarcreek Substation 138kV Reactor Project located in Sugarcreek Township, Greene County, Ohio (See Figure 1). The Project involves an 17,600 square foot expansion of the existing Sugarcreek substation (5.13% expansion of the fenced area), and the installation of a 100MVAR (mega volt amps (reactive)) Shunt Reactor along with associated Circuit Breakers and Switches.

The Project meets the requirements for a Construction Notice (CN) because it is within the types of projects defined by Item (4)(a) of 4906-1-01 Appendix A "Application Requirement Matrix for Electric Power Transmission Lines", which states:

(4) Constructing additions to existing electric power transmission stations or converting distribution stations to transmission stations where: (a) There is a twenty percent or less expansion of the fenced area.

B (2) Statement of Need

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

The OAC 4906-6-05 (B)(2) only applies to electric power, gas, and natural gas transmission lines and is not applicable to this substation expansion Project. However, DP&L has experienced abnormality in high voltages during light load periods on the system. DP&L system operations frequently exhausts all operating procedures during the light load periods and is forced to switch out equipment to help control system voltage. DP&L conducted a thorough assessment of the past operational issues and has proposed mitigation in the means of adding a new shunt reactor at the Sugarcreek Substation based on an optimal method that would have the most impact on reducing the voltages. The suggested mitigation was modeled and tested for acceptable performance based on DP&L and PJM transmission planning criteria. This solution will allow DP&L to successfully control high voltages during light load periods which are typical in the fall and spring seasons.

This project has been approved by PJM (PJM Baseline #b3108.2) and is a mandated Regional Transmission Expansion Plan (RTEP) Project. The project is included in Section (D) "The Planned Transmission System" Form FE-T10 of the 2020 Dayton Power and Light Company Long Term Forecast Report (LTFR).

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 Project is located at 3635 Ferry Road in Sugarcreek Township, Greene County, Ohio within the existing DP&L Sugarcreek Substation property. The approximate center coordinates for the substation expansion site are 39°35'59.48" N latitude and 84°5'44.61" W longitude. Figure 2 shows the location of the Project in relation to the existing substation, as well as surrounding roads, populated areas, surface waters, and other features.

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 reactor project expands the existing substation where DP&L owns all of the land required for substation expansion. For this reason, no additional alternatives were considered as the proposed Project represents the most suitable and least impactful alternative. Assessments of impacts to existing socioeconomic, ecological, and land use conditions are further discussed in Section 4906-6-05 B (10).

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.

The entire construction of the substation expansion will be on existing DP&L property. Therefore, there are no affected property owners that DP&L is required to inform. DP&L maintains a website which provides the public information about the project and how to request a copy of the CN (<https://dpandl.com/AboutDPL/Reliability/Transmission-Improvements/>). A copy of the CN will be served to the chief executive officer of the county and township, and the head of pertinent public agencies with the duty of protecting the environment or of planning land use in the area where the Project is located. A copy of the CN will also be served to the public library in the political subdivision affected by this Project. Copies of the cover letters to these officials and the local library are attached in Appendix A.

B (6) Construction Schedule

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

Construction is anticipated to begin in July of 2021, upon approval of this CN and after all necessary permits have been acquired. Construction is expected to be completed by November 2021, with an in-service date of December 31, 2021.

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.

Figure 2 shows the location of the Project in relation to nearby streets and roads on an aerial image obtained from ESRI. The Project is located within the Sugarcreek Substation property in Greene County, OH.

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 Project expands the existing substation where DP&L owns all of the land required for substation expansion. No other property easements, options, or land use agreements are necessary to construct the Project or operate the facility.

4906-6-05 B (9) Technical Features

B (9)(a) Operating Characteristics

Operating characteristics, estimated number and types of structures required and ROW and/or land requirements.

Figures 3-6 show the proposed layout of the Project within the Sugarcreek Substation. The Project has the following characteristics:

Station:

The equipment and facilities described below will be installed within the Project area.

Breakers: There will be (1) 138kV circuit breaker and foundation installed.

Switches: There will be (1) 138kV Reactor Switch installed.

Bus Arrangements and Structures: The substation bus will be expanded to accommodate the proposed facilities.

Steel equipment support structures will be designed using hot-rolled structural steel shapes such as wide flange, tubing, channels and angles, or as folded plate tapered tubular structures. Dead-end structures will be made of tapered tubular steel. All yard structures will be ASTM A36, ASTM A500, or ASTM A572 steel hot-dip galvanized for corrosion protection.

Transformers: No power transformers will be installed within the station.

Reactor: There will be (1) 100MVAR Shunt Reactor installed.

Substation Fence: The substation fence will be expanded by 5.13 percent (17,600 square feet) to protect the proposed new equipment.

B (9)(b)(i) Electric and Magnetic Fields

For electric power transmission lines that are within one hundred feet of an occupied residence or institution, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

No EMF studies were conducted, as the proposed expanded fenced area or proposed new equipment placing are not within one hundred feet of any occupied residence or institution.

B (9)(b)(ii) Design Alternatives

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

Design alternatives were not considered for EMF as the proposed Project is not within one hundred feet of any occupied residence or institution.

For additional information regarding EMF, the NIH has posted information on their website at www.niehs.nih.gov.

B (9)(c) Project Cost

The estimated capital cost of the project.

The total estimated capital cost of this project is \$5,000,000.

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

B (10)(a) Land Use

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 within Sugarcreek Township in Greene County, Ohio, on a parcel owned entirely by DP&L. The proposed project is at an existing DP&L substation. The vicinity of the proposed project area consists of primarily agricultural/crop land mixed with residential land. Wooded land (approximately 0.4 acres) adjacent to the existing substation will be cleared for the substation expansion.

The Project is within the Sugarcreek subwatershed (HUC 050902020501) of the Little Miami River Watershed (HUC 05090202). No streams or waterbodies are present at the Project location. A discussion of soil types found in the Project Area can be found in section 4906-6-05 (B)(10)(f) below.

The characteristics of the Project are not significantly different from the existing substation and are not expected to adversely impact the local population.

B (10)(b) Agricultural Land

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.

The disturbance area of the Project (approximately 0.40 acres) is located on land that is zoned as A1 agricultural land by Greene County according to the Sugarcreek Township Zoning Map. However, the land is owned and maintained by DP&L and parcel data obtained from the Greene County online GIS Map currently classifies the property as Industrial/Utility. As the project will not change the current classified use of Industrial/Utility, there will be no impact to any agricultural or agricultural district land.

B (10)(c) Archeological and Cultural Resources

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.

A Cultural Resources Desktop Assessment, utilizing the Ohio Historic Preservation Office (OHPO) online mapping database to assess previously recorded cultural resources and investigations within a one mile radius of the Project Area of Potential Effect (APE), as well as historic-era mapping and aerial imagery, was conducted by Arcadis on behalf of DP&L. Only one property listed on the National Register of Historic Places (NRHP) and one previous survey was identified within one mile of the Project Area, but outside of the Project APE. The cultural resources desktop assessment indicates that the Project should not adversely affect historic properties.

The Cultural Resources Desktop Assessment report is provided to the OPSB as part of the complete Permit Applicability Assessment Report and Critical Issues Analysis in Appendix B.

B (10)(d) Local, State and Federal Government Requirements

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.

This Project will be designed, constructed, and operated to meet or exceed the requirements of the National Electric Safety Code, DP&L design standards, and all applicable Occupational Safety and Health Administration (OSHA) standards.

The Project will not discharge stormwater off DP&L Property. The proposed Limits of Disturbance is less than 1 acre in size. As such, a Stormwater Pollution Prevention Plan (SWPPP) and a Notice of Intent (NOI) will not be filed with the Ohio Environmental Protection Agency (OEPA) for authorization to discharge the stormwater under General Permit OHC000005 (General Permit Authorization for Storm Water Discharges Associated with Construction Activity Under the National Pollutant Discharge Elimination System), required for construction projects involving land disturbance greater than one acre. DP&L will coordinate storm water permitting needs with local government agencies as necessary. DP&L will implement and maintain best management

practices as outlined in the project-specific site plan to minimize erosion and control sediment to protect surface water quality during storm events.

The Project will not require permanently placing any construction fills within streams or wetlands, or clearing trees from any forested wetland; therefore, the Project will not require authorization by the United States Army Corps of Engineers (USACE) and OEPA under Section 404 and 401 of the Clean Water Act (CWA).

A review of the FEMA Flood Hazard Layer indicated that the Project Area is not located within any 100-year flood zone areas, therefore the Project is not subject to any State or local floodplain permitting requirements.

There are no known public-use airports within the Project vicinity. In accordance with CFR Title 14 Part 77.9; the Federal Aviation Administration (FAA) Notice Criteria Tool was utilized to determine if filing may be required (FAA Form 7460-1, Notice of Proposed Construction or Alteration). The FAA Notice Criteria Tool indicated there were not any new structures that would exceed notice criteria requirements. Therefore, filing is not necessary.

No other local or state governmental agencies are known to have requirements that must be met in connection with construction of the project.

B (10)(e) Threatened, Endangered, and Rare Resources

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.

Commonwealth conducted a desktop review of rare, threatened, and endangered species that may be present within the Project Area utilizing the Ohio Department of Natural Resources (ODNR) website to identify State Listed wildlife and plant species in Greene County, Ohio, as well as the United States Fish and Wildlife Service (USFWS) Ohio County Distribution of Endangered Species for Montgomery County list to identify Federally Listed species.

Commonwealth initiated an Environmental Review consultation with the ODNR to identify any potential impacts from the proposed Project. The results of the ODNR Environmental Review indicated that there are no records of any threatened or endangered species having a presence within one mile of the Project Area. The Project was noted to be in the range of several state and/or federally listed species including the Indiana bat (*Myotis sodalis*), tongue-tied minnow (*Exoglossum laurae*), spotted turtle (*Clemmys guttata*), Kirtland's snake (*Clonophis kirtlandii*), eastern massasauga (*Sistrurus catenatus*), upland sandpiper (*Bartramia longicauda*), northern harrier (*Circus cyaneus*), and several mussel species, but were determined to not likely be impacted.

A desktop assessment and report, including an USFWS Information for Planning and Consultation (IPaC) review, was prepared by Arcadis and is provided in Appendix B. The IPaC review identified the potential for 4 federally endangered and 1 threatened species to have presence in the Project Area. These species include the Indiana bat, northern long-eared bat (*Myotis septentrionalis*), clubshell (*Pleurobema clava*), rayed bean (*Villosa fabalis*), and snuffbox mussels (*Epioblasma*

triquetra). No impacts to the bats are anticipated since the Project will involve less than 1 acre of tree clearing to take place between October 15 and April 1. No in-water work will take place, therefore no impacts to any listed mussel species is anticipated.

The Project is not likely to impact any State or Federal-listed threatened or endangered species, as there will be no tree clearing between October 15 and April 1 and there is no other suitable habitat present within or near the Project site for any of the listed species.

The complete Permit Applicability Assessment Report and Critical Issues Analysis, as prepared by Arcadis, can be found in Appendix B and includes the ODNR Environmental Review response letter and USFWS IPaC Database Review Results.

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.

Commonwealth performed a desktop review for the presence of areas of ecological concern within the Project area. The Project does not cross any national or state forests, national or state parks, designated or proposed wilderness areas, national or state wild or scenic rivers, wildlife areas, wildlife refuges, wildlife management areas or wildlife sanctuaries.

A review of the FEMA Flood Hazard Layer indicated that the Project Area is not located within any 100-year flood zone areas.

A desktop review of the National Wetlands Inventory (NWI) database as well as the United States National Resource Conservation Service (NRCS) Web Soil Survey (WSS) for Greene County was conducted to identify any potential wetlands within the Project area. Soil types, specifically those classified as hydric soils, are potential indicators of wetlands. The immediate Project Area contains 2 mapped soil types, Fincastle silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes (FnA) and Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes (XeB). These soil types are classified as non-hydric. A discussion of the soils crossed by the Project disturbance area can be found within the Permit Applicability Assessment Report and Critical Issues Analysis in Appendix B.

In addition to the desktop review completed by Commonwealth and Arcadis, Arcadis also completed a wetland delineation survey of the Project Area. One PEM wetland (less than 0.01 acre in size) was identified within the Project vicinity but is not anticipated to be impacted by the proposed substation expansion. The wetland delineation report is included within the Permit applicability Assessment Report and Critical Issues Analysis in Appendix B, Attachment A.

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 DP&L's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Construction and operation of the Project is expected to meet all applicable safety standards established by the Occupational Safety and Health Administration and to be in accordance with the requirements specified in the latest revision of the National Electric Safety Code as adopted by the Public Utilities Commission of Ohio.

4906-6-07 Documentation of Letter of Notification Transmittal and Availability for Public Review

This Construction Notice is being provided concurrently with its docketing with the Board to the public officials listed in Appendix A. Copies of letters to the public officials are also included. Proof of compliance with this requirement will be provided to the Board.

FIGURES

Figure 1. Project Overview Map

Figure 2. Project Vicinity Map

Figure 3. Substation Expansion Layout Map

Figure 4. Reactor Area Layout Drawing

Figure 5. Electrical Layout – Elevation View

Figure 6. Overhead Lines Layout



● Project Location

DAYTON POWER & LIGHT SUGARCREEK SUBSTATION EXPANSION

0 1,000 2,000
Feet

Figure 1:
Overview Map

Date: 12/11/2008



Projected Coordinate System: Ohio State Plane | Datum: North American Datum of 1983 | Projection: Lambert Conformal Conic
This drawing from Commonwealth Inc. is for the sole use of the intended recipient(s) and may contain confidential information. If you are not the intended recipient, please contact the sender for more information.

Figure 2.



- Project Location
- Road
- Railroad
- USGS Stream/River/Ditch
- City Boundary
- County Boundary
- River/Water Body

DAYTON POWER & LIGHT SUGARCREEK SUBSTATION EXPANSION

Scale:
0 1,000 2,000
Feet

Figure 2:
Vicinity Map

Date: 12/11/2020

Commonwealth

DP&L

Projected Coordinate System: Ohio State Plane 1 Datum: North American Datum of 1983 Projection: Lambert Conformal Conic Zone: South 1 Linear Unit: US Feet
This drawing from Commonwealth Inc. is for the sole use of the intended recipient(s) and may contain confidential and privileged information. Any unauthorized review, use, disclosure or distribution is prohibited. If you are not the intended recipient, please contact the sender and destroy all copies of the original document.

SUGARCREEK SUBSTATION EXPANSION


Figure 3.



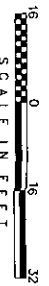
Figure 4.




ISSUED FOR
CONSTRUCTION
XX/XX/2020

| TITLE | | 138KV ELECTRICAL LAYOUT SHUNT REFLECTOR AREA | |
|---|--------------|---|--------------|
| SUGARCREEK SUBSTATION | | | |
| DATE | 3/28/94 | PROJECT | 2000034377 |
| DRAWN BY | W. MCCORMACK | DESIGNED BY | W. MCCORMACK |
| CHECKED BY | D. HENDER | APPROVED BY | W. MCCORMACK |
| DATE | 3/28/94 | BY | W. MCCORMACK |
| REVISIONS | | NO. | |
| DATE | | BY | |
|  | | 310-2-5470 | |
| | | MAIL OF CLIENT | |

2874



| | | | |
|----------------|-------------------|--|--------|
| TYPE | | SLO-ANGELX SUBSTATION | |
| NAME | | OVERHEAD LINES LAYOUT | |
| DATE | 1-14-77 | PROJECT | |
| DRAWN BY | A. L. L. ANDERSON | FILE # | 811.6 |
| CHECKED BY | S. C. GIBBS | DATE | |
| APPROVED BY | R. C. GIBBS | 3-20-77 | 864111 |
| SHEET # 1 OF 1 | |  The Oregon Power and Light Company | |
| 312-2-5221 | | | |

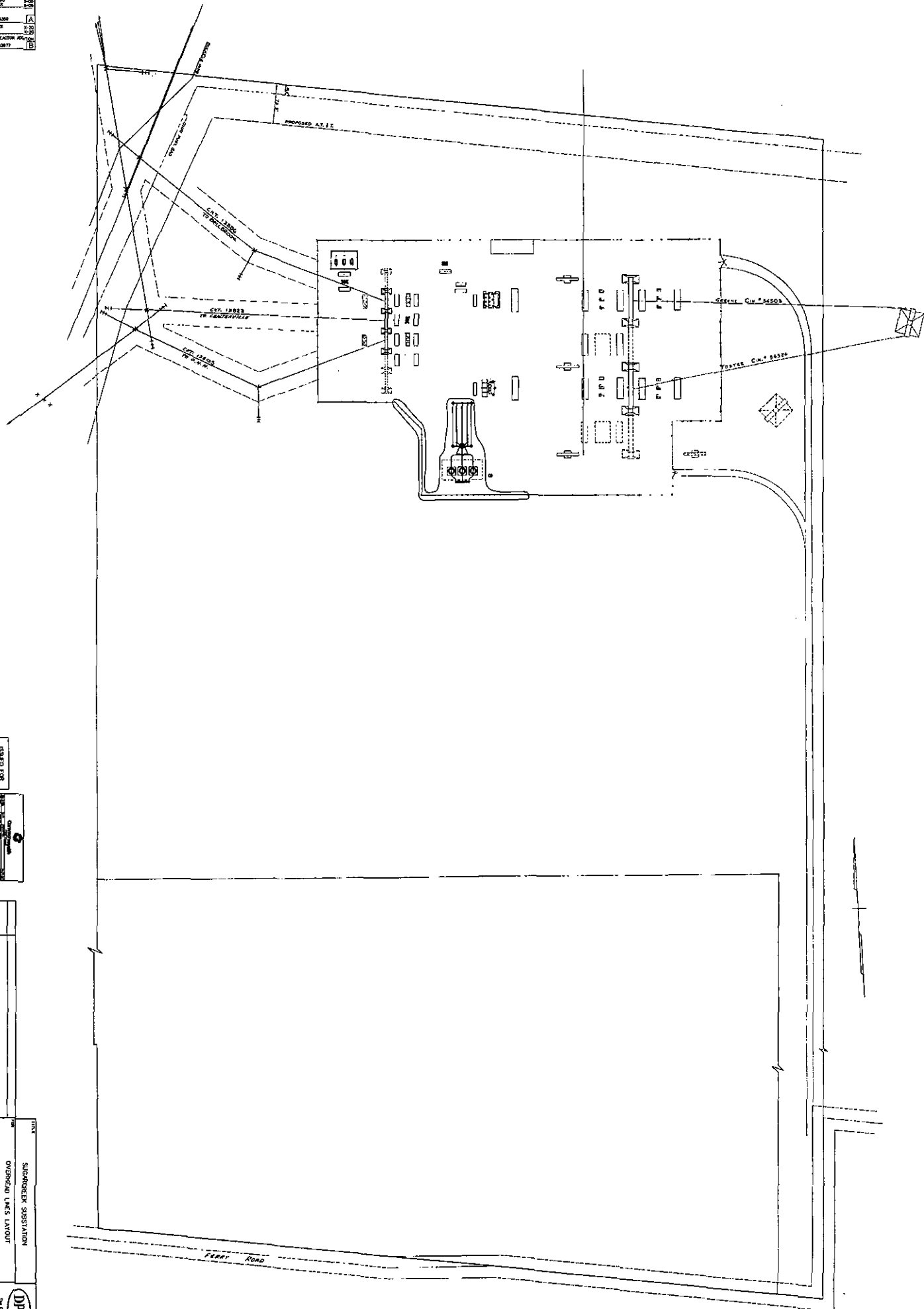


Figure 6.

APPENDIX A

List of Public Officials Served
Letters to Public Officials

Officials Served Copy of Letter of Notification
Dayton Power and Light – Sugarcreek 138kV Reactor Project
Case No. 21-0151-EL-BNR

Greene County

Ms. Amanda McKay
Greene County Soil & Water Conservation
District
1363 Burnett Drive
Xenia, OH 45385

Ms. Stephanie Ann Goff, PE, PS
Greene County Engineer
615 Dayton-Xenia Road
Xenia, OH 45385

Greene County Regional Planning &
Coordinating Commission
651 Dayton-Xenia Road
Xenia, OH 45385

Mr. Bob Glaser
Greene County Board of Commissioners
35 Greene Street
Xenia, OH 45385

Mr. Richard Gould
Greene County Board of Commissioners
35 Greene Street
Xenia, OH 45385

Mr. Thomas Koogler
Greene County Board of Commissioners
35 Greene Street
Xenia, OH 45385

Sugarcreek Township

Mr. Fred Cramer, Trustee
Sugarcreek Township
2090 Ferry Road
Sugarcreek Township, OH 45305

Ms. Carolyn L. Destafani, Trustee
Sugarcreek Township
2090 Ferry Road
Sugarcreek Township, OH 45305

Ms. Nadine S. Daugherty, Trustee
Sugarcreek Township
2090 Ferry Road
Sugarcreek Township, OH 45305

Mr. Theodore L. Hodson, Fiscal Officer
Sugarcreek Township
2090 Ferry Road
Sugarcreek Township, OH 45305

Libraries

Greene County Public Library
Winters-Bellbrook Community Library
57 West Franklin Street
Bellbrook, OH 46305



The Dayton Power and Light Company
1900 Dryden Road
Dayton, Ohio 45439

<<DATE>>

<<OFFICE>>

<<ATTENTION>>

<<ADDRESS>>

<<CITY>>, <<STATE>> <<ZIP>>

**Re: Dayton Power and Light – Sugarcreek 138kV Reactor Expansion
Service of Application on Local Public Officials
PUCO Case Number 21-0151-EL-BNR**

Dear <<ADDRESSEE>>:

The Dayton Power and Light Company (DP&L) is in the process of obtaining approval from the Ohio Power Siting Board (OPSB) for the Sugarcreek 138kV Reactor Expansion Project (Project) located in Sugarcreek Township, Greene County, Ohio. The purpose of this Project is to install a new 100MVAR Shunt Reactor and associated circuit breakers and switches at the existing Sugarcreek Substation. This will allow DP&L to successfully control high voltages during light load periods which are typical in the fall and spring seasons. Construction is expected to start July 12, 2021. The anticipated in-service date for the Project is December 31, 2021.

In accordance with Ohio Administrative Code (OAC) Rule 4906-6-05, this Project falls within the OPSB's requirements for a Construction Notice (CN) application. In compliance with OAC Chapter 4906-6-05, we have prepared and filed the attached CN application with the OPSB for their review and approval. The application includes a project description and other pertinent information.

Copies of the application have been distributed to local government officials and local public libraries.

For additional details about the OPSB and this project, please refer to the OPSB website at <https://www.opsb.ohio.gov/>. To view an electronic version of the application, search Case Number 21-0151-EL-BNR. Please contact Scott Teeters at 937-331-4545 or by email at dpltransmissionmaintenancengroup@aes.com if you have any questions about the project.

Sincerely,

A handwritten signature in cursive script that reads "Michael Russ".

**Michael Russ
Manager, Transmission Planning, AES Ohio**



The Dayton Power and Light Company
1900 Dryden Road
Dayton, Ohio 45439

<<DATE>>

Greene County Public Library
Winters-Bellbrook Community Library
Attn: Ms. Susan Jeffrey, Librarian
57 West Franklin Street
Bellbrook Ohio 46305

**Re: Dayton Power and Light – Sugarcreek 138kV Reactor Expansion
Service of Application on Local Public Libraries
PUCO Case Number 21-0151-EL-BNR**

Dear Ms. Jeffrey:

The Dayton Power and Light Company (DP&L) is in the process of obtaining approval from the Ohio Power Siting Board (OPSB) for the Sugarcreek 138kV Reactor Expansion Project (Project) located in Sugarcreek Township, Greene County, Ohio. The purpose of this Project is to install a new 100MVAR Shunt Reactor and associated circuit breakers and switches at the existing Sugarcreek Substation. This will allow DP&L to successfully control high voltages during light load periods which are typical in the fall and spring seasons. Construction is expected to start July 12, 2021. The anticipated in-service date for the Project is December 31, 2021.

In accordance with Ohio Administrative Code (OAC) Rule 4906-6-05, this Project falls within the OPSB's requirements for a Construction Notice (CN) application. In compliance with OAC Chapter 4906-6-05, we have prepared and filed the attached CN application with the OPSB for their review and approval. The application includes a project description and other pertinent information.

Per requirements of OAC Rule 4906-6-05, we are providing you an electronic copy of the CN application on compact disc and one hard copy so that you can make it available to local government officials and to the public for their review upon their request.

For additional details about the OPSB and this project, please refer to the OPSB website at <https://www.opsb.ohio.gov/>. To view an electronic version of the application, search Case Number 21-0151-EL-BNR. Please contact Scott Teeters at 937-331-4545 or by email at dpltransmissionmaintenancegroup@aes.com if you have any questions about the project.

Sincerely,

A handwritten signature in cursive script that reads "Michael Russ".

Michael Russ
Manager, Transmission Planning, AES Ohio

APPENDIX B

Permit Applicability Report and Critical Issues Analysis

Sugarcreek Reactor Project

Permit Applicability Assessment Report and Critical Issues Analysis

To:

Amanda Foti, AES Corporation

From:

Maggie Bosiljevac, Arcadis U.S., Inc.

Josh Ferry, Arcadis U.S., Inc.

Arcadis U.S., Inc.

4665 Cornell Road

Suite 200

Cincinnati

Ohio, 45241

Tel 513 860 8700

Date:

November 13, 2020

Subject:

Permit Applicability Assessment and Critical Issues Analysis for the Sugarcreek
Reactor Project

INTRODUCTION

Arcadis U.S., Inc. (Arcadis), on behalf of Dayton Power and Light Company (DP&L), an AES Corporation company, conducted a desktop review and site visit for the Sugarcreek Reactor Project (the Project). The Project is located in Bellbrook Township, Greene County, Ohio and includes a expansion of the existing Sugarcreek Substation to install a new 138 kilovolt (kV) 100 mega volt-ampere reactive (mvar) shunt reactor. The anticipated Limits of Disturbance (LOD) for the proposed Project will total approximately 0.43 acres.

This Permit Applicability Assessment (PAA) Report and Critical Issues Analysis (CIA) includes a summary of the site assessment, a discussion of the pre-field visit critical issues analysis, site visit results, proposed resource impacts, an assessment of the potential environment permitting requirements, and a constructability assessment. **Note that there are no permits required for this Project.**

CRITICAL ISSUES ANALYSIS

This CIA includes a summary of the results of a Geographic Information Systems (GIS)-based desktop analysis in which Arcadis compiled and reviewed documentation provided by DP&L (such as engineering drawings, grading plans, etc.) and publicly available information (such as National Wetlands Inventory Data, contours, etc.) prior to completing a site visit. Arcadis did not identify any red flag environmental permitting issues or significant data gaps as part of the CIA.

Table 1 includes a summary of the information reviewed for the CIA. The information summarized in this CIA was verified during a site visit. Figures depicting the select resources referenced in Table 1 are

provided in the Wetland and Waterbody Delineation Report (Attachment A). Additional detail is provided below.

Table 1. Datasets Reviewed for the CIA

| Datasets | Source |
|---|--|
| Rivers, streams, ponds | National Hydrography Dataset (NHD), U.S. Geological Survey (USGS) topographic map |
| Wetlands | U.S Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) |
| Hydric soils | U.S. Department of Agriculture Natural Resource Conservation Service (USDA NRCS) Web Soil Survey |
| Federal Emergency Management Agency (FEMA) Floodplain | FEMA National Flood Hazard Layer (NFHL) mapping |
| Contours | USDA Geospatial Data Gateway |
| Section 10 Waters | Army Corps of Engineers (USACE) Section 10 Waterways |
| 401 Water Quality Certification (WQC) for Nationwide Permit (NWP) Eligibility | Ohio Environmental Protection Agency (OEPA) |

The review of the resources identified in **Table 1** indicate the following:

- No NHD-identified streams or NWI-identified wetlands are located within the Project area.
 - o It is noted that ephemeral streams are not identified by NHD data.
 - o Additionally, it is noted that NWI data is used as a guide, along with other data, to indicate the potential presence of wetlands. The information is often out of date and not necessarily field-verified. The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present.
 - o Hydric soils, which can be indicative of wetlands, are not located within the Project area.
 - o Arcadis completed wetland and stream delineations along the western side of the Sugarcreek Substation in December 2019 as part of a substation expansion project. During this site visit, Arcadis identified two palustrine emergent (PEM) wetlands which were not identified as wetland areas by the NWI.
- Based on a review of aerial photography, it appears that an ephemeral stream (non-NHD) and pond are present to the west of the substation, but it is not anticipated that Project impacts would be required in this area. Contours suggest that the Project area drains generally northwest.

- No Section 10 waters were identified within the vicinity of the Project area.
- The Project area is not located within any FEMA-designated floodplains, which could indicate the presence of streams or wetlands, and would require permitting.
- The Project area is located within an eligible area per the OEPA 401 WQC for NWP Eligibility map. This indicates that if streams were impacted by the Project, the pre-certified 401 WQC could be utilized.

Additionally, Arcadis reviewed an Ohio Department of Natural Resources (ODNR) consultation response, dated June 26, 2020, provided by DP&L. The ODNR indicated that the Natural Heritage Database has no records at or within a one-mile radius of the Project area. It is noted that Arcadis was not provided the consultation letter and mapping prepared by others but assumes that the Project area was accurately represented in the ODNR consultation request. The ODNR noted that the Project is within the vicinity of records for the Indiana bat (*Myotis sodalis*), and that additional summer surveys would not constitute presence/absence surveys. The ODNR also noted that the Project is within the range of the several other state and/or federally listed species, including the following:

- Several federally and or state listed mussel species. Because no in stream work is proposed, ODNR determined that the Project is not likely to impact these species.
- The tongue-tied minnow (*Exoglossum laurae*). Because no in stream work is proposed, the ODNR determined that the Project is not likely to impact this species.
- The spotted turtle (*Clemmys guttata*). Due to the location, type of habitat at the Project site and its vicinity, and the type of work proposed, the ODNR determined that the Project is not likely to impact this species.
- The Kirtland's snake (*Clonophis kirtlandii*). Due to the location, type of habitat at the Project site and its vicinity, and the type of work proposed, the ODNR determined that the Project is not likely to impact this species.
- The eastern massasauga (*Sistrurus catenatus*). Due to the location, type of habitat at the Project site and its vicinity, and the type of work proposed, the ODNR determined that the Project is not likely to impact this species.
- The upland sandpiper (*Bartramia longicauda*). The ODNR noted that if the habitat this species prefers (dry grasslands, grazed and ungrazed pasture, and hayfields) will be impacted, construction should be avoided during the nesting period (between April 15 to July 31). It is not anticipated that suitable habitat for this species will be impacted by Project construction.
- The northern harrier (*Circus cyaneus*). The ODNR noted that if the habitat this species prefers (large marshes and grasslands for nesting and grasslands for hunting) will be impacted, construction should be avoided during the nesting period (between May 15 to August 1). It is not anticipated that suitable habitat for this species will be impacted by Project construction.

SITE VISIT RESULTS

Arcadis completed a wetland and stream delineation site visit on October 13, 2020, to validate the CIA and assess the presence or absence of wetlands or other waters that may be impacted by the proposed Project. During this site visit, one PEM wetland was identified within the environmental survey area (ESA). No stream features were identified during this site visit. A Wetland and Waterbody Delineation Report is provided in

Attachment A. It should be noted that the identified wetland is located just outside of the proposed LOD and thus will not be impacted by the construction activities (**Attachment B**).

PERMITTING REQUIREMENTS SUMMARY

The results of the potential environmental permits and authorizations analysis for the Project is provided in **Table 2**, below. **Note that there are no permits required for this Project.**

Table 2. Assessment of Potential Permitting Requirements

| Agency | Approval/ Clearance/ Authorization | Anticipated Agency Review Time | Comments |
|---|---|--------------------------------|---|
| USACE – Huntington District | Clean Water Act (CWA) Section 404 Permit – Nationwide Permit (NWP) 12 - Utility Line Activities | N/A | No wetland or stream impacts are associated with the proposed Project, therefore no PCN to the USACE will be required. It is assumed that the wetland identified at the edge of the ESA will be avoided. |
| U.S. Fish and Wildlife Service (USFWS) | Federally Listed Endangered Species Review - Information, Planning and Conservation System (IPaC) | Completed | Arcadis completed an online review of the IPaC on January 10, 2020 (Attachment C). The IPaC identified four endangered species and one threatened species with potential to occur within the vicinity of the Project area, including the following: Indiana bat, northern long eared bat (<i>Myotis septentrionalis</i>), clubshell (<i>Pleurobema clava</i>), rayed bean (<i>Villosa fabalis</i>), and snuffbox (<i>Epioblasma triquetra</i>). The Project will involve less than 1 acre of tree clearing, which is anticipated to be completed between October 15 and April 1. Therefore, no impacts to bats are anticipated. No aquatic habitat suitable for mussels is present within the Project area, therefore no adverse effects to the identified species are anticipated. |
| Ohio Department of Natural Resources (ODNR) Office of Real Estate | Environmental Review (State T&E Species Consultation and Clearance) | Completed | A consultation response from ODNR was received on June 26, 2020 (Attachment C), indicating that the Project is within the range of 12 endangered or threatened species including the Indiana bat, clubshell, rayed bean, snuffbox, black sandshell (<i>Ligunia recta</i>), fawnsfoot (<i>Truncilla donaciformis</i>), tonguetied minnow (<i>Exoglossum laurae</i>), spotted turtle (<i>Clemmys guttata</i>), Kirtland's snake (<i>Clonophis kirtlandii</i>), eastern massasauga (<i>Sistrurus catenatus</i>), upland sandpiper (<i>Bartramia longicauda</i>), and northern harrier (<i>Circus cyaneus</i>). According to the response from ODNR, the Project is not likely to impact the bat, mussel, fish, or reptile species identified. Additionally, the LOD for the Sugarcreek Substation does not appear to contain suitable nesting habitat for the upland sandpiper or northern harrier. Therefore, impacts to these species is not anticipated. |
| Ohio Historic Preservation Office (OHPO) | Cultural and Architectural Resources Review | Completed | The proposed Project does not involve Federal funding and will not require Federal permitting such as Section 404/401 Clean Water Act authorization. Arcadis completed an online review of the OHPO Online Mapping System (Attachment D). This review did not identify any known cultural resources within the Area of |

| Agency | Approval/ Clearance/ Authorization | Anticipated Agency Review Time | Comments |
|------------------------|--|--------------------------------|--|
| | | | Potential Effect (APE). It is anticipated that the probability of identifying National Register of Historic Places (NRHP)-eligible archaeological sites within the current direct APE would be low. Based on the results of the desktop assessment, the Project should not have an adverse effect on historic properties within the direct or indirect APE. Therefore, the absence of Federal nexus, NRHP eligible sites, and other previously recorded cultural resources precludes the need for a formal Section 106 review. |
| OEPA | CWA Section 401 Review | N/A | No wetland or stream impacts are associated with the proposed Project. Therefore, the submittal of PCN information to the OEPA is not required. |
| | Stormwater General Permit for Discharges of Storm Water Associated with Construction Activity (OHC000005) Notice of Intent (NOI) | N/A | The total area of disturbance for the proposed Project is less than one acre. Therefore, construction stormwater permitting is not required. |
| Greene County Engineer | Erosion and Sediment Control Plan (ESCP) review | N/A | The total area of disturbance for the proposed Project is less than one acre. Therefore, submittal of ESCP and Stormwater Pollution Prevention Plan (SWPPP) documents for County review is not required. |

The Project is not located within a Federal Emergency Management Agency (FEMA) designated floodplain, and therefore floodplain permitting is not required.

CONSTRUCTABILITY SITE ASSESSMENT

As detailed above, one PEM wetland was identified within the ESA, but is outside of the proposed LOD. As such, construction in wetlands will not be required for the Project.

Due to the known presence of Indiana bats per ODNR, tree clearing should be completed between October 15 and April 1.

The total area of disturbance for the Project area is less than one acre; therefore, construction stormwater permitting is not required.

SUMMARY

Based on the review of desktop information and site-specific field data, no environmental permitting or significant project constraints are associated with this Project. No red flag environmental permitting issues were identified.

APPENDICES

Attachment A – Wetland and Waterbody Delineation Report

Attachment B – Delineated Features with Construction LOD

Attachment C – USFWS IPaC Database Review Results and ODNR Response Letter

Attachment D – Cultural and Architectural Resources Desktop Review

Attachment A
Wetland and Waterbody Delineation Report

Dayton Power and Light Company,
AES Corporation

WETLAND AND WATERBODY DELINEATION REPORT

Sugarcreek Substation Reactor Project

Greene County, Ohio

November 2020



WETLAND AND WATERBODY DELINEATION REPORT

Sugarcreek Substation Reactor Project
Greene County, Ohio



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Table 2. Environmental Survey Area Wetland Summary

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Figure 2. NWI / NHD / FEMA Map

Figure 3. NRCS Soils Map

Figure 4. Delineated Wetlands and Streams Map

APPENDICES

- A Photographic Log
- B USACE Wetland Determination Data Forms
- C ORAM v.5.0 Scoring Forms

1 INTRODUCTION

This Wetland and Waterbody Delineation Report (Report) summarizes the results of a wetland and waterbody delineation survey conducted on October 13, 2020, by Arcadis U.S., Inc. (Arcadis) on behalf of the Dayton Power and Light Company, an AES Corporation company (DP&L) for the Sugarcreek Substation Reactor Project (Project). The Project is in Bellbrook, Greene County, Ohio and involves expansion of the existing Sugarcreek Substation to accommodate a new 138 kilovolt (kV) 100 mega volt-ampere reactive (mvar) shunt reactor. The Project is located at 39.599943°N, 84.095898°W and the Environmental Survey Area (ESA) is approximately 0.75 acres (**Figure 1**). The ESA was developed based on information provided by DP&L. Project construction is expected to commence in January 2021 and be completed by December 31, 2021.

The purpose of the delineation was to assess the presence or absence of wetlands or other waters that may be affected by the proposed Project, and to assess general ecological conditions within the ESA. One wetland was identified within the ESA.

2 BACKGROUND INFORMATION

Prior to conducting the wetland and waterbody delineation survey, Arcadis reviewed the following resources to identify the potential location and extent of wetlands and waterbodies within the Project area:

- United States Geological Survey (USGS) topographic map (*Waynesville quadrangle*) (USGS 1982),
- USGS National Hydrography Dataset (NHD-mapped streams) (USGS 2012),
- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) dataset (USFWS 2007),
- Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (FEMA 2011),
- United States Department of Agriculture Natural Resource Conservation Service (NRCS) Web Soil Survey of Greene County, Ohio (NRCS 2018), and
- Aerial imagery (ESRI 2017).

2.1 USGS Topographic Map

The USGS topographic map (**Figure 1**), which identifies intermittent and perennial streams, does not identify any blueline streams within the ESA.

2.2 USGS NHD

The NHD represents the drainage network with features such as rivers, streams, canals, lakes, ponds, coastline, dams, and stream gauges (USGS 2012). No NHD waterbodies are mapped within the ESA (**Figure 2**).

The ESA lies within the Sugar Creek (United States Geologic Survey [USGS] Hydrologic Unit Code [HUC] 050902020501) subwatershed the larger Little Miami River Watershed (USGS HUC 05090202) (USGS

WETLAND AND WATERBODY DELINEATION REPORT

2012). The nearest traditionally navigable waterway (TNW) with hydrologic surface connection to the waterbodies in the vicinity of the ESA is the Little Miami River (USACE, n.d.).

2.3 USFWS NWI Dataset

NWI maps are used as a guide, along with other data, to indicate the potential presence of wetlands. The information is often out of date and not necessarily field-verified. The presence of an NWI feature is not a definitive indicator that a wetland or waterbody is present. No NWI features are mapped within the ESA (Figure 2) (USFWS 2007).

2.4 FEMA National Flood Hazard Layer

The identification and location of the mapped 100-year flood hazard zones within the ESA was determined by reviewing the FEMA National Flood Hazard Layer (FEMA 2011). The ESA is entirely within an area of minimal flood hazard (Zone X) (Figure 2). The extent of the regional mapped FEMA 100-year flood hazard zone is shown in Figure 2.

2.5 Digital Soil Survey of Greene County, Ohio

According to the NRCS Web Soil Survey for Greene County (NRCS 2018), the following two soil units are mapped within the ESA (Figure 3). Both soil map units are listed as predominantly non-hydric. Generally, soil units identified as hydric contain soils that indicate through their color that they have experienced dominantly reducing (i.e., oxygen poor) conditions, which are a result of inundation and/or saturation by water. Soil units identified as non-hydric have no hydric soil components identified in the mapped soil unit. The soil units identified within the ESA are displayed on Figure 3 and listed in Table 1, below.

Table 1. Soil Units Identified within the ESA

| Soil Map Unit Symbol | Soil Map Unit Name | Hydric Rating |
|----------------------|--|--------------------------|
| FnA | Fincastle silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes | Predominantly Non-Hydric |
| XeB | Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes | Predominantly Non-Hydric |

2.6 Aerial Imagery

A review of aerial imagery for the ESA shows that the ESA is immediately surrounded by an existing substation, rural residential areas, upland forested areas, active pasture, and agricultural fields (ESRI 2017). Aerial photography for the ESA and its vicinity is presented as Figure 4.

3 METHODOLOGY

A pedestrian survey was conducted within the ESA to identify wetlands and waterbodies on October 13, 2020. Wetland boundaries were field-delineated according to Section 404 of the Clean Water Act routine onsite methodology described in the Technical Report Y-87-1 *Corps of Engineers Wetlands Delineation Manual* (USACE Environmental Laboratory 1987) and subsequent guidance documents and the U.S. Army

WETLAND AND WATERBODY DELINEATION REPORT

Corps of Engineers (USACE) 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region* (Version 2.0). The ESA is within the Major Land Resource Area: Indiana and Ohio Till Plain and the Land Resource Region: Central Feed Grains and Livestock Region (USACE 2010).

Wetland delineation data was recorded on the USACE Regional Supplement wetland determination data forms. One data point was recorded for each wetland. Corresponding upland data points were recorded to document upland boundaries and conditions surrounding the wetlands within the ESA.

The United States Environmental Protection Agency (EPA) and the USACE published the Navigable Waters Protection Rule (NWPR) in the Federal Register to finalize a revised definition of “waters of the United States” under the Clean Water Act (EPA and USACE 2020). The EPA and USACE have streamlined the definition so that it includes four categories of jurisdictional waters; this final rule became effective on June 22, 2020. Under this new rule, the following four types of waters are considered jurisdictional by the USACE:

- The territorial seas and TNWs,
- Perennial and intermittent tributaries to those waters,
- Certain lakes, ponds, and impoundments, and
- Wetlands adjacent to jurisdictional waters.

It is noted that the USACE continues to maintain authority to determine what wetlands and waterbodies are jurisdictional under the NWPR. Additionally, it is noted that certain waters that the USACE does not consider jurisdictional are regulated on the state level by the Ohio Environmental Protection Agency (OEPA).

The OEPA requires classification of streams and wetlands, if present, according to OEPA methods in order to establish the “quality” of these waterbodies in accordance with the Ohio Wetland Water Quality Standards (Ohio Administrative Code [OAC] 2012). The standards dictate the level of permitting and mitigation required for impacts to the wetlands. Each identified wetland was evaluated in accordance with the Ohio Rapid Assessment Method (ORAM), developed by the Ohio Environmental Protection Agency (OEPA) (OEPA 2001). Categorization was conducted in accordance with the latest quantitative score calibration (OEPA 2001).

The OEPA classifies larger streams (with watersheds greater than one square mile) in accordance with the OEPA Qualitative Habitat Evaluation Index (OEPA, 2006). Streams with drainage areas smaller than one square mile are evaluated using the OEPA Primary Headwater Habitat Evaluation (HHEI) (OEPA, 2018). The quality of the stream is based on the score, as well as other features such as past modifications and substrate types.

The outer boundaries of each wetland and waterbody, determined by the ordinary high water mark, were delineated and recorded using a handheld Trimble GeoXH Global positioning system receiver. As features were collected, they were given a unique feature identification (ID). If a stream was identified, the centerline of each stream was delineated and recorded.

4 SURVEY RESULTS

4.1 Vegetative Communities

Vegetative communities observed within the ESA consisted of early successional areas, upland forest, and palustrine emergent (PEM) wetland.

Early successional areas were located between the forest and the existing substation where clearing occurred. These areas contained Queen Anne's-lace (*Daucus carota*), Japanese bristle grass (*Setaria faberi*), Chinese bush-clover (*Lespedeza cuneata*), and smooth brome (*Bromus inermis*).

Upland forest habitat contained American beech (*Fagus grandifolia*), black cherry (*Prunus serotina*), sugar maple (*Acer saccharum*), common hackberry (*Celtis occidentalis*), and Amur honeysuckle (*Lonicera maackii*).

One PEM wetland was identified within the ESA. Dominant vegetation consisted of rice cut grass (*Leersia oryzoides*) and large barnyard grass (*Echinochloa crus-galli*).

Photographs of the ESA are provided in **Appendix A**.

4.2 Wetlands

As shown on **Figure 4**, one PEM wetland (W-01) was identified in the ESA, totaling less than 0.01-acre. The USACE Wetland Determination Data Forms and the OEPA ORAM scoring forms are provided in **Appendix B** and **Appendix C**, respectively. Wetland characteristics are summarized in **Table 2**, below.

Table 2. Environmental Survey Area Wetland Summary

| Feature ID | Cowardin Classification | Approximate Area Delineated within the ESA (acres) ¹ | ORAM Score ² | OEPA Wetland Category ² | 12-Digit HUC | Hydrologic Connection ³ |
|------------|-------------------------|---|-------------------------|------------------------------------|--------------|------------------------------------|
| W-01 | PEM | <0.01 | 23.5 | Category 1 | 050902020501 | Isolated |

NOTES:

ID = Identification
HUC = Hydrologic Unit Code
PEM = Palustrine Emergent

ORAM = Ohio Rapid Assessment Method
OEPA = Ohio Environmental Protection Agency
USACE = United States Army Corps of Engineers

1 The wetland may extend outside of the Project area; this acreage corresponds to the size of the feature located within the ESA.

2 OEPA Wetland Category is determined based on ORAM score, in accordance with OEPA 2001.

3 The determination of hydrologic connection is based on the boundary delineations and have not been formally approved by the USACE and/or OEPA

5 CONCLUSIONS

On October 13, 2020, Arcadis conducted a wetland and waterbody delineation within the ESA of the proposed Sugarcreek Substation Reactor Project in Greene County, Ohio. Arcadis identified one PEM wetland, totaling less than 0.01-acre, within the ESA. This wetland has been field-determined to be hydrologically isolated under the NWPR and is likely to be considered non-jurisdictional at the federal level by the USACE, but likely will be jurisdictional at the state level by the OEPA.

6 REFERENCES

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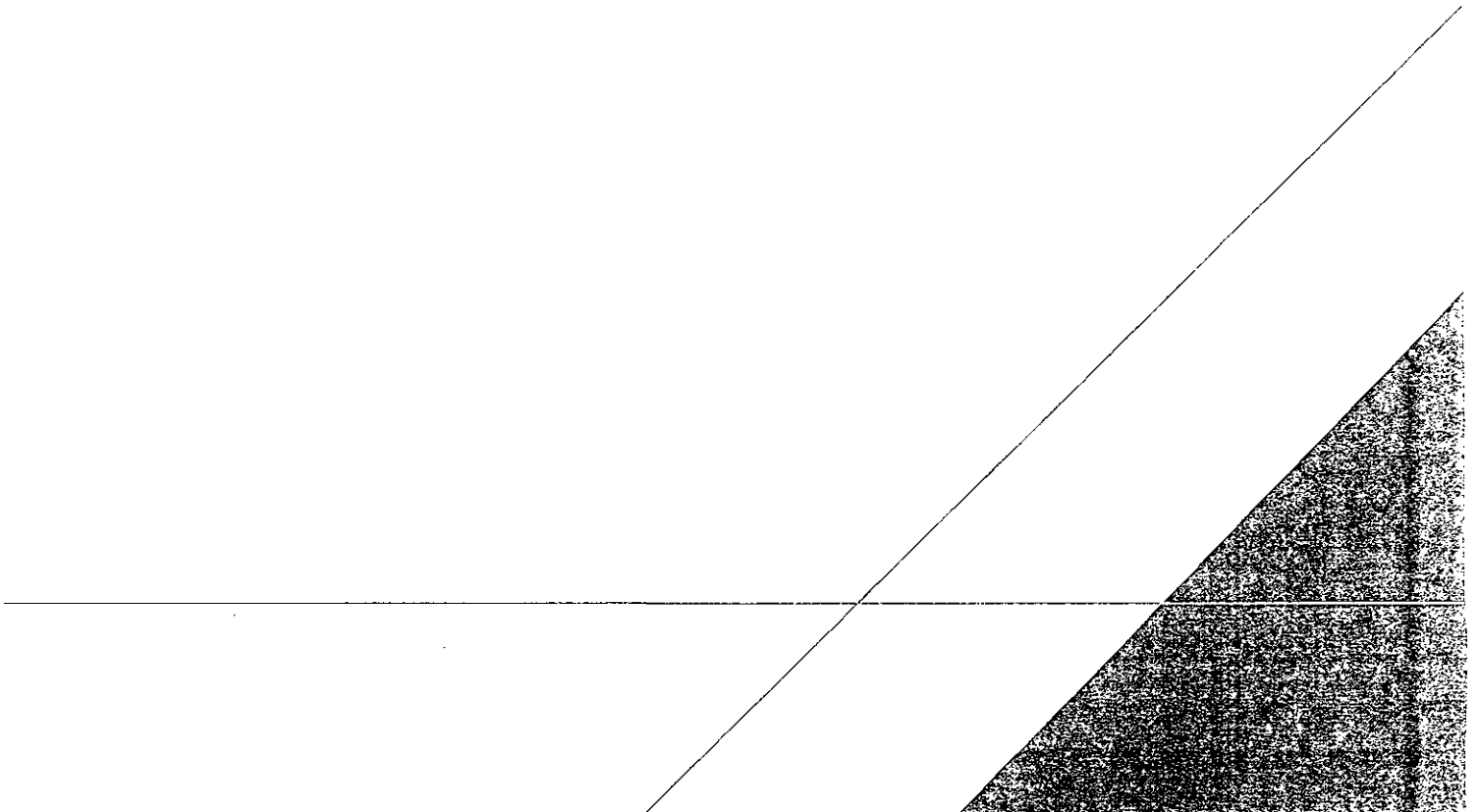
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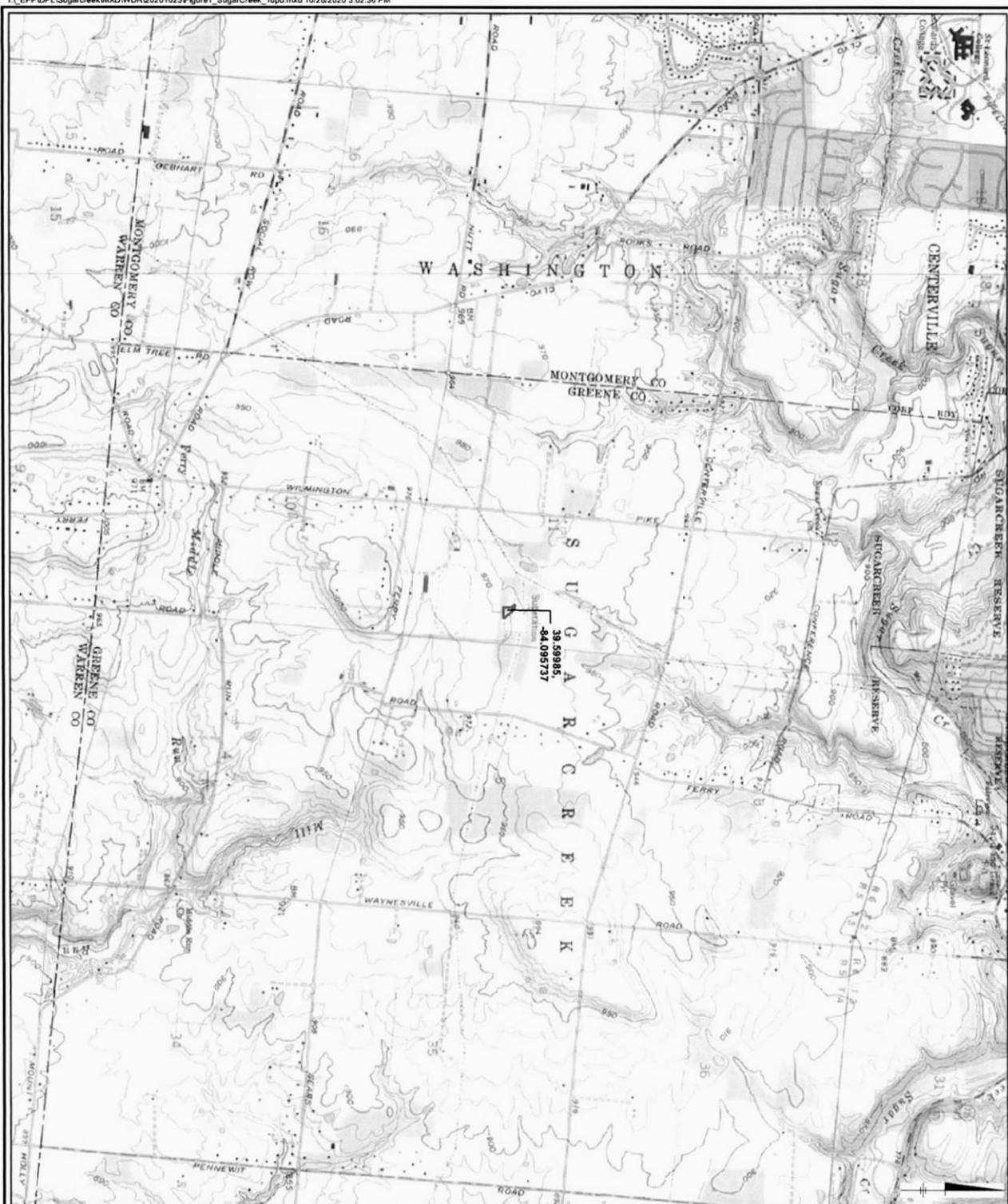
U.S. Department of Interior, United States Geologic Survey (USGS) 7.5 Minute Series Topographic Map, Waynesville Quadrangle. 1982. Available from ESRI Image Services.

U.S. Department of Interior, USGS, National Hydrography Dataset. 2012. Available at <http://nhd.usgs.gov/>

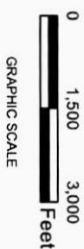
U.S. Environmental Protection Agency (EPA) and USACE. 2020. The Navigable Waters Protection Rule: Definition of "Waters of the United States". Federal Register / Vol. 85, No. 77 / Tuesday, April 21, 2020 / Rules and Regulations.

FIGURES





Legend
 Environmental Survey Area (ESA)

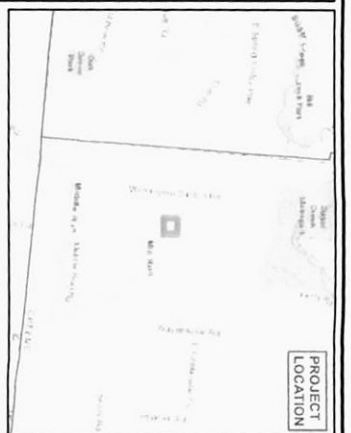


GRAPHIC SCALE

NOTE:
 1. USGS TOPOGRAPHIC QUADRANGLE WAYNESVILLE, OHIO
 OBTAINED FROM ESRI IMAGE SERVICE.

AES CORPORATION
 SUGARCREEK PROJECT
 GREENE COUNTY, OHIO

TOPOGRAPHIC MAP



Legend
 Environmental Survey Area (ESA)



GRAPHIC SCALE

NOTE:
 1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.
 2. 2007 NATIONAL WETLANDS INVENTORY (NWI) WETLAND DATA OBTAINED FROM THE U.S. FISH & WILDLIFE SERVICE AT: [WWW.FWS.GOV/](http://www.fws.gov/)
 3. 2012 NATIONAL HYDROGRAPHY DATASET (NHD) OBTAINED FROM THE U.S. GEOLOGICAL SURVEY AT: [HTTP://NHD.USGS.GOV/](http://nhd.usgs.gov/)
 4. 2011 FEMA FLOOD ZONE DATA OBTAINED FROM: [HTTPS://MSC.FEMA.GOV/](https://msc.fema.gov/)

AES CORPORATION
 SUGARCREEK PROJECT
 GREENE COUNTY, OHIO

NWI / NHD / FEMA MAP



Legend

- Soil Class Boundary
- Environmental Survey Area (ESA)

| Soil ID | Soil Description | Hydric Rating |
|---------|---|----------------------------------|
| FnuA | Finecastle silt loam, Southern Ohio Till Plain, 0 to 2 percent slopes | Predominantly Non-Hydric (1-32%) |
| XeaB | Xenia silt loam, Southern Ohio Till Plain, 2 to 6 percent slopes | Predominantly Non-Hydric (1-32%) |

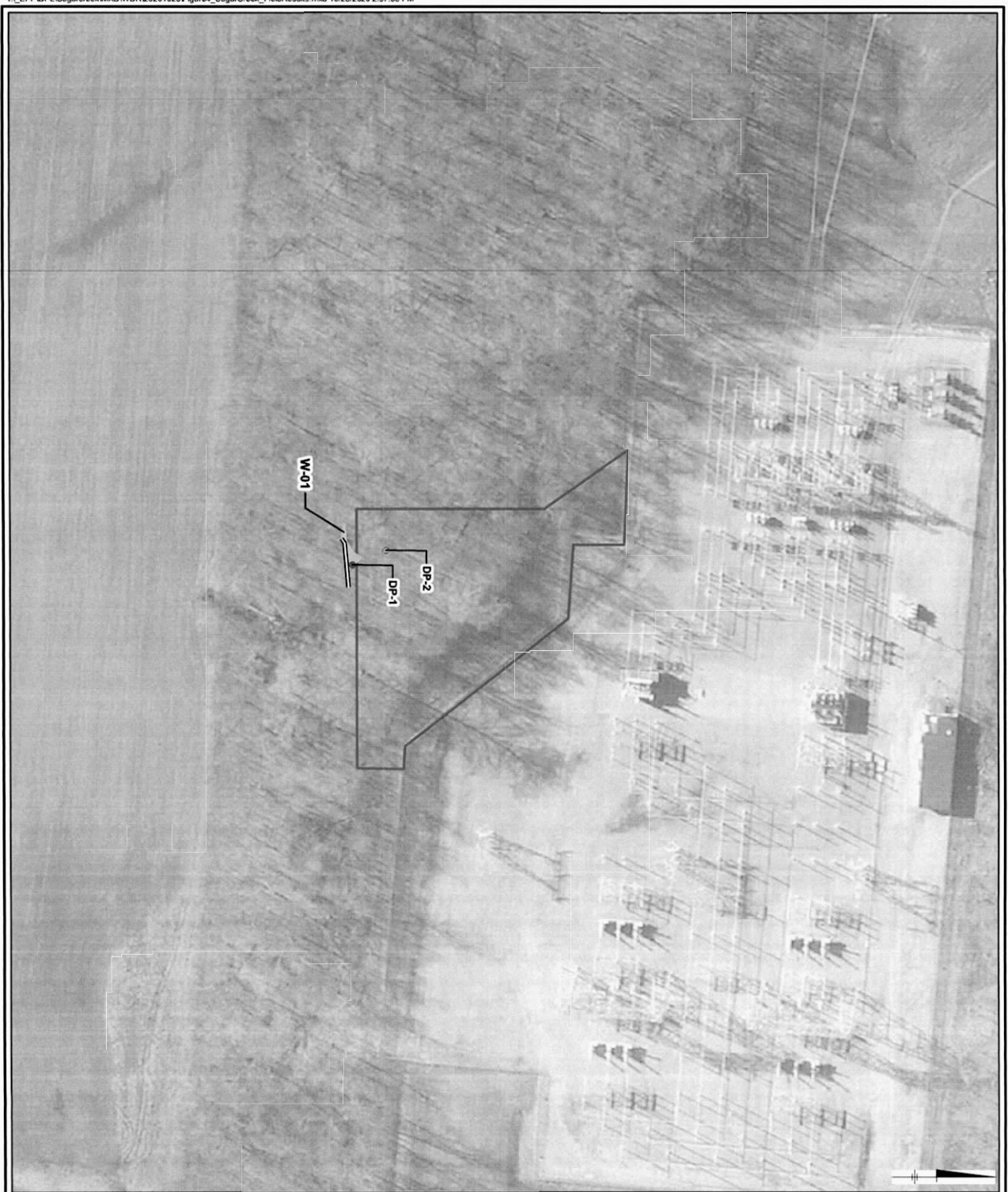


GRAPHIC SCALE

NOTE:
1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE
2. 2018 NATURAL RESOURCES CONSERVATION SERVICE
SOIL DATA OBTAINED FROM: [HTTPS://GDG.SC.EGOV.USDA.GOV](https://gdg.sc.egov.usda.gov)

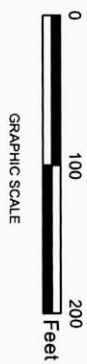
AES CORPORATION
SUGARCREEK PROJECT
GREENE COUNTY, OHIO

NRCS SOILS MAP



Legend

- Upland Data Point
- Wetland Data Point
- Open Ended Feature Edge
- Delineated Wetland (PEM)
- Environmental Survey Area (ESA)



NOTE:
 1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.

AES CORPORATION
 SUGARCREEK PROJECT
 GREENE COUNTY, OHIO

**DELINEATED WETLANDS
 AND STREAMS MAP**

APPENDIX A

Photographic Log



Project Photographs

Dayton Power and Light Company
Sugarcreek Reactor Project
Greene County, Ohio



Photo: 1

Date: 10/13/2020

Description:

View of substation expansion

Direction:

Northwest



Photo: 2

Date: 10/13/2020

Description:

View of upland forest

Direction:

North

Project Photographs

Dayton Power and Light Company
Sugarcreek Reactor Project
Greene County, Ohio



Photo: 3

Date: 10/13/2020

Description:

View of wetland W-01

Direction:

North



Photo: 4

Date: 10/13/2020

Description:

View of wetland W-01

Direction:

East

Project Photographs

Dayton Power and Light Company
Sugarcreek Reactor Project
Greene County, Ohio



Photo: 5

Date: 10/13/2020

Description:

View of wetland W-01

Direction:

South



Photo: 6

Date: 10/13/2020

Description:

View of wetland W-01

Direction:

West

APPENDIX B

USACE Wetland Determination Data Forms



WETLAND DETERMINATION DATA FORM - Midwest Region

| | | | | | |
|--|--|--|------------------|---|------------------|
| Site: <u>Sugarcreek Reactor Project</u> | | City/County: <u>Bellbrook/ Greene Co.,</u> | | Sampling Date: <u>10/13/2020</u> | |
| Applicant/Owner: <u>AES Corporation/ Dayton Power and Light</u> | | State: <u>OH</u> | | Sampling Point: <u>DP-1</u> | |
| Investigator(s): <u>S. Miloski</u> | | Section, Township, Range: <u>S11 T3E R5N</u> | | | |
| Landform: (hillslope, terrace, etc.): <u>Terrace</u> | | Local relief (concave, convex, none): <u>Concave</u> | | | |
| Slope (%): <u>0</u> | | Lat. <u>39.59960682</u> | | Long. <u>-84.095851</u> Datum: <u>WGS 84</u> | |
| Soil Map Unit Name: <u>FnA—Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes</u> | | | | NWI Classification: <u>N/A</u> | |
| Are climatic/hydrologic conditions on the site typical for time of year? Yes <u>X</u> No <u> </u> (If no, explain in the Remarks) | | | | | |
| Are Vegetation <u>N</u> Soil <u>N</u> or Hydrology <u>N</u> significantly disturbed? | | | | | |
| Are Vegetation <u>N</u> Soil <u>N</u> or Hydrology <u>N</u> naturally problematic? | | | | | |
| Are Normal Circumstances Present? Yes <u>X</u> No <u> </u> (If needed, explain any answers in Remarks) | | | | | |
| SUMMARY OF FINDINGS | | | | | |
| Hydrophytic Vegetation Present? | | Yes <u>X</u> | No <u> </u> | Is the Sampled Area within a Wetland? | |
| Hydric Soil Present? | | Yes <u>X</u> | No <u> </u> | Yes <u>X</u> No <u> </u> | |
| Wetland Hydrology Present? | | Yes <u>X</u> | No <u> </u> | If yes, optional Wetland Site ID: <u>W-01</u> | |
| Remarks: <u>PEM wetland</u> | | | | | |
| VEGETATION | | | | | |
| | | | | Sampling Point: | DP-1 |
| <u>Tree Stratum</u> | | Plot size: <u>r=30'</u> | Absolute % Cover | Dominant Species | Indicator Status |
| 1. <u> </u> | | | | | |
| 2. <u> </u> | | | | | |
| 3. <u> </u> | | | | | |
| 4. <u> </u> | | | | | |
| 5. <u> </u> | | | | | |
| 50% = <u>0.0%</u> | | 20% = <u>0.0%</u> | <u>0</u> | Total Cover | |
| <u>Shrub Stratum</u> | | Plot size: <u>r=15'</u> | | | |
| 1. <u> </u> | | | | | |
| 2. <u> </u> | | | | | |
| 3. <u> </u> | | | | | |
| 4. <u> </u> | | | | | |
| 5. <u> </u> | | | | | |
| 50% = <u>0.0%</u> | | 20% = <u>0.0%</u> | <u>0</u> | Total Cover | |
| <u>Herb Stratum</u> | | Plot size: <u>r=5'</u> | | | |
| 1. <u>Leersia oryzoides</u> | | | <u>50</u> | <u>Y</u> | <u>OBL</u> |
| 2. <u>Echinochloa crus-galli</u> | | | <u>50</u> | <u>Y</u> | <u>FACW</u> |
| 3. <u> </u> | | | | | |
| 4. <u> </u> | | | | | |
| 5. <u> </u> | | | | | |
| 6. <u> </u> | | | | | |
| 7. <u> </u> | | | | | |
| 8. <u> </u> | | | | | |
| 9. <u> </u> | | | | | |
| 10. <u> </u> | | | | | |
| 50% = <u>50.0%</u> | | 20% = <u>20.0%</u> | <u>100</u> | Total Cover | |
| <u>Woody Vine Stratum</u> | | Plot size: <u>r=30'</u> | | | |
| 1. <u> </u> | | | | | |
| 2. <u> </u> | | | | | |
| 50% = <u>0.0%</u> | | 20% = <u>0.0%</u> | <u>0</u> | Total Cover | |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | | |
| Dominance Test Worksheet Number of dominant species that are OBL, FACW, or FAC: <u>2</u> (A) Total number of dominant species across all strata: <u>2</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>100%</u> (A/B) | | | | | |
| Prevalence Index Worksheet Total % cover of: OBL species 50 x 1 <u>50</u> FACW species 50 x 2 <u>100</u> FAC species 0 x 3 <u>0</u> FACU species 0 x 4 <u>0</u> UPL species 0 x 5 <u>0</u> Column Total 100 (A) <u>150</u> (B) Prevalence Index: <u>1.5</u> (B/A) | | | | | |
| Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation X 2 - Dominance Test is >50% X 3 - Prevalence Index is ≤3.0* 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet) 5 - Problematic Hydrophytic Vegetation* | | | | | |
| *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic | | | | | |
| Hydrophytic Vegetation Present? Yes <u>X</u> No <u> </u> | | | | | |

WETLAND DETERMINATION DATA FORM - Midwest Region

| | | | | | | | | | |
|---|---|-------------------|---|--|---|--|--|--------------------------------|------|
| SOIL | | | | | | | Sampling Point: | | DP-1 |
| Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.) | | | | | | | | | |
| Depth | Matrix | | Redox Features | | | | | | |
| (inches) | Color | % | Color | % | Type* | Loc** | Texture | Remarks | |
| 0-16 | 10YR 5/2 | 80 | 10YR 4/6 | 20 | C | PL/M | Silty Clay | Prominent Redox Concentrations | |
| | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix | | | | | | | | | |
| Hydric Soil Indicators: | | | | | | | Indicators for Problematic Soils *** | | |
| Histosol (A1) | | | Sandy Gleyed Matrix (S4) | | | | Coast Prairie Redox (A16) | | |
| Histic Epipedon (A2) | | | Sandy Redox (S5) | | | | Dark Surface (S7) | | |
| Black Histic (A3) | | | Stripped Matrix (S6) | | | | Iron-Manganese Masses (F12) | | |
| Hydrogen Sulfide (A4) | | | Loamy Mucky Mineral (F1) | | | | Very Shallow Dark Surface (TF12) | | |
| Stratified Layers (A5) | | | Loamy Gleyed Matrix (F2) | | | | Other (Explain in Remarks) | | |
| 2 cm Muck (A10) | | | X | Depleted Matrix (F3) | | | *** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | |
| Depleted Below Dark Surface (A11) | | | Redox Dark Surface (F6) | | | | | | |
| Thick Dark Surface (A12) | | | Depleted Dark Surface (F7) | | | | | | |
| Sandy Mucky Mineral (S1) | | | Redox Depressions (F8) | | | | | | |
| 5cm Mucky Peat or Peat | | | | | | | | | |
| Restrictive Layer (If observed) | | | | | | | | | |
| Type: _____ | | | | | | | | | |
| Depth (inches): _____ | | | | | | Hydric Soil Present? Yes <u> X </u> No <u> </u> | | | |
| Remarks: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| HYDROLOGY | | | | | | | | | |
| Wetland Hydrology Indicators: | | | | | | | | | |
| Primary Indicators (check all that apply) | | | | | Secondary Indicators | | | | |
| X | Surface Water (A1) | | Water Stained Leaves (B9) | | Surface Soil Cracks (B6) | | | | |
| | High Water Table (A2) | | Aquatic Fauna (B13) | | Drainage Patterns (B10) | | | | |
| | Saturation (A3) | | True Aquatic Plants (B14) | | Dry-Season Water Table (C2) | | | | |
| | Water Marks (B1) | | Hydrogen Sulfide Odor (C1) | | Crayfish Burrows (C8) | | | | |
| | Sediment Deposits (B2) | | X | Oxidized Rhizospheres on Living Roots (C3) | Saturation Visible on Aerial Imagery (C9) | | | | |
| | Drift Deposits (B3) | | | | Stunted or Stressed Plants (D1) | | | | |
| | Algal Mat or Crust (B4) | | Presence of Reduced Iron (C4) | | X | Geomorphic Position (D2) | | | |
| | Iron Deposits (B5) | | Recent Iron Reduction in Tilled Soil (C6) | | X | FAC-Neutral Test (D5) | | | |
| | Inundation Visible on Aerial Imagery (B7) | | Thin Muck Surface (C7) | | | | | | |
| | Sparsely Vegetated Concave Surface (B8) | | Gauge or Well Data (D9) | | | | | | |
| | | | Other (Explain in Remarks) | | | | | | |
| Field Observations: | | | | | | | | | |
| Surface Water Present? | | Yes <u> X </u> | No <u> </u> | Depth (inches) <u> 3 </u> | | Wetland Hydrology Present? Yes <u> X </u> No <u> </u> | | | |
| Water Table Present? | | Yes <u> </u> | No <u> X </u> | Depth (inches) <u> </u> | | | | | |
| Saturation Present? | | Yes <u> </u> | No <u> X </u> | Depth (inches) <u> </u> | | | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | | |
| | | | | | | | | | |
| | | | | | | | | | |
| Remarks: | | | | | | | | | |

WETLAND DETERMINATION DATA FORM - Midwest Region

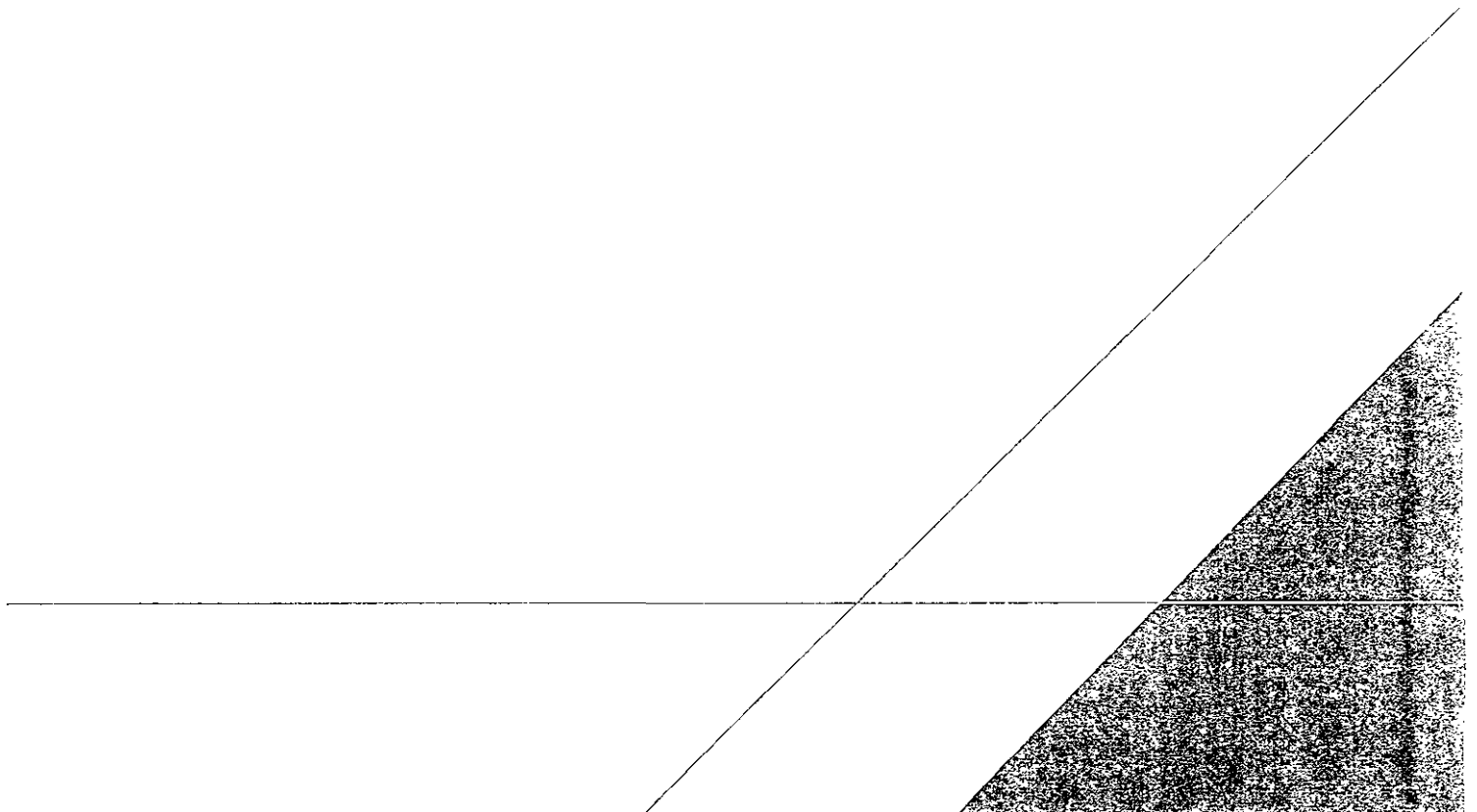
| | | | | | |
|--|-----------------------------|---|--------------------|--|---|
| Site: <u>Sugarcreek Reactor Project</u> | | City/County: <u>Bellbrook/ Greene Co.,</u> | | Sampling Date: <u>10/13/2020</u> | |
| Applicant/Owner: <u>AES Corporation/ Dayton Power and Light</u> | | State: <u>OH</u> | | Sampling Point: <u>DP-2</u> | |
| Investigator(s): <u>S. Miloski</u> | | Section, Township, Range: <u>S11 T3E R5N</u> | | | |
| Landform: (hillslope, terrace, etc.): <u>Terrace</u> | | Local relief (concave, convex, none): <u>None</u> | | | |
| Slope (%): <u>0</u> | | Lat. <u>39.59968825</u> | | Long. <u>-84.09588704</u> Datum: <u>WGS 84</u> | |
| Soil Map Unit Name: <u>FnA—Fincastle silt loam, southern ohio till plain, 0 to 2 percent slopes</u> | | | | NWI Classification: <u>N/A</u> | |
| Are climatic/hydrologic conditions on the site typical for time of year? Yes <u>X</u> No <u> </u> (If no, explain in the Remarks) | | | | | |
| Are Vegetation <u>N</u> Soil <u>N</u> or Hydrology <u>N</u> significantly disturbed? | | | | | |
| Are Vegetation <u>N</u> Soil <u>N</u> or Hydrology <u>N</u> naturally problematic? | | | | | |
| Are Normal Circumstances Present? Yes <u>X</u> No <u> </u> (If needed, explain any answers in Remarks) | | | | | |
| SUMMARY OF FINDINGS | | | | | |
| Hydrophytic Vegetation Present? | | Yes <u> </u> No <u>X</u> | | Is the Sampled Area within a Wetland? | |
| Hydric Soil Present? | | Yes <u> </u> No <u>X</u> | | Yes <u> </u> No <u>X</u> | |
| Wetland Hydrology Present? | | Yes <u> </u> No <u>X</u> | | If yes, optional Wetland Site ID: <u> </u> | |
| Remarks: <u>upland for PEM wetland</u> | | | | | |
| VEGETATION | | | | | |
| | | | | Sampling Point: <u>DP-2</u> | |
| <u>Tree Stratum</u> Plot size: <u>r=30'</u> | | Absolute % Cover | Dominant Species | Indicator Status | Dominance Test Worksheet |
| 1. | <u>Acer saccharum</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | Number of dominant species that are OBL, FACW, or FAC: <u>1</u> (A) Total number of dominant species across all strata: <u>6</u> (B) Percent of dominant species that are OBL, FACW, or FAC: <u>17%</u> (A/B) |
| 2. | <u>Celtis occidentalis</u> | <u>30</u> | <u>Y</u> | <u>FAC</u> | |
| 3. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 50% = <u>30.0%</u> 20% = <u>12.0%</u> | | <u>60</u> | <u>Total Cover</u> | | |
| <u>Shrub Stratum</u> Plot size: <u>r=15'</u> | | | | | Prevalence Index Worksheet |
| 1. | <u>Lonicera maackii</u> | <u>40</u> | <u>Y</u> | <u>UPL</u> | Total % cover of: OBL species <u>0</u> x <u>1</u> = <u>0</u> FACW species <u>0</u> x <u>2</u> = <u>0</u> FAC species <u>30</u> x <u>3</u> = <u>90</u> FACU species <u>100</u> x <u>4</u> = <u>400</u> UPL species <u>70</u> x <u>5</u> = <u>350</u> Column Total <u>200</u> (A) = <u>840</u> (B) Prevalence Index: <u>4.2</u> (B/A) |
| 2. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 3. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 4. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 50% = <u>20.0%</u> 20% = <u>8.0%</u> | | <u>40</u> | <u>Total Cover</u> | | |
| <u>Herb Stratum</u> Plot size: <u>r=5'</u> | | | | | |
| 1. | <u>Setaria faberi</u> | <u>40</u> | <u>Y</u> | <u>FACU</u> | Hydrophytic Vegetation Indicators: 1 - Rapid Test for Hydrophytic Vegetation 2 - Dominance Test is >50% 3 - Prevalence Index is ≤3.0* 4 - Morphological Adaptations* (Provide supporting data in remarks or on a separate sheet) 5 - Problematic Hydrophytic Vegetation* *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic |
| 2. | <u>Phytolacca americana</u> | <u>30</u> | <u>Y</u> | <u>FACU</u> | |
| 3. | <u>Lonicera maackii</u> | <u>30</u> | <u>Y</u> | <u>UPL</u> | |
| 4. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 5. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 6. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 7. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 8. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 9. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 10. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 50% = <u>50.0%</u> 20% = <u>20.0%</u> | | <u>100</u> | <u>Total Cover</u> | | |
| <u>Woody Vine Stratum</u> Plot size: <u>r=30'</u> | | | | | |
| 1. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | Hydrophytic Vegetation Present? Yes <u> </u> No <u>X</u> |
| 2. | <u> </u> | <u> </u> | <u> </u> | <u> </u> | |
| 50% = <u>0.0%</u> 20% = <u>0.0%</u> | | <u>0</u> | <u>Total Cover</u> | | |
| Remarks: (Include photo numbers here or on a separate sheet.) | | | | | |

WETLAND DETERMINATION DATA FORM - Midwest Region

| | | | | | | | | |
|---|----------|--|----------------------------|---|----------------------|--|-----------------|--------------------------------|
| SOIL | | | | | | | Sampling Point: | DP-2 |
| Profile Description: (Describe to depth needed to document the indicator or confirm absence of indicators.) | | | | | | | | |
| Depth (inches) | Matrix | | Redox Features | | | | Texture | Remarks |
| | Color | % | Color | % | Type* | Loc** | | |
| 0-16 | 10YR 3/2 | 100 | | | | | Silt loam | Prominent Redox Concentrations |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| | | | | | | | | |
| *Type: C=Concentration, D=Depletion, RM=Reduced Matrix, MS=Masked Sand grains **Location: PL=Pore Lining, M=Matrix | | | | | | | | |
| Hydric Soil Indicators: | | | | | | Indicators for Problematic Soils *** | | |
| Histosol (A1) | | | Sandy Gleyed Matrix (S4) | | | Coast Prairie Redox (A16) | | |
| Histic Epipedon (A2) | | | Sandy Redox (S5) | | | Dark Surface (S7) | | |
| Black Histic (A3) | | | Stripped Matrix (S6) | | | Iron-Manganese Masses (F12) | | |
| Hydrogen Sulfide (A4) | | | Loamy Mucky Mineral (F1) | | | Very Shallow Dark Surface (TF12) | | |
| Stratified Layers (A5) | | | Loamy Gleyed Matrix (F2) | | | Other (Explain in Remarks) | | |
| 2 cm Muck (A10) | | | Depleted Matrix (F3) | | | *** Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic. | | |
| Depleted Below Dark Surface (A11) | | | Redox Dark Surface (F6) | | | | | |
| Thick Dark Surface (A12) | | | Depleted Dark Surface (F7) | | | | | |
| Sandy Mucky Mineral (S1) | | | Redox Depressions (F8) | | | | | |
| 5cm Mucky Peat or Peat | | | | | | | | |
| Restrictive Layer (If observed) | | | | | | Hydric Soil Present? Yes _____ No _____ X _____ | | |
| Type: _____ Depth (inches): _____ | | | | | | | | |
| Remarks: | | | | | | | | |
| | | | | | | | | |
| HYDROLOGY | | | | | | | | |
| Wetland Hydrology Indicators: | | | | | | | | |
| Primary Indicators (check all that apply) | | | | | Secondary Indicators | | | |
| Surface Water (A1) | | Water Stained Leaves (B9) | | Surface Soil Cracks (B6) | | | | |
| High Water Table (A2) | | Aquatic Fauna (B13) | | Drainage Patterns (B10) | | | | |
| Saturation (A3) | | True Aquatic Plants (B14) | | Dry-Season Water Table (C2) | | | | |
| Water Marks (B1) | | Hydrogen Sulfide Odor (C1) | | Crayfish Burrows (C8) | | | | |
| Sediment Deposits (B2) | | Oxidized Rhizospheres on Living Roots (C3) | | Saturation Visible on Aerial Imagery (C9) | | | | |
| Drift Deposits (B3) | | | | Stunted or Stressed Plants (D1) | | | | |
| Algal Mat or Crust (B4) | | Presence of Reduced Iron (C4) | | Geomorphic Position (D2) | | | | |
| Iron Deposits (B5) | | Recent Iron Reduction in Tilled Soil (C6) | | FAC-Neutral Test (D5) | | | | |
| Inundation Visible on Aerial Imagery (B7) | | Thin Muck Surface (C7) | | | | | | |
| Sparsely Vegetated Concave Surface (B8) | | Gauge or Well Data (D9) | | | | | | |
| | | Other (Explain in Remarks) | | | | | | |
| Field Observations: | | | | | | Wetland Hydrology Present? Yes _____ No _____ X _____ | | |
| Surface Water Present? | | Yes _____ No _____ X _____ | Depth (inches) _____ | | | | | |
| Water Table Present? | | Yes _____ No _____ X _____ | Depth (inches) _____ | | | | | |
| Saturation Present? | | Yes _____ No _____ X _____ | Depth (inches) _____ | | | | | |
| Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available: | | | | | | | | |
| Remarks: | | | | | | | | |

APPENDIX C

ORAM v. 5.0 Scoring Forms



| | | |
|---------------------------------------|----------------------------|-------------------------|
| Site: W-01, Sugarcreek Reactor | Rater(s): S.Miloski | Date: 10/13/2020 |
|---------------------------------------|----------------------------|-------------------------|

| | |
|------------|----------|
| 0 | 0 |
| max 6 pts. | subtotal |

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

| | |
|-------------|----------|
| 7 | 7 |
| max 14 pts. | subtotal |

Metric 2. Upland buffers and surrounding land use.

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

- ☐ WIDE. Buffers average 50m (164ft) or more around wetland perimeter (7)
- ☒ MEDIUM. Buffers average 25m to <50m (82 to <164ft) around wetland perimeter (4)
- ☐ NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- ☐ VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

| | |
|-------------|----------|
| 7 | 14 |
| max 30 pts. | subtotal |

Metric 3. Hydrology.

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

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

3c. Maximum water depth. Select only one and assign score.

- ☐ >0.7 (27.6in) (3)
- ☐ 0.4 to 0.7m (15.7 to 27.6in) (2)
- ☒ <0.4m (<15.7in) (1)

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

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

| | |
|-------------|----------|
| 4.5 | 18.5 |
| max 20 pts. | subtotal |

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

18.5

subtotal this page

Site: W-01, Sugarcreek Reactor

Rater(s) S.Miloski

Date: 10/13/2020

18.5

subtotal first page

0

18.5

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5

23.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

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

Vegetation Community Cover Scale

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

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23.5

GRAND TOTAL (max 100 pts)

Arcadis U.S., Inc.

4665 Cornell Road

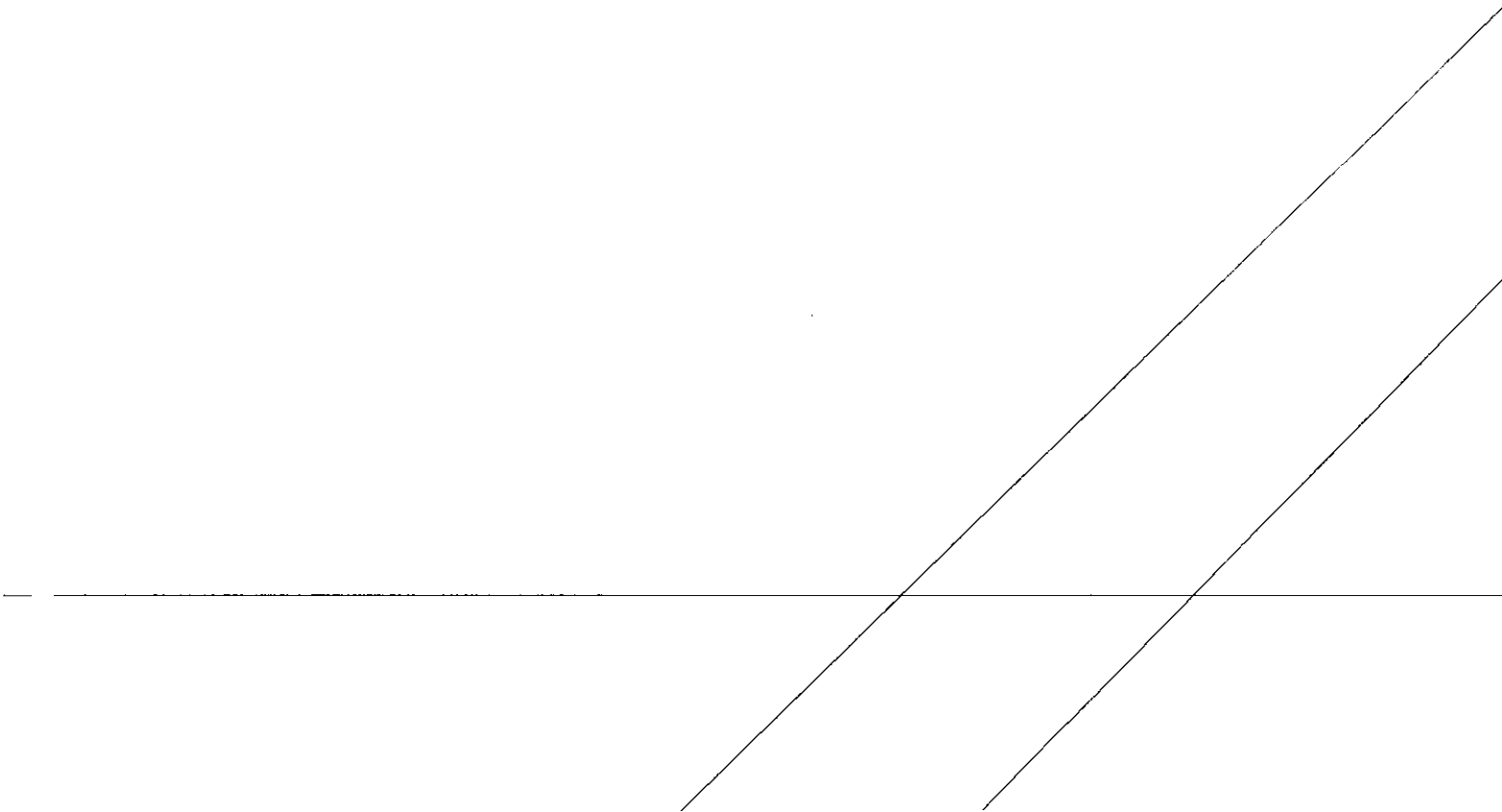
Suite 200

Cincinnati, Ohio 45241

Tel 513 860 8700

Fax 513 860 8701

www.arcadis.com

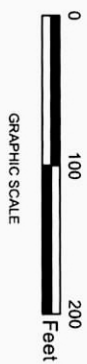


Attachment B
Delineated Features with Construction LOD



Legend

- Upland Data Point
- Wetland Data Point
- Open Ended Feature Edge
- Delineated Wetland (PEM)
- Environmental Survey Area (ESA)
- Limits of Disturbance (LOD)



NOTE:
 1. 2017 IMAGERY OBTAINED FROM ESRI IMAGE SERVICE.

AES CORPORATION
SUGARCREEK PROJECT
GREENE COUNTY, OHIO

DELINEATED FEATURES
WITH CONSTRUCTION LOD



Attachment C
USFWS IPaC Database Review Results and
ODNR Response Letter



United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

Phone: (614) 416-8993 Fax: (614) 416-8994



In Reply Refer To:

January 10, 2020

Consultation Code: 03E15000-2020-SLI-0588

Event Code: 03E15000-2020-E-00797

Project Name: Sugarcreek Substation Expansion

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

To Whom It May Concern:

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

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

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

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

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

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

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

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

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

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

Attachment(s):

- Official Species List

Official Species List

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

This species list is provided by:

Ohio Ecological Services Field Office

4625 Morse Road, Suite 104

Columbus, OH 43230-8355

(614) 416-8993

Project Summary

Consultation Code: 03E15000-2020-SLI-0588

Event Code: 03E15000-2020-E-00797

Project Name: Sugarcreek Substation Expansion

Project Type: TRANSMISSION LINE

Project Description: Expansion of an existing electricity substation

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/39.600695393684774N84.09694196571533W>



Counties: Greene, OH

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. Note that 1 of these species should be considered only under certain conditions.

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

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

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

Mammals

| NAME | STATUS |
|--|------------|
| Indiana Bat <i>Myotis sodalis</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/5949 | Endangered |
| Northern Long-eared Bat <i>Myotis septentrionalis</i> No critical habitat has been designated for this species. This species only needs to be considered under the following conditions: <ul style="list-style-type: none"> ▪ Incidental take of the northern long-eared bat is not prohibited at this location. Federal action agencies may conclude consultation using the streamlined process described at https://www.fws.gov/midwest/endangered/mammals/nleb/s7.html Species profile: https://ecos.fws.gov/ecp/species/9045 | Threatened |

Clams

| NAME | STATUS |
|--|------------|
| Clubshell <i>Pleurobema clava</i> Population: Wherever found; Except where listed as Experimental Populations No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3789 | Endangered |
| Rayed Bean <i>Villosa fabalis</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5862 | Endangered |
| Snuffbox Mussel <i>Epioblasma triquetra</i> No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4135 | Endangered |

Critical habitats

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



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

June 26, 2020

Leah LaFrance
Commonwealth Associates, Inc.
2700 W. Argyle Street
Jackson, MI 49202

Re: 20-463; DPL Sugarcreek Substation Expansion Project

Project: The proposed project involves expansion of the Sugarcreek Substation in order to install a new 138kV 100mvar shunt reactor.

Location: The proposed project is located in Bellbrook Township, Greene County, Ohio.

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

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

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

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

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

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

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

The project is within the range of the clubshell (*Pleurobema clava*), a state endangered and federally endangered mussel, the rayed bean (*Villosa fabalis*), a state endangered and federally endangered mussel, and the snuffbox (*Epioblasma triquetra*), a state endangered and federally endangered mussel, the black sandshell (*Ligumia recta*), a state threatened mussel, and the fawnsfoot (*Truncilla donaciformis*), a state threatened mussel. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the tongue-tied minnow (*Exoglossum laurae*), a state threatened fish. Due to the location, and that there is no in-water work proposed in a perennial stream, this project is not likely to impact these species.

The project is within the range of the spotted turtle (*Clemmys guttata*), a state threatened species. This species prefers fens, bogs and marshes, but also is known to inhabit wet prairies, meadows, pond edges, wet woods, and the shallow sluggish waters of small streams and ditches. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

The project is within the range of the Kirtland's snake (*Clonophis kirtlandii*), a state threatened species. This secretive species prefers wet fields and meadows. Due to the location, the type of habitat at the project site and within the vicinity of the project area, and the type of work proposed, this project is not likely to impact this species.

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

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

The project is within the range of the northern harrier (*Circus cyaneus*), a state endangered bird. This is a common migrant and winter species. Nesters are much rarer, although they occasionally breed in large marshes and grasslands. Harriers often nest in loose colonies. The female builds a nest out of sticks on the ground, often on top of a mound. Harriers hunt over grasslands. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 15 to August 1. If this habitat will not be impacted, this project is not likely to impact this species.

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

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

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

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

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

Mike Pettegrew
Environmental Services Administrator (Acting)

Attachment D
Cultural and Architectural Resources Desktop
Review

Sugarcreek Reactor Project

Cultural Resources Desktop Assessment

To:

Amanda Foti, AES Corporation

From:

Galen K Smith, Arcadis U.S., Inc.

Josh Ferry, Arcadis U.S., Inc.

Arcadis U.S., Inc.

4665 Cornell Road

Suite 200

Cincinnati, Ohio 45241

Tel 513 860 8700

Date:

November 6, 2020

Subject:

Cultural Resources Desktop Assessment for the Sugarcreek Reactor
Project

INTRODUCTION

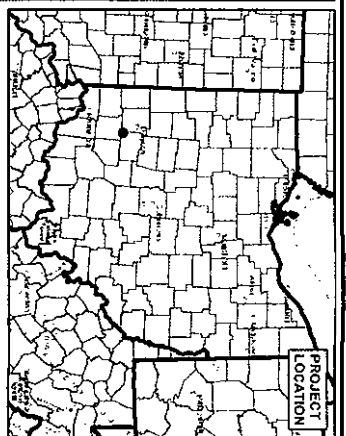
On behalf of Dayton Power and Light Company (DP&L), an AES Corporation company, Arcadis U.S., Inc. (Arcadis), conducted a cultural resources desktop assessment of the Sugarcreek Substation Reactor Project (Project) located in Sugarcreek Township, Greene County, Ohio. Presently, the proposed Project does not involve funding or issuance of federal or state permits that would necessitate the need for formal Section 106 review under the National Historic Preservation Act of 1966. As a result, no formal Section 106 consultation is required. The purpose of this technical memorandum is to summarize the results of the cultural resources assessment in order to evaluate potential Project effects to historic properties.

PROJECT DESCRIPTION AND AREA OF POTENTIAL EFFECT

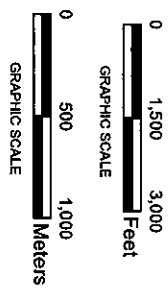
DP&L plans to expand the existing Sugarcreek Substation to install a new 138 kiloVolt (kV) 100 mega volt-ampere reactive (mvar) shunt reactor. The Project is located at latitude 39.599943°N, longitude 84.095898°W in Section 11 Township 3E Range 5N (Figure 1). The total Project footprint is 0.75 acre.

Based on the current Project description, Arcadis considered both direct and indirect effects when developing the Area of Potential Effect (APE) for the Project (Figure 2). The direct APE is limited to the project impacts associated with the ground disturbance totaling 0.75 acre. The Project does involve the construction of new above ground facilities; however, it is not expected that the surrounding viewshed (indirect APE) will be visually impacted by the Project because of the generally rural setting and presence of existing modern infrastructure (i.e. Sugarcreek Substation and electrical transmission towers) of similar height and construction. Therefore, the construction of the new reactor is not likely to cause visual impacts

to the immediate landscape and visual impacts are considered minimal. The viewshed (or indirect APE) was evaluated using a 500-foot buffer around the direct APE.



Legend
 Project



NOTE:
 1. USGS TOPOGRAPHIC QUADRANGLE WAYNESVILLE, OHIO
 OBTAINED FROM ESRI IMAGE SERVICE.

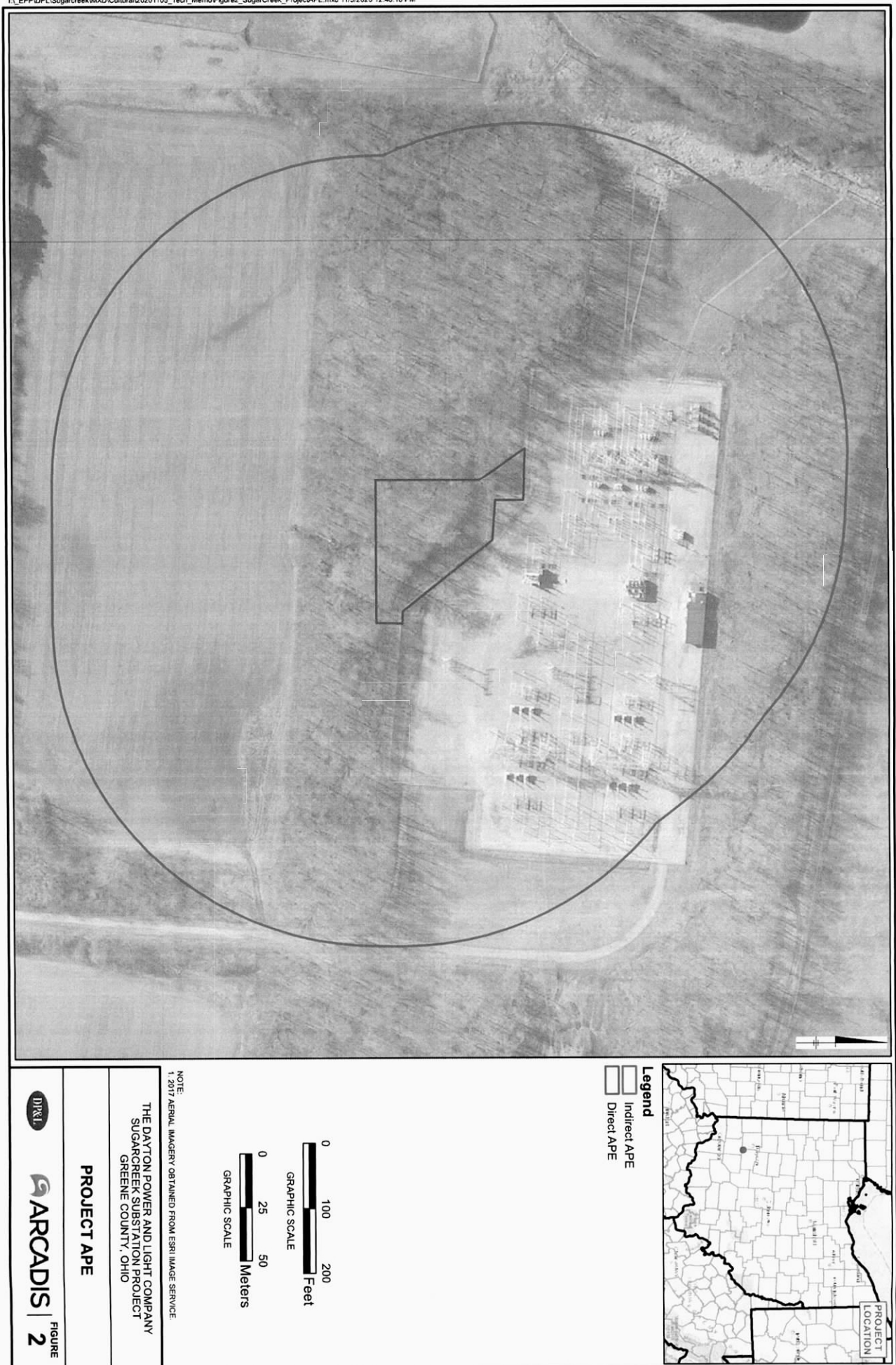
THE DAYTON POWER AND LIGHT COMPANY
 SUGARCREEK SUBSTATION PROJECT
 GREENE COUNTY, OHIO

PROJECT AREA



ARCADIS | 1

FIGURE



BACKGROUND RESEARCH

OHPO Online Database

Arcadis conducted background research for the Project on November 3, 2020 using the OHPO online mapping database to locate previously recorded cultural resources and investigations within a 1-mile radius of the Project APE. Information collected included archaeological sites, architectural and historical resources, Determination of Eligibility (DOE) files, National Register of Historic Places (NRHP) properties, National Historic Landmarks, historic cemeteries, historic bridges and previous cultural resources surveys.

Results of the background research within 1 mile of the Project APE identified one architectural and historical resource, and one previous survey (Figure 3). None of these known cultural resources or surveys are located directly within the APE. The identified architectural resource (Samuel Berryhill House/Morris Farm) is located approximately 0.5-mile northeast of the Project along Ferry Road. The resource dates to 1832 and is characterized as a Federal style farmhouse. Samuel Berryhill was the sixth child of Sugar Creek Township pioneers and notable citizens, Alexander and Rachel Berryhill. The resource is listed in the NRHP as an example of early southwestern Ohio rural architecture and craftsmanship.

Historic Map Review

In addition to the OHPO records check, Arcadis also reviewed historic-era mapping and aerial imagery available for the Project area. The table below (Table 1) lists the resources that were examined.

Table 1. List of Historic-Era Mapping Reviewed for the Project

| Date | Publisher | Historic Map Title |
|-----------|-----------------------------------|-------------------------------------|
| 1855 | Anthony D. Byles | <i>Greene County, Ohio</i> |
| 1874 | L.H. Everts | <i>Atlas of Greene County, Ohio</i> |
| 1896 | Riddell | <i>Atlas of Greene County, Ohio</i> |
| 1914 | William C. Mills, Fred J. Heer | <i>Archeological Atlas of Ohio</i> |
| 1913-2016 | Unites States Geographical Survey | <i>Topographic Maps</i> |

The Mills (1914) atlas documents prehistoric sites within Ohio, especially the location of no longer extant mounds, village sites, and earthworks. Within Greene County, Mills (1914) documented 84 archaeological sites including 61 mounds, two villages, and eight earthwork enclosures. Sugar Creek Township contains a total of 15 prehistoric sites, mostly mounds. Ten of these mound sites are concentrated to the east of the Project along the present-day routes of Waynesville and Centerville Roads.

The earliest historic-era mapping from 1855 depicts Bellbrook as the center of commercial development near the Project surrounded by large agricultural tracts with associated farmsteads. The NRHP property (Samuel Berryhill House/ Howard Morris Farm) is depicted on this atlas. No structures were depicted within the Project APE. In 1874, the Project area remains the same. The Project APE is now located on a parcel owned by "A. Berryhill." From the topographic mapping, the Project area remains relatively rural throughout the early 20th century. There is a transmission line constructed near the Project APE between 1966 to 1970, and by 1975 the existing substation is constructed.

The sole development near the Project APE is related to the existing Sugarcreek substation Infrastructural and residential development begins to encroach on the Project area during the late 20th century. Land use within the Project APE is now idle woodland.

SUMMARY

The Project involves the expansion of the existing Sugarcreek Substation through the construction of a 138 kV 100 mvar shunt reactor. The Project footprint totaling 0.75 acre is defined as the direct APE and will extend along the southern fenceline of the existing substation in Sugarcreek Township, Greene County, Ohio. The indirect APE includes a 500-foot buffer around the direct APE.

The background records check identified one NRHP-listed architectural and historical resource and one previous survey within 1 mile of the Project. None of these cultural resources or surveys are within the Project APE. A review of historic-era mapping indicates that Greene County contained a high degree of prehistoric sites, most notably along the Little Miami River to the east of the Project. Historically, the Project area was rural farmland and there is no indication of historic structures present within the APE. Given the small size of the Project APE, its position adjacent to the existing substation disturbance and no known

cultural resources are within the Project limits. the APE contains a low probability of identifying both prehistoric and historic resources.

The Project is within a generally rural, agricultural area and consists new above ground facilities adjacent to an existing transmission line ROW and substation. The above ground resources in the vicinity of the Project area (particularly the Samuel Berryhill House/Morris Farm) are situated on homelots with a number of mature trees that serve as windbreaks as well as visual barriers that limits the viewsheds of these resources. Additionally, the Project activities and tree clearing within the Project APE will be shielded by the existing substation to the north and dense woods to the west, east, and south.

Based on the results of the cultural resources desktop assessment, the Project should not adversely affect historic properties within the direct or indirect APE. If in the future, the federal/state permitting on this Project changes, the results of this technical memorandum can be used for more formal cultural resources consultation with the appropriate federal and state agencies.

Project Photographs

AES Corporation
Sugarcreek Substation Expansion Project
Greene County, Ohio



Photo: 1

Date:
12/23/2019

Description:
Overview of ESA- upland
woods

Direction:
West



Photo: 2

Date:
12/23/2019

Description:
Overview of ESA- old field

Direction:
East