Legal Department

American Electric Power
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Columbus, OH 43215-2373
AEP.com

November 19, 2018

Chairman Asim Z. Haque
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

Hector Garcia
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Re: In the Matter of the Letter of Notification for the Gemini Station 138 kV Substation Project
Case No. 18-1637-EL-BLN
Request for Expedited Treatment

Dear Chairman Haque,

Attached please find a copy of the Letter of Notification (LON) for the above-referenced project by AEP Ohio Transmission Company, Inc. (AEP Ohio Transco). This filing and notice is in accordance with O.A.C. 4906-6-05.

A copy of this filing will also be submitted to the executive director or the executive director's designee. A copy will be provided to the Board Staff via electronic message. The Company will also submit a check in the amount of $2,000 to the Treasurer, State of Ohio, for Fund 5610 for the expedited fees.

If you have any questions, please do not hesitate to contact me.

Respectfully submitted,

/s/ Christen Blend
Christen Blend (0086881), Counsel of Record
Hector Garcia (0084517)
Counsel for AEP Ohio Transmission Company, Inc.

cc. John Jones, Counsel OPSB Staff
Jon Pawley, OPSB Staff

LETTER OF NOTIFICATION

AEP Ohio Transmission Company, Inc.
Gemini Station

4906-6-05

AEP Ohio Transmission Company, Inc. ("AEP Ohio Transco") provides the following information in accordance with the requirements of Ohio Administrative Code Section 4906-6-05.

4906-6-5(B) General Information

B(1) Project Description

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

AEP Ohio Transco is proposing the Gemini Station Project ("Project"), which is located in Auglaize County, Ohio. Gemini Station is part of the Wapakoneta Area Improvements Project, which will bolster 138 kV infrastructure for economic development efforts led by the City of Wapakoneta. The general locations of the proposed Gemini Station location and surrounding vicinity are provided on Figure 1.

The Project meets the requirements for a Letter of Notification ("LON") because it is within the types of projects defined by (3) of Appendix A to O.A.C. 4906-1-01, *Application Requirement Matrix For Electric Power Transmission Lines*:

(3) Constructing a new electric power transmission substation.

The Project has been assigned PUCO Case No. 18-1637-EL-BLN.

B(2) Statement of Need

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

Greenfield transmission facilities in the Wapakoneta, OH area need to be constructed along with modifications for existing transmission facilities in order to accommodate a new delivery point (Gemini Station) to an existing wholesale customer (City of Wapakoneta) who is expecting up to 120MW of new system load as new customers of the City come online over the next several years. To serve this new load at the delivery location specified by the customer, AEP Ohio Transco will construct the Gemini Station, Gristmill Station, as well as approximately 4 miles of single circuit 138kV line that will connect Gemini and Gristmill stations. Gristmill Station will be a 345/138kV stepdown station with new connections from the existing Southwest Lima – Shelby 345kV Line. Gemini Station property is being acquired in cooperation with the City of Wapakoneta. Gristmill Station and transmission line ROW is being acquired by AEP Ohio Transco. Gristmill Station and Gemini Station are referenced on page 1 of the 2018 AEP Ohio Transco LTFR

Form FE-T10. The Gristmill – Gemini 138kV Line is on page 32 of the 2018 AEP Ohio Transco LTFR Form FE-T9. AEP Ohio Transco will provide the PJM reference number to OPSB once it has been assigned. The needs statement was submitted to PJM on 10/11/2018 and was discussed during the 10/26/2018 PJM Western Sub-Regional TEAC meeting. The solution statement for the customer needs will be discussed in a follow up meeting per the PJM process.

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.

Figure 2 in Appendix A shows the location of the Project in relation to existing and proposed transmission facilities.

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 Gemini Station site was selected in conjunction with the City of Wapakoneta because of its proximity to the load center. The site is an agricultural field, with no woodlots, streams, or wetlands and is topographically flat, requiring minimal grading. The site, which is currently owned by the City of Wapakoneta, is anticipated to be transferred to AEP Ohio Transco. The location of the Project minimizes impacts to the environment, while taking into account the engineering and construction needs of the customer. Therefore, no significant alternatives were considered as part of this Project.

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.

AEP Ohio Transco informs affected property owners and tenants about its projects through several different mediums. AEP Ohio hosted a project open house for the overall Wapakoneta Area Improvements Project in July 2018 and invited all property owners and tenants in the project area to attend. Within seven days of filing this LON, AEP Ohio Transco will issue a public notice in a newspaper of general circulation in the Project area. The notice will comply with all requirements under O.A.C. Section 4906-6-08(A)(1-6). Further, AEP Ohio Transco mailed a letter, via first class mail, to affected landowners, tenants, contiguous owners, and any other landowner AEP Ohio Transco approached for an easement necessary for the construction, operation, or maintenance of the facility. The letter complies with all the requirements of O.A.C. Section 4906-6-08(B). AEP Ohio Transco also maintains a website (http://aeptransmission.com/ohio/) which provides the public access to an electronic copy of this LON and the public notice for this LON. A paper copy of the LON will be served to the public library in each political

subdivision affected by this proposed Project. Lastly, AEP Ohio Transco retains ROW land agents who discuss project timelines, construction and restoration activities with affected owners and tenants.

B(6) Construction Schedule

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

Construction of the Project is planned to begin in the spring of 2019, and the anticipated in-service date will be April 2020.

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 1 in Appendix A provides the proposed Project area on a map of 1:24,000-scale, and provides the proposed station fence line on the United States Geological Survey (USGS) 7.5-minute topographic map of the Wapakoneta, Ohio quadrangle. Figure 3 in Appendix A shows the Project area on recent aerial photography, as provided by Bing Maps.

To visit the Project site from Columbus, Ohio, take I-70 West to I-270 North towards Cleveland for approximately 9 miles. Take Exit 17B to merge onto Ohio State Route 161 West/U.S. 33 West. Follow U.S. 33 for approximately 59 miles. Turn left to stay on U.S. 33 W for 12.3 miles. Take the OH-198/Auglaize County 25A exit toward OH-67/OH-501/Wapakoneta. Turn left onto County Road 25A for 0.9 miles. Turn left onto Short Road. The Project site will be on the right. The approximate address of the Gemini Station site is 14128 Short Road, Wapakoneta, Ohio 45895, at latitude 40.543102, longitude -84.182171 .

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 will be constructed on the customer's property (Parcel ID I2500400402 and I4500401503). No additional land rights from other property owners are expected to be necessary to construct and operate the facility. It is anticipated that the customer will transfer the station property to AEP Ohio Transco.

B(9) Technical Features

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

B(9)(a) Operating characteristics, estimated number and types of structures required, and right-of-way and/or land requirements.

The proposed Gemini Station will be constructed on property owned by the City of Wapakoneta. AEP Ohio Transco intends to construct a 200'x350' station, adjacent storm water facilities, and access roads on this property. Permanent storm water facilities have yet not been finalized and are subject to change; therefore, the station footprint is subject to shift up to 80 feet east or west within the area designated on Figures 1 and 3. Even with a shift, the station will remain entirely on the City of Wapakoneta's property.

The equipment and facilities to be installed within the project area will include the following:

138kV Circuit Breakers – (6)
138kV Switches – (16)
138kV CCVTs – (12)
84kV Arresters – (14)
120kV Arresters – (6)
138kV 23MVar Capacitor Banks – (2)
138kV Reactors – (6)
138kV Current Transformers (CTs) – (12)
Station Service Power Potential Transformer (PTs) – (2)
Relay Panels – (12)
Drop-In Control Module (DICM) – (1)

B(9)(b) 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 occupied residences or institutions are located within 100 feet of the Project.

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 right-of-way width.

No occupied residences or institutions are located within 100 feet of the Project.

B(9)(c) Project Cost

The estimated capital cost of the project.

The capital cost (class 4) estimate for the proposed Project, which is comprised of applicable tangible and capital costs, is approximately $9,100,000.

B(10) Social and Economic Impacts

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

B(10)(a) Land Use Characteristics

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

The Project is located in Pusheta Township of Auglaize County, Ohio on a parcel used for agricultural production. The City of Wapakoneta's municipal boundary is adjacent to the north of the site. The City of Wapakoneta plans to facilitate commercial and industrial development on surrounding properties. The Project vicinity is currently rural in nature, and is comprised primarily of agricultural land used for row crops, and lesser amounts of old fields, forested land, landscaped areas, and scattered residences (See Figure 3). No tree clearing is anticipated for the Project. One home was identified within 1,000 feet of the proposed Project, approximately 600 feet south of the Project. There are no churches, cemeteries, schools, parks, preserves, or wildlife management areas located within 1,000 feet of the centerline

B(10)(b) Agricultural Land Information

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

The Auglaize County Auditor provided a list of parcels registered in as Agricultural District Land in March 2018. The auditor's office was contacted again in October 2018. The Agricultural District Land parcel list is updated each calendar year. The list received in March 2018 remains accurate. The station site is situated on an overall parcel currently registered as Agricultural District Land. Approximately four to five acres of the parcel will be converted from agricultural use for Gemini Station.

B(10)(c) Archaeological and Cultural Resources

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

In October 2018, AEP Ohio Transco's consultant completed a Phase I Cultural Resource Management Investigation for the Project. The cultural report and Ohio History Connection correspondence will be coordinated directly with the OPSB.

B(10)(d) Local, State, and Federal Agency Correspondence

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

A Notice of Intent will be filed with the Ohio Environmental Protection Agency for authorization of construction storm water discharges under General Permit OHCD000005. AEP Ohio Transco will also coordinate storm water permitting needs with local government agencies, as necessary. AEP Ohio Transco will implement and maintain best management practices as outlined in the Project-specific Storm Water Pollution Prevention Plan to minimize erosion control sediment to protect surface water quality during storm events.

There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

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

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

The United States Fish and Wildlife Service (USFWS) *Federally Listed Species by Ohio counties January 2018* (available at https://www.fws.gov/midwest/Endangered/lists/pdf/OhioCtyList29Jan2018.pdf) was reviewed to determine the threatened and endangered species known to occur in the Project counties. This USFWS publication lists the Indiana bat (*Myotis sodalist*; federally endangered) and northern long-eared bat (*Myotis sepententrionalis*; federally threatened. On March 2, 2018, coordination letters were sent to USFWS and the Ohio Department of Natural Resources (ODNR) soliciting responses. Responses were received from the USFWS on March 9, 2018 and from the ODNR on March 23, 2018. Based on the current agricultural nature of the station site and lack of tree clearing required, no impacts to listed species are anticipated. Additional details regarding species are provided in Appendix B.

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.

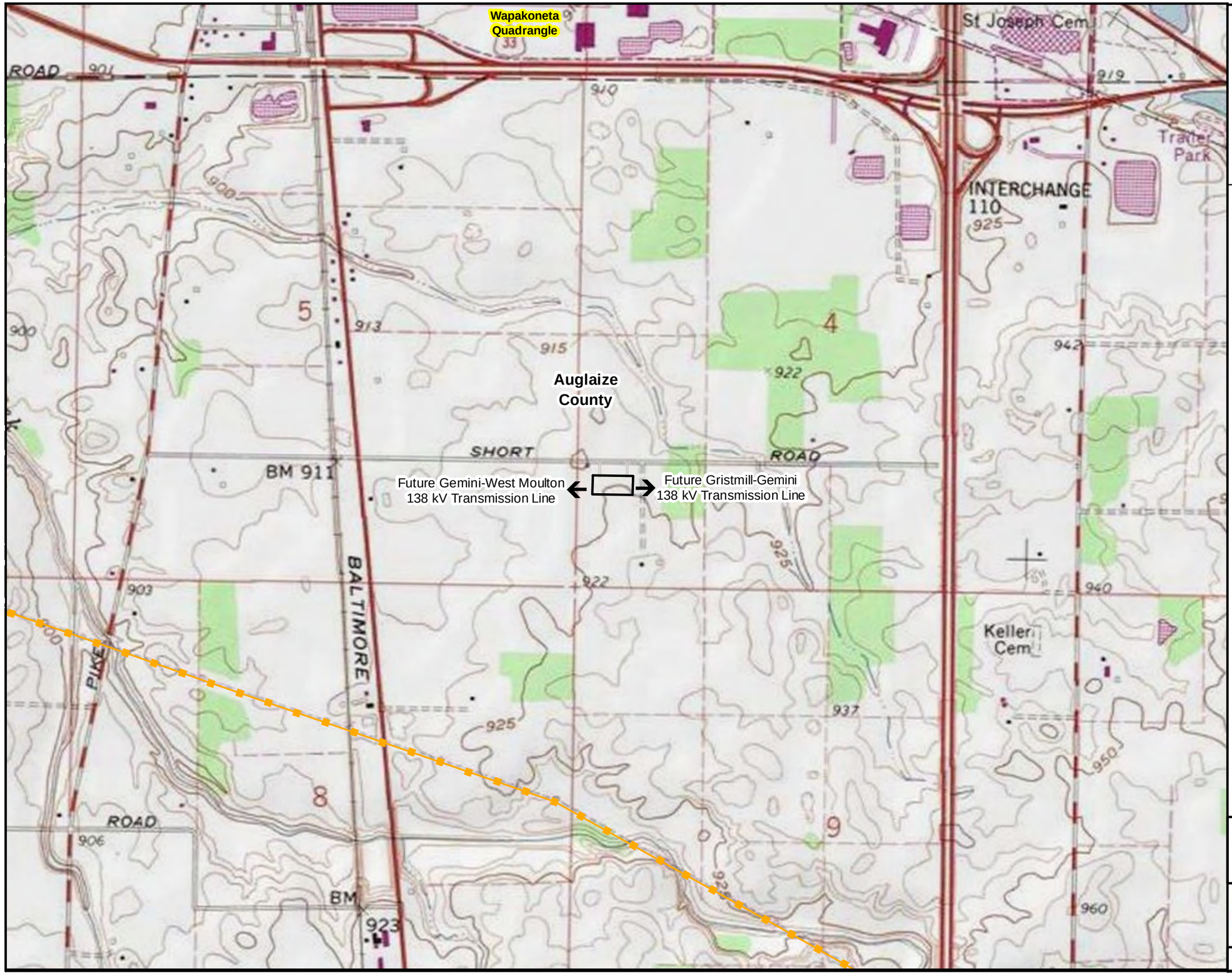
An AEP Ohio Transco consultant prepared an Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report. No impacts to wetlands or streams are anticipated. A copy of the Wetland Delineation and Stream Assessment Report for the Project is included as Appendix B.

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 AEP Ohio Transco's knowledge, no unusual conditions exist that would result in significant environmental, social, health, or safety impacts.

Appendix A Project Maps



LEGEND:

- Approximate Gemini Station
- Access Drive
- USGS 7.5" Topographical Quadrangle
- Existing Transmission Line (345kV+)

0 1,000 2,000

Feet

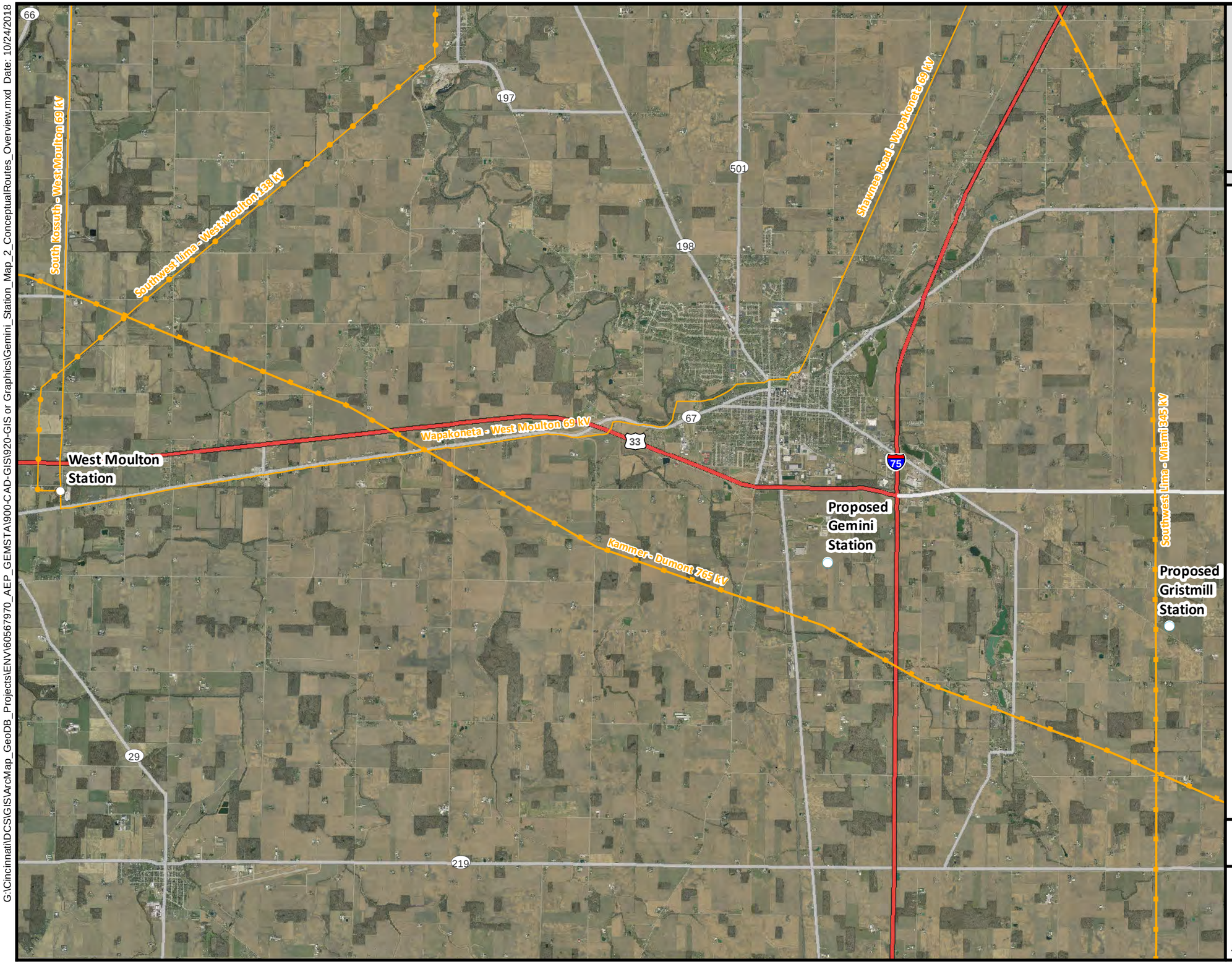
Base Map Source:
Copyright:© 2013 National Geographic Society, i-cubed

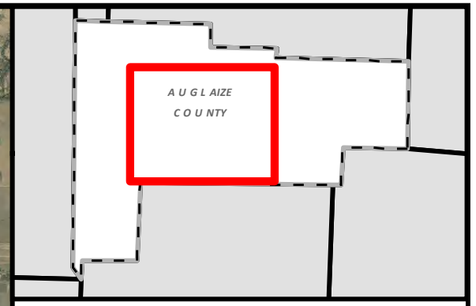
FIGURE 1
OVERVIEW MAP

Gemini Station Project

November 16, 2018

G:\Cincinnati\DCS\GIS\ArcMap_GeoDB_Projects\ENV\60567970_AEP_GEMSTA\900-CAD-GIS\920-GIS or Graphics\Gemini_Station_Map_2_ConceptualRoutes_Overview.mxd Date: 10/24/2018





LEGEND:

- Proposed Substation
- Existing Substation
- Existing Transmission (345 kV +)
- Existing Transmission (138 kV)
- Existing Transmission (69 kV)

N

0 1 2

Miles

Service Layer Credits: Copyright: © 2013 National Geographic Society, i-cubed

AEP OHIO TRANSMISSION COMPANY

Gemini Station Project

FIGURE 2
EXISTING AND PROPOSED INFRASTRUCTURE

JOB NO. 60567963

AECOM

LEGEND:

Approximate Gemini Station

Access Drive

0 500 1,000

Feet

Base Map Source:
© 2018 Microsoft Corporation © 2018 DigitalGlobe ©CNES (2018)

FIGURE 3
AERIAL PHOTOGRAPHY OF
THE PROJECT VICINITY

Gemini Station Project

November 16, 2018

Appendix B Ecological Survey Report

GEMINI STATION PROJECT, AUGLAIZE COUNTY, OHIO

WETLAND DELINEATION AND STREAM ASSESSMENT REPORT

Prepared for:
American Electric Power Ohio Transmission Company
700 Morrison Road
Gahanna, Ohio 45230

AEP OHIO TRANSMISSION COMPANY
An AEP Company
BOUNDLESS ENERGY™

Prepared by:
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60567970

October 2018

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FIGURES

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APPENDICES

Number

LIST OF ACRONYMS and ABBREVIATIONS

AEP Ohio Transco	American Electric Power Ohio Transmission Company
DOW	Division of Wildlife
DWR	Division of Water Resources
FAC	Facultative
FACU	Facultative upland
FACW	Facultative wetland
GIS	Geographic Information System
GPS	Global Positioning System
HHEI	Headwater Habitat Evaluation Index
IBI	Index of Biotic Integrity
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
OBL	Obligate wetland
ODNR	Ohio Department of Natural Resources
OEPA	Ohio Environmental Protection Agency
OHWM	Ordinary high water mark
ONHD	Ohio Natural Heritage Database
ORAM	Ohio Rapid Assessment Method
PHWH	Primary Head Water Habitat
QHEI	Qualitative Habitat Evaluation Index
UPL	Upland
U.S.	United States
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

1.0 INTRODUCTION

American Electric Power Ohio Transmission Company's (AEP Ohio Transco) proposing to construct an approximately 5-acre Gemini Station in Auglaize County, Ohio (Project). The Project is part of the Wapakoneta Improvements Project, which AECOM is providing separate Wetland Delineation and Stream Assessment reports for each project component. AEP identified an approximately 9-acre study area for the Project, encompassing the outer boundary of the potential work areas (Project survey area). The proposed Project is illustrated on Figure 1.

The purpose of the field survey was to assess whether wetlands and other "waters of the United States" (U.S.) exist within the Project survey area. Secondarily, land uses were recorded in an effort to classify and characterize potential habitat for rare, threatened, and endangered species. This report will be used to assist AEP Ohio Transco's efforts to identify potential waters of the U.S. and to avoid or minimize impacts to rare, threatened and endangered species potentially present within the Project survey area during construction activities.

2.0 METHODOLOGY

Prior to conducting field surveys, digital and published county Natural Resources Conservation Service (NRCS) soil surveys, U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory (NWI) maps, and U.S. Geological Survey (USGS) 7.5-minute topographic maps were reviewed to identify the occurrence and location of potential wetland areas.

In October 2018, AECOM ecologists walked the Project survey area to conduct a wetland delineation and stream assessment. During the field survey, the physical boundaries of observed water features were recorded using sub-decimeter accurate Trimble Global Positioning System (GPS) units. The GPS data was imported into ArcMap Geographic Information System (GIS) software, where the data was then reviewed and edited for accuracy. Land uses observed within the Project survey area were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys.

2.1 WETLAND DELINEATION

The Project survey area was evaluated according to the procedures outlined in the U.S. Army Corps of Engineers (USACE) 1987 Wetland Delineation Manual (*1987 Manual*) (Environmental Laboratory, 1987) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Version 2.0) (*Regional Supplement*) (USACE, 2010). The *Regional Supplement* was released by the USACE in August 2010 to address regional wetland characteristics and improve the accuracy and efficiency of wetland delineation procedures. The *1987 Manual* and *Regional Supplement* define wetlands as areas that have positive evidence of three environmental parameters: hydric soils, wetland hydrology,

and hydrophytic vegetation. Wetland boundaries are placed where one or more of these parameters give way to upland characteristics.

Since quantitative data were not available for any of the identified wetlands, AECOM utilized the routine delineation method described in the *1987 Manual* and *Regional Supplement* that consisted of a pedestrian site reconnaissance, including identifying the vegetation communities, soils identification, a geomorphologic assessment of hydrology, and notation of disturbance. The methodology used to examine each parameter is described in the following sections.

2.1.1 SOILS

Soils were examined for hydric soil characteristics using a spade shovel to extract soil samples. A *Munsell Soil Color Chart* (Kollmorgen Corporation, 2010) was used to identify the hue, value, and chroma of the matrix and mottles of the soils. Generally, mottled soils with a matrix chroma of two or less, or unmottled soils with a matrix chroma of one or less are considered to exhibit hydric soil characteristics (Environmental Laboratory, 1987). In sandy soils, mottled soils with a matrix chroma of three or less, or unmottled soils with a matrix chroma of two or less are considered to be hydric soils.

2.1.2 HYDROLOGY

The *1987 Manual* requires that an area be inundated or saturated to the surface for an absolute minimum of five percent of the growing season (areas saturated between five percent and 12.5 percent of the growing season may or may not be wetlands, while areas saturated over 12.5 percent of the growing season fulfill the hydrology requirements for wetlands). The *Regional Supplement* states that the growing season dates are determined through onsite observations of the following indicators of biological activity in a given year: (1) above-ground growth and development of vascular plants, and/or (2) soil temperature (12-in. depth) is 41 degree Fahrenheit (^{o}F) or higher as an indicator of soil microbial activity. Therefore, the beginning of the growing season in a given year is indicated by whichever condition occurs earlier, and the end of the growing season by whichever persists later.

The *Regional Supplement* also states that if onsite data gathering is not practical, the growing season can be approximated by the number of days between the average (five years out of 10, or 50 percent probability) date of the last and first 28^{o} F air temperature in the spring and fall, respectively. The National Weather Service WETS data review from the NRCS National Water and Climate Center for Auglaize County, Ohio stated that all three stations lacked sufficient data for our analysis. Therefore data from neighboring Allen County was reviewed and it was found that in an average year, this period lasts from April 10 to November 3, or 207 days. In the Project area, five percent of the growing season equates to approximately 10 days.

The soils and ground surface were examined for evidence of wetland hydrology in lieu of detailed hydrological data. This is an acceptable approach according to the *1987 Manual* and the *Regional Supplement.* Evidence indicating wetland hydrology typically includes primary indicators such as surface water, saturation, water marks, drift deposits, water-stained leaves, sediment deposits and oxidized rhizospheres on living roots; and secondary indicators such as drainage patterns, geomorphic position, micro-topographic relief, and a positive Facultative (FAC)-neutral test (USACE, 2010).

2.1.3 VEGETATION

Dominant vegetation was visually assessed for each stratum (tree, sapling/shrub, herb and woody vine) and an indicator status of obligate wetland (OBL), facultative wetland (FACW), facultative (FAC), facultative upland (FACU), and/or upland (UPL) was assigned to each plant species based on the U.S. Army Corps of Engineers *2016 National Wetland Plant List: Midwest Region* (Lichvar et al, 2016), which encompasses the area of the Project. An area is determined to have hydrophytic vegetation when, under normal circumstances, 50 percent or more of the composition of the dominant species are OBL, FACW and/or FAC species. Vegetation of an area was determined to be non-hydrophytic when more than 50 percent of the composition of the dominant species was FACU and/or UPL species. In addition to the dominance test, the FAC-Neutral test and prevalence tests are used to determine if a wetland has a predominance of hydrophytic vegetation. Recent USACE guidance indicates that to the extent possible, the hydrophytic vegetation decision should be based on the plant community that is normally present during the wet portion of the growing season in a normal rainfall year (USACE, 2010).

2.1.4 WETLAND CLASSIFICATIONS

Wetlands were classified based on the naming convention found in *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al., 1979). Using this methodology, any identified wetlands within the survey area would be classified as freshwater, Palustrine systems, which include non-tidal wetlands dominated by trees, shrubs, emergents, mosses, or lichens. No wetlands were identified within the Project survey area.

2.1.5 OHIO RAPID ASSESSMENT METHOD v. 5.0

The Ohio Environmental Protection Agency (OEPA) Ohio Rapid Assessment Method for Wetlands v. 5.0 (ORAM) was developed to determine the relative ecological quality and level of disturbance of a particular wetland in order to meet requirements under Section 401 of the Clean Water Act. Wetlands are scored on the basis of hydrology, upland buffer, habitat alteration, special wetland communities, and vegetation communities. Each of these subject areas is further divided into subcategories under ORAM resulting in a score that describes the wetland using a range from 0 (low quality and high disturbance) to 100 (high quality and low disturbance). Wetlands scored from 0 to 29.9 are grouped into "Category 1", 30 to 59.9 are "Category 2" and 60 to 100 are "Category 3". Transitional zones exist between “Categories 1 and 2”

from 30 to 34.9 and between “Categories 2 and 3” from 60 to 64.9. However, according to the OEPA, if the wetland score falls into the transitional range, it must be given the higher Category unless scientific data can prove it should be in a lower Category (Mack, 2001).

Category 1 Wetlands

Category 1 wetlands support minimal wildlife habitat, hydrological and recreational functions, and do not provide for or contain critical habitats for threatened or endangered species. In addition, Category 1 wetlands are often hydrologically isolated and have some or all of the following characteristics: low species diversity, no significant habitat for wildlife use, limited potential to achieve wetland functions, and/or a predominance of non-native species. These limited quality wetlands are considered to be a resource that has been severely degraded or has a limited potential for restoration, or is of low ecological functionality.

Category 2 Wetlands

Category 2 wetlands "...support moderate wildlife habitat, or hydrological or recreational functions," and as wetlands which are "...dominated by native species but generally without the presence of, or habitat for, rare, threatened or endangered species; and wetlands which are degraded but have a reasonable potential for reestablishing lost wetland functions." Category 2 wetlands constitute the broad middle category of "good" quality wetlands, and can be considered a functioning, diverse, healthy water resource that has ecological integrity and human value. Some Category 2 wetlands are lacking in human disturbance and considered to be naturally of moderate quality; others may have been Category 3 wetlands in the past, but have been degraded to Category 2 status.

Category 3 Wetlands

Wetlands that are assigned to Category 3 have “...superior habitat, or superior hydrological or recreational functions.” They are typified by high levels of diversity, a high proportion of native species, and/or high functional values. Category 3 wetlands include wetlands which contain or provide habitat for threatened or endangered species, are high quality mature forested wetlands, vernal pools, bogs, fens, or which are scarce regionally and/or statewide. A wetland may be a Category 3 wetland because it exhibits one or all of the above characteristics. For example, a forested wetland located in the flood plain of a river may exhibit “superior” hydrologic functions (e.g. flood retention, nutrient removal), but not contain mature trees or high levels of plant species diversity.

2.2 STREAM ASSESSMENT

Regulatory activities under the Clean Water Act provide authority for states to issue water quality standards and “designated uses” to all waters of the U.S. upstream to the highest reaches of the tributary streams. In addition, the Federal Water Pollution Control Act of 1972 and its 1977 and 1987 amendments

require knowledge of the potential fish or biological communities that can be supported in a stream or river, including upstream headwaters. Streams were identified by the presence of a defined bed and bank, and evidence of an ordinary high water mark (OHWM). The USACE defines OHWM as "that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas" (USACE, 2005).

Stream assessments were conducted using the methods described in the OEPA's *Methods for Assessing Habitat in Flowing Waters*: Using OEPA's *Qualitative Habitat Evaluation Index* (Rankin, 2006) and in the OEPA's *Field Evaluation Manual for Ohio's Primary Headwater Habitat Streams* (OEPA, 2012).

2.2.1 OEPA QUALITATIVE HABITAT EVALUATION INDEX

The Qualitative Habitat Evaluation Index (QHEI) is designed to provide a rapid determination of habitat features that correspond to those physical factors that most affect fish communities and which are generally important to other aquatic life (e.g., macroinvertebrates). The quantitative measure of habitat used to calibrate the QHEI score are Indices (or Index) of Biotic Integrity (IBI) for fish. In most instances the QHEI is sufficient to give an indication of habitat quality, and the intensive quantitative analysis used to measure the IBI is not necessary. It is the IBI, rather than the QHEI, that is directly correlated with the aquatic life use designation for a particular surface water.

The QHEI method is generally considered appropriate for waterbodies with drainage basins greater than one square mile, if natural pools are greater than 40 cm, or if the water feature is shown as blue-line waterways on USGS 7.5-minute topographic quadrangle maps. In order to convey general stream habitat quality to the regulated public, the OEPA has assigned narrative ratings to QHEI scores. The ranges vary slightly for headwater streams (H are those with a watershed area less than or equal to 20 square miles) versus larger streams (L are those with a watershed area greater than 20 square miles). The Narrative Rating System includes: Very Poor (<30 H and L), Poor (30 to 42 H, 30 to 44 L), Fair (43 to 54 H, 45 to 59 L), Good (55 to 69 H, 60 to 74 L) and Excellent (70+ H, 75+ L).

2.2.2 OEPA PRIMARY HEADWATER HABITAT EVALUATION INDEX

Headwater streams are typically considered to be first-order and second-order streams, meaning streams that have no upstream tributaries (or "branches") and those that have only first-order tributaries, respectively. The stream order concept can be problematic when used to define headwater streams because stream-order designations vary depending upon the accuracy and resolution of the stream delineation. Headwater streams are generally not shown on USGS 7.5-minute topographic quadrangles and are sometimes difficult to distinguish on aerial photographs. Nevertheless, headwater streams are now recognized as useful monitoring units due to their abundance, widespread spatial scale and

landscape position (Fritz, et al. 2006). Impacts to headwater streams can have a cascading effect on the downstream water quality and habitat value. The headwater habitat evaluation index (HHEI) is a rapid field assessment method for physical habitat that can be used to appraise the biological potential of most Primary Headwater Habitat (PHWH) streams. The HHEI was developed using many of the same techniques as used for QHEI, but has criteria specifically designed for headwater habitats. To use HHEI, the stream must have a "defined bed and bank, with either continuous or periodically flowing water, with watershed area less than or equal to 1.0 mi^2 (259 ha), ***and*** a maximum depth of water pools equal to or less than 15.75 inches (40 cm)" (OEPA, 2012).

Headwater streams are scored on the basis of channel substrate composition, bankfull width, and maximum pool depth. Assessments result in a score (0 to 100) that is converted to a specific PHWH stream class. Streams that are scored from 0 to 29.9 are typically grouped into "Class 1 PHWH Streams", 30 to 69.9 are "Class 2 PHWH Streams", and 70 to 100 are "Class 3 PHWH Streams". Technically, a stream can score relatively high, but actually belong in a lower class, and vice-versa. According to the OEPA, if the stream score falls into a class and the scorer feels that based on site observations that score does not reflect the actual stream class, a decision-making flow chart can be used to determine appropriate PHWH stream class using the HHEI protocol (OEPA, 2012). Evidence of anthropogenic alterations to the natural channel will result in a "Modified" qualifier for the stream.

Class 1 PHWH Streams: Class 1 PHWH Streams are those that have "normally dry channels with little or no aquatic life present" (OEPA, 2012). These waterways are usually ephemeral, with water present for short periods of time due to infiltration from snowmelts or rainwater runoff.

Class 2 PHWH Streams: Class 2 PHWH Streams are equivalent to "warm-water habitat" streams. This stream class has a "moderately diverse community of warm-water adapted native fauna either present seasonally or on an annual basis" (OEPA, 2012). These species communities are composed of vertebrates (fish and salamanders) and/or benthic macroinvertebrates that are considered pioneering, headwater temporary, and/or temperature facultative species.

Class 3 PHWH Streams: Class 3 PHWH Streams usually have perennial water flow with cool-cold water adapted native fauna. The community of Class 3 PHWH Streams is comprised of vertebrates (either cold water adapted species of headwater fish and or obligate aquatic species of salamanders, with larval stages present), and/or a diverse community of benthic cool water adapted macroinvertebrates present in the stream continuously (on an annual basis).

2.3 RARE, THREATENED AND ENDANGERED SPECIES

AECOM conducted a rare, threatened, and endangered species review and general field habitat surveys within areas encompassed by the Project survey area. The first phase of the survey involved a review of

online lists of federal and state-listed species. In addition, AECOM submitted a request to Ohio Department of Natural Resources (ODNR) Office of Real Estate – Environmental Review Section soliciting comments on the Project. AECOM also submitted a coordination letter to the USFWS soliciting technical assistance on the Project. Agency-identified species and available species-specific information was reviewed to identify the various habitat types that listed species are known to inhabit.

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys as part of the second phase of assessing rare, threatened, and endangered species. Land uses observed by the Project survey area were assigned a general classification based upon the principal land characteristics of the location as observed through aerial photography review and observations during the field surveys.

3.0 RESULTS

Within the Project survey area, AECOM delineated no wetlands, streams or ponds.

3.1 WETLAND DELINEATION

3.1.1 Preliminary Soils Evaluation

Soils were observed and documented as part of the delineation methodology. According to the U.S. Department of Agriculture (USDA)/NRCS Web Soil Survey of Auglaize County, Ohio, and the NRCS Hydric Soils Lists of Ohio, two soil series are mapped within the Project survey area (NRCS, 2017). Of these soil series, one soil map unit has been identified as hydric, while the other map unit has hydric components that may comprise 9 percent of the area mapped within the unit. Table 1 provides a detailed overview of all soil series and soil map units within the Project survey area. Soil map units located within the Project survey area are shown on Figure 2.

TABLE 1
SOIL MAP UNITS AND DESCRIPTIONS WITHIN THE GEMINI STATION PROJECT SURVEY AREA

Soil Series	Symbol	Map Unit Description	Topographic Setting	Hydric	Hydric Component (%)
Blount	Blg1B1	Blount silt loam, ground moraine, 2 to 4 percent slopes	ground moraines, till plains	No	Pewamo, ground moraine 9%
Pewamo	Pt	Pewamo silty clay loam, 0 to 1 percent slopes	depressions, till plains	Yes	Pewamo and similar soils 85%; Minster 6%

USDA, NRCS. 2017a Soil Survey Geographic (SSURGO) Database. Available online at: http://soildatamart.nrcs.usda.gov/

USDA, NRCS. May 2015. National Hydric Soils List by State. Available online at: http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/

3.1.2 National Wetland Inventory Map Review

National Wetland Inventory (NWI) wetlands are areas of potential wetland that have been identified from USFWS aerial photograph interpretation which have typically not been field verified. Forested and heavy

scrub/shrub wetlands are often not shown on NWI maps as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. The USFWS website states that the NWI maps are not intended or designed for jurisdictional wetland identification or location. As a result, NWI maps do not show all the wetlands found in a particular area nor do they necessarily provide accurate wetland boundaries. NWI maps are useful for providing indications of potential wetland areas, which are often supported by soil mapping and hydrologic predictions, based upon topographical analysis using USGS topographic maps.

According to the NWI maps of the Wapakoneta Ohio quadrangle, the Project survey area contains no mapped NWI wetlands. One NWI wetland is within 0.1 mile of the Project survey. The NWI wetland was identified as one intermittent, streambed, seasonally flooded, (R4SBC), system. The location of the NWI mapped wetland is shown on Figure 2.

3.1.3 Delineated Wetlands

AECOM identified no wetlands within the Project survey area. One upland data point was collected in the Project survey area and its location is shown on Figure 3. The completed USACE data form of the upland data point and representative photographs are provided in Appendix A and B, respectively.

3.2 STREAM CROSSINGS

AECOM identified no streams within the Project survey area.

3.3 PONDS

AECOM identified no ponds within the Project survey area.

3.4 VEGETATIVE COMMUNITIES WITHIN THE PROJECT SURVEY AREA

AECOM field ecologists conducted a general habitat survey in conjunction with the stream and wetland field surveys in October 2018. Portions of the Project survey area was identified as agricultural land. Habitat descriptions, applicable to the Project and details on the expected impacts of construction are provided below. Vegetated land cover can be seen visually from aerial photography provided on Figure 4.

TABLE 2

VEGETATIVE COMMUNITIES WITHIN THE PROJECT AREA

Vegetative Community	Description	Approximate Acreage Within the Project Survey Area	Approximate Percentage within the Project Survey Area
Agricultural Land	Agricultural land consisting of soybean and corn fields were present within the Project survey area. The agricultural land contains row crops and is not used for pasture or hay fields.	9.2	100%
Totals:		**9.2**	**100%**

3.5 RARE, THREATENED AND ENDANGERED SPECIES

Protected Species Agency Consultation –

AECOM conducted a rare, threatened, and endangered species review for the AEP Wapakoneta Improvements Project which includes the Gemini Station Project survey area. A summary of the agency coordination responses is provided below. Correspondence letters from the USFWS and ODNR are included as Appendix C. Table 3 provides a list of federal and state-listed threatened and endangered species identified as possibly occurring within or near the Project during the rare, threatened, and endangered species review.

TABLE 3

ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Mammals						
Indiana bat (*Myotis sodalis*)	Endangered	Endangered	Winter Indiana bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by the Indiana bat. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey.	No	No potentially suitable habitat is present within the Project area (woodlands). This Project does not anticipate any need to clear trees.	ODNR-DOW commented that presence of the Indiana bat has been established in the project area, and therefore additional summer surveys would not constitute presence/absence in the area. 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. USFWS commented that due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats, that they do not anticipate adverse effects to this species.

TABLE 3

ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Northern long-eared bat (*Myotis septentrionalis*)	Threatened	Threatened	Winter hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. The 8- to 10-inch diameter size classes of several species of hickory (*Carya* spp.), oak (*Quercus* spp.), ash (*Fraxinus* spp.), birch (*Betula* spp.), and elm (*Ulmus* spp.) have been found to be utilized by northern long-eared bats. These tree species and many others may be used when dead, if there are adequately sized patches of loosely-adhering bark or open cavities. The structural configuration of forest stands favored for roosting includes a mixture of loose-barked trees with 60 to 80 percent canopy closure and a low density sub-canopy (less than 30 percent between about 6 feet high and the base canopy). The suitability of roosting habitat for foraging or the proximity to suitable foraging habitat is critical to the evaluation of a particular tree stand. An open subcanopy zone, under a moderately dense canopy, is important to allow maneuvering while catching insect prey. Proximity to water is critical, because insect prey density is greater over or near open water. Northern long-eared bats have also been found, albeit rarely, roosting in structures like barns and sheds.	No	No potentially suitable habitat is present within the Project area (woodlands). This Project does not anticipate any need to clear trees.	USFWS commented that due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to northern long-eared bats, that they do not anticipate adverse effects to this species.
Fish						
Greater redhorse (*Moxostoma valenciennesi*)	Threatened	Species of Concern	Found in medium to large rivers in the Lake Erie drainage system. Only found in limited portions of the Sandusky, Maumee, and Grand River systems. Greater redhorse are typically found in pools with clean sand or gravel substrate, but are intolerant of pollution and turbid water.	No	No in-water work is planned as part of the Project. No impacts to fish species and their habitat are anticipated.	The ODNR-DOW stated if no in-water work is proposed in a perennial stream, this project is not likely to impact this or other aquatic species.
Mussels						
Clubshell (*Pleurobema clava*)	Endangered	Endangered	This mussel prefers clean, loose sand and gravel in medium to small rivers and streams. This mussel will bury itself in the bottom substrate to depths of up to four inches.	No	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated.	ODNR stated that due to the location and that there is no in-water work proposed, the Project is not likely to impact this species

TABLE 3

ODNR AND USFWS LISTED SPECIES WITHIN THE PROJECT AREA

Common Name (Scientific Name)	State Status	Federal Status	Habitat Description	Potential Habitat Observed in the Project Survey Area	Impact Assessment	Agency Comments
Pondhorn (*Uniomerus tetralasmus*)	Threatened	None	This species typically inhabits the quiet or slow-moving, shallow waters of sloughs, borrow pits, ponds, ditches, and meandering streams. It is tolerant of poor water conditions and can be found well buried in a substrate of fine silt and/or mud.	No	No in-water work is planned as part of the Project. No impacts to mussel species and their habitat are anticipated.	ODNR stated that due to the location and that there is no in-water work proposed, the Project is not likely to impact this species
Birds						
lark sparrow (*Chondestes grammacus*)	Endangered	None	Lark Sparrows breed in open grassy habitats with scattered trees and shrubs including orchards, fallow fields, open woodlands, mesquite grasslands, savanna, sagebrush steppe, and grasslands. During migration and winter they use similar habitats, but can also be found in pine-oak forest, thorn scrub, and agricultural areas with scattered trees and hedgerows.	No	No suitable habitat was observed within the Project area	ODNR-DOW stated if this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, the project is not likely to impact this species.

ODNR Coordination

Coordination with the ODNR was initiated during the planning stages of the Project to obtain Ohio Natural Heritage Database (ONHD) records located in the vicinity of the project. On March 23, 2018, the ODNR Office of Real Estate Environmental Review Section provided comments on the Project based on an inter-disciplinary review. The ONHD, Division of Wildlife (DOW), and the Division of Water Resources (DWR) provided comments regarding their respective regulatory authorities.

The ONHD review stated that the greater redhorse (*Moxostoma valenciennesi*), and a great blue heron rookery is known to be within a one-mile radius of the Project area.

The ODNR Division of Wildlife (DOW) recommended 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 DOW noted that the Project area east of Dixie Highway and south of Weimert School Road is within the vicinity of records for the Indiana bat, a state and federally endangered species. Presence of the Indiana bat has been established in the area, therefore additional summer surveys would not constitute presence/absence in the area. If suitable habitat occurs within the Project area, the DOW recommends trees be conserved. It suitable habitat occurs within the Project area and trees must be cut, the DOW recommends cutting between October 1 and March 31.

The DOW indicated that the Project is within the range of the club shell, a state-endangered and federally endangered mussel; the pondhorn, a state threatened mussel; and the greater redhorse, a state threatened fish. DOW stated this project must not have an impact on freshwater native mussels at the Project site. ODNR stated that due to the location and that there is no in-water work proposed, the Project is not likely to impact these species.

The DOW indicated that the Project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. If potential habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, the project is not likely to impact this species.

The DOW indicated that the Project is within the range of great blue heron rookery and that nesting great blue herons are protected under the Migratory Bird Treaty Act of 1918. The DOW recommends that construction activity within the rookery be avoided to preserve the rookery. If construction within the rookery cannot be avoided, the DOW recommends at the very least, the rookery be avoided during the nesting season of March 1 through June 31 as to not interfere with nesting birds. In addition, the DOW

recommends a 100 yard no activity buffer be maintained around the rookery during the breeding season as to not interfere with nesting birds.

USFWS Coordination

Coordination with the USFWS was also initiated during the planning stages of the Project to obtain technical assistance in regard to federally listed species that may occur within the Project vicinity. In a letter dated March 9, 2018, the USFWS indicated that there are no Federal wilderness areas, wildlife refuges, or designated critical habitat within the vicinity of the Project.

The USFWS noted that the Project lies within the range of the federally endangered Indiana bat (*Myotis sodalis*), and the federally threatened northern long-eared bat (*Myotis septentrionalis*). USFWS stated that due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats, that they do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species.

4.0 SUMMARY

The ecological survey of the Project survey area identified no wetlands, streams, or ponds.

According to a response letter received from the USFWS on March 9, 2018, this Project is not anticipated to have adverse effects to federally endangered, threatened, proposed, or candidate species. With regard to state threatened and endangered species that may occur within the Project vicinity, six species were identified by ODNR or USFWS including the following: Indiana bat, northern long-eared bat, club shell, pondhorn, lark sparrow and greater redhorse. No impacts are anticipated to these species.

Based on general observations during the ecology survey, Project survey area did not contain potential summer habitat for the Indiana bat and the northern long-eared bat. The agencies do not anticipate impacts to these species due to the project type, size, location, and proposed implementation of seasonal tree cutting (during October 1 and March 31), to avoid impacts to these bat species.

The reported results of the ecological survey conducted by AECOM on this Project are limited to the areas within the Project survey boundary provided in Figure 3. Areas that fall outside of the Project survey boundary were not evaluated in the field and are not included in the reporting of this survey.

The information contained in this wetland delineation report is for a study area that may be much larger than the actual Project limits-of-disturbance; therefore, lengths and acreages listed in this report may not constitute the actual impacts of the Project defined in subsequent permit applications. If necessary, a separate report that identifies the actual Project impacts will be provided with agency submittals.

The field survey results presented herein apply to the existing and reasonably foreseeable site conditions at the time of our assessment. They cannot apply to site changes of which AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may be invalidated, wholly or in part, by changes beyond the control of AECOM.

5.0 REFERENCES

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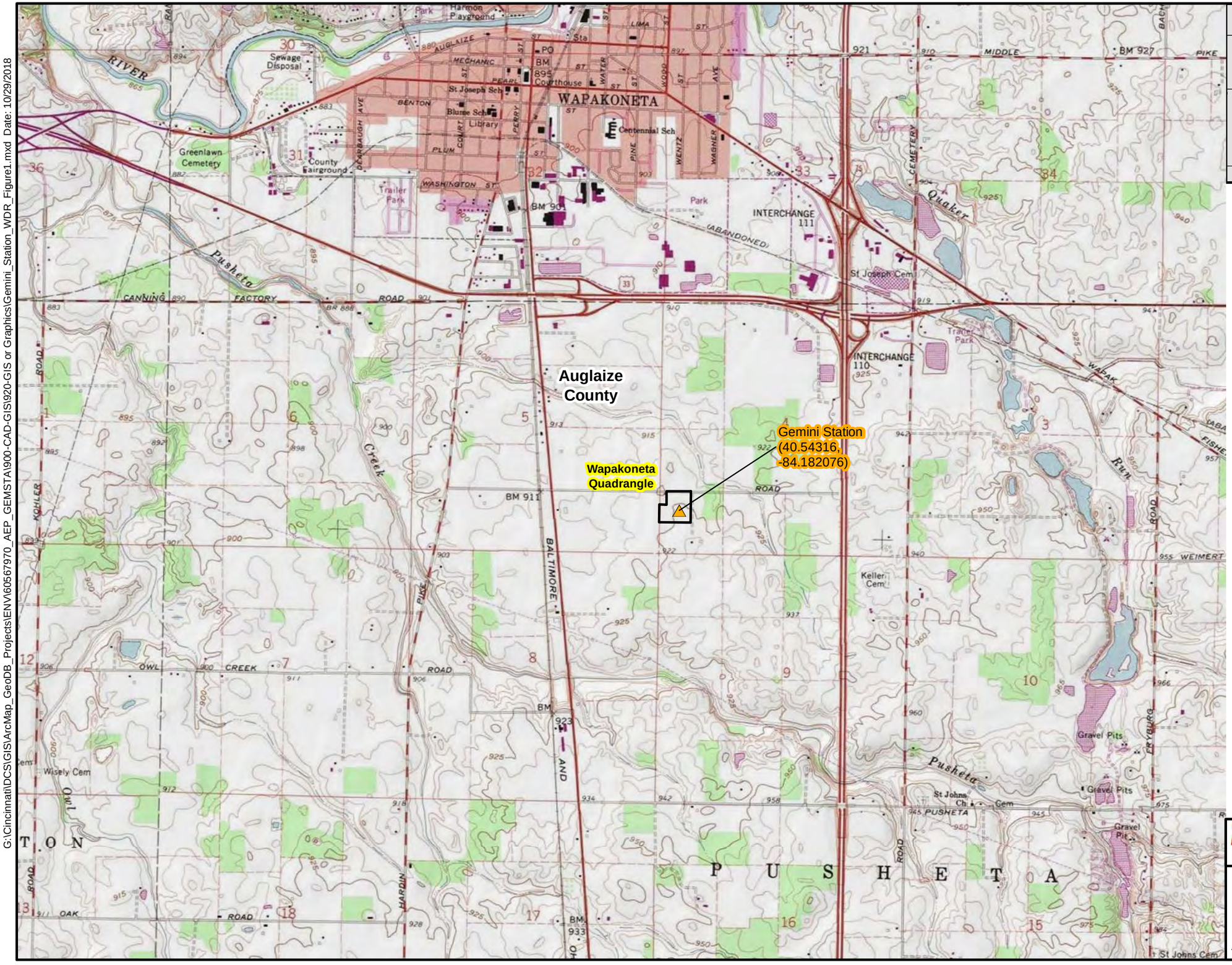

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AEP OHIO TRANSMISSION COMPANY

Gemini Station Project

FIGURE 1
OVERVIEW MAP

JOB NO. 60567970

AECOM

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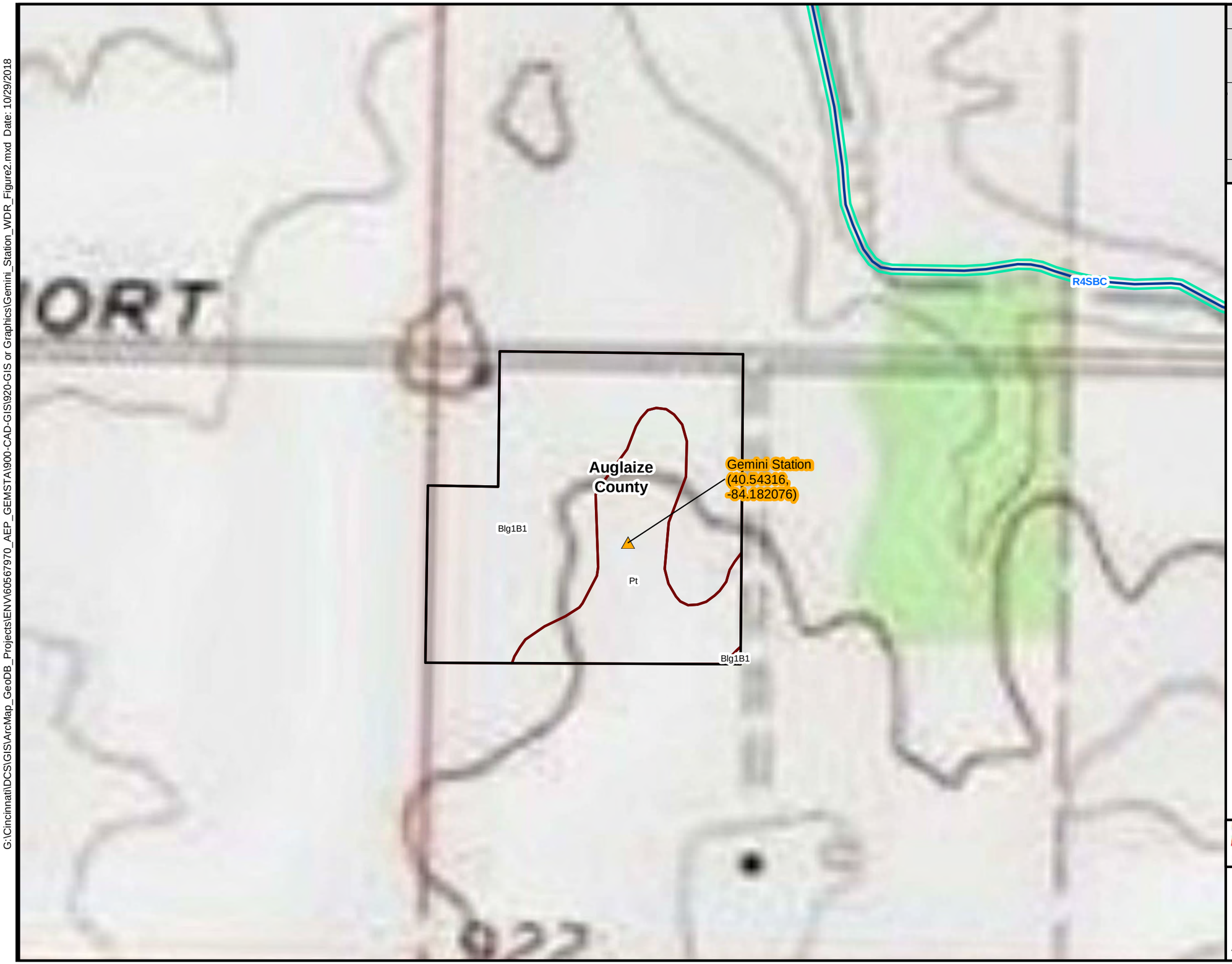

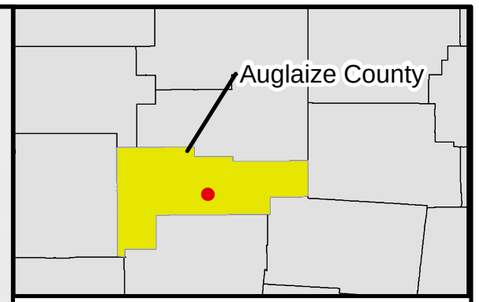

LEGEND:

- Proposed Station
- Project Survey Area
- NHD Stream
- NWI Wetland
- Soil Map Unit

Soil Map Unit Symbol

Blg1B1;Blount silt loam, ground moraine, 2 to 4 percent slopes

Pt;Pewamo silty clay loam, 0 to 1 percent slopes

N

0 200 400

Feet

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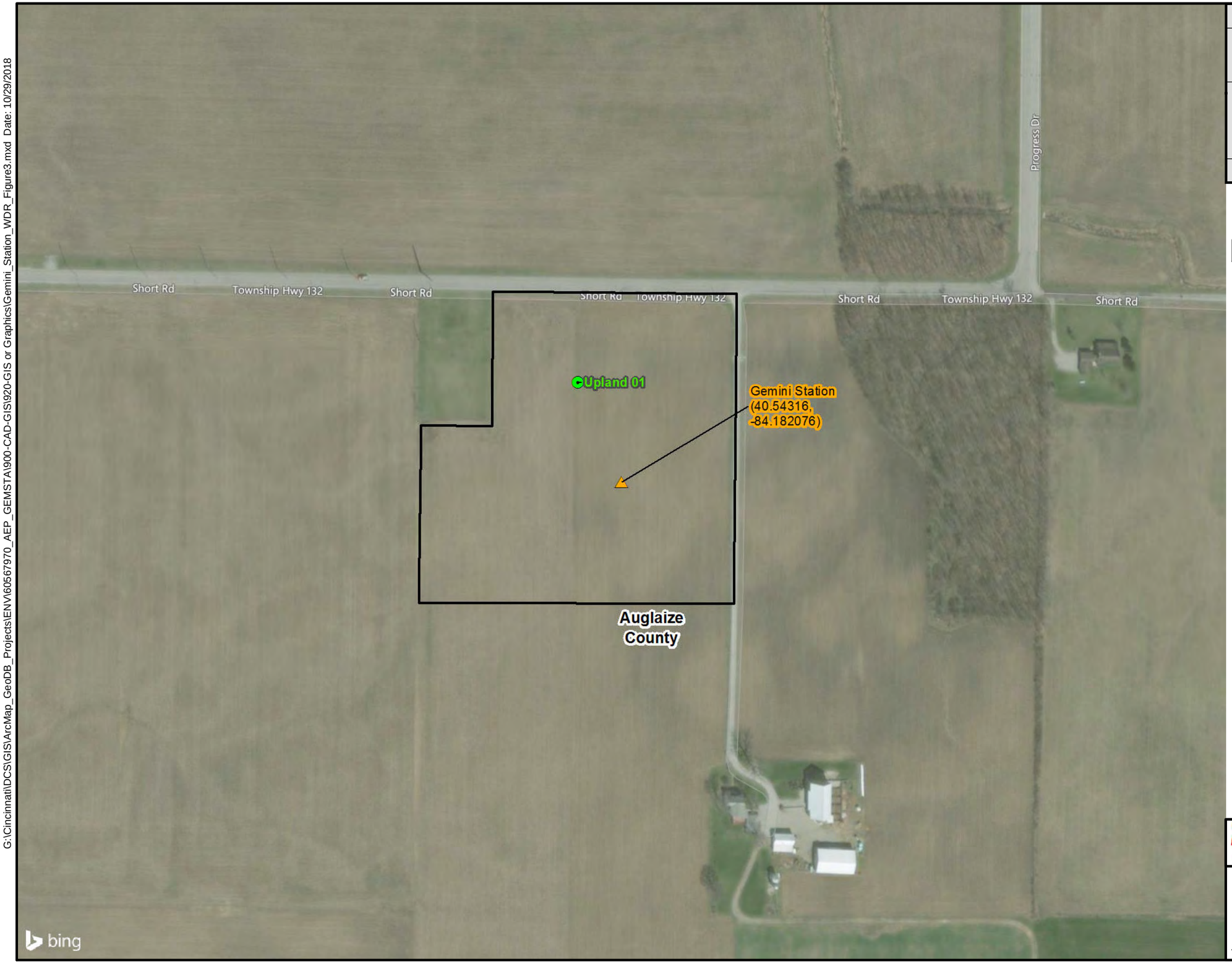
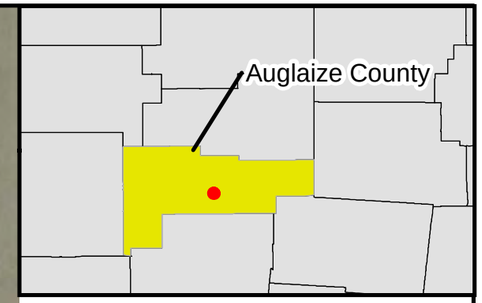
Gemini Station Project

FIGURE 2
SOIL MAP UNIT AND NATIONAL WETLAND INVENTORY MAP

JOB NO. 60567970

AECOM





LEGEND:

- Proposed Station
- Project Survey
- Upland Data Point and Photo Location

N

0 200 400

Feet

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Gemini Station Project

FIGURE 3
WETLAND DELINEATION AND
STREAM ASSESSMENT MAP

JOB NO. 60567970

AECOM

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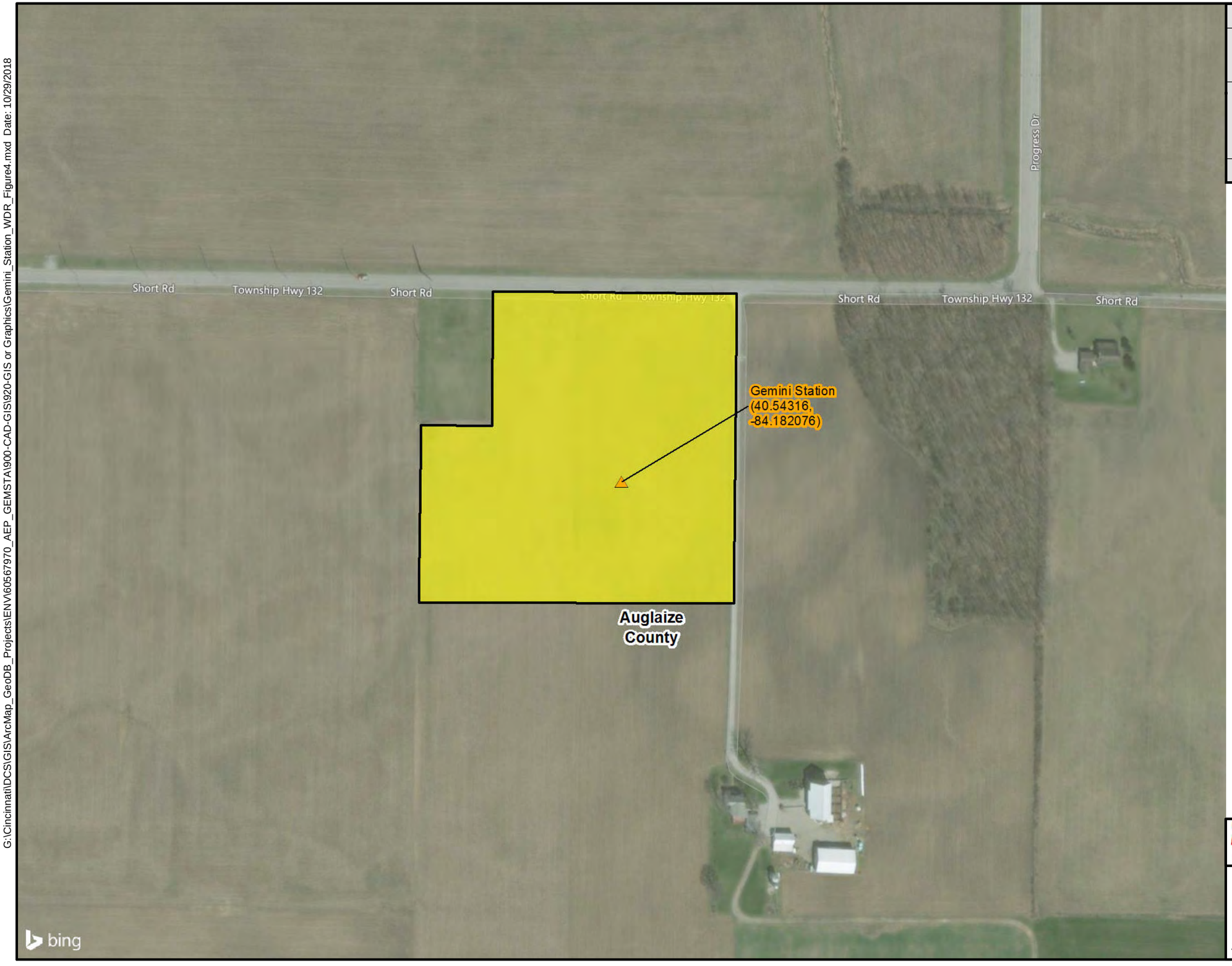

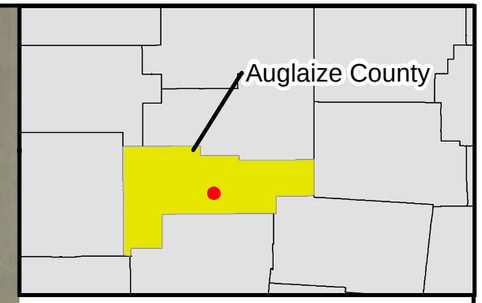

LEGEND:

- Proposed Station
- Project Survey Area
- Agricultural Field

N

0 200 400

Feet

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Gemini Station Project

FIGURE 4
VEGETATIVE COMMUNITIES ASSESSMENT MAP

JOB NO. 60567970

AECOM

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APPENDIX A

U.S. ARMY CORPS OF ENGINEERS DATA FORMS

WETLAND DETERMINATION DATA FORM - Midwest Region

Project/Site: Gemini I Station | City/County: Auglaize | Sampling Date: 16-Oct-18

Applicant/Owner: AEP | State: OH | Sampling Point: upl-jbl-101618-01a

Investigator(s): JBL | Section, Township, Range: S 4 T 6S R 6E

Landform (hillslope, terrace, etc.): Flat | Local relief (concave, convex, none): flat

Slope: 0.0% 0.0 ° | Lat.: 40.543746921 | Long.: -84.182427866 | Datum: DDNAD83

Soil Map Unit Name: Blg1B1 - Blount silt loam, ground moraine, 2 to 4 percent slopes | NWI classification:

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

Are Vegetation ☐, Soil ☐, or Hydrology ☐ significantly disturbed? Are "Normal Circumstances" present? Yes ◉ No ○

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

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

Hydrophytic Vegetation Present?	Yes ○ No ◉	Is the Sampled Area within a Wetland? Yes ○ No ◉
Hydric Soil Present?	Yes ○ No ◉	
Wetland Hydrology Present?	Yes ○ No ◉	

Remarks:
between corn and soy fields proposed gemini station

VEGETATION - Use scientific names of plants.

	Absolute % Cover	Dominant Species?	Rel.Strat. Cover	Indicator Status
Tree Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Sapling/Shrub Stratum (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
	0	= Total Cover		
Herb Stratum (Plot size: 15')				
1. Setaria pumila	20	☑	80.0%	FAC
2. Ambrosia artemisiifolia	5	☑	20.0%	FACU
3.	0	☐	0.0%	
4.	0	☐	0.0%	
5.	0	☐	0.0%	
6.	0	☐	0.0%	
7.	0	☐	0.0%	
8.	0	☐	0.0%	
9.	0	☐	0.0%	
10.	0	☐	0.0%	
	25	= Total Cover		
Woody Vine Stratu (Plot size:)				
1.	0	☐	0.0%	
2.	0	☐	0.0%	
	0	= Total Cover		

Dominance Test worksheet:

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

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

Percent of dominant Species That Are OBL, FACW, or FAC: 50.0% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	20	x 3 =	60
FACU species	5	x 4 =	20
UPL species	0	x 5 =	0
Column Totals:	25	(A)	80 (B)

Prevalence Index = B/A = 3.200

Hydrophytic Vegetation Indicators:

- ☐ 1 - Rapid Test for Hydrophytic Vegetation
- ☐ 2 - Dominance Test is > 50%
- ☐ 3 - Prevalence Index is ≤3.0 [1]
- ☐ 4 - Morphological Adaptations [1] (Provide supporting data in Remarks or on a separate sheet)
- ☐ Problematic Hydrophytic Vegetation [1] (Explain)

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

Hydrophytic Vegetation Present? Yes ○ No ◉

Remarks: (Include photo numbers here or on a separate sheet.)
zea mays 30%; glycine max 30%

*Indicator suffix = National status or professional decision assigned because Regional status not defined by FWS.

SOIL

Sampling Point: **upl-ibl-101618-01a**

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

Depth (inches)	Matrix Color (moist)		%	Redox Features Color (moist)		%	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR	3/2	99	10YR	4/6	1	C	M	Clay Loam	

[1] Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining. M=Matrix.

Hydric Soil Indicators:

- ☐ Histosol (A1)
- ☐ Histic Epipedon (A2)
- ☐ Black Histic (A3)
- ☐ Hydrogen Sulfide (A4)
- ☐ Stratified Layers (A5)
- ☐ 2 cm Muck (A10)
- ☐ Depleted Below Dark Surface (A11)
- ☐ Thick Dark Surface (A12)
- ☐ Sandy Muck Mineral (S1)
- ☐ 5 cm Mucky Peat or Peat (S3)
- ☐ Sandy Gleyed Matrix (S4)
- ☐ Sandy Redox (S5)
- ☐ Stripped Matrix (S6)
- ☐ Loamy Mucky Mineral (F1)
- ☐ Loamy Gleyed Matrix (F2)
- ☐ Depleted Matrix (F3)
- ☐ Redox Dark Surface (F6)
- ☐ Depleted Dark Surface (F7)
- ☐ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ☐ Coast Prairie Redox (A16)
- ☐ Dark Surface (S7)
- ☐ Iron Manganese Masses (F12)
- ☐ Very Shallow Dark Surface (TF12)
- ☐ Other (Explain in Remarks)

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

Restrictive Layer (if observed):

Type:

Depth (inches):

Hydric Soil Present? **Yes** ○ **No** ◉

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

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

- ☐ Surface Water (A1)
- ☐ High Water Table (A2)
- ☐ Saturation (A3)
- ☐ Water Marks (B1)
- ☐ Sediment Deposits (B2)
- ☐ Drift Deposits (B3)
- ☐ Algal Mat or Crust (B4)
- ☐ Iron Deposits (B5)
- ☐ Inundation Visible on Aerial Imagery (B7)
- ☐ Sparsely Vegetated Concave Surface (B8)
- ☐ Water-Stained Leaves (B9)
- ☐ Aquatic Fauna (B13)
- ☐ True Aquatic Plants (B14)
- ☐ Hydrogen Sulfide Odor (C1)
- ☐ Oxidized Rhizospheres on Living Roots (C3)
- ☐ Presence of Reduced Iron (C4)
- ☐ Recent Iron Reduction in Tilled Soils (C6)
- ☐ Thin Muck Surface (C7)
- ☐ Gauge or Well Data (D9)
- ☐ Other (Explain in Remarks)

Secondary Indicators (minimum of two required

- ☐ Surface Soil Cracks (B6)
- ☐ Drainage Patterns (B10)
- ☐ Dry Season Water Table (C2)
- ☐ Crayfish Burrows (C8)
- ☐ Saturation Visible on Aerial Imagery (C9)
- ☐ Stunted or Stressed Plants (D1)
- ☐ Geomorphic Position (D2)
- ☐ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ○ No ◉ Depth (inches):

Water Table Present? Yes ○ No ◉ Depth (inches):

Saturation Present? (includes capillary fringe) Yes ○ No ◉ Depth (inches):

Wetland Hydrology Present? **Yes** ○ **No** ◉

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

Remarks:

APPENDIX B

REPRESENTATIVE PHOTOGRAPHS

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP Ohio Transco	Gemini Station Project	60567970

Date:

October 16, 2018

Description:

Upland 1

Agricultural Lands

Facing North

Facing West

Facing South

Facing East

Soil Pit

APPENDIX C

USFWS AND ODNR RESPONSE LETTERS

Tucker, Jason

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Friday, March 09, 2018 10:35 AM
To: Tucker, Jason
Subject: Wapakoneta Transmission Infrastructures (Several 138 kV Stations) in Auglaize Co.

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

TAILS# 03E15000-2018-TA-0902

Dear Mr. Tucker,

We have received your recent correspondence regarding potential impacts to federally listed species in the vicinity of the above referenced project. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area. We recommend that proposed activities minimize water quality impacts, including fill in streams and wetlands. Best management practices should be utilized to minimize erosion and sedimentation.

FEDERALLY LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: Due to the project type, size, location, and the proposed implementation of seasonal tree cutting (clearing of trees ≥3 inches diameter at breast height between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats, we do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the U.S. Fish and Wildlife Service (Service) should be initiated to assess any potential impacts.

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

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.), ESA, and are consistent with the intent of the National Environmental Policy Act of 1969 and the Service's Mitigation Policy. This letter provides technical assistance only and does not serve as a completed section 7 consultation document. We recommend that the project be coordinated with the Ohio Department of Natural Resources due to the potential for the project to affect state listed species and/or state lands. Contact John Kessler, Environmental Services Administrator, at (614) 265-6621 or at john.kessler@dnr.state.oh.us.

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

Sincerely,

Dan Everson
Field Supervisor

Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR JAMES ZEHRINGER, DIRECTOR

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

March 23, 2018

Jason Tucker
AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Re: 18-409; Wapakoneta Improvements Project

Project: The proposed project includes a new Gristmill Station, a new Gemini Station, a new 138 kV transmission line between Gristmill and Gemini Stations, a new 138 kV transmission line between Gemini and West Moulton Stations, and expanding the West Moulton Station.

Location: The proposed project is located in Pusheta and Washington Townships, Auglaize County, Ohio.

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

Natural Heritage Database: The Natural Heritage Database has the following records at or within a one-mile radius of the project area:

Greater redhorse (*Moxostoma valenciennesi*), State threatened, federal species of concern
Great blue heron rookery

The review was performed on the project area you specified in your request as well as an additional one-mile radius. Records searched date from 1980. This information is provided to inform you of features present within your project area and vicinity. Additional comments on some of the features may be found in pertinent sections below.

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 area east of Dixie Highway and south of Weimert School Road is within the vicinity of records for the Indiana bat (*Myotis sodalis*), a state endangered and federally endangered species. Presence of the Indiana bat has been established in the area, and therefore additional summer surveys would not constitute presence/absence in the area. The following species of trees have relatively high value as potential Indiana bat roost trees to include: shagbark hickory (*Carya ovata*), shellbark hickory (*Carya laciniosa*), bitternut hickory (*Carya cordiformis*), black ash (*Fraxinus nigra*), green ash (*Fraxinus pennsylvanica*), white ash (*Fraxinus americana*), shingle oak (*Quercus imbricaria*), northern red oak (*Quercus rubra*), slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), eastern cottonwood (*Populus deltoides*), silver maple (*Acer saccharinum*), sassafras (*Sassafras albidum*), post oak (*Quercus stellata*), and white oak (*Quercus alba*). Indiana bat roost trees consists of trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. However, Indiana bats are also dependent on the forest structure surrounding roost trees. If suitable habitat occurs within the project area, the DOW recommends trees be conserved. If suitable habitat occurs within the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31.

The remainder of the project area is within the range of the Indiana bat (*Myotis sodalis*). 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 suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to any cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. 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, and the pondhorn (*Uniomerus tetralasmus*), a state threatened mussel. This project must not have an impact on freshwater native mussels at the project site. This applies to both listed and non-listed species. Per the Ohio Mussel Survey Protocol (2016), all Group 2, 3, and 4 streams (Appendix A) require a mussel survey. Per the Ohio Mussel Survey Protocol, Group 1 streams (Appendix A) and unlisted streams with a watershed of 10 square miles or larger above the point of impact should be assessed using the Reconnaissance Survey for Unionid Mussels (Appendix B) to determine if mussels are present. Mussel surveys may be recommended for these streams as well. This is further explained within the Ohio Mussel Survey Protocol. Therefore, if in-water work is planned in any stream that meets any of the above criteria, the DOW recommends the applicant provide information to indicate no mussel impacts will occur. If this is not possible, the DOW recommends a professional malacologist conduct a mussel survey in the project area. If mussels that cannot be avoided are found in the project area, as a last resort, the DOW recommends a professional malacologist collect and relocate the mussels to suitable and similar habitat upstream of the project site. Mussel surveys and any subsequent mussel relocation should be done in accordance with the Ohio Mussel Survey Protocol. The Ohio Mussel Survey Protocol (2018) can be found at:

http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/licenses%20&%20permits/OH%20Mussel%20Survey%20Protocol.pdf

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

The project is within the range of the lark sparrow (*Chondestes grammacus*), a state endangered bird. This sparrow nests in grassland habitats with scattered shrub layers, disturbed open areas, as well as patches of bare soil. These summer residents normally migrate out of Ohio shortly after their young fledge or leave the nest. If this type of habitat will be impacted, construction should be avoided in this habitat during the species' nesting period of May 1 to June 30. If this habitat will not be impacted, the project is not likely to impact this species.

The DOW has a record for a great blue heron rookery within the boundary of the project area. The rookery is located within the large woodlot between the following roads: Washington Pike, Burr Oak Road, Kettlersville Road, and Kohler Road. Nesting great blue herons are protected under the Migratory Bird Treaty Act of 1918. Impacts to great blue heron rookeries can have a significant impact on a local population due to the large number of birds that return each year to the same rookery to nest. Rookeries often include a certain set of characteristics that are not easily found elsewhere. The DOW recommends that construction activity within the rookery be avoided to preserve the rookery. If construction within the rookery cannot be avoided, the DOW recommends at the very least, the rookery be avoided during the nesting season of March 1 through June 31 as to not interfere with nesting birds. In addition, the DOW recommends a 100 yard no activity buffer be maintained around the rookery during the breeding season as to not interfere with nesting birds.

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 John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

John Kessler
ODNR Office of Real Estate
2045 Morse Road, Building E-2
Columbus, Ohio 43229-6693
John.Kessler@dnr.state.oh.us

Summary: Letter of Notification electronically filed by Ms. Christen M. Blend on behalf of AEP Ohio Transmission Power Company, Inc.