AMERICAN ELECTRIC POWER

Legal Department

Chairman Thomas W. Johnson
Ohio Power Siting Board
180 East Broad Street
Columbus, Ohio 43215

January 27, 2015

Re: Letter of Notification for the Nottingham-Freebyrd 138 Kv Electric Transmission Line Project
Case No. 14-1819-EL-BLN

Ajay Kumar
Regulatory Services
(614) 716-2959
(614) 716-2950 (F)
akkumar@aep.com

Dear Chairman Johnson:

In accordance with rules 4906-5-02(A) and 4906-11-01, Ohio Administrative Code ("OAC"), AEP Ohio Transmission Company ("AEP Ohio Transco") submits this letter of notification for expedited approval. The expedited processing fee will be submitted under separate cover. Construction of the project is scheduled to begin in October 2015 and the project is scheduled to be placed in-service in December 2016.

As required by rule 4906-11-01(D), O.A.C., AEP Ohio Transco has submitted a copy of the enclosed letter of notification to the chief executive officer of each municipal corporation and county and the head of each public agency charged with protecting the environment or of planning land use in the area in which the proposed project will be located. Attached to the letter of notification are copies of the letters that have been submitted.

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

Respectfully submitted,

/s/ Ajay Kumar
Ajay Kumar

Attachments

LETTER OF NOTIFICATION FOR THE

NOTTINGHAM-FREEBYRD 138 KV ELECTRIC TRANSMISSION LINE PROJECT

PUCO Case No. 14-1819-EL-BLN

Submitted pursuant to OAC 4906-11-01

AEP Ohio Transmission Company, Inc.
(AEP Ohio Transco)

JANUARY 2015

LETTER OF NOTIFICATION
Nottingham-Freebyrd 138 kV Electric Transmission Line Project

American Electric Power Ohio Transmission Company, Inc. (AEP Ohio Transco) is providing the following information in accordance with the procedures delineated in Ohio Administrative Code Section 4906-11-01: Letter of Notification Requirements of the Rules and Regulations of the Ohio Power Siting Board (OPSB).

4906-11-01(B) GENERAL INFORMATION

1. The name of the project and applicant's reference number, if any, names and reference numbers(s) of resulting circuits and a brief description of the project, and why the project meets the requirements of a letter of notification.

The proposed Nottingham-Freebyrd 138 kV Transmission Line Project (Project) is for a specific customer and is not identified in any Long-Term Forecast Reports (LTFRs).

The Project consists of constructing a transmission line originating at a new 138 kV switching station to be known as Nottingham Switch, and extending generally north approximately 4.5 miles to the existing Freebyrd Station. Nottingham Switch is associated with the Nottingham-Freebyrd 138 kV line, but was submitted to the OPSB under separate cover (OPSB Case Number 14-1818-EL-BLN). Figure 1 shows the location of the project in relation to the surrounding vicinity.

The project meets the requirements for a Letter of Notification because it is within the types of projects defined by Item (1)(f) of Attachment A of the interim process defined in the OPSB's September 4, 2012 Finding and Order in Docket 12-1981-GE-BRO. This item states:

> *(1) Rerouting or extension of new construction of single or multiple circuit electric power transmission line(s) as follows:*
>
> *(f) Lines(s) primarily needed to attract or meet the requirements of a specific customer or customers.*

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

   The purpose of this Project is to meet the needs of a specific customer. Markwest has requested an increase in load capacity from 20 MW to 94 MW at its existing Utica Plant along Industrial Park Road in the City of Cadiz, Harrison County, Ohio. A new 138 kV switching station, Nottingham Switch, is to be built in a breaker and a half configuration in order to serve the Markwest Utica Plant via the proposed Nottingham-Freebyrd 138 kV transmission line.

3. **The location of the project in relation to existing or proposed lines and stations shown on maps and overlays provided to the Public Utilities Commission of Ohio in the applicant's most recent long term forecast report.**

   This project is designed to meet the needs of a specific customer, Markwest's Utica Plant, and is not referenced in any of AEP Ohio Transco's LTFRs submitted to the Public Utilities Commission of Ohio. Figure 1 shows the general location of the Project in relation to existing and proposed lines and stations in the vicinity.

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

   AEP Ohio Transco was contacted by Markwest regarding their specific needs. AEP Ohio Transco worked with Markwest to identify a solution for their specific projected electrical load needs. Inserting a 138 kV switch along the four existing FirstEnergy 138 kV lines near the customer load need and routing a new 138 kV line to Freebyrd Station was identified as the best solution. AEP Ohio Transco explored available property options along the four FirstEnergy 138 kV lines in the area of customer need. AEP Ohio Transco identified the Consolidated Coal Company, a major landowner in the vicinity, as having potentially feasible land crossed and adjacent to the four FirstEnergy lines. AEP Ohio Transco and Consolidated Coal Company worked to identify the selected Nottingham Switch site, which is agreeable to both parties. With both endpoints identified, AEP and URS evaluated potential routes, which were predominantly across property owned by Consolidated Coal Company. Since the routes crossed reclaimed mining land, no significant differentiations

between routes were identified. Consolidated Coal Company identified planned mining areas on their property. AEP worked with Consolidated Coal Company to identify the mutually acceptable selected route. AEP Ohio Transco identified no additional routes that were both acceptable to property owners and better than the selected route.

5. The anticipated construction schedule and proposed in-service date of project.

Construction of the line is scheduled to begin in October 2015. The in-service date for the Project is December 1, 2016.

6. An area map of not less than 1:24,000-scale clearly depicting the facility's centerline with clearly marked streets, roads, and highways, and clearly written instructions for locating and viewing the facility.

Figure 1 provides the proposed Project location on the United States Geological Survey (USGS) 7.5-minute topographic map of the Flushing, Ohio quadrangle. To access the Project location from public roads, take Interstate 70 East from Columbus for approximately 112 miles to Exit 213, to Ohio Route 331 North and Ohio Route 149 North towards New Athens for 11.3 miles. Turn left on State Route 519 (Stumptown Road) and continue for approximately 2.3 miles. The project site is located to the northeast of the intersection of Stumptown Road and Cadiz-Flushing Road.

7. 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.

No easements, options, or land use agreements have been obtained to date for the Nottingham-Freebyrd 138 kV line. Approximately 80% of the route length is located on property owned by Consolidated Coal Company. The remaining portion of the route crosses properties owned by Anderson Tree Farm, and Markwest. AEP Ohio Transco will obtain easements from these landowners prior to construction.

(C) TECHNICAL FEATURES OF THE PROJECT

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

The Freebyrd-Nottingham line will operate at 138 kV. It will consist of six, 1,233 kcm Type 13 ACSS-TW conductors per phase. One 7#8 alumoweld and one 48 fiber overhead

groundwires will be used as shield wires. The insulator assemblies will consist of one string of polymer insulators for each phase. The 138 kV transmission line structures to be installed will include approximately 30 double circuit steel tower structures.

A structure sketch is included as Figure 2.

2. For electric power transmission lines, the production of electric and magnetic fields during the operation of the proposed electric power transmission line.

(a) Calculated Electric and Magnetic Field Levels

Three loading conditions were examined: (1) normal maximum loading, (2) emergency line loading, and (3) winter normal conductor rating. Normal maximum loading represents the peak flow expected with all system facilities in service; daily/hourly flows fluctuate below this level. Emergency loading is the maximum current flow during unusual (contingency) conditions, which exist only for short periods of time. Winter normal (WN) conductor rating represents the maximum current flow that a line, including its terminal equipment, can carry during winter conditions. It is not anticipated that this line would operate at its WN rating in the foreseeable future. Loading levels and the calculated electric and magnetic fields are summarized below. The corresponding designs, including phase configurations, are shown in Figure 3.

EMF CALCULATIONS			
Condition	**Circuit 1/ Circuit 2 Load (MVA)**	**Electric Field (kV/m)**	**Magnetic Field (mG)**
(1) Normal Maximum Loading	36.5 / 36.5	0.21 / 2.25 / 0.21	11.65 / 24.24 / 11.65
(2) Emergency Line Loading	73.5 / 73.5	0.21 / 2.25/ 0.21	23.47 / 48.81 / 23.47
(3) Winter Normal Conductor Rating	817 / 817	0.19 / 2.44 / 0.19	135.43 / 291.96 / 135.43

* EMF levels (left right-of-way edge/maximum/right right-of-way edge) calculated one meter above ground assuming balanced currents and nominal voltages. Electric fields reflect normal and emergency operations; lower electric fields are expected during emergency conditions when one mutually-coupled line is out of service.

(b) Discussion of the Company's Design Alternatives Regarding EMF Levels

Line construction associated with the Project is proposed in locations that would not place it in close proximity to existing residential areas.

3. The estimated cost of the project by Federal Energy Regulatory Commission account, unless the applicant is not an electric light company, a gas company or a natural gas company as defined in Chapter 4905. of the Revised Code (in which case, the

applicant shall file the capital costs classified in the accounting format ordinarily used by the applicant in its normal course of business).

The 2015 capital cost estimates for the proposed project have been tabulated by the Federal Energy Regulatory Commission (FERC) Electric Plant Transmission Accounts:

ESTIMATES OF APPLICABLE INTANGIBLE AND CAPITAL COSTS		
FERC Account Number	**Description**	**Cost**
350	Land and Land Rights	$500,000
352	Structures & Improvement	Not Applicable
353	Substation Equipment	Not Applicable
354	Towers & Fixtures	$7,785,611
355	Poles & Fixtures	Not Applicable
356	Overhead Conductors & Devices	$3,039,612
357	Underground Conductors & Devices	Not Applicable
358	Underground-to-overhead Conversion Equipment	Not Applicable
359	Right-of-way Clearing, Roads, Trails or Other Access	$1,871,045
	TOTAL	**$13,196,268**

(D) SOCIOECONOMIC DATA

1. **A brief description of land use within the vicinity of the proposed project, including: (a) a list of municipalities, townships and counties affected; and (b) estimates of population density adjacent to rights of way within the study corridor (the U.S. census information may be used to meet this requirement.)**

   On behalf of AEP Ohio Transco, URS prepared a Socioeconomic, Land Use, and Agricultural District Review Report. This report is included as Appendix A.

2. **The location and general description of all agricultural land (including agricultural district land) existing at least sixty days prior to submission of the letter of notification within the proposed electric power transmission line right-of-way, or within the proposed electric power transmission substation fenced-in area, or within the construction site boundary of a proposed compressor station.**

   No agricultural land will be impacted by the construction of the Project, as detailed in Appendix A.

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

   An archaeological investigation by Weller & Associates, Inc. to confirm site disturbance was completed for this project. A copy of this report was provided to the Ohio Power Siting Board under separate cover as part of the Nottingham Switch LON submittal (OPSB Case No. 14-1819-EL-BLN).

4. **Documentation that the chief executive officer of each municipal corporation and county, and the head of each public agency charged with planning land use in the area in which any portion of the facility is to be located have been notified of the project and have been provided with a copy of the letter of notification. The applicant shall describe the company's public information program used in the siting of the proposed facility. The information submitted shall include either a copy of the material distributed to the public or a copy of the agenda and summary of the meeting(s) held by the applicant.**

   AEP Ohio Transco notified Mr. Don Bethel, Mr. William Host, and Mr. Dale Norris, Harrison County Board of Commissioners; Mr. Robert Sterling, Harrison County Engineer; Mr. Kenneth A. Zitko, Mayor Village of Cadiz; Mr. William L. Sedgmer, Mayor Village of New Athens; Ms. Elizabeth A. Deaton, Athens Township Trustee; Mr. David E. Butler, Athens Township Trustee; Mr. Michael T. Saffell, Athens Township Trustee; Mr. Ray F. Poillucci, Cadiz Township Trustee; Mr. Clint A. Barr, Cadiz Township Trustee; and Mr. Chester S. Porter, Cadiz Township Trustee in November 2014. Copies of this Letter of Notification have been sent to the Harrison County Commissioners, Harrison County Engineer, Athens Township Trustees, Cadiz Township Trustees the Mayor of Cadiz, the Mayor of New Athens and the Puskarich Public Library. Copies of the cover letters to these officials and the local library are attached in Appendix B. AEP Ohio Transco will advise local officials of features and the status of the proposed Project.

5. **A brief description of any current or pending litigation involving the project known to the applicant at the time of the letter of notification.**

   There is no known current or pending litigation involving this Project.

6. **A listing of local, state, and federal governmental agencies known to have requirements which must be met in connection with the construction of the project, and 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 stormwater discharges under General Permit OHC000003. There are no other known local, state, or federal requirements that must be met prior to commencement of the proposed Project.

(E) ENVIRONMENTAL DATA

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

   On behalf of AEP Ohio Transco, URS prepared a Threatened and Endangered Species Report. URS coordinated with the USFWS and ODNR regarding special status species in the vicinity of the Project. No impacts to threatened or endangered species are expected. The full Threatened and Endangered Species Report for the Project is included as Appendix C.

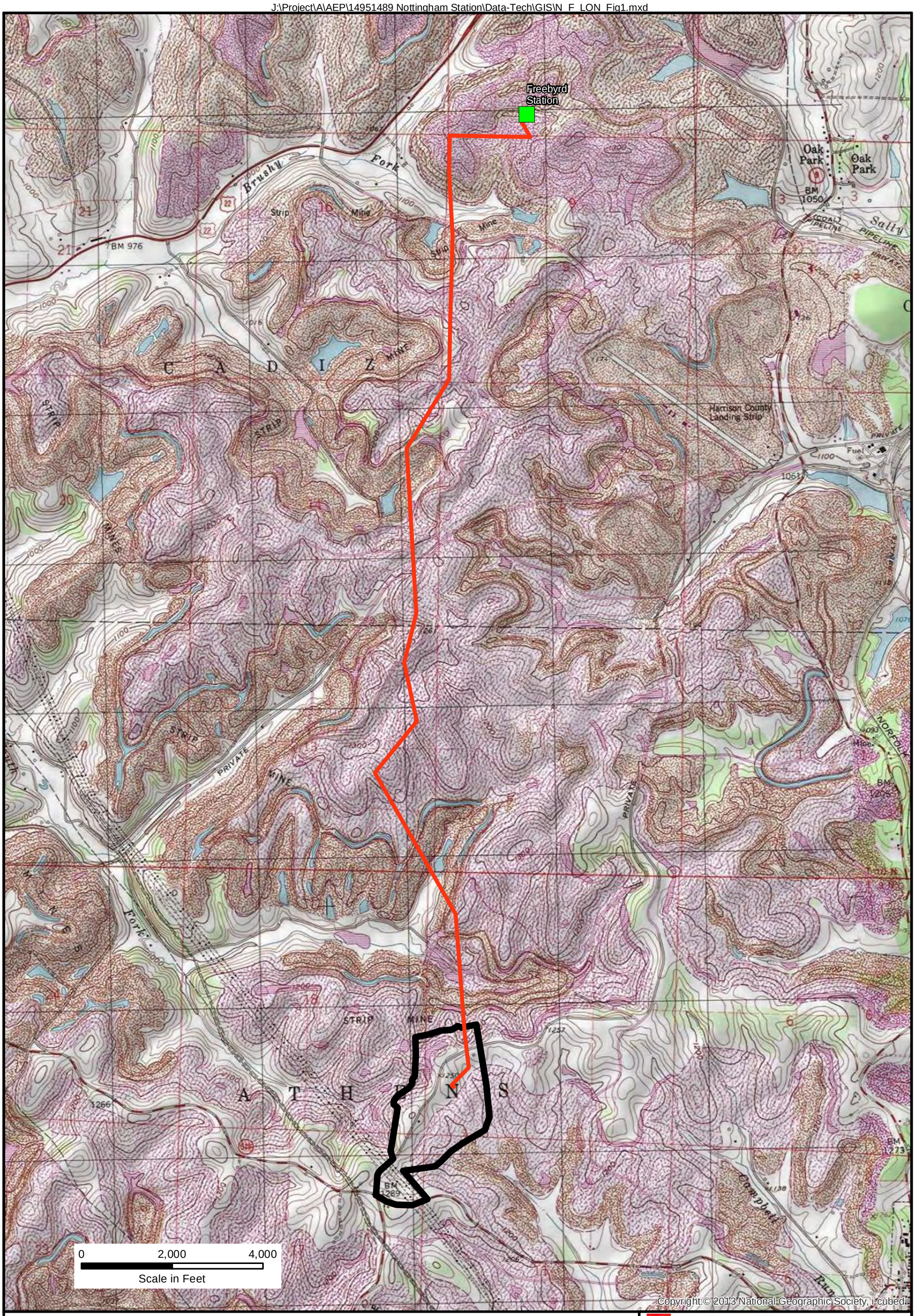
2. **A description of the applicant's investigation concerning the presence or absence of areas of ecological concern (including national and state forests and parks, floodplains, wetlands, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges,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

   On behalf of AEP Ohio Transco, URS prepared an Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report. No impacts to wetlands or streams are anticipated. The full Areas of Ecological Concern, Wetland Delineation, and Stream Assessment Report for the Project is included as Appendix D.

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

The Harrison County Airport is located in the vicinity of the proposed transmission line route. As soon as final structure locations and heights are determined, AEP will be notify the Federal Aviation Administration (FAA) and follow any recommendations made by the FAA. To the best of AEP Ohio Transco's knowledge, no other unusual conditions exist that would result in environmental, social, health, or safety impacts. Construction and operation of the proposed Project will meet all applicable safety standards established by the Occupational Safety and Health Administration, and will be in accordance with the requirements specified in the latest revision of the National Electrical Safety Code as adopted by the Public Utilities Commission of Ohio. The Stormwater Pollution Prevention Plan (SWPPP), which will include the Access Plan, will be provided to the OPSB under separate cover, after submission of this Letter of Notification.

J:\Project\A\AEP\14951489 Nottingham Station\Data-Tech\GIS\N_F_LON_Fig1.mxd



LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Approximate Nottingham Station Property

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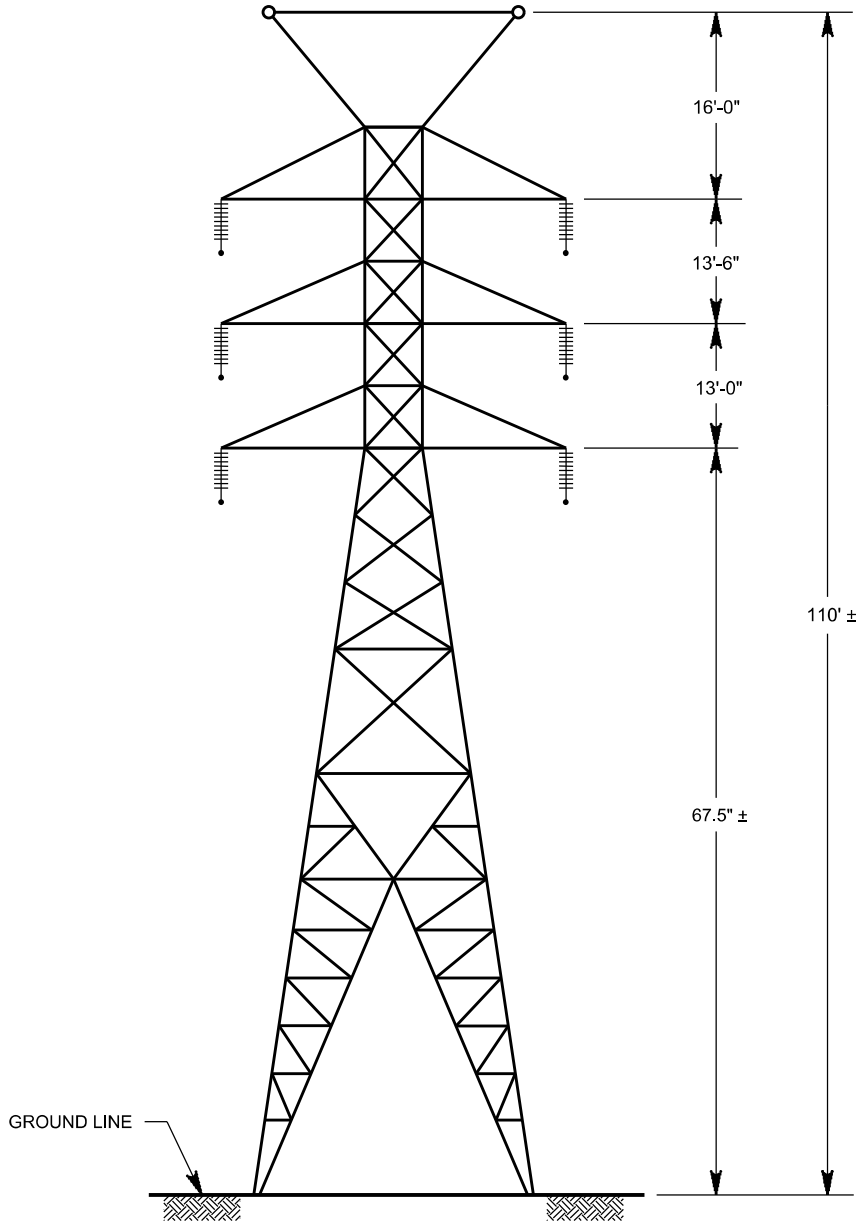
AEP OHIO TRANSMISSION COMPANY

Nottingham-Freebyrd 138 kV Transmission Line

FIGURE 1
OVERVIEW MAP

JOB NO. 14951489

URS



NOTTINGHAM - FREEBYRD 138kV LINE

AEP AMERICAN ELECTRIC POWER

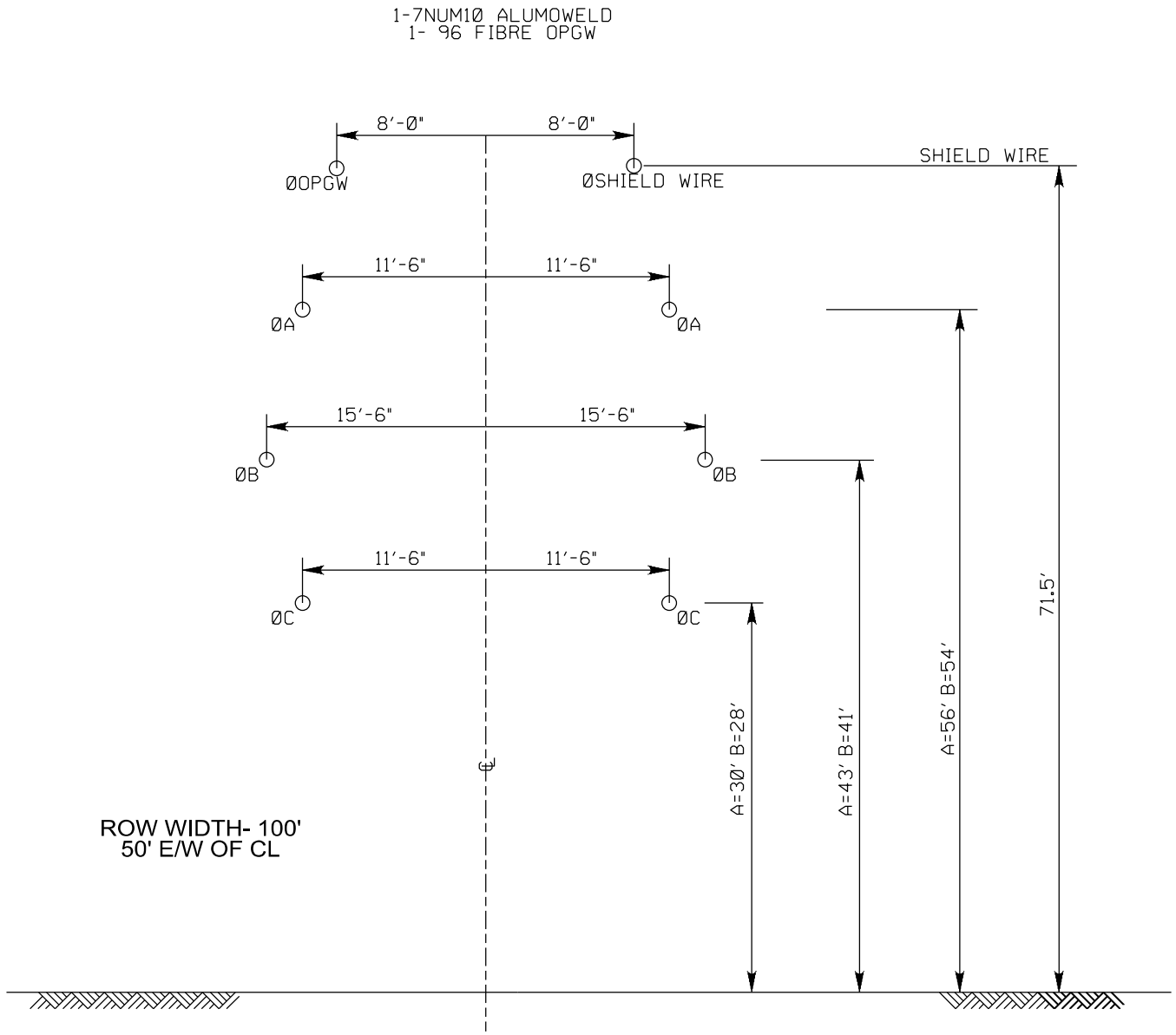
PROPOSED LINE TOWER
SUSPENSION CONFIGURATION

NOT TO SCALE | FIGURE 2

W:\AEP\SITING \FREEBYRD\TOWERS.DGN

(6-WIRED CIRCUIT CONFIGURATION)

(6) 1,233 kcm ACSR TW TYPE13



DIMENSION A: DOUBLE CIRCUIT (STEEL TOWER)
(UNDER NORMAL MAX & EMERGENCY LINE LOADING)

DIMENSION B: DOUBLE CIRCUIT (STEEL TOWER).
(UNDER WINTER NORMAL CONDUCTOR RATING AT 120 F)

AEP AMERICAN ELECTRIC POWER

NOT TO SCALE	11/3/2014- KCI

APPENDIX A

SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW REPORT

NOTTINGHAM-FREEBYRD 138KV TRANSMISSION LINE PROJECT

SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW REPORT

Prepared for:

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

Prepared by:

URS
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 14951489

December 2014

TABLE OF CONTENTS

FIGURES
(follow text)

Number

1.0 PROJECT DESCRIPTION

This document presents the socioeconomic, land use, and agricultural district review conducted by URS Corporation (URS) for American Electric Power Ohio Transco's (AEP Ohio Transco) proposed Nottingham-Freebyrd 138 kV Transmission Line Project (Project). The Project is required to meet the needs of a specific customer. In response to the customer's needs, AEP Ohio Transco is proposing to install the new Nottingham-Freebyrd 138 kV line between the proposed Nottingham Switch, a 138 kV switching station, and the existing Freebyrd Station in Harrison County, Ohio.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to assess and report the socioeconomic, land use, and agricultural district characteristics potentially affected by the Project, as stated in Ohio Administrative Code (OAC) Rule 4906-11-01(D)(1) and (2). These rules state:

> *(D) Socioeconomic data. Describe the social and ecological impacts of the project. This description shall contain the following information:*
>
> *(1) A brief, general description of land use within the vicinity of the proposed project, including: (a) a list of municipalities, townships, and counties affected; and (b) estimates of population density adjacent to rights-of-way within the study corridor (the U.S. census information may be used to meet this requirement).*
>
> *(2) The location and general description of all agricultural land (including agricultural district land) existing at least sixty days prior to submission of the letter of notification within the proposed electric power transmission line right-of-way, or within the proposed electric power transmission substation fenced-in area, or within the construction site boundary of a proposed compressor station.*

AEP Ohio Transco retained URS to conduct a desktop review of socioeconomic, land use, and agricultural district land characteristics. A study area was established that extends 1,000 feet on either side of the proposed Nottingham-Freebyrd 138 kV centerline. This resulted in an approximately 1,140-acre study area. In conjunction with ecological field surveys for the Project, URS noted land uses within this study area. This report will be used to assist AEP Ohio Transco's efforts to avoid or minimize impacts to socioeconomic characteristics and land uses potentially present in the study area during construction activities.

2.0 GENERAL LAND USE DESCRIPTION

Land use within the study area is shown on Figure 1. Current land use characteristics were obtained through review of United States Farm Service Agency National Agricultural Imagery Program aerial photography taken in 2013; the United States Geological Survey (USGS) 7.5-minute topographic map of the Flushing, Ohio (1976, photorevised 1978) and Jewett, Ohio (1978) quadrangles; a tax map of the Project area; and a field reconnaissance conducted in October 2014.

Land uses within the study area include grass-covered previously strip-mined land used as pasture, a natural gas processing facility, small wooded/scrub areas, and utility corridors. No residential or institutional land uses were identified within 1,000 feet of the proposed Project property.

Based on a review of the Harrison County website, no comprehensive plans or other future land use documents were identified for the county or Athens or Cadiz Townships. Athens and Cadiz Townships have not adopted zoning regulations.

3.0 POPULATION DENSITY ESTIMATE

The Project is located entirely within Athens and Cadiz Townships of Harrison County. No homes were identified within 1,000 feet of the Project. No planned residential developments within the study area were identified.

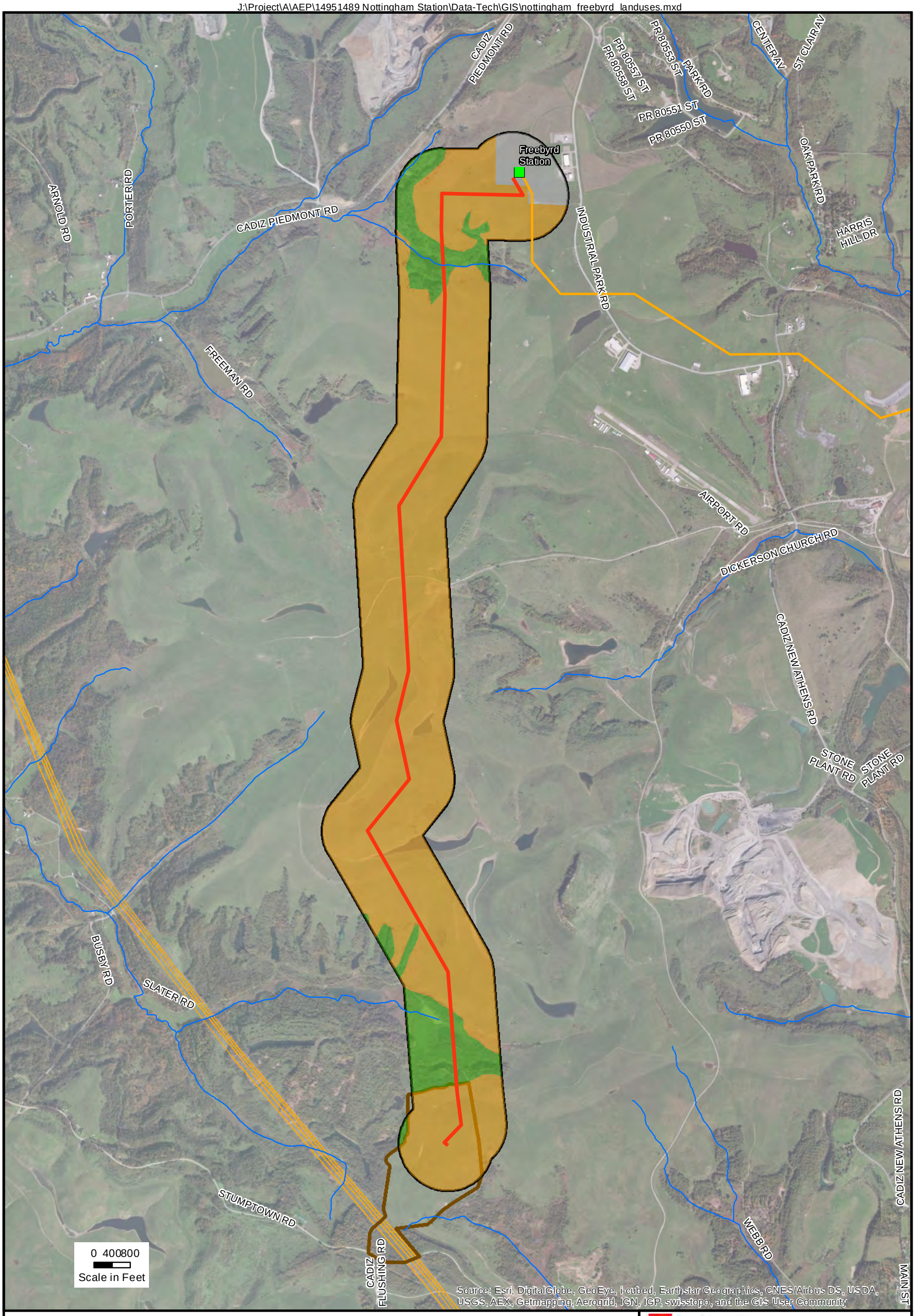
4.0 AGRICULTURAL DISTRICT LAND

URS contacted the Harrison County Assessor's office on December 19, 2014 regarding parcels registered in the agricultural district land program. There are reportedly no agricultural district land parcels within 1,000 feet of the proposed route.

5.0 CONCLUSION

The Project is not expected to significantly impact current socioeconomic characteristics, land use, or agricultural district land in the vicinity. The Project is not expected to impact any future land use plans for the area.

J:\Project\A\AEP\14951489 Nottingham Station\Data-Tech\GIS\nottingham_freebyrd_landuses.mxd



LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Existing Transmission Line
- Approximate Nottingham Station Property
- Industrial
- Reclaimed Mining Land/Pasture
- Wooded/Scrub

N

AEP OHIO TRANSMISSION COMPANY

Nottingham-Freebyrd 138 kV Transmission Line

FIGURE 1
LAND USE MAP

JOB NO. 14951489

URS

APPENDIX B

PUBLIC OFFICIALS LETTERS SERVING COPY OF LETTER OF NOTIFICATION

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Cadiz Township Trustee
Mr. Clint A. Barr
111 Old Steubenville Pike
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Barr:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Athens Township Trustee
Mr. David E. Butler
117 East Wheeling Street
New Athens, Ohio 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Butler:

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Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Athens Township Trustee
Ms. Elizabeth Ann Deaton
177 Main Street North
New Athens, Ohio 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Ms. Deaton:

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Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Harrison County Board of Commissioners
Mr. William H. Host, President
Mr. Dale Ray Norris
Mr. Don Rae Bethel
101 Market Street
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Commissioners:

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American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Cadiz Township Trustee
Mr. Ray F. Poillucci
651 McCready Avenue
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Poillucci:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Cadiz Township Fiscal Officer
Ms. Karen S. Conrad-Poillucci
651 McCready Avenue
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Ms. Conrad-Poillucci:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Cadiz Township Trustee
Mr. Chester S. Porter
380 Oak Park
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Porter:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Athens Township Trustee
Mr. Michael T. Saffell
103 South Main Street, Box 4
New Athens, Ohio 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Saffell:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Mayor William L. Sedgmer, III
Village of New Athens
130 East Brown Street
New Athens, Ohio 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mayor Sedgmer:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Harrison County Engineer
Mr. Robert K. Sterling
32500 Cadiz-Dennison Road
Scio, Ohio 43988

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Sterling:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Puskarich Public Library
Ms. Sandi Thompson, Director
200 East Market Street
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Ms. Thompson:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

We ask that this Letter of Notification be made available to the general public.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Athens Township Fiscal Officer
Mr. David A. Watson
74070 Flushing New Athens Road
New Athens, Ohio 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mr. Watson:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

American Electric Power
700 Morrison Road
Gahanna, OH 43230

January 14, 2015

Mayor Kenneth A. Zitko
Village of Cadiz
44375 Cherrywood Drive
Cadiz, Ohio 43907

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Project
Case Number: 14-1819-EL-BLN

Dear Mayor Zitko:

In accordance with Rules 4906 of the Ohio Administrative Code (OAC), AEP Ohio Transmission Company (AEP Ohio Transco) is required to submit a Letter of Notification to the State of Ohio Power Siting Board (OPSB) whenever certain additions are made to our transmission facilities.

The proposed Nottingham-Freebyrd 138kV Transmission Line Project, Public Utilities Commission of Ohio Case Number 14-1819-EL-BLN, consists of the construction of a new 138-kilovolt (kV) transmission line from the company's proposed Nottingham Substation to the existing Freebyrd Substation. This new transmission line will provide additional electricity to Markwest's Utica Plant. AEP Ohio Transco will build the new line using standard double-circuit steel 138-kV structures. The Nottingham-Freebyrd 138-kV transmission line will be approximately four miles long and will be located in Athens and Cadiz townships. This project will be an approximate $8 million investment by AEP Ohio Transco. Construction is scheduled to begin in August 2015.

In compliance with Rule 4906-11-01 of the OPSB Rules and Regulations, we have prepared and filed the attached Letter of Notification. This Notice contains details on the line location, project description and construction schedule, and is submitted for your information.

Please feel free to contact me at 614-552-1929 and I would be happy to answer any questions concerning this project.

Sincerely,

Brett E. Schmied
Project Outreach Specialist
American Electric Power

cc: Greg Gibbs, Project Manager

APPENDIX C

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

NOTTHINGHAM-FREEBYRD 138 KV ELECTRIC TRANSMISSION LINE PROJECT

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

Prepared for:

American Electric Power Ohio Transmission Company
700 Morrison Road
Gahanna, Ohio 43230

Prepared by:

URS
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 14951489

January 2015

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1.0 PROJECT DESCRIPTION

This document presents the results of the threatened and endangered species assessment conducted by URS Corporation (URS) for American Electric Power Ohio Transco's (AEP Ohio Transco) proposed Nottingham-Freebyrd 138 kV Transmission Line Project (Project). The Project is needed to meet the needs of a specific customer. In response to the customer's needs, AEP Ohio Transco is proposing to install the new Nottingham-Freebyrd 138 kV line between the proposed Nottingham Switch, a 138 kV switching station, and the existing Freebyrd Station in Harrison County, Ohio.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to assess and report the federal and state designated species potentially affected by the Project, as stated in Ohio Administrative Code (OAC) Rule 4906-11-01(E)(1). This rule states:

> ***(E) Environmental data. Describe the environmental impacts of the proposed project. This description shall include the following information:***
>
> ***(1) A description of the applicant's investigation concerning the presence or absence of federal and state designated species (including endangered species, threatened species, rare species, species proposed for listing, species under review for listing, and species of special interest) that may be located within the area likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.***

AEP retained URS to conduct threatened and endangered species review and field survey within areas crossed by the proposed Project. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to threatened and endangered species potentially present in the study area during construction activities.

2.0 METHODS

The first phase of the survey involved a review of online lists of federal and state species of concern. In addition to the review of available literature, URS submitted a request to Ohio Department of Natural Resources (ODNR) Biodiversity Database for GIS records of species of concern that were reported within close proximity to the Project. These GIS records were overlain on the Project GIS maps to identify designated species and other sensitive areas as reported by ODNR in relation to the Project. ODNR reported no records of designated species within one mile of the Project area. A copy of the letter provided with the Biodiversity Database GIS records is included in Attachment A. URS also submitted a coordination letter to the U.S. Fish and Wildlife Service (USFWS) and ODNR soliciting comments on the Project. Copies of the response letters provided by ODNR and USFWS are included as Appendix A. Agency-identified species and available species-specific information was reviewed to identify the various habitat types that listed species are known to frequent. This information was used during the field survey to assess the potential for these species of concern in, or near the Project study corridor.

3.0 RESULTS

URS field ecologists conducted a designated species habitat survey in conjunction with the stream and wetland field surveys in January 2015. URS observed the Project route to be predominantly across grass-covered reclaimed mining land.

3.1 State Species of Concern

ODNR provided Biodiversity Database GIS records and a corresponding letter response dated September 12, 2014. The data included the Project area plus an approximate one mile buffer. No records of special status species or habitats were identified within the search area. A copy of the ODNR response is included in Attachment A.

After receiving the ODNR Biodiversity Database response, URS sent a second letter to ODNR soliciting specific comments regarding the Project on October 23, 2014. URS received a response from ODNR on December 10, 2014. A copy of the ODNR response is also included in Attachment A. Table 1 lists the species identified by ODNR in Harrison County in the October 23, 2014 letter.

TABLE 1
STATE LISTED SPECIES THAT COULD INHABIT HARRISON COUNTY, OHIO

Common Name	Scientific Name	State Status
Mammals		
Indiana bat	***Myotis sodalis***	Endangered
Black bear	***Ursus americanus***	Endangered
Birds		
Upland sandpiper	***Bartramia longicauda***	Endangered

ODNR requested that suitable Indiana bat habitat should be conserved or cut between October 1 and March 31. A net survey must be conducted between June 15 and July 31 prior to cutting, if clearing is necessary during summer months.

The range of the black bear was identified to potentially be within the vicinity of the Project. ODNR stated that due to the mobility of this species, no impacts are likely.

ODNR requested that habitat for the upland sandpiper, dry grasslands including native grasslands, seeded grasslands, grazed and ungrazed pasture, hayfields, and grasslands established through the Conservation Reserve Program, should not be impacted during the species' nesting period of April 15 to July 31. AEP Ohio Transco currently intends to comply with the seasonal construction restriction for vegetation clearing and grading within the proposed right-of-way. However, if construction must occur during the nesting period, a qualified biologist will complete a presence/absence survey based on the most current ODNR protocol.

No state species of concern or signs of these species were observed during the field survey.

3.2 Federal Species of Concern

To address the Project's potential to impact federally protected species, URS conducted a web based literature review of USFWS Ohio County Distribution of ***Federally Listed Threatened, Endangered, Proposed, and Candidate Species, Revised April 2014***, to identify what species potentially occur in Harrison County, Ohio. Table 2 lists the two species identified during the USFWS literature review. A copy of the USFWS response is included in Attachment A.

TABLE 2
FEDERALLY LISTED SPECIES THAT COULD INHABIT
HARRISON COUNTY, OHIO*

Common Name	Scientific Name	Federal Status	County
Mammals			
Indiana bat	***Myotis sodalis***	Endangered	Harrison
Northern long-eared bat	***Myotis septentrionalis***	Proposed Endangered	Harrison

*Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species, Revised April 2014.
Accessed October 16, 2014: http://www.fws.gov/midwest/endangered//lists/pdf/OhioCtyList2014.pdf

Indiana Bat: The federal government lists this species as endangered in Ohio. 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. Proximity to water is critical, because insect prey density is greater over or near open water. Very little of the Project route is wooded, although trees are present just north of the Nottingham Switch property and along Brushy Fork, near the northern end of the Project.

Northern Long-Eared Bat: The federal government lists this species as proposed endangered in Ohio. As with the Indiana bat, winter northern long-eared bat hibernacula include caves and mines, while summer habitat typically includes tree species exhibiting exfoliating bark or cavities that can be used for roosting. Northern long-eared bat has also been found, albeit rarely, roosting in structures like barns and sheds.

In an email dated November 14, 2014, USFWS indicated that due to the project type, size, location, and the proposed implementation of seasonal tree cutting (only clearing between October 1 and March 31) to avoid impacts to Indiana bats and northern long-eared bats, adverse effects to any federally endangered, threatened, proposed or candidate species are not anticipated.

4.0 SUMMARY

AEP retained URS to conduct threatened and endangered species review for areas located within 1,000 feet of the proposed Project and a field survey within 100 feet of the Project route. This report will be used to assist AEP's efforts to avoid impacts to threatened and endangered species potentially present in the study area during construction activities. The field survey was conducted by URS field biologists in January 2015. While limited habitat for the Indiana bat, the northern long-eared bat, and upland sandpiper were observed during the field surveys, no species of concern or signs of these species were observed. AEP Ohio Transco intends to comply with seasonal tree clearing restrictions to avoid impacts to the Indiana and northern long-eared bats. Impacts to the upland sandpiper are currently expected to be avoided through adherence to the seasonal construction restriction for vegetation clearing and initial grading within the proposed right-of-way. However, if construction must occur during the nesting period in suitable habitat for the upland sandpiper, a qualified biologist will complete a presence/absence survey based on the most current ODNR protocol.

5.0 CONCLUSION

Based upon the nature of the Project, review of available current literature, review of federal and state records of species of concern, the field survey, and adherence to seasonal construction restrictions or presence/absence surveys, if necessary, it is not anticipated that federal or state species of concern will be impacted by the Project as currently planned.

APPENDIX D

AREAS OF ECOLOGICAL CONCERN, WETLAND DELIINATION, AND STREAM ASSESSMENT REPORT

NOTTINGHAM-FREEBYRD 138 KV TRANSMISSION LINE PROJECT

AREAS OF ECOLOGICAL CONCERN, WETLAND DELINEATION, AND STREAM ASSESSMENT REPORT

Prepared for:

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

Prepared by:

URS
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 14951489

January 2015

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1.0 PROJECT DESCRIPTION

This document presents the results of the wetland delineation and stream assessment conducted by URS Corporation (URS) for American Electric Power Ohio Transco's (AEP Ohio Transco) proposed Nottingham Switch Project (Project). The Project is required to meet the needs of a specific customer. In response to the customer's needs, AEP Ohio Transco is proposing to install the new Nottingham-Freebyrd 138 kV line between the proposed Nottingham Switch, a 138 kV switching station, and the existing Freebyrd Station in Harrison County, Ohio.

As part of the Ohio Power Siting Board (OPSB) Letter of Notification (LON) requirements, AEP Ohio Transco is required to describe the investigation concerning the presence or absence of areas of ecological concern as stated in Ohio Administrative Code (OAC) Rule 4906-15-11-01(E)(2). This rule states:

> ***(E) Environmental data. Describe the environmental impacts of the proposed project. This description shall include the following information:***
>
> ***(2) 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 areas likely to be disturbed by the project, a statement of the findings of the investigation, and a copy of any document produced as a result of the investigation.***

AEP Ohio Transco retained URS to review areas of ecological concern, as defined above, within the proposed Project vicinity and conduct a field survey of wetlands and streams within 100 feet of the proposed transmission line. This report will be used to assist AEP Ohio Transco's efforts to avoid impacts to areas of ecological concern present in the study area during construction.

2.0 METHODS

2.1 Special Status Ecological Areas

URS reviewed maps and GIS data in order to identify national and state forests and parks, designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, and wildlife sanctuaries in the Project vicinity. GIS data sources included the ODNR Biodiversity Database and federal land and parks layers available from Environmental Systems Research Institute (ESRI). Property ownership within 1,000 feet of the Project was reviewed to identify parcels that may have special status. URS also noted land use during the field reconnaissance conducted on January 19-20, 2015.

Floodplains were evaluated based on the Federal Emergency Management Agency's (FEMA) Flood Map Viewer (https://hazards.fema.gov/wps/portal/mapviewer).

2.2 Wetland Assessment

National Wetland Inventory (NWI) wetlands are areas of potential wetland that have been identified from U.S. Fish and Wildlife Service (USFWS) aerial photo-interpretation and which have typically not been field verified. Forested and heavy scrub/shrub wetlands are often difficult to interpret on NWI maps without a site visit, as foliage effectively hides the visual signature that indicates the presence of standing water and moist soils from an aerial view. In addition, many NWI-mapped wetlands are not found during field surveys. As a result, NWI maps may 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.

As requested by AEP, URS restricted the wetland assessments to: 1) identifying wetlands to their appropriate Cowardin classification (Cowardin, et al., 1979) and identification of boundaries, and 2) wetland evaluations using the Ohio Rapid Assessment Method (ORAM) protocol. The Project area was reviewed for the presence of wetlands using the procedures outlined in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual (1987 Manual) (Environmental Laboratory, 1987) in conjunction with the procedures outlined in the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest Region (Regional Supplement) (2010). Since the Project survey only included a wetland determination, URS did not conduct detailed examinations of the three wetland parameters that are documented in USACE Regional Supplement data sheets. However, enough information was gathered to make the onsite determination whether a wetland was present or not based on a three-factor approach involving indicators of hydrophytic vegetation, hydric soil, and wetland hydrology and to identify the approximate boundaries.

URS biologists identified wetlands through a pedestrian site reconnaissance of the study corridor, including identifying the vegetation communities, soils identification where necessary, conducting a geomorphologic assessment of hydrology, and notation of disturbance. Determined wetland boundaries were noted where one or more of these criteria gave way to upland characteristics. The determined wetland boundaries were recorded with a handheld Trimble GeoXH GPS unit where the proposed Project enters and exits a wetland.

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 URS 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 become invalidated, wholly or in part, by changes beyond the control of URS.

Wetland Classifications: For this study, wetlands were classified based on the naming convention found in ***Classification of Wetlands and Deepwater Habitats of the United States (***Cowardin et al, 1979).

Ohio Rapid Assessment Method v. 5.0: The Ohio Environmental Protection Agency's (Ohio EPA) Ohio Rapid Assessment Method (ORAM) for Wetlands Version 5.0 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 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 Ohio EPA, 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). The ORAM scores for the wetlands that were delineated are discussed in Section 3.2 of this report.

2.3 Stream and River Crossings

Regulatory activities under the Clean Water Act (CWA) 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 CWA 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). Similar to the wetland assessments, URS stream assessments were limited to GPS recording of channels and basic classification based on flow regime (perennial, intermittent, or ephemeral).

3.0 RESULTS

3.1 Special Status Ecological Areas

URS conducted a review of published resources and agency consultations to identify national or state forests and parks designated or proposed wilderness areas, national and state wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, wildlife sanctuaries and floodplains crossed by and in the immediate vicinity of the Project. No national forests or parks designated or proposed wilderness areas, national wild and scenic rivers, wildlife areas, wildlife refuges, wildlife management areas, or wildlife sanctuaries were identified within 1,000 feet of the proposed Project.

According to the Federal Emergency Management Agency (FEMA) National Flood Hazard Layer (NFHL) (GIS shapefile), the Project is not located within any 100-year flood zones. The project is located on Panels 39067C0310D and 39067C0194D (effective May 4, 2009), and is entirely located within Flood Zone X, an area with minimal flood hazard. No changes in flood elevations are anticipated as a result of the Project.

3.2 Wetland Assessment

National Wetland Inventory Map Review: According to the NWI map of the Flushing and Jewett, Ohio quadrangles, the Project area includes three mapped NWI wetlands. The three mapped NWI wetlands are all classified as freshwater ponds, and are listed as PUBGx (Palustrine unconsolidated bottom, intermittently exposed, excavated). The mapped NWI wetlands were all identified as ponds during the field assessment. A narrow strip of Wetland 9 was also intersected by one of the mapped NWI wetlands.

Wetland Delineation: URS identified nine wetlands within the Project ecological survey area, ranging in size from 0.05 to 0.87 acre, as shown in Table 1. All but two of the wetlands are of the same wetland habitat type: palustrine emergent (PEM). Wetland 1 is palustrine scrub-shrub (PSS) and Wetland 3 is palustrine forested (PFO). Seven of the wetlands are Category 1 wetlands with ORAM scores ranging from 18 to 29.5. The remaining two wetlands are Category 2 wetlands, both with ORAM scores of 32. These wetlands exhibit limited plant community development and had habitat and hydrology in the early stages of recovering from assumed previous manipulations as a result of former strip-mining, tree/shrub removal, mowing, and other disturbances.

The location and approximate extents of the wetlands, as delineated within the Project survey area are shown on Figure 1. Color photographs taken of the wetlands are provided in Attachment A. Completed ORAM forms are provided in Attachment B.

TABLE 1
WETLANDS IDENTIFIED WITHIN THE STUDY AREA

Wetland Name	Cowardin Wetland Type[a]	NWI Classification[b]	ORAM Score	ORAM Category	Acreage within Study Area
Wetland 1	PSS	NC	32	Category 2	0.17
Wetland 2	PEM	NC	21.5	Category 1	0.20
Wetland 3	PFO	NC	29.5	Category 1	0.05
Wetland 4	PEM	NC	24	Category 1	0.06
Wetland 5	PEM	NC	29	Category 1	0.20
Wetland 6	PEM	NC	18	Category 1	0.32
Wetland 7	PEM	NC	21	Category 1	0.13
Wetland 8	PEM	NC	21	Category 1	0.18
Wetland 9	PEM	PUBGx	32	Category 2	0.87
Total: 9	**PEM: 7, PSS: 1, PFO: 1**				**2.18**

Cowardin Wetland Type[a]: PEM = palustrine emergent,

NWI Classification[b]: NC (not classified as a NWI wetland)

3.3 Stream and River Crossings

URS identified two streams totaling 284 linear feet within the study corridor which are summarized in Table 2. Both of the streams were classified as intermittent streams. Stream 1 is not crossed by the centerline, although it flows into a wetland that is crossed by the centerline (Wetland 5), and re-emerges

within the survey corridor on the northern side of the wetland. Stream 2 is crossed by the centerline. The locations of the streams identified within the study corridor are shown on Figures 1 through 4. Color photographs were taken of representative streams during the field survey and are provided in Attachment A.

TABLE 2
STREAMS IDENTIFIED WITHIN THE SURVEY CORRIDOR

Report Name	Waterbody	Flow Regime	Length within Survey Corridor (feet)	Crossed by Centerline
Stream 1	Unnamed tributary to South Fork Brushy Fork	Intermittent	66	No
Stream 2	Unnamed tributary to Brushy Fork	Intermittent	218	Yes
Total: 2			**284**	**1 Crossed**

URS has preliminarily determined that all identified streams within the study corridor appear to be jurisdictional (i.e., waters of the U.S.), as they all appear to be tributaries that flow into other i.e., waters of the U.S.

3.4 PONDS

Four ponds were identified within the Project survey area, with approximately 2.56 acres identified within the survey corridor. Two of the ponds are adjacent to mapped wetlands: Pond 1 is adjacent to Wetland 1 and Pond 4 is adjacent to Wetland 9. All of the ponds appear to be associated with former mining operations in the area. Color photographs were taken of the ponds during the field survey and are provided in Attachment A.

4.0 SUMMARY

No national forests or parks designated or proposed wilderness areas, National or State Wild and Scenic Rivers, wildlife areas, wildlife refuges, wildlife management areas, or wildlife sanctuaries were identified within 1,000 feet of the proposed Project.

The Project is not located within any 100-year flood zones. The project is entirely located within Flood Zone X, an area with minimal flood hazard. No changes in flood elevations are anticipated as a result of the Project.

During the field survey, six PEM Category 1 wetlands totaling 1.09 acres, one PEM Category 2 wetland totaling 0.87 acre, one PSS Category 2 wetland totaling 0.17 acre, and one PFO Category 1 wetland totaling 0.05 acre were identified. Impacts to the wetlands are expected to be minimized through the use of timber matting for construction access. Two streams were identified totaling 284 linear feet within the survey corridor.

5.0 CONCLUSION

This report will be used to assist AEP Ohio Transco's efforts to avoid special status ecological areas, wetlands, and streams to the extent possible during construction of the Project, thereby minimizing impacts to these features identified within the Project area. Based on the preliminary Project footprint and identified features, no construction activity within streams or wetlands is anticipated. Erosion control methods including silt fencing are expected to be used where appropriate to minimize runoff-related impacts to stream channels. As a consequence, significant impacts to these "Waters of the U.S." are not anticipated. Notification or permit applications under Sections 401 and/or 404 of the Clean Water Act are not expected to be required by either the Ohio EPA or the USACE for this Project.

6.0 REFERENCES

Cowardin, L.M., V. Carter, F.C. Golet and E.T. LaRoe. 1979. ***Classification of Wetlands and Deepwater Habitats of the United States.*** Office of Biological Services, U.S. Fish and Wildlife Service, Washington, D.C.

Environmental Laboratory. 1987. U.S. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station: Vicksburg, Mississippi.

Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands v. 5.0, User's Manual and Scoring Forms. Ohio EPA Technical Report WET/2001-1. Ohio Environmental Protection Agency, Division of Surface Water, 401/Wetland Ecology Unit, Columbus, Ohio.

U.S. Army Corps of Engineers. 2012. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Eastern Mountains and Piedmont Region Version 2.0, ed. J. F. Berkowitz, J. S. Wakeley, R. W. Lichvar, C. V. Noble. ERDC/EL TR-12-9. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

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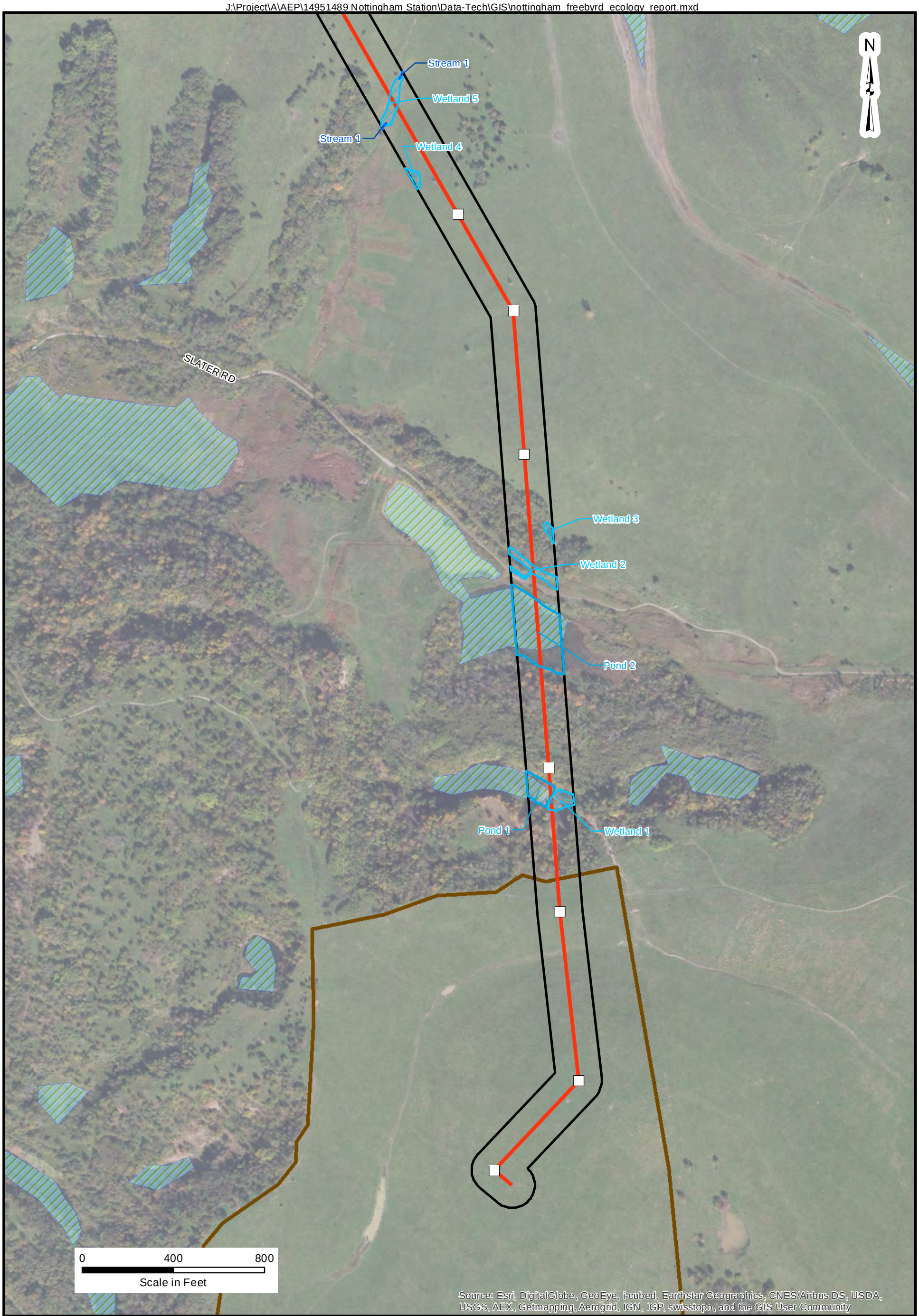

LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Structure Location
- Ecological Survey Corridor
- Approximate Nottingham Station Property
- National Wetland Inventory Area
- Stream
- Wetland
- Pond

4
3
2
1

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 1
ECOLOGICAL SURVEY RESULTS

JOB NO. 14951489

URS

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LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Structure Location
- Ecological Survey Corridor
- Approximate Nottingham Station Property
- National Wetland Inventory Area
- Stream
- Wetland
- Pond

4
3
2
1

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 2
ECOLOGICAL SURVEY RESULTS

JOB NO. 14951489

URS

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LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Structure Location
- Ecological Survey Corridor
- Approximate Nottingham Station Property
- National Wetland Inventory Area
- Stream
- Wetland
- Pond

4
3
2
1

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 3
ECOLOGICAL SURVEY RESULTS

JOB NO. 14951489

URS

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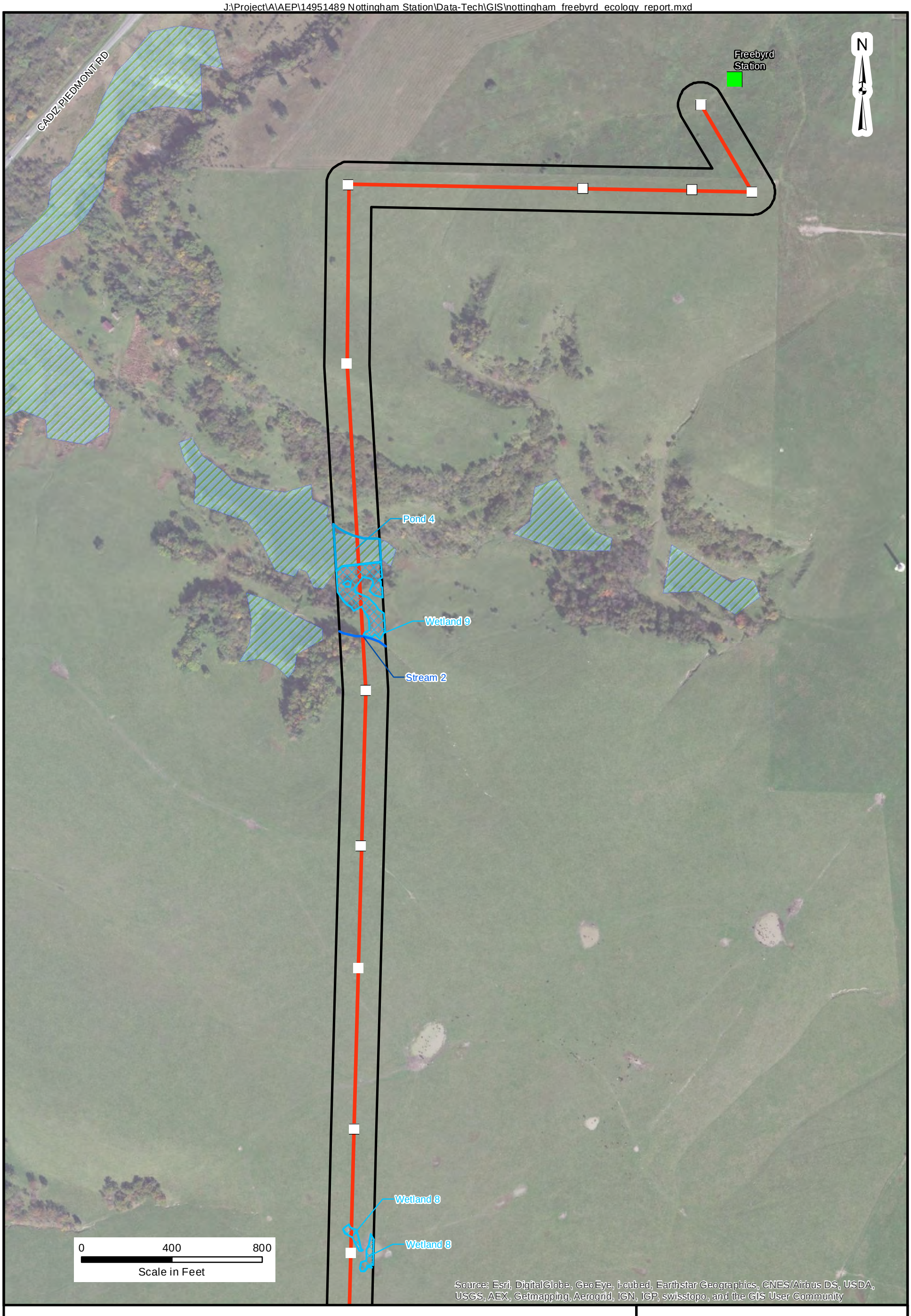

LEGEND:

- Nottingham-Freebyrd 138 kV Line Route
- Structure Location
- Ecological Survey Corridor
- Approximate Nottingham Station Property
- National Wetland Inventory Area
- Stream
- Wetland
- Pond

4
3
2
1

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 4
ECOLOGICAL SURVEY RESULTS

JOB NO. 14951489

URS

ATTACHMENT A

REPRESENTATIVE PHOTOGRAPHS

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP Ohio Transco	Nottingham-Freebyrd 138 kV Project	14951489

PHOTO NO. 1

DATE:

JANUARY 19, 2015

DESCRIPTION:

POND 2

TYPICAL POND ALONG THE ROUTE.

PHOTO NO. 2

DATE:

JANUARY 19, 2015

DESCRIPTION:

WETLAND 2

TYPICAL PEM WETLAND

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP Ohio Transco	Nottingham-Freebyrd 138 kV Project	14951489

PHOTO NO. 3

DATE:

JANUARY 19, 2015

DESCRIPTION:

WETLAND 3

PFO WETLAND

CATEGORY 1

PHOTO NO. 4

DATE:

JANUARY 19, 2015

DESCRIPTION:

STREAM 1

TYPICAL INTERMITTENT STREAM

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP Ohio Transco	Nottingham-Freebyrd 138 kV Project	14951489

Photo No. 1 **Date:** January 19, 2015 **Description:** Pond 2 Typical pond along the route.	

Photo No. 2 **Date:** January 19, 2015 **Description:** Wetland 2 Typical PEM Wetland	

PHOTOGRAPHIC RECORD

Client Name:	Site Location:	Project No.
AEP Ohio Transco	Nottingham-Freebyrd 138 kV Project	14951489

Photo No. 3

Date:

January 19, 2015

Description:

Wetland 3

PFO Wetland

Category 1

Photo No. 4

Date:

January 19, 2015

Description:

Stream 1

Typical intermittent stream

ATTACHMENT B

ORAM WETLAND FORMS

W-BAO11915-1

ORAM v. 5.0 Field Form Quantitative Rating

Site: Nottingham-Freelynd	Rater(s): BAO/BCR/BAE	Date: 1/19/15

Report Name: Wetland 1

Metric 1. Wetland Area (size).

1 (max 6 pts) | 1 (subtotal)

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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

8 (max 14 pts) | 9 (subtotal)

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

7
- [x] 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.

1
- [ ] 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)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

12 (max 30 pts) | 21 (subtotal)

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

4
- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

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

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

1
- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

5
- [ ] None or none apparent (12)
- [x] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [x] dredging
- [x] other Mining (historic)

Metric 4. Habitat Alteration and Development.

7 (max 20 pts) | 28 (subtotal)

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

2
- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

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

2
- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

3
- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [ ] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [x] dredging
- [ ] farming
- [ ] nutrient enrichment

29 subtotal this page

Site: Nottingham-Freelyard	Rater(s): BAD/DCR/BAE	Date: 01/19/15

W-BAD011915-1

Report Name: Wetland 1

28 subtotal first page

0 max 10 pts | 28 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)

4 max 20 pts | 32 subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities. Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [2] Emergent
- [1] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion. Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [X] 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)
- [X] Absent (1)

6d. Microtopography. Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

CAT 2

32 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

W-BAO-011915-02

Site: AEP Nottingham	Rater(s): BAO, BCR, BAE	Date: 01/19/15

Metric 1. Wetland Area (size). Report Name: Wetland 2

2 | 2 (max 6 pts | subtotal)

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)
- [x] 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)

Metric 2. Upland buffers and surrounding land use.

1 | 3 (max 14 pts | subtotal)

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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

10 | 13 (max 30 pts | subtotal)

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

- [ ] High pH groundwater (5)
- [x] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

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)

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)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [x] ditch
- [x] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other Former mining

Metric 4. Habitat Alteration and Development.

7.5 | 20.5 (max 20 pts | subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [x] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [x] 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)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [x] dredging
- [ ] farming
- [ ] nutrient enrichment

20.5 subtotal this page

Site: AEP NOTTINGHAM	Rater(s): BAO, BCR, BAE	Date: 01/15/15

W-BAD011915-02

Report Name: Wetland 2

20.5 subtotal first page

0 | 20.5 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)

1 | 21.5 max 20 pts | subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

1

6b. horizontal (plan view) Interspersion
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [O] None (0)

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)
- [X] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

-1

6d. Microtopography.
Score all present using 0 to 3 scale.

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

1

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
2	Moderate 1 to <4ha (2.47 to
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

CAT 1

21.5 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

W-BAO-011915-03

Site: ACP NOTTINGHAM	Rater(s): BAO, BAC, BCR	Date: 01/19/15

Report Name: Wetland 3

Metric 1. Wetland Area (size).

0 (max 6 pts) | 0 (subtotal)

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)
- 0
- [ ] 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)
- [x] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

3 (max 14 pts) | 3 (subtotal)

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)
- 1
- [x] 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)
- 2
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

12 (max 30 pts) | 15 (subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- 1
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

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

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

- [ ] >0.7 (27.6in) (3)
- 1
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- 7
- [x] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [x] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [ ] other_____

Metric 4. Habitat Alteration and Development.

10.5 (max 20 pts) | 25.5 (subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- 2
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- 4
- [x] 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)
- 4.5
- [x] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

25.5 subtotal this page

W-BAO-011915-03

Site: AEP NOTTINGHAM	Rater(s): BAO BAE, BCR	Date: 01/19/15

Report Name: Wetland 3

25.5
subtotal first page

Metric 5. Special Wetlands.

0 (max 10 pts) | 25.5 (subtotal)

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)

Metric 6. Plant communities, interspersion, microtopography.

4 (max 20 pts) | 29.5 (subtotal)

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub (3)
- [2] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [1] Moderate (3)
- [ ] Moderately low (2)
- [X] 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)
- [X] Sparse 5-25% cover (-1) (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

CAT 1

29.5 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

W-BAO-011915-04

Site: AEP NOTTINGHAM	Rater(s): BAO, BCR, BMS	Date: 011915

Report Name: Wetland 4

Metric 1. Wetland Area (size).

2 | 2 (max 6 pts | subtotal)

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)
- [x] 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)

Metric 2. Upland buffers and surrounding land use.

2 | 4 (max 14 pts | subtotal)

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)
- 0 [ ] NARROW. Buffers average 10m to <25m (32ft to <82ft) around wetland perimeter (1)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

13 | 17 (max 30 pts | subtotal)

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

- [ ] High pH groundwater (5)
- 4 [x] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

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)

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

- [ ] >0.7 (27.6in) (3)
- 1 [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

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

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

- 7 [ ] None or none apparent (12)
- [x] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other Former mining

Metric 4. Habitat Alteration and Development.

4 | 23 (max 20 pts | subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- 1 [ ] Recovering (2)
- [x] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- 2 [ ] Fair (3)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- 3 [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [x] mowing
- [x] grazing
- [x] clearcutting
- [ ] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

23 (subtotal this page)

W-BAO D11915-04

Site: ACP Nottingham	Rater(s): BAO, BAE, BCR	Date: 01/19/15

Report Name: Wetland 4

23 subtotal first page

Metric 5. Special Wetlands.

0 max 10 pts | 23 subtotal

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)

Metric 6. Plant communities, interspersion, microtopography.

1 max 20 pts | 24 subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

1
- [ ] Aquatic bed
- [x] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.
Select only one.

0
- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [x] None (0)

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

1
- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [x] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

0
- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

CAT 1

24 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

W-BAD011915-5

Site: Nottingham - Freeburgh | **Rater(s):** BAD/BCR/BAE | **Date:** 01/19/15

Report Name: Wetland 5

Metric 1. Wetland Area (size).

1 (max 6 pts) | 1 (subtotal)

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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

2 (max 14 pts) | 3 (subtotal)

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

0

- [ ] 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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

2

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

Metric 3. Hydrology.

15 (max 30 pts) | 18 (subtotal)

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

4

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

1

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

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

1

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2)
- [x] <0.4m (<15.7in) (1)

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

2

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

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

7

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other Mining (Historic)

Metric 4. Habitat Alteration and Development.

9 (max 20 pts) | 27 (subtotal)

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

2.5

- [ ] None or none apparent (4)
- [x] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

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

2

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [ ] Fair (3)
- [x] Poor to fair (2)
- [ ] Poor (1)

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

4.5

- [ ] None or none apparent (9)
- [x] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [x] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [x] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [x] nutrient enrichment

27 subtotal this page

Site: Nottingham-Freelyrd	Rater(s): BAO/BCR/BAE	Date: 01/19/15

W-OA0011915-5

Report Name: Wetland 5

27 subtotal first page

0 max 10 pts | 27 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)

2 max 20 pts | 29 subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion.
Select only one

- [ ] High (5)
- [ ] Moderately high(4)
- [1] Moderate (3)
- [ ] Moderately low (2)
- [X] 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)
- [0] Sparse 5-25% cover (-1)
- [X] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [0] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

Cat 1

29 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

Site: AEP Nottingham- Freeboard	Rater(s): BAD/BAE/BCR	Date: 1-20-15

W-BAO-012015-1
Report Name: Wetland 6

Metric 1. Wetland Area (size).

max 6 pts: 2 | subtotal: 2

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)
- [x] 0.3 to <3 acres (0.12 to <1.2ha) (2pts) — 2
- [ ] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

max 14 pts: 1 | subtotal: 3

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) — 0
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

max 30 pts: 10 | subtotal: 13

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1) — 1
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

3b. Connectivity. Score all that apply.

- [ ] 100 year floodplain (1)
- [ ] Between stream/lake and other human use (1) — 0
- [ ] Part of wetland/upland (e.g. forest), complex (1)
- [ ] Part of riparian or upland corridor (1)

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

- [ ] >0.7 (27.6in) (3)
- [ ] 0.4 to 0.7m (15.7 to 27.6in) (2) — 1
- [x] <0.4m (<15.7in) (1)

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

- [ ] Semi- to permanently inundated/saturated (4)
- [ ] Regularly inundated/saturated (3) — 1
- [ ] Seasonally inundated (2)
- [x] Seasonally saturated in upper 30cm (12in) (1)

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

- [ ] None or none apparent (12)
- [x] Recovered (7) — 7
- [ ] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other Former mining

Metric 4. Habitat Alteration and Development.

max 20 pts: 4 | subtotal: 17

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

- [ ] None or none apparent (4)
- [ ] Recovered (3) — 1
- [ ] Recovering (2)
- [x] Recent or no recovery (1)

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4) — 2
- [ ] Fair (3)
- [x] 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) — 1
- [x] Recent or no recovery (1)

Check all disturbances observed

- [x] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [x] woody debris removal
- [ ] toxic pollutants
- [x] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [x] sedimentation
- [ ] dredging
- [ ] farming
- [x] nutrient enrichment

17 subtotal this page

Site: Nottingham-Freeboard	Rater(s): BAO/BAE/BCR	Date: 1-20-15

W-ba0012015-1

Report Name: Wetland 6

17
subtotal first page

Metric 5. Special Wetlands.

0	17
max 10 pts	subtotal

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)

Metric 6. Plant communities, interspersion, microtopography.

1	18
max 20 pts	subtotal

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

1

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [ ] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion
Select only one.

0

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [ ] Low (1)
- [X] None (0)

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

0

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [X] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

0

- [ ] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

Cat 1

18 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

W-BAO-D12015-02

Site: MED NOTTINGHAM	Rater(s): BAO, BMC, DCM	Date: 01/20/15

Report Name: Wetland 7

Metric 1. Wetland Area (size).

1 | 1 (max 6 pts | subtotal)

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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

2 | 3 (max 14 pts | subtotal)

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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

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

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

Metric 3. Hydrology.

7 | 10 (max 30 pts | subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

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)

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)
- [x] <0.4m (<15.7in) (1)

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

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

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other Former mining

Metric 4. Habitat Alteration and Development.

8 | 18 (max 20 pts | subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] 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)
- [x] 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)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

Check all disturbances observed

- [ ] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

18 (subtotal this page)

W.BAO 012015-02

Site: ALP NOTTINGHAM	Rater(s): BAO, BAE, BCR	Date: 01/20/15

Report Name: Wetland 7

18 subtotal first page

0 | 18 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)

3 | 21 max 20 pts | subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] 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)
- [0] 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)
- [1] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [ ] Vegetated hummucks/tussucks
- [1] Coarse woody debris >15cm (6in)
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

CAT 1

21 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

V-Bay-012015-03

Site: AEP Nottingham	Rater(s): BAO, BAE, BCR	Date: 01/20/15

Report Name: Wetland 8

Metric 1. Wetland Area (size).

1 / 1 (max 6 pts / subtotal)

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)
- [x] 0.1 to <0.3 acres (0.04 to <0.12ha) (1 pt)
- [ ] <0.1 acres (0.04ha) (0 pts)

Metric 2. Upland buffers and surrounding land use.

3 / 4 (max 14 pts / subtotal)

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)
- [x] VERY NARROW. Buffers average <10m (<32ft) around wetland perimeter (0)

1

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)
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

2

Metric 3. Hydrology.

6 / 10 (max 30 pts / subtotal)

3a. Sources of Water. Score all that apply

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [ ] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

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)

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)
- [x] <0.4m (<15.7in) (1)

1

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

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

/

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

- [ ] None or none apparent (12)
- [ ] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

3

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [ ] filling/grading
- [x] road bed/RR track
- [ ] dredging
- [x] other Forestry Mulch

Metric 4. Habitat Alteration and Development.

9 / 18 (max 20 pts / subtotal)

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

- [ ] None or none apparent (4)
- [ ] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

2

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

3

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

- [ ] None or none apparent (9)
- [ ] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

3

Check all disturbances observed

- [ ] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

18 subtotal this page

W-BAO-01001-0-3

Site: AEP Nottingham	Rater(s): BAO, BAE, BCR	Date: 01/20/15

Report Name: Wetland 8

18 subtotal first page

0 max 10 pts | 18 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)

3 max 20 pts | 21 subtotal

Metric 6. Plant communities, interspersion, microtopography.

6a. Wetland Vegetation Communities.
Score all present using 0 to 3 scale.

- [ ] Aquatic bed
- [1] Emergent
- [ ] Shrub
- [1] Forest
- [ ] Mudflats
- [ ] Open water
- [ ] Other_____

6b. horizontal (plan view) Interspersion
Select only one.

- [ ] High (5)
- [ ] Moderately high(4)
- [ ] Moderate (3)
- [ ] Moderately low (2)
- [0] Low (1)
- [X] None (0)

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

- [ ] Extensive >75% cover (-5)
- [ ] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [0] [X] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [2] Coarse woody debris >15cm (6in)
- [ ] 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
2	Moderate 1 to <4ha (2.47 to
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

Cont.

21 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

ORAM v. 5.0 Field Form Quantitative Rating

W-BAD01

Site: AEP Nottingham	Rater(s): BAO, BAE, BCR	Date: 01/20/15

Report Name: Wetland 9

Metric 1. Wetland Area (size).

2 | 2 (max 6 pts | subtotal)

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)
- [x] 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)

Metric 2. Upland buffers and surrounding land use.

14 | 6 (max 14 pts | subtotal)

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)
- [x] 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)
- [x] MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- [x] HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

Metric 3. Hydrology.

14 | 20 (max 30 pts | subtotal)

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

- [ ] High pH groundwater (5)
- [ ] Other groundwater (3)
- [x] Precipitation (1)
- [x] Seasonal/Intermittent surface water (3)
- [ ] Perennial surface water (lake or stream) (5)

4

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)
- [x] Part of riparian or upland corridor (1)

1

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)
- [x] <0.4m (<15.7in) (1)

1

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

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

3

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

- [ ] None or none apparent (12)
- [x] Recovered (7)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

5

Check all disturbances observed

- [x] ditch
- [ ] tile
- [ ] dike
- [ ] weir
- [ ] stormwater input
- [ ] point source (nonstormwater)
- [x] filling/grading
- [ ] road bed/RR track
- [ ] dredging
- [x] other Powerline corridor

Metric 4. Habitat Alteration and Development.

10 | 30 (max 20 pts | subtotal)

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

- [ ] None or none apparent (4)
- [x] Recovered (3)
- [x] Recovering (2)
- [ ] Recent or no recovery (1)

2.5

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

- [ ] Excellent (7)
- [ ] Very good (6)
- [ ] Good (5)
- [ ] Moderately good (4)
- [x] Fair (3)
- [ ] Poor to fair (2)
- [ ] Poor (1)

3

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

- [ ] None or none apparent (9)
- [x] Recovered (6)
- [x] Recovering (3)
- [ ] Recent or no recovery (1)

4.5

Check all disturbances observed

- [ ] mowing
- [x] grazing
- [x] clearcutting
- [x] selective cutting
- [ ] woody debris removal
- [ ] toxic pollutants
- [ ] shrub/sapling removal
- [ ] herbaceous/aquatic bed removal
- [ ] sedimentation
- [ ] dredging
- [ ] farming
- [ ] nutrient enrichment

30 (subtotal this page)

Site: AEP Nottingham	Rater(s): BAO, BAE, BCR	Date: 01/29/15

30
subtotal first page

0 | 30 max 10 pts / subtotal

Metric 5. Special Wetlands.

Report Name: Wetland 9

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)

2 | 32 max 20 pts / subtotal

Metric 6. Plant communities, interspersion, 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)
- [X] 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)
- [X] Moderate 25-75% cover (-3)
- [ ] Sparse 5-25% cover (-1)
- [ ] Nearly absent <5% cover (0)
- [ ] Absent (1)

6d. Microtopography.
Score all present using 0 to 3 scale.

- [1] Vegetated hummucks/tussucks
- [ ] Coarse woody debris >15cm (6in)
- [ ] Standing dead >25cm (10in) dbh
- [2] 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
2	Moderate 1 to <4ha (2.47 to
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

CAT 2

32 **GRAND TOTAL (max 100 pts)**

Refer to the most recent ORAM Score Calibration Report for the scoring breakpoints between wetland categories at the following address: http://www.epa.state.oh.us/dsw/401/401.html

last revised 1 February 2001 jjm

Summary: Letter of Notification for the Nottingham-Freebyrd 138 Kv Electric Transmission Line Project electronically filed by Mr. Ajay K Kumar on behalf of AEP Ohio Transmission Company