



Copyright © 2013 National Geographic Society, I-cubed.

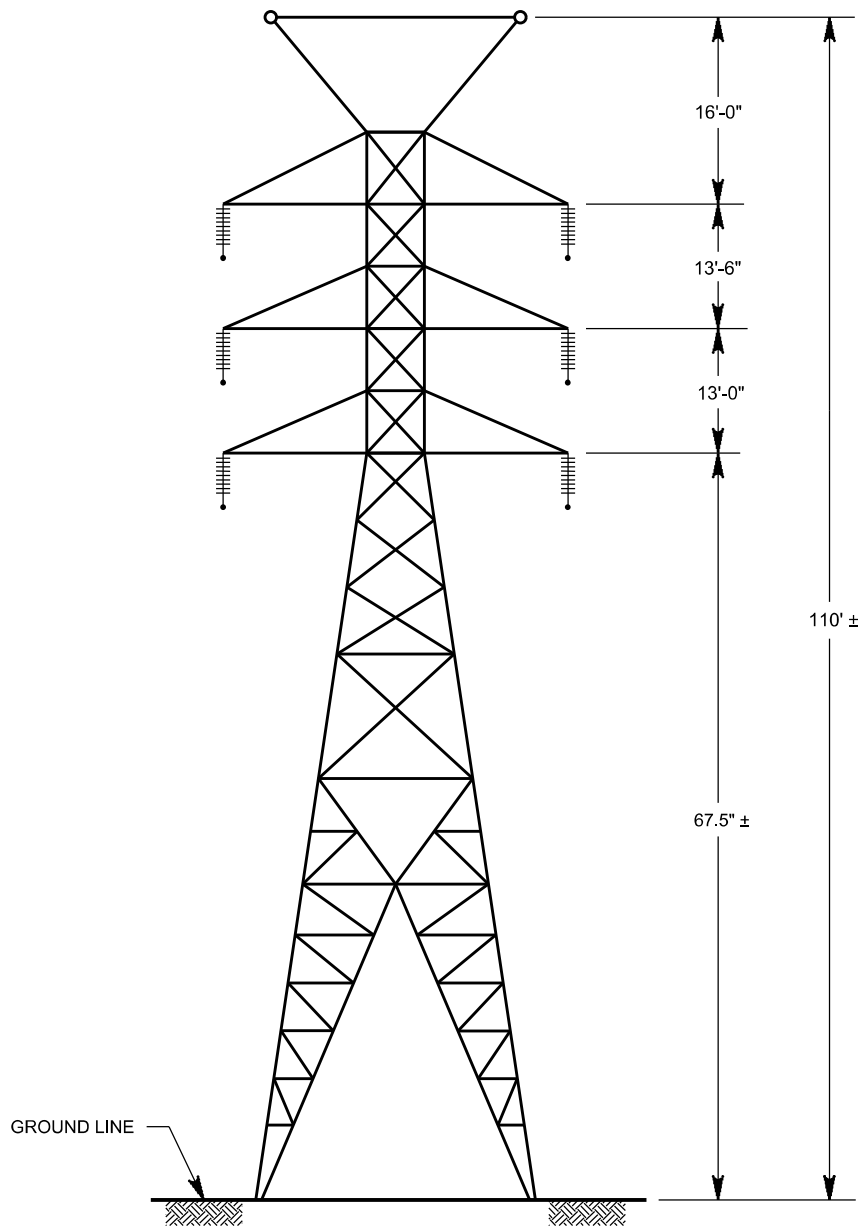
LEGEND:
 Nottingham-Freebyrd 138 kV Line Route
 Approximate Nottingham Switch Property



**OHIO
TRANSMISSION
COMPANY**

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 1
OVERVIEW MAP



NOTTINGHAM - FREEBYRD 138kV LINE



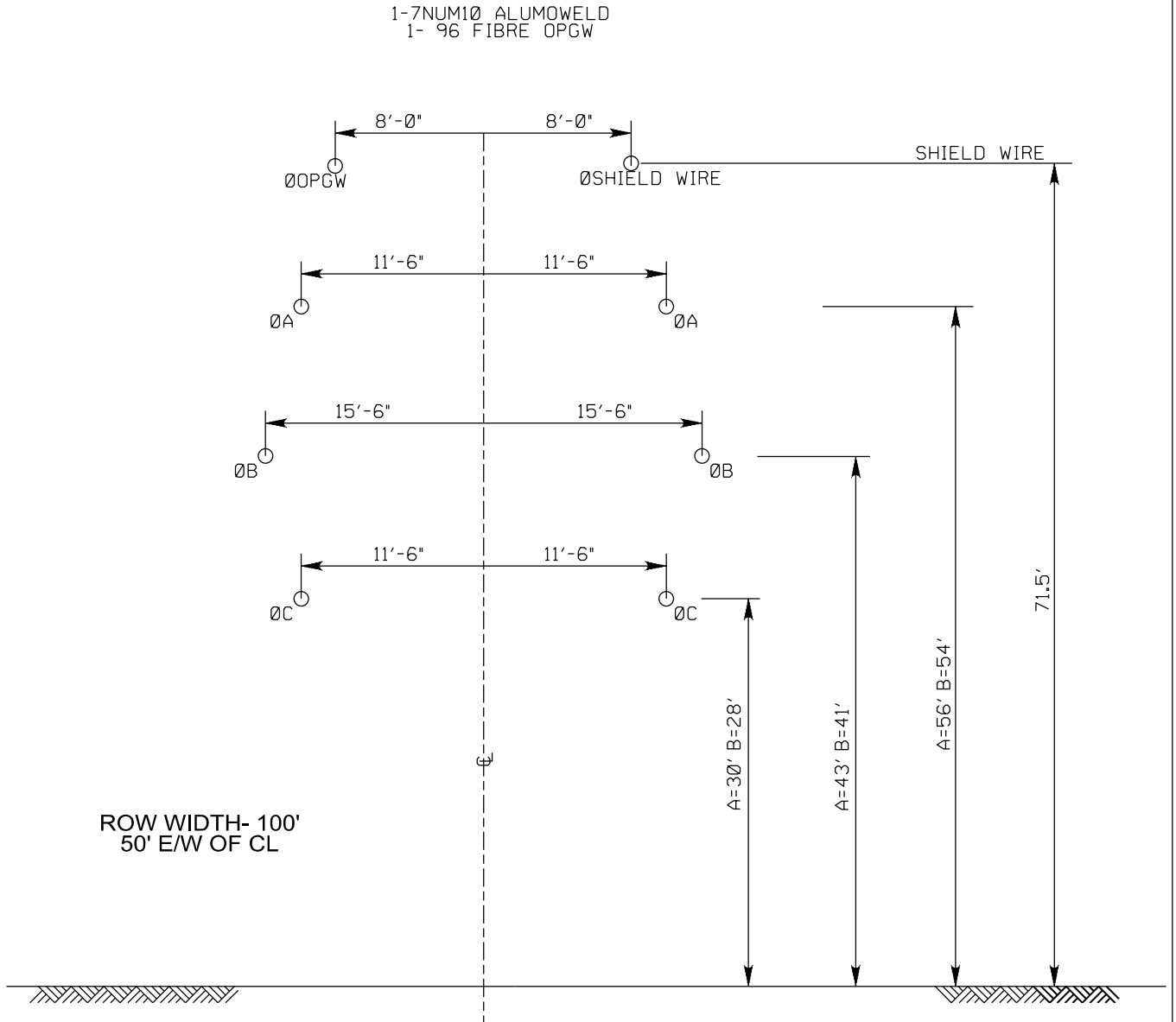
PROPOSED LINE TOWER
SUSPENSION CONFIGURATION

NOT TO SCALE

FIGURE 2

(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)



NOT TO SCALE

11/3/2014- KCI

APPENDIX A

SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW REPORT

NOTTINGHAM-FREEBYRD 138KV TRANSMISSION LINE ADJUSTMENT

SOCIOECONOMIC, LAND USE, AND AGRICULTURAL DISTRICT REVIEW REPORT

Prepared for:

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



Prepared by:

AECOM
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60423051

October 2015

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FIGURES (follow text)

Number

FIGURE 1 LAND USE MAP

1.0 PROJECT DESCRIPTION

This document presents the socioeconomic, land use, and agricultural district review conducted by AECOM Corporation (AECOM) 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 AECOM 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 1,190-acre study area. In conjunction with ecological field surveys for the Project, AECOM 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 2015.

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

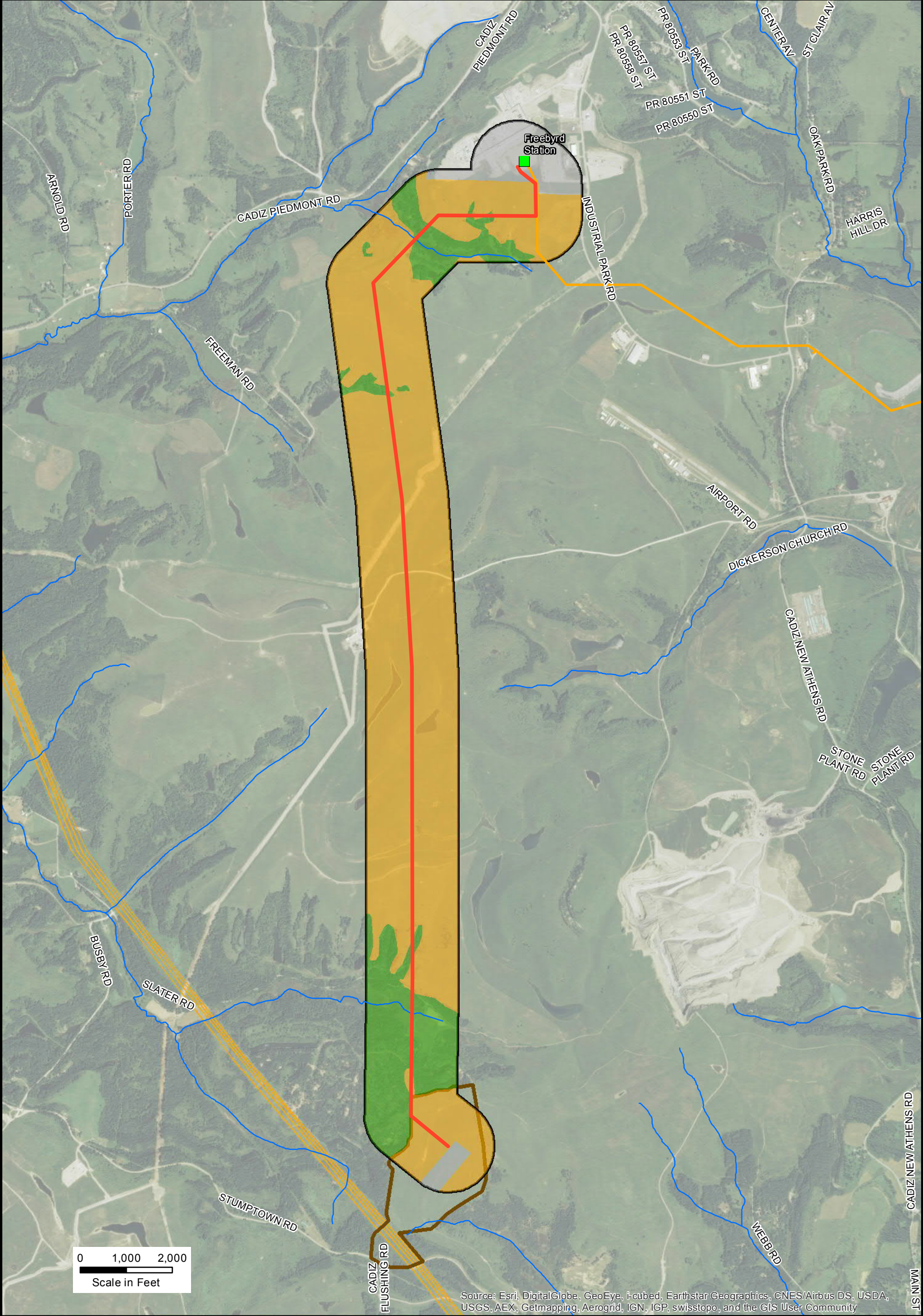
The Project is located entirely within Athens and Cadiz Townships of Harrison County. No homes were identified within 1,000 feet of the Project. No planned residential developments within the study area were identified.

4.0 AGRICULTURAL DISTRICT LAND

AECOM contacted the Harrison County Assessor's office 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.



LEGEND:

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

0 1,000 2,000
Scale in Feet

N

Harrison County

OHIO TRANSMISSION COMPANY

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 1
LAND USE MAP

JOB NO. 60423051

AECOM

APPENDIX B

PUBLIC OFFICIALS LETTERS SERVING COPY OF LETTER OF NOTIFICATION

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-EL-BLN

Dear Ms. Thomposon:

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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-EL-BLN

Dear Commissioners:

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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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

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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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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

October 28, 2015

Athens Township Trustee
Ms. Elizabeth A. Deaton
177 Main Street North
New Athens, OH 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-EL-BLN

Dear Ms. Deaton:

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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-EL-BLN

Dear Mr. Butler:

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.

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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

October 28, 2015

Athens Township Trustee
Mr. Michael T. Saffell
103 South Main Street
New Athens, OH 43981

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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.

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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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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.

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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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-EL-BLN

Dear Mr. 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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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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

October 28, 2015

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

RE: Letter of Notification
Nottingham-Freebyrd 138kV Transmission Line Adjustment
Case Number: 15-1756-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 Adjustment, Public Utilities Commission of Ohio Case Number 15-1756-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 April 2016.

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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

NOTTINGHAM-FREEBYRD 138KV TRANSMISSION LINE ADJUSTMENT

THREATENED AND ENDANGERED SPECIES SURVEY REPORT

Prepared for:

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



Prepared by:



525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60423051

October 2015

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ATTACHMENT

Number

ATTACHMENT A	AGENCY RESPONSES
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1.0 PROJECT DESCRIPTION

This document presents the results of the threatened and endangered species assessment conducted by AECOM for AEP Ohio Transmission Company'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 AECOM 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, AECOM submitted a request to Ohio Department of Natural Resources (ODNR) Biodiversity Database for geographical information system (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. AECOM 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

AECOM field ecologists conducted a designated species habitat survey in conjunction with the stream and wetland field surveys in October 2015. AECOM 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, AECOM sent a second letter to ODNR soliciting specific comments regarding the Project on October 23, 2014. AECOM 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	<i>Myotis sodalis</i>	Endangered
Black bear	<i>AECOMus americanus</i>	Endangered
Birds		
Upland sandpiper	<i>Bartramia longicauda</i>	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, AECOM 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	<i>Myotis sodalis</i>	Endangered	Harrison
Northern long-eared bat	<i>Myotis septentrionalis</i>	Threatened	Harrison

*Ohio County Distribution of Federally-Listed Threatened, Endangered, Proposed, and Candidate Species, Revised October 2015.

Accessed October 16, 2015: <http://www.fws.gov/midwest/endangered//lists/pdf/OhioCtyListOct2015.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 threatened 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.

Bald eagle: The bald eagle has been delisted as a designated species at the federal and state levels. However, it remains monitored due to the recent delisting. Coordination with the USFWS and ODNR did not identify the bald eagle as a concern in the project vicinity. However, the OPSB staff report recommending approval of the original Nottingham-Freebyrd alignment included a condition of the certificate:

The Applicant shall contact USFWS to determine if any recorded bald eagle nests are in the project area and have an environmental specialist survey the area to determine if any nests are present. If nests are present, work within 660 feet of a nest or within the direct line of-site of a nest shall be restricted from January 15 through July 31. Existing trees should be preserved as much as possible to preserve the character of the habitat.

AEP intends to contract a qualified biologist to conduct a bald eagle nest survey within 660 feet or within the line of sight of the proposed project alignment once leaves fall for the season allowing for increased visibility. AEP intends to comply with the seasonal construction restrictions if a bald eagle nest site is identified.

4.0 SUMMARY

AEP retained AECOM 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 AECOM field biologists in October 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.

ATTACHMENT A

AGENCY RESPONSES



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Ohio Division of Wildlife

Scott Zody, Chief
2045 Morse Rd., Bldg. G
Columbus, OH 43229-6693

September 12, 2014

Aaron Geckle
URS
525 Vine Street, Suite 1800
Cincinnati, OH 45202

Dear Mr. Geckle

I have reviewed the Natural Heritage Database for the Nottingham-Freebyrd Project in Jefferson County based on the provided shape file. We have no records for rare species and managed areas in your project area. We do have records for managed areas. I have attached a shape file for managed areas that include state wildlife areas, nature preserves, parks and forests, national wildlife refuges, county metro parks, as well as sites owned by non-profit groups. Please be aware that the managed areas layer may not be complete.

Our inventory program has not completely surveyed Ohio and relies on information supplied by many individuals and organizations. Therefore, a lack of records for any particular area is not a statement that rare species or unique features are absent from that area. Although we inventory all types of plant communities, we only maintain records on the highest quality areas.

This letter only represents a review of rare species and natural features data within the Ohio Natural Heritage Database. It does not fulfill coordination under the National Environmental Policy Act (NEPA) or the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S. C. 661 et seq.) and does not supersede or replace the regulatory authority of any local, state or federal agency nor relieve the applicant of the obligation to comply with any local, state or federal laws or regulations.

Please contact me at 614-265-6452 if I can be of further assistance.

Sincerely,

A handwritten signature in blue ink that reads "Greg Schneider".

Greg Schneider, Administrator
Ohio Natural Heritage Program



Ohio Department of Natural Resources

JOHN R. KASICH, GOVERNOR

JAMES ZEHRINGER, DIRECTOR

Office of Real Estate

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

December 10, 2014

Aaron Geckle
URS Corporation
525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Re: 14-843; AEP Nottingham Station and Nottingham-Freebyrd 138 kV transmission line projects

Project: AEP is proposing to construct a new electric substation and approximately five miles of electric transmission line

Location: The project is located in Cadiz and Athens Township, Harrison County, Ohio.

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

Natural Heritage Database: A review of the Natural Heritage Database produced the following comments.

The Natural Heritage Database has no records within a one mile radius of the project. We are unaware of any unique ecological sites, geologic features, animal assemblages, scenic rivers, state wildlife areas, state nature preserves, state parks or national parks, state or national forests or national wildlife refuges within the project area. The review was performed on the project area you specified in your request as well as an additional one mile radius. Records searched date from 1980 to present.

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

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

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

The project is within the range of the Indiana bat (*Myotis sodalis*), a state and federally endangered species. The following species of trees have relatively high value as potential Indiana bat roost trees: Shagbark hickory (*Carya ovata*), Shellbark hickory (*Carya laciniosa*), Bitternut hickory (*Carya cordiformis*), Black ash (*Fraxinus nigra*), Green ash (*Fraxinus pennsylvanica*), White ash (*Fraxinus americana*), Shingle oak (*Quercus imbricaria*), Northern red oak (*Quercus rubra*), Slippery elm (*Ulmus rubra*), American elm (*Ulmus americana*), Eastern cottonwood (*Populus deltoides*), Silver maple (*Acer saccharinum*), Sassafras (*Sassafras albidum*), Post oak (*Quercus stellata*), and White oak (*Quercus alba*). Indiana bat habitat consists of suitable trees that include dead and dying trees with exfoliating bark, crevices, or cavities in upland areas or riparian corridors and living trees with exfoliating bark, cavities, or hollow areas formed from broken branches or tops. If suitable trees occur within the project area, the DOW recommends that these trees be conserved. If suitable habitat occurs on the project area and trees must be cut, the DOW recommends cutting occur between October 1 and March 31. If suitable trees must be cut during the summer months, the DOW recommends a net survey be conducted between June 1 and August 15, prior to cutting. Net surveys should incorporate either nine net nights per square 0.5 kilometer of project area, or four net nights per kilometer for linear projects. If no tree removal is proposed, the project is not likely to impact this species.

The project is within the range of the black bear (*Ursus americanus*), a state endangered species. Due to the mobility of this species, the project is not likely to impact this species.

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

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

ODNR appreciates the opportunity to provide these comments. Please contact John Kessler at (614) 265-6621 if you have questions about these comments or need additional information.

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

Geckle, Aaron

From: susan_zimmermann@fws.gov on behalf of Ohio, FW3 <ohio@fws.gov>
Sent: Friday, November 14, 2014 9:24 AM
To: Geckle, Aaron
Subject: Nottingham Station and Nottingham-Freebyrd 138kV Electrical Transmission Line, Harrison Co.

TAILS# 03E15000-2015-TA-0167

Dear Mr. Geckle,

We have received your recent correspondence regarding potential impacts to federally listed species in the vicinity of the above referenced project. There are no federal wilderness areas, wildlife refuges or designated critical habitat within the vicinity of the project area.

LISTED, PROPOSED, AND CANDIDATE SPECIES COMMENTS: 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, we do not anticipate adverse effects to any federally endangered, threatened, proposed or candidate species. Should the project design change, or during the term of this action, additional information on listed or proposed species or their critical habitat become available, or if new information reveals effects of the action that were not previously considered, consultation with the Service should be initiated to assess any potential impacts.

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

If you have additional questions or require further assistance with your project proposal, please contact me at the following number (614) 416-8993. In addition, you can find more information on natural resources in Ohio, and a county list of federally threatened and endangered species in Ohio, by visiting our homepage at: <http://www.fws.gov/midwest/ohio>.

Sincerely,



Angela Boyer
Acting Field Supervisor

APPENDIX D

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

NOTTINGHAM-FREEBYRD 138KV TRANSMISSION LINE ADJUSTMENT

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:



525 Vine Street, Suite 1800
Cincinnati, Ohio 45202

Project #: 60423051

October 2015

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1.0 PROJECT DESCRIPTION

This document presents the results of the wetland delineation and stream assessment conducted by AECOM for AEP Ohio Transmission Company'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 AECOM 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

AECOM reviewed maps and Geographical Information System (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 Ohio Department of Natural Resources (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. AECOM also noted land use during the field reconnaissance conducted on October 7, 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 U.S. Geological Survey (USGS) topographic maps.

As requested by AEP, AECOM 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, AECOM 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.

AECOM 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 Global Positioning System (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 AECOM is unaware and has not had the opportunity to review. Changes in the condition of a property may occur with time due to natural processes or human impacts at the project site or on adjacent properties. Changes in applicable standards may also occur as a result of legislation or the expansion of knowledge over time. Accordingly, the findings of this report may become invalidated, wholly or in part, by changes beyond the control of AECOM.

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, AECOM 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

AECOM 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 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.

Wetland Delineation: AECOM identified eleven wetlands within the Project ecological survey area, ranging in size from 0.01 to 1.10 acre, as shown in Table 1. All but two of the wetlands are of the same wetland habitat type: palustrine emergent (PEM). Wetland 3 is palustrine scrub-shrub (PSS)/PEM and Wetland 4 is PEM/PSS. Ten of the wetlands are Category 1 wetlands with ORAM scores ranging from 16 to 25.5. The remaining wetland is a Category 2 wetland, with an ORAM score of 35. 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. Representative 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	PEM	NC	22	Category 1	0.07
Wetland 2	PEM	NC	20	Category 1	0.02
Wetland 3	PSS/PEM	NC	25.5	Category 1	0.34
Wetland 4	PEM/PSS	NC	16	Category 1	0.60
Wetland 5	PEM	NC	35	Category 2	1.10
Wetland 6	PEM	NC	19.5	Category 1	0.80
Wetland 7	PEM	NC	18	Category 1	0.32
Wetland 8	PEM	NC	17.5	Category 1	0.04
Wetland 9/9A	PEM	NC	16.5	Category 1	0.01
Wetland 10	PEM	NC	21.5	Category 1	0.01
Wetland 11	PEM	NC	24	Category 1	0.23
Total: 11	PEM: 9, PSS/PEM: 1, PEM/PSS: 1				3.59

Cowardin Wetland Type^a : PEM = palustrine emergent, PSS = palustrine scrub-shrub

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

3.3 Stream and River Crossings

AECOM identified four streams totaling 1,137 linear feet within the study corridor which are summarized in Table 2. Two of the streams were classified as perennial, with one intermittent stream and one ephemeral stream. Stream 1 is not crossed by the centerline, although it flows into a wetland that is crossed by the centerline (Wetland 3). The remaining three streams are crossed by the centerline. The locations of the streams identified within the study corridor are shown on Figures 1 through 4. Representative 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	Perennial	276	No
Stream 2	Unnamed tributary to South Fork	Perennial	258	Yes
Stream 3	Unnamed tributary to South Fork	Intermittent	415	Yes
Stream 4	Unnamed tributary to Brushy Fork	Ephemeral	188	Yes
Total: 4			1,137	3 Crossed

AECOM 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

Three ponds were identified within the Project survey area, with approximately 1.39 acres identified within the survey corridor. Pond 3 is adjacent to Wetland 10. All of the ponds appear to be associated with former mining operations in the area. Representative color photographs were taken of ponds during the field survey and a representative photograph is 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.

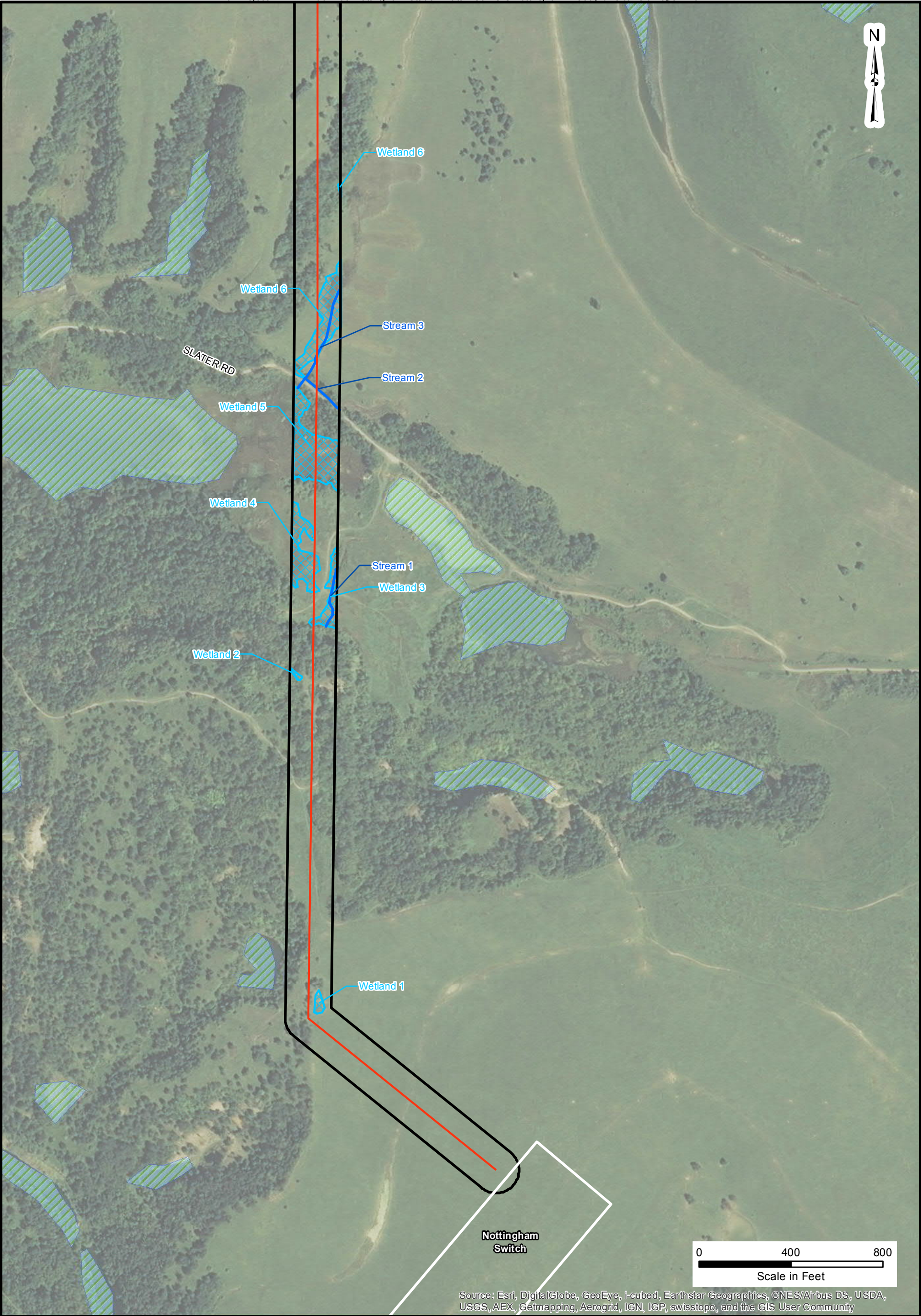
During the field survey, eight PEM Category 1 wetlands totaling 1.55 acres, one PEM Category 2 wetland totaling 1.10 acres, one PSS/PEM Category 1 wetland totaling 0.34 acre, and one PEM/PSS Category 1 wetland totaling 0.60 acre were identified. Four streams (two perennial, one intermittent, and one ephemeral) were identified totaling 1,137 linear feet within the survey corridor. Impacts to the wetlands and streams are expected to be minimized through avoidance or the use of timber matting for construction access.

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.



LEGEND:

- | | |
|-----------------------------------|--------------------|
| — Nottingham-Freebyrd 138 kV Line | — Assessed Stream |
| ▭ Ecological Survey Corridor | ▭ Assessed Wetland |
| ▨ National Wetland Inventory Area | ▭ Pond |

4
3
2
1



Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 1
ECOLOGICAL FIELD MAPS



LEGEND:

- | | |
|-----------------------------------|--------------------|
| — Nottingham-Freebyrd 138 kV Line | — Assessed Stream |
| ▬ Ecological Survey Corridor | ▨ Assessed Wetland |
| ▨ National Wetland Inventory Area | ▭ Pond |

4
3
2
1



**OHIO
TRANSMISSION
COMPANY**

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 2
ECOLOGICAL FIELD MAPS

JOB NO. 60423051





LEGEND:

- | | |
|---------------------------------|------------------|
| Nottingham-Freebyrd 138 kV Line | Assessed Stream |
| Ecological Survey Corridor | Assessed Wetland |
| National Wetland Inventory Area | Pond |

4
3
2
1

AEP OHIO TRANSMISSION COMPANY Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 3
ECOLOGICAL FIELD MAPS

JOB NO. 60423051

AECOM



LEGEND:

- Nottingham-Freebyrd 138 kV Line
- Ecological Survey Corridor
- National Wetland Inventory Area
- Assessed Stream
- Assessed Wetland
- Pond

4
3
2
1



OHIO
TRANSMISSION
COMPANY

Nottingham-Freebyrd
138 kV Transmission Line

FIGURE 4
ECOLOGICAL FIELD MAPS

ATTACHMENT A

REPRESENTATIVE PHOTOGRAPHS

Client Name: AEP Ohio Transco	Site Location: Nottingham-Freebyrd 138 kV Project	Project No. 60423051
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Photo No. 1	
Date: October 7, 2015	
Description: Pond 1 Typical pond along the route.	

Photo No. 2	
Date: October 7, 2015	
Description: Wetland 1 Typical PEM Wetland	

Client Name: AEP Ohio Transco	Site Location: Nottingham-Freebyrd 138 kV Project	Project No. 60423051
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Photo No. 3	
Date: October 7, 2015	
Description: Wetland 3 PSS/PEM Wetland Category 1	

Photo No. 4	
Date: October 7, 2015	
Description: Stream 1 Perennial stream	

ATTACHMENT B

ORAM WETLAND FORMS

Site: <i>Nottingham - Freelynd</i>	Rater(s):	Date:
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<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">0</div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">0</div>
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

W-ndt-11-15-5
Wetland 1

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div>
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">9</div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">10</div>
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">7</div>	<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">17</div>
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

<div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">17</div>
subtotal this page

Site: Nottingham - Leeklynd

Rater(s): Mdt/BCE

Date: 10/07/15

17

subtotal first page

0

17

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5

22

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☒ Emergent
☐ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

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

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/tussocks
☐ 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

22

GRAND TOTAL (max 100 pts)

Site: Nottingham-Freelynd	Rater(s): RBT/BCR	Date: 10/07/15
----------------------------------	--------------------------	-----------------------

6	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Wetland 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)
- ☐ 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)

3	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

4	12
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input checked="" type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

4	16
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing <input type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants	<input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input checked="" type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

16
subtotal this page

Site: Nottingham Freshwater

Rater(s): Mdt/BCR

Date: 10/07/15

16

subtotal first page

0

16

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)

4

20

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
☐ 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

20

GRAND TOTAL (max 100 pts)

Site: Nottingham - Freelybred	Rater(s): Mat/BCR	Date: 10/07/15
--------------------------------------	--------------------------	-----------------------

2	2
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Wetland 3

Select one size class and assign score.

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

1	3
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

14	17
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|--|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Mining flow</u> |

5.5	22.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input checked="" type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

22.5
subtotal this page

Site: Nottingham-Freelbyrd

Rater(s): mdt/bcr

Date: 10/07/15

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)

3

25.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
☐ Emergent
☒ Shrub
☐ Forest
☐ Mudflats
☐ Open water
☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
☐ 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

25.5

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

Site: <u>Nottingham-Freelynd</u>	Rater(s): <u>MOT/BLR</u>	Date:
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<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">2</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">2</div>
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

W-MOT-100715-3

Wetland 4

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">2</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">4</div>
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">10</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">14</div>
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>mining</u> |

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">6</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">20</div>
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px;">20</div>
subtotal this page

Site:

Rater(s):

Date:

20

subtotal first page

0

20

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)

4

16

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
☐ 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 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

16

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-Ad-1 10075-3

Wetland 4

Cat 1

Site: Nottingham-Freelynd	Rater(s): MDT/BCR	Date:
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6	6
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Wetland 5

Select one size class and assign score.

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

3	9
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

15	24
max 30 pts.	subtotal

Metric 3. Hydrology.

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

- 6
- ☐ High pH groundwater (5)
 - ☐ Other groundwater (3)
 - ☒ Precipitation (1)
 - ☐ Seasonal/Intermittent surface water (3)
 - ☒ Perennial surface water (lake or stream) (5)

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

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

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

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

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)
 - ☐ Part of riparian or upland corridor (1)

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

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

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input checked="" type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> stormwater input | <input type="checkbox"/> other _____ |

10	34
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

- 2.5
- ☐ None or none apparent (4)
 - ☒ Recovered (3)
 - ☒ Recovering (2)
 - ☐ Recent or no recovery (1)

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

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

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

- 4.5
- ☐ None or none apparent (9)
 - ☒ Recovered (6)
 - ☒ Recovering (3)
 - ☐ Recent or no recovery (1)

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input checked="" type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

34
subtotal this page

Site:

Rater(s):

Date:

34

subtotal first page

0

34

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

35

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. Horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/tussocks
☐ 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

35

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

Site: Nottingham-Freelord	Rater(s): MOT/BCR	Date: 10/07/15
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3	3
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Wetland 6

Select one size class and assign score.

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

2	5
max 14 pts.	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

12	17
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other _____

5.5	22.5
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants	<input type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input checked="" type="checkbox"/> nutrient enrichment

22.5
subtotal this page

Site:

Rater(s):

Date:

22.5

subtotal first page

0

22.5

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)

-3

19.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersions.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/tussocks
☐ 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

19.5

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

W-MOT-100715-1
Wetland 6

Cat 1

Site: <u>W-620-012015-1</u>	Rater(s): <u>SAO/BAE/BLR</u>	Date: <u>1-20-15</u>
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<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">2</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">2</div>
max 6 pts	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

Report Name: [REDACTED]

Wetland 7

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">1</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">3</div>
max 14 pts	subtotal

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">10</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">13</div>
max 30 pts	subtotal

Metric 3. Hydrology.

3a. Sources of Water. Score all that apply

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<input type="checkbox"/> ditch <input type="checkbox"/> tile <input type="checkbox"/> dike <input type="checkbox"/> weir <input type="checkbox"/> stormwater input	<input type="checkbox"/> point source (nonstormwater) <input checked="" type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input checked="" type="checkbox"/> other <u>road bed/RR track</u>

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">4</div>	<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">17</div>
max 20 pts	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed	
<input checked="" type="checkbox"/> mowing <input checked="" type="checkbox"/> grazing <input checked="" type="checkbox"/> clearcutting <input checked="" type="checkbox"/> selective cutting <input checked="" type="checkbox"/> woody debris removal <input type="checkbox"/> toxic pollutants	<input checked="" type="checkbox"/> shrub/sapling removal <input type="checkbox"/> herbaceous/aquatic bed removal <input type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input checked="" type="checkbox"/> nutrient enrichment

<div style="border: 1px solid black; display: inline-block; width: 40px; height: 40px; line-height: 40px; font-size: 24px; margin: 5px;">17</div>
subtotal this page



1. 2. 3. 4. 5. 6. 7. 8. 9. 10. 11. 12. 13. 14. 15. 16. 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. 29. 30. 31. 32. 33. 34. 35. 36. 37. 38. 39. 40. 41. 42. 43. 44. 45. 46. 47. 48. 49. 50. 51. 52. 53. 54. 55. 56. 57. 58. 59. 60. 61. 62. 63. 64. 65. 66. 67. 68. 69. 70. 71. 72. 73. 74. 75. 76. 77. 78. 79. 80. 81. 82. 83. 84. 85. 86. 87. 88. 89. 90. 91. 92. 93. 94. 95. 96. 97. 98. 99. 100.

Site: Norwich - Freebird

Rater(s): BAO/BAE/BCR

Date: 1-20-15

17

subtotal first page

8

max 10 pts

17

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

max 20 pts

18

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

6b. horizontal (plan view) Interspersions

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☒ 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 |

18

GRAND TOTAL (max 100 pts)



| | | |
|---|----------------------------------|-----------------------------|
| Site: <i>AEP- Nottingham- Freeland</i> | Rater(s): <i>BAD, BAE</i> | Date: <i>10/7/15</i> |
|---|----------------------------------|-----------------------------|

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div> |
| max 6 pts. | subtotal |

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

W-bao-100715-4
Wetland 8

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">3</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">4</div> |
| max 14 pts. | subtotal |

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

| | |
|--|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">10</div> |
| max 30 pts. | subtotal |

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

| Check all disturbances observed | |
|--|---|
| <input type="checkbox"/> ditch
<input type="checkbox"/> tile
<input type="checkbox"/> dike
<input type="checkbox"/> weir
<input type="checkbox"/> stormwater input | <input type="checkbox"/> point source (nonstormwater)
<input checked="" type="checkbox"/> filling/grading
<input type="checkbox"/> road bed/RR track
<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> other <i>former mining</i> |

| | |
|--|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">5.5</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">15.5</div> |
| max 20 pts. | subtotal |

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

| Check all disturbances observed | |
|--|--|
| <input checked="" type="checkbox"/> mowing
<input checked="" type="checkbox"/> grazing
<input checked="" type="checkbox"/> clearcutting
<input checked="" type="checkbox"/> selective cutting
<input type="checkbox"/> woody debris removal
<input type="checkbox"/> toxic pollutants | <input type="checkbox"/> shrub/sapling removal
<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> sedimentation
<input type="checkbox"/> dredging
<input type="checkbox"/> farming
<input type="checkbox"/> nutrient enrichment |

| |
|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">15.5</div> |
| subtotal this page |

Site: AEP NOTTINGHAM - FREEBYRD

Rater(s): BAD, BAE

Date: 10/07/15

155

subtotal first page

0

155

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)

0

17.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
☐ 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 |

17.5

GRAND TOTAL (max 100 pts)

| | | |
|--|----------------------------------|------------------------------|
| Site: <u>AKD Northham - Enchanted</u> | Rater(s): <u>BAD, DAB</u> | Date: <u>10/07/16</u> |
|--|----------------------------------|------------------------------|

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">0</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">0</div> |
| max 6 pts. | subtotal |

Metric 1. Wetland Area (size).

Wetland 9/9A

Select one size class and assign score.

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

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">2</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">2</div> |
| max 14 pts. | subtotal |

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">7</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">9</div> |
| max 30 pts. | subtotal |

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>Volunteer Mowing</u> |

| | |
|--|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">5.5</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">14.5</div> |
| max 20 pts. | subtotal |

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|--|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| |
|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">14.5</div> |
| subtotal this page |

Site:

Rater(s):

BAO/BAE

Date:

10/07/15

LJ-BAO-100715-03

14.5

subtotal first page

0

max 10 pts.

14.5

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.

16.5

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
☐ 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 |

16.5

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

Wetland 9/9A

CAT 1

| | | |
|---|----------------------------------|------------------------------|
| Site: <u>ACP Northham-Fredburg</u> | Rater(s): <u>BAO, BAC</u> | Date: <u>10/07/15</u> |
|---|----------------------------------|------------------------------|

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">1</div> |
| max 6 pts. | subtotal |

Metric 1. Wetland Area (size).

Wetland 10

Select one size class and assign score.

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

| | |
|--|--|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">7</div> |
| max 14 pts. | subtotal |

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

| | |
|---|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">11</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">18</div> |
| max 30 pts. | subtotal |

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|--|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <u>ferrous sulfate</u> |

| | |
|--|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">6.5</div> | <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">24.5</div> |
| max 20 pts. | subtotal |

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|---|---|
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input checked="" type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| |
|---|
| <div style="border: 1px solid black; width: 40px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center; font-size: 24px;">24.5</div> |
| subtotal this page |

Site: ACP NOTTINGHAM-FRECKBIRD

Rater(s): BAO, BAC

Date: 10/07/15

24.5

subtotal first page

0 24.5

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)

Wetland ID

-3 21.5

max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.**6a. Wetland Vegetation Communities.**

Score all present using 0 to 3 scale.

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

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

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☒ Vegetated hummocks/tussocks
☐ 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/

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

| | | |
|------------------------------|--------------------------------|-----------------------|
| Site: <i>ALP- Nottingham</i> | Rater(s): <i>BAO, OAE, BCR</i> | Date: <i>01/21/15</i> |
|------------------------------|--------------------------------|-----------------------|

| | |
|-----------|----------|
| 1 | 1 |
| max 6 pts | subtotal |

Metric 1. Wetland Area (size).

Report Name: Wetland 11

Select one size class and assign score.

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

| | |
|------------|----------|
| 6 | 7 |
| max 14 pts | subtotal |

Metric 2. Upland buffers and surrounding land use.

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

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

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

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

| | |
|------------|----------|
| 8 | 15 |
| max 30 pts | subtotal |

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed

- | | |
|---|--|
| <input type="checkbox"/> ditch | <input type="checkbox"/> point source (nonstormwater) |
| <input type="checkbox"/> tile | <input checked="" type="checkbox"/> filling/grading |
| <input type="checkbox"/> dike | <input type="checkbox"/> road bed/RR track |
| <input type="checkbox"/> weir | <input type="checkbox"/> dredging |
| <input type="checkbox"/> stormwater input | <input checked="" type="checkbox"/> other <i>Previous Mining</i> |

| | |
|------------|----------|
| 7 | 22 |
| max 20 pts | subtotal |

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

- | | |
|--|---|
| <input type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal |
| <input checked="" type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input checked="" type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

| |
|--------------------|
| 22 |
| subtotal this page |

W-BAD0012015-6

22

subtotal first page

0 22

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Report Name: Wetland 11

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 24

max 20 pts

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

- ☐ Aquatic bed
- ☒ Emergent
- ☐ Shrub
- ☐ Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

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

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

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

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☐ 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)

This foregoing document was electronically filed with the Public Utilities

Commission of Ohio Docketing Information System on

11/5/2015 2:02:17 PM

in

Case No(s). 15-1756-EL-BLN

Summary: Letter of Notification Part 2 electronically filed by Mr. Hector Garcia on behalf of AEP Ohio Transmission Company