

Grover Hill Wind, LLC
Case No. 20-417-EL-BGN

Exhibit L
Water Resources Delineation Report
Westwood
April 19, 2021

DICKINSON  WRIGHT_{PLLC}

WATER RESOURCES DELINEATION REPORT

Grover Hill Wind Farm

Paulding County, Ohio

APRIL 2021

PREPARED FOR:



PREPARED BY:

Westwood

Water Resources Delineation Report

Grover Hill Wind Farm

Paulding County, Ohio

Prepared For:

Starwood Energy Group
Alexander Dabeko
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Project Number: 0015695.00

Date: April 19, 2021

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1.0 Introduction

Starwood Energy Group (Starwood) contracted Westwood Professional Services (Westwood) to delineate wetlands and watercourses within the leased parcels in the construction corridor (“Delineation Corridor” or “Corridor”) proposed for the Grover Hill Wind Energy Project (“Project”) located in Paulding County Ohio.

2.0 Purpose

The purpose of this report is to identify and document the location of wetlands and watercourses within the delineation corridor and to assist in wetland permitting if impacts to wetlands and/or watercourses are proposed during the construction of the project. The proposed project is for an up to 150-megawatt (MW) wind energy generating facility.

3.0 General Description and Site Location

The Delineation Corridor covers approximately 2,508 acres and is located in Latty and Blue Creek Townships in Paulding County, Ohio. The nearest communities include Grover Hill situated within the project boundary, Haviland to the west, and Scott to the southwest (**Exhibit 1**). Elevations range from about 705 to 730 feet above mean sea level (MSL). The Site landscape is relatively flat with watercourses and isolated wetlands; landowners use the land primarily for agricultural row crop production. Six named NHD flowlines, Prairie Creek, Dry Creek, Hagerman Creek, Dog Run, Hog Run and Hoaglin Creek, flow through the Delineation Corridor.

4.0 Wetland Delineation and Aerial Photo Review Methodology

4.1 Wetland Delineation Methodology

Westwood used the off-site and on-site wetland determination methods to identify wetlands on the within the Delineation Corridor. First, suspect wetland areas and waters of the U.S. (WOTUS) were identified and plotted using several map and aerial photographic resources with geographic information system (GIS) software. A Westwood environmental scientist then compiled the off-site information on base maps and GPS and conducted an on-site wetland delineation in mid-June and December, 2020. From this investigation, Westwood delineated wetlands and WOTUS within the Delineation Corridor.

Westwood used the U.S. Army Corps of Engineers (USACE) Wetlands Delineation Manual (Environmental Laboratory 1987) and the USACE Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Northcentral-Northeast Region (USACE 2010) for the off-site wetland determination and routine on-site wetland delineation methods to identify and locate wetlands for this report. Westwood also characterized delineated wetlands within the Corridor using the Ohio Rapid Assessment Methods for Wetlands (ORAM) (Mack 2001).

Westwood completed the desktop off-site wetland determination using ArcGIS software and a series of georeferenced feature maps and aerial photographs. Westwood reviewed the USGS Quad map, **Exhibit 1**, an aerial photograph with two-foot LiDAR topography, **Exhibit Set 2**, the County Soil Survey, **Exhibit Set 3**, water resources data including the National Wetlands Inventory (NWI) mapping, National Hydrography Dataset (NHD), and Federal Emergency Management Administration (FEMA) flood maps, **Exhibit Set 4**. Westwood used the off-site wetland determination information to aid in identifying suspect wetland areas to be reviewed in the field, **Exhibit Set 5**. This facilitated additional wetland indicator identification that is difficult to ascertain from field indicators alone, especially in agricultural landscapes (USACE 2010).

Following the off-site wetland determination, Westwood completed a routine on-site wetland delineation in mid-June and December, 2020. A map of the delineated wetlands and WOTUS is included on **Exhibit Set 6**. Westwood investigated suspect wetland areas and collected data samples at areas located on the Site where we observed wetland indicators. Westwood recorded data on standard data forms for the Northcentral-Northeast Region (**Appendix A**).

Data sample locations and watercourse and wetland boundaries were located and collected using a Trimble GeoXH and Geo 7X global positioning system (GPS) device capable of sub-meter accuracy. All GPS points were post-processed using Trimble GPS Pathfinder software and the nearest Corps Correction Station Data. Water features were assigned a naming system represented by a WB (Wetland Basin) or a WC (Watercourse) followed by a number and/or letter.

4.2 Ordinary High Water Mark Determination Methodology

Drainages within the Project Area were considered non-wetland Waters of the U.S. (WOTUS), as they may not exhibit all parameters required for wetlands (i.e. predominance of hydrophytes, hydric soils and jurisdictional hydrology). Accordingly, their boundaries were delineated in the field by documenting their Ordinary High Water Marks (OHWMs), as determined according to the USACE Regulatory Guidance Letter No. 05-05 (U.S. Army Corps of Engineers 2005).

USACE regulations set forth at 33 CFR 328.3(e) defines the OHWM for purposes of Clean Water Act lateral jurisdiction:

The term ordinary high water mark means that line on the shore established by the fluctuations of water and indicated by physical characteristics such as a clear, natural line impressed on the bank, shelving, changes in the character of soil, destruction of terrestrial vegetation, the presence of litter and debris, or other appropriate means that consider the characteristics of the surrounding areas.

USACE Regulatory Guidance Letter No. 05-05 (U.S. Army Corps of Engineers 2005) indicates the following physical characteristics are deemed reasonably reliable, and therefore these characteristics were reviewed in the field when making OHWM determinations for drainages in the Corridor:

- | | |
|---|---|
| • Natural line impressed on the bank | • Shelving |
| • Leaf litter disturbed or washed away | • Destruction of terrestrial vegetation |
| • Presence of litter and debris | • Wracking |
| • Vegetation matted down, bent, or absent | • Sediment sorting |

- Changes in character of soil
- Deposition
- Bed and banks
- Change in plant community
- Scour
- Multiple observed flow events
- Water staining

4.3 Wetland and Watercourse Function and Quality Determination Methodology

Westwood used the ORAM Version 5.0 to assess the function and quality of wetlands. The ORAM categorizes wetlands based on those functions as Category 1, 2 or 3. The level of protection increases as wetland category increases as well as length of the permit process. For full explanation, see the User Manual located at: <http://www.epa.ohio.gov/dsw/401/ecology.aspx>. ORAM datasheets are included in Appendix B.

Watercourses were classified according to the Qualitative Habitat Evaluation Index and Use Assessment Field Sheet (QHEI) (Ohio EPA 2006) when required and the Primary Headwater Habitat Evaluation Form (HHEI) (OEPA 2009). Copies of the appropriate data form for each watercourse delineated are attached in Appendix D.

5.0 RESULTS

5.1 Off-Site Wetland Determination Results

The topography within the Delineation Corridor is relatively flat, only sloping near watercourses. Primary land use of the Site is agricultural with corn and soybean being the recent crops grown. Other Site land uses include rural residences, farmsteads and forested areas around watercourses.

The Delineation Corridor is in the Prairie Creek, Lower Little Auglaize River, and Blue Creek-Auglaize River watersheds. Tributaries of the Auglaize River flow through the Delineation Corridor. See **Exhibit Set 4** for all mapped watercourses within and surrounding the Delineation Corridor.

National Wetland Inventory wetlands mapped within the Delineation Corridor include riverine systems associated with Prairie Creek and West Branch Prairie Creek, isolated freshwater ponds, and forested wetlands in wooded areas along riverine systems (**Exhibit Set 4**). U.S. Fish and Wildlife Service (USFWS) NWI data show 32 wetlands covering approximately 34.1 acres of land within the Delineation Corridor.

The Paulding County, Ohio Soil Survey identifies soils on the Site. The soil survey lists these soils and their hydric rating and area coverage in **Table 5.1**. No fully-hydric soils are located within the Delineation Corridor, while approximately 85.1% of the Site is comprised of predominantly hydric soils, 14.8% of the Site is predominantly non-hydric, and 0.1% of the Site is non-hydric.

An off-site historical aerial photo interpretation and assessment was completed using readily available imagery to identify suspect wetland areas (**Exhibit Set 5**). Westwood used the off-site wetland assessment to assist the field wetland delineation. The earliest reviewed aerial imagery from 1994 to 2017 imagery shows consistent disturbance from agricultural drainage swales and cultivation.

Table 5.1 Hydric Soil Rating by Map Unit

Table - Hydric Rating by Map Unit					
Map unit symbol	Map unit name	Hydric Rating*	Percent Hydric	Acres in AOI**	Percent of AOI
BrB2	Broughton silty clay loam, 2 to 6 percent slopes, eroded	Predominantly Non-hydric	7	0.68	0.03
BrC2	Broughton silty clay loam, 6 to 12 percent slopes, eroded	Predominantly Non-hydric	5	1.26	0.05
BsD3	Broughton silty clay, 12 to 18 percent slopes, severely eroded	Predominantly Non-hydric	5	3.41	0.14
Db	Defiance silty clay loam, occasionally flooded	Predominantly Non-hydric	7	10.47	0.42
Lb	Latty silty clay loam	Predominantly Hydric	90	6.17	0.25
Lc	Latty silty clay, till substratum, 0 to 1 percent slopes	Predominantly Hydric	87	879.03	35.05
NnA	Nappanee loam, 0 to 2 percent slopes	Predominantly Non-hydric	7	2.27	0.09
NpA	Nappanee silty clay loam, 0 to 2 percent slopes	Predominantly Non-hydric	10	224.99	8.97
NpB	Nappanee silty clay loam, 2 to 6 percent slopes	Predominantly Non-hydric	5	8.94	0.36
NpB2	Nappanee silty clay loam, 2 to 6 percent slopes, eroded	Predominantly Non-hydric	5	46.07	1.84
Pc	Paulding clay, 0 to 1 percent slopes	Predominantly Hydric	95	1147.08	45.74
RnA	Roselms loam, 0 to 2 percent slopes	Predominantly Non-hydric	5	4.96	0.20
RoA	Roselms silty clay loam, 0 to 2 percent slopes	Predominantly Non-hydric	3	46.81	1.87
RoB	Roselms silty clay loam, 2 to 6 percent slopes	Predominantly Non-hydric	5	0.44	0.02
RpA	Roselms silty clay, 0 to 2 percent slopes	Predominantly Non-hydric	5	8.22	0.33

Table - Hydric Rating by Map Unit					
Map unit symbol	Map unit name	Hydric Rating*	Percent Hydric	Acres in AOI**	Percent of AOI
RpB2	Roselms silty clay, 2 to 6 percent slopes, eroded	Predominantly Non-hydric	5	4.21	0.17
Sb	Saranac silty clay loam, occasionally flooded	Predominantly Hydric	90	96.73	3.86
StC2	St. Clair silty clay loam, 6 to 12 percent slopes, eroded	Predominantly Non-hydric	3	3.05	0.12
StD2	St. Clair silty clay loam, 12 to 18 percent slopes, eroded	Predominantly Non-hydric	5	0.79	0.03
To	Toledo silty clay, 0 to 1 percent slopes	Predominantly Hydric	93	0.06	0.00
Uc	Udorthents, clayey, hilly	Predominantly Non-hydric	6	6.50	0.26
W	Water	Non-hydric	0	1.80	0.07
Wb	Wabasha silty clay loam, frequently flooded	Predominantly Hydric	90	3.72	0.15
Totals for Area of Interest				2,507.67	100.0%

*Rating: Percent of hydric soil components within the soil map unit

**AOI: Area of Interest—the Delineation Corridor

5.2 Antecedent Precipitation

Antecedent precipitation three-months-prior to the wetland delineation field work was calculated using the June 17, 2020 dates of the wetland delineation. The antecedent precipitation for these three month periods were considered normal during the wetland delineation dates. **Table 5.2** constitutes the Precipitation Documentation Worksheet. Precipitation data and **normal** precipitation averages were obtained from the AgACIS WETS Station in Paulding, Ohio.

Table 5.2a. Precipitation Documentation Worksheet*			
Site visit 6/17/2020			
values are in inches	first prior month: May 2020	second prior month: April 2020	third prior month: March 2020
estimated precipitation total for this location:	4.74	2.47	4.23
there is a 30% chance this location will have less than:	2.84	2.51	1.90
there is a 30% chance this location will have more than:	4.41	3.90	3.23
type of month: dry normal wet	Wet	Dry	Wet
monthly score	3 * 3 = 9	2 * 1 = 2	1 * 3 = 3
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	14 (Normal)		

Table 5.2a. Precipitation Documentation Worksheet*			
Site visit 12/15/2020			
values are in inches	first prior month: November 2020	second prior month: October 2020	third prior month: September 2020
estimated precipitation total for this location:	2.93	4.58	1.12
there is a 30% chance this location will have less than:	1.85	1.63	1.73
there is a 30% chance this location will have more than:	3.50	2.97	3.61
type of month: dry normal wet	normal	Wet	Dry
monthly score	3 * 2 = 6	2 * 3 = 6	1 * 1 = 1
multi-month score: 6 to 9 (dry) 10 to 14 (normal) 15 to 18 (wet)	13 (Normal)		

5.3 On-Site Wetland Delineation Results

Within the Delineation Corridor, 35 wetlands were delineated. Wetland characteristics are summarized in the Wetland Summary Table in **Appendix C** with photographs in **Appendix D**. The description of dominant vegetation reflects the overall vegetative community of the wetland which may not be the vegetation observed at the sample point.

5.4 On-Site Watercourses Delineation Results

Westwood delineated 11 watercourses within the Delineation Corridor. Watercourse characteristics are summarized in the Watercourse Summary Table in **Appendix F** with photographs in **Appendix G**.

5.5 Wetland Functions and Values Analysis

All wetlands delineated within the Delineation Corridor were assigned an ORAM rating. No wetlands scored the highest rating of Category 3. Nine wetlands were assigned a Category 2 status. The remaining twenty three wetlands were assigned the Category 1 status. Refer to the table in **Appendix C** for the ORAM scoring summary chart of the wetlands delineated, and **Appendix B** for each wetland's ORAM datasheets.

6.0 CONCLUSIONS

Westwood identified and delineated 35 wetlands and 11 watercourses within the Delineation Corridor.

Please contact Westwood if you have questions regarding this report. No grading, excavation, draining, blocking or diverting water from this site should begin without appropriate permits from regulatory agencies. Severe penalties may be incurred if violation of wetland protection law occurs.

Regulatory contact information:

State of Ohio:

Ohio EPA
Northwest District Office
347 N. Dunbridge Road
Bowling Green, Ohio 43402
Phone: [\(419\) 352-8461](tel:4193528461)

Federal Agency:

U.S. Army Corps of Engineers
Buffalo District Regulatory Branch
1776 Niagara St, Buffalo
New York 14207
Phone (716) 879-4330
<https://www.lrb.usace.army.mil/Missions/Regulatory.aspx>

7.0 Certification

I certify that, to the best of my knowledge and belief, the wetland delineation completed for this Site is consistent with current wetland delineation practices and guidelines. I have the specific qualifications, education, training, and experience to complete wetland delineations and determinations in accordance with federal and state requirements.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES

A handwritten signature in black ink, reading "Matthew Vollbrecht". The signature is fluid and cursive, with the first name "Matthew" and last name "Vollbrecht" clearly legible.

Matthew Vollbrecht

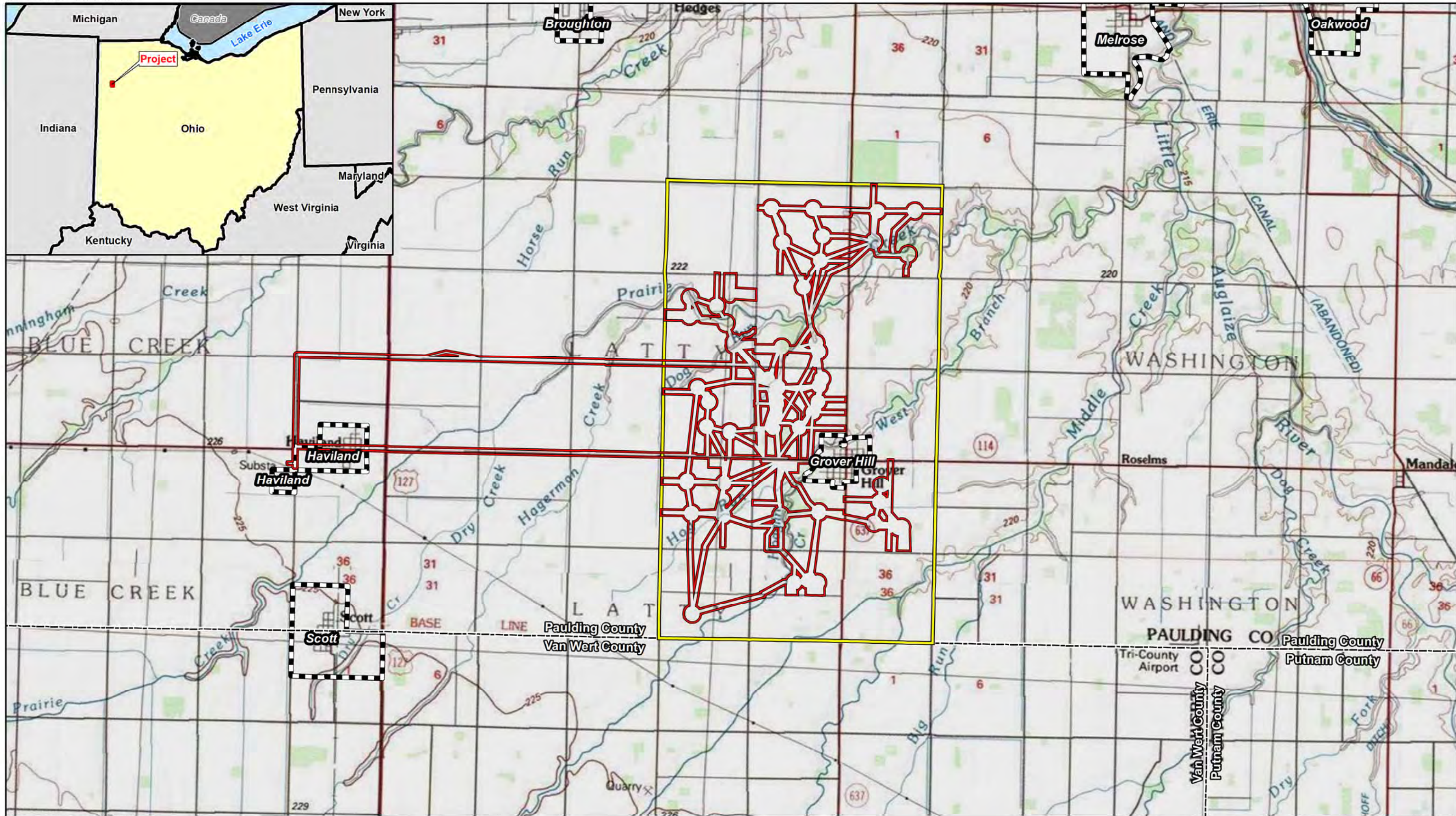
Environmental Project Manager

Professional Wetland Scientist (PWS) No. 2115

MN Certified Wetland Delineator No.1101





8.0 LITERATURE CITED

- Cowardin, L.M. , V.M. Carter , F.C. Golet , and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service, Biological Services Program, Washington, DC, USA. FWS/OBS-79/31. 103 pp.
- Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1, U.S. Army Engineer Waterways Experiment Station, Vicksburg, MS.
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- Mack, John J. 2001. Ohio Rapid Assessment Method for Wetlands, Manual for Using Version 5.0. Ohio EPA Technical Bulletin Wetland/2001-1-1. Ohio Environmental Protection Agency, Division of Surface Water, 401 Wetland Ecology Unit, Columbus Ohio.
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- U.S. Army Corps of Engineers. 2005. Regulatory Guidance Letter No. 05-05: Ordinary High Water Mark Identification. 7 December 2005.
<http://www.saw.usace.army.mil/wetlands/Library/RGL/rgl05-05.pdf>.
- U.S. Army Corps of Engineers. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Midwest region (Version 2.0)*, ed. J. S. Wakeley, R. W. Lichvar, and C. V. Noble. ERDC/EL TR-10-20. Vicksburg, MS: U.S. Army Engineer Research and Development Center.
http://www.usace.army.mil/CECW/Documents/cecwo/reg/midwest_regsupV2.pdf
- United States Department of Agriculture, Natural Resources Conservation Service, 2010. Field Indicators of Hydric Soils in the United States, Version 7.0. C.M. Vasilas, G.W. Hurt, and C.V. Noble (eds.). USDA NRCS, in cooperation with the National Technical Committee for Hydric Soils.



Data Source(s): Westwood (2021); ESRI WMS
USGS Topography Basemap (Accessed 2020);
U.S. Census Bureau (2017).

Legend

- | | |
|--|--|
|  Project Boundary |  County Boundary |
|  Delineation Corridor |  Municipal Boundary |



0 1 Miles

Grover Hill Wind Project

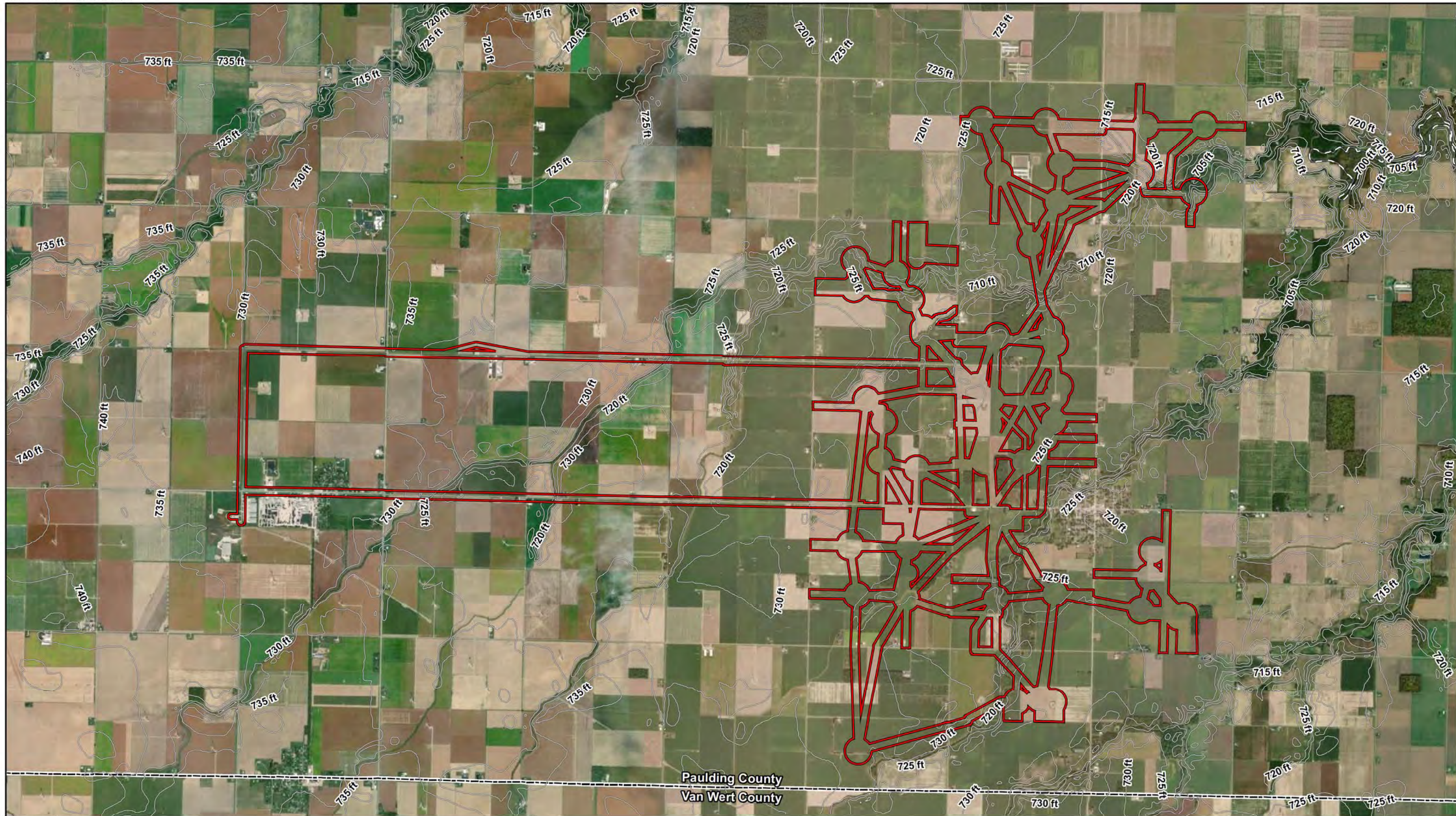
Paulding County, Ohio

Project Location and
USGS Topography

EXHIBIT 1





Westwood

Toll Free (888) 937-5150 westwoodps.com
Westwood Professional Services, Inc.



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

Legend

- | | | | |
|---|----------------------|--|--------------|
|  | Delineation Corridor |  | 2ft Contour |
|  | County Boundary |  | 10ft Contour |

Westwood

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Westwood Professional Services, Inc.



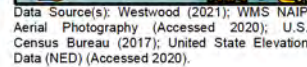
0  3,400 Feet

Grover Hill Wind Project

Paulding County, Ohio

LiDAR Contours

EXHIBIT 2



10

County Boundary

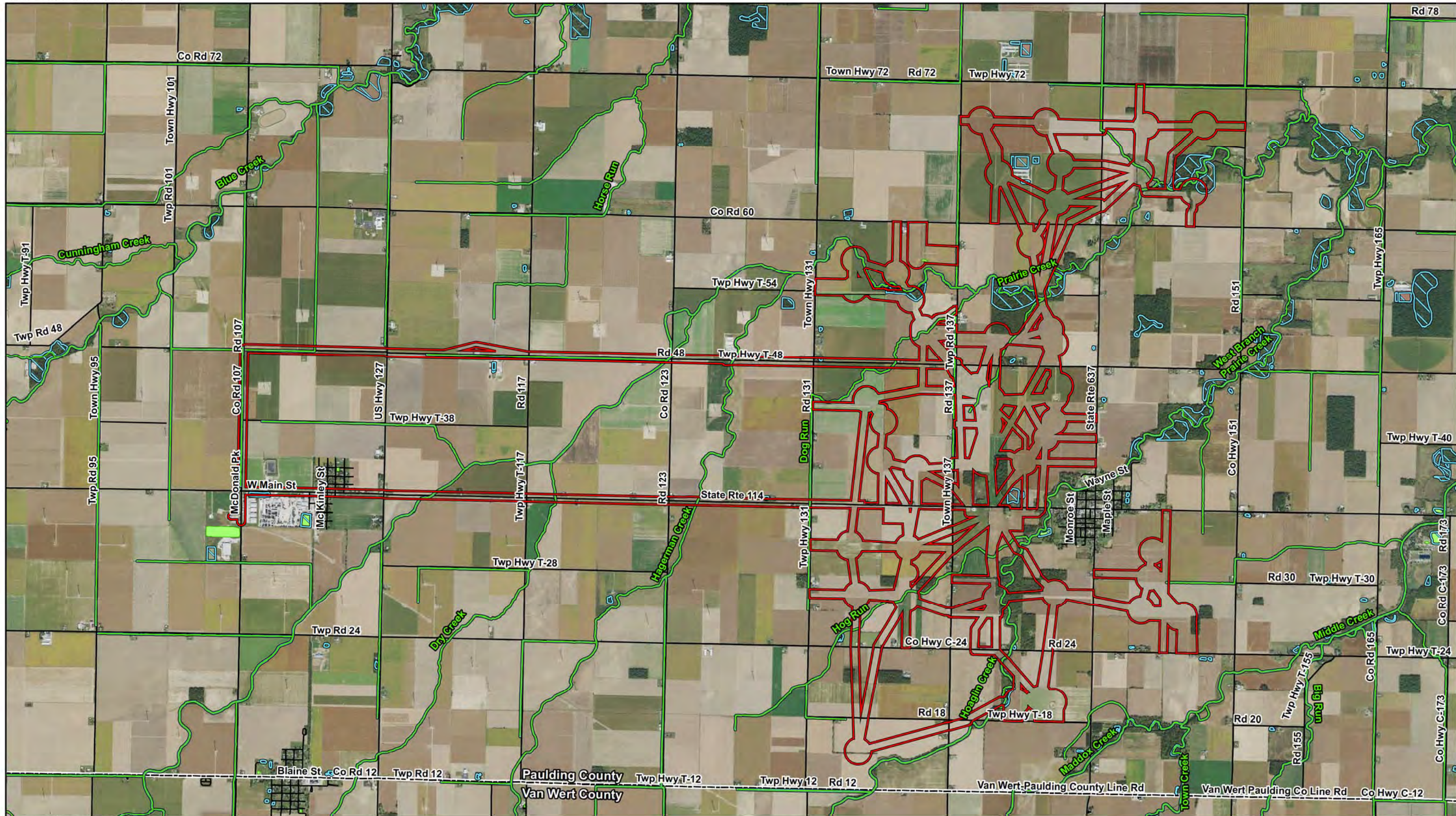


All Hydric/Predominantly Hydric Soil



Paulding County, Ohio

EXHIBIT 3



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); U.S. Fish and Wildlife Service (2013); Ducks Unlimited (2013); FEMA (2016); USGS NHD Dataset (2013).

Westwood

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Westwood Professional Services, Inc.

Legend

- | | | | | | |
|--|----------------------|--|---------------|--|---------------------|
| | Delineation Corridor | | NWI Wetland | | 100-Year Floodplain |
| | County Boundary | | NHD Flowline | | 500-Year Floodplain |
| | Road | | NHD Waterbody | | |



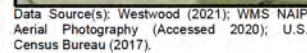
0 3,400 Feet

Grover Hill Wind Project

Paulding County, Ohio

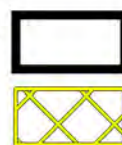
Water Resources

EXHIBIT 4



10

County Boundary



Desktop Delineated Wetland



0 3,400 Feet

Paulding County, Ohio

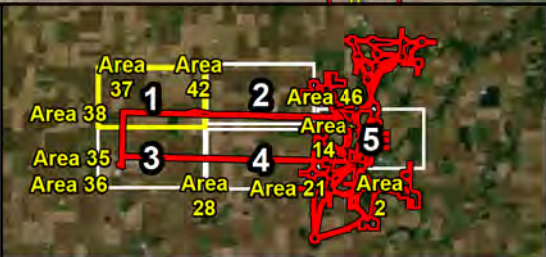
Desktop Delineated Wetlands

EXHIBIT 5 - Index






Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017).

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Legend

-  Delineation Corridor
-  Desktop Delineated Wetland
-  County Boundary



Grover Hill Wind Project

Paulding County, Ohio



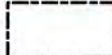
Desktop Delineated Wetlands



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017).

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Legend

-  Delineation Corridor
-  Desktop Delineated Wetland
-  County Boundary



0 800 Feet

Grover Hill Wind Project

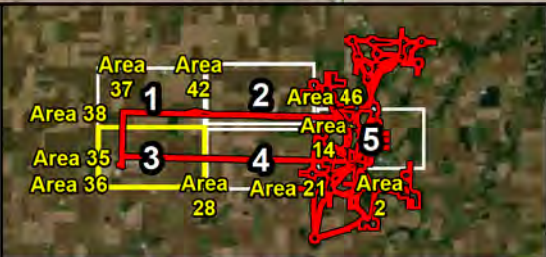
Paulding County, Ohio

Desktop Delineated Wetlands



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017).

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Legend

- Delineation Corridor
- Desktop Delineated Wetland
- County Boundary



Grover Hill Wind Project

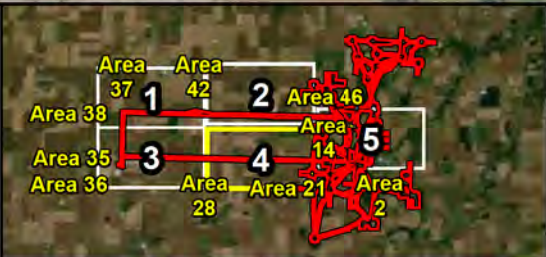
Paulding County, Ohio

Desktop Delineated Wetlands






Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017).

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Legend

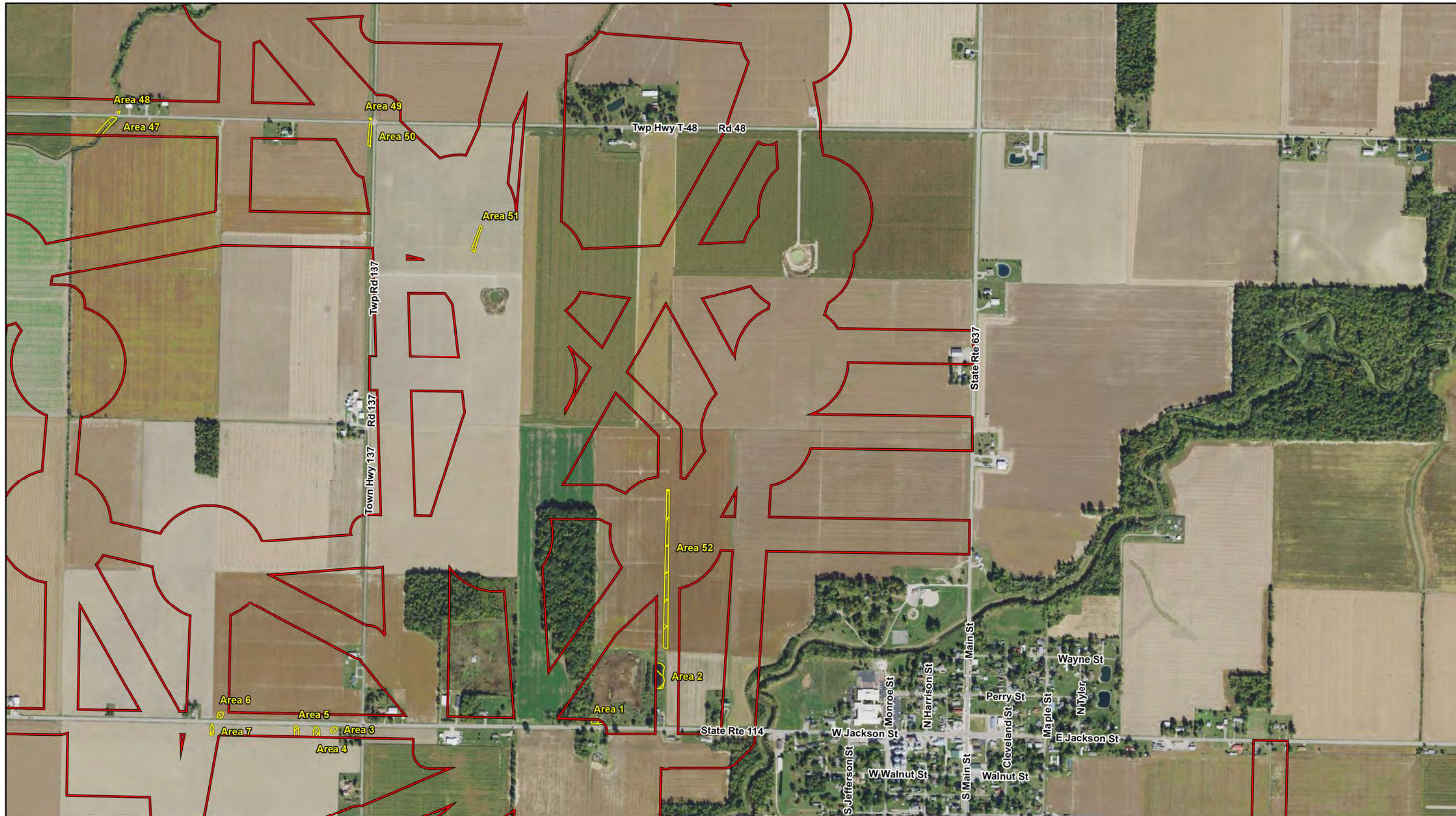
-  Delineation Corridor
-  Desktop Delineated Wetland
-  County Boundary



Grover Hill Wind Project

Paulding County, Ohio

Desktop Delineated Wetlands



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017).

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Legend

- Delineation Corridor
- Desktop Delineated Wetland
- County Boundary

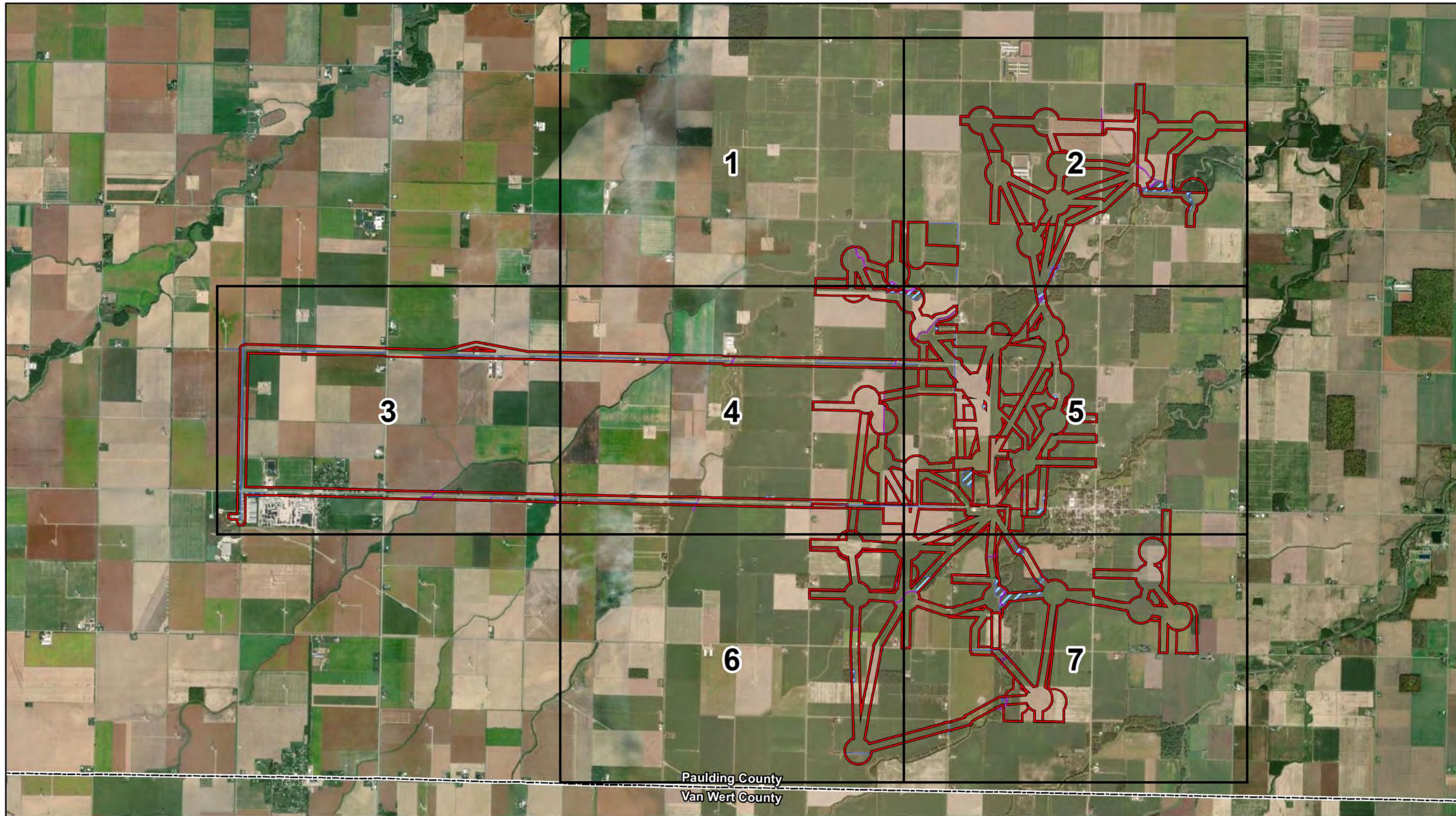


0 800 Feet

Grover Hill Wind Project






Paulding County, Ohio

Desktop Delineated Wetlands



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

Legend

- | | |
|--|--|
|  Delineation Corridor |  Delineated Watercourse |
|  County Boundary |  Delineated Wetland |
|  Mapbook Page | |

Westwood

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Westwood Professional Services, Inc.



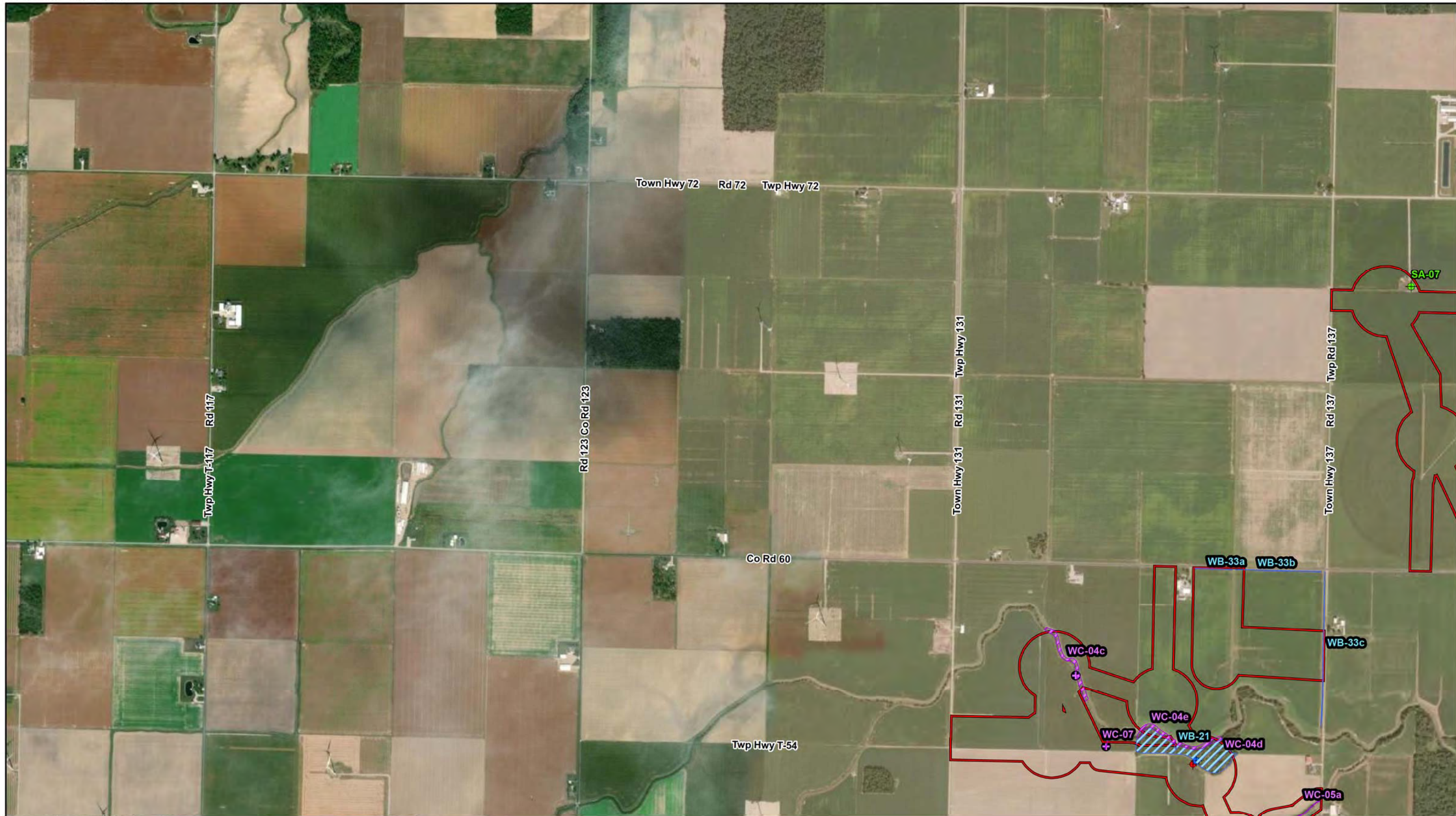
0 3,400 Feet

Grover Hill Wind Project

Paulding County, Ohio

Field Delineated Wetlands
and Watercourses

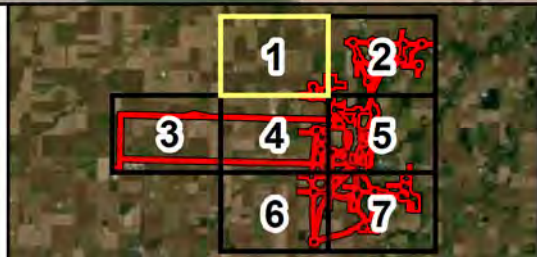
EXHIBIT 6 - Index



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

Westwood

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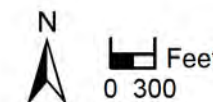
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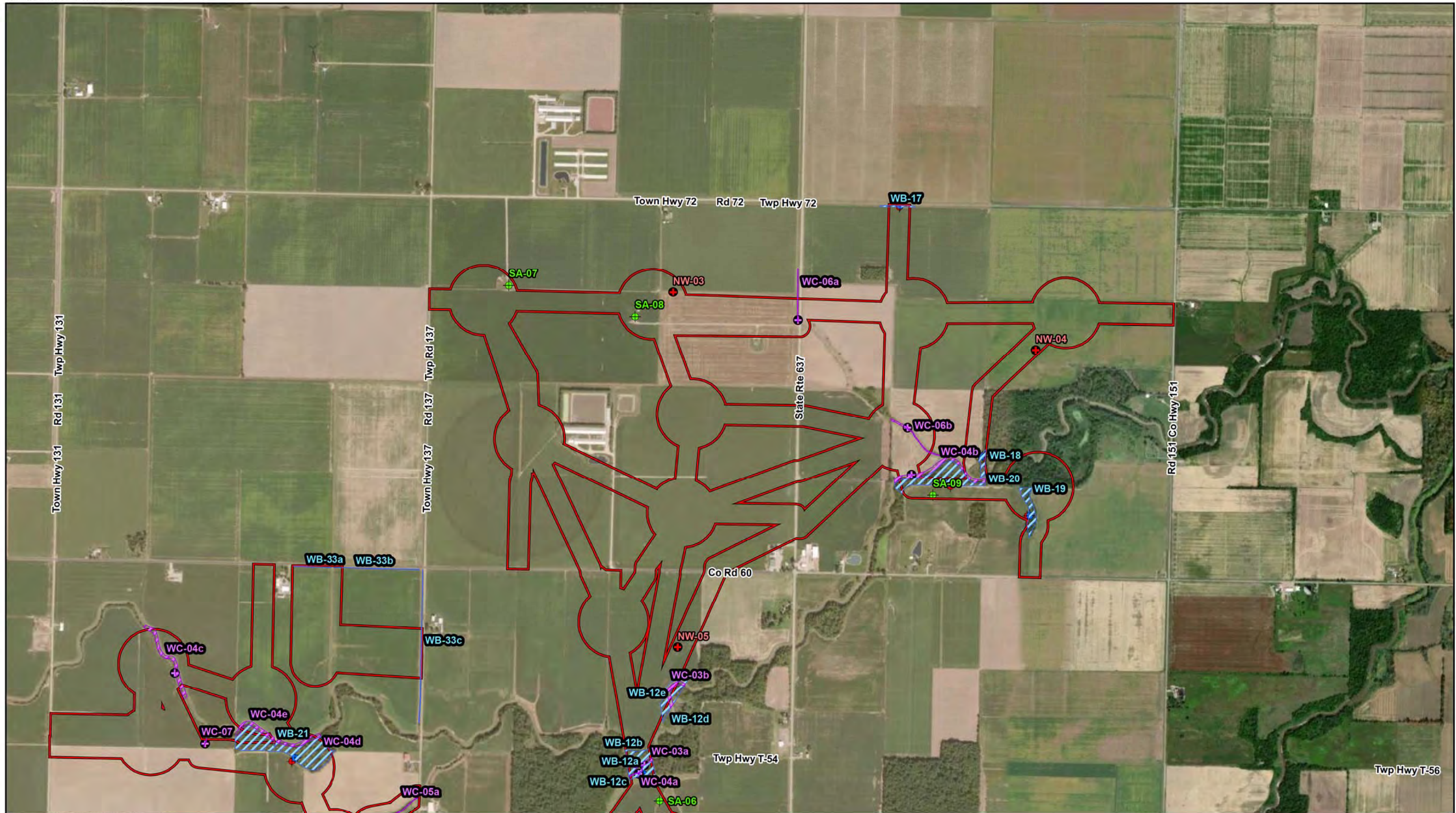
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| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |

Grover Hill Wind Project

Paulding County, Ohio

Field Delineated Wetlands
and Watercourses

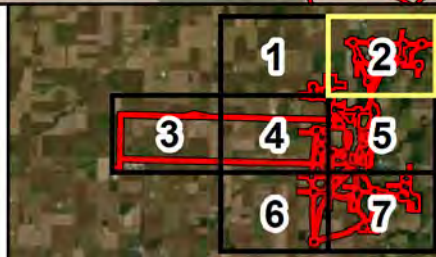




Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

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Legend

- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |



0 300 Feet

Grover Hill Wind Project

Paulding County, Ohio

Field Delineated Wetlands
and Watercourses

EXHIBIT 6 - Page 2 of 7



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

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Legend

- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |



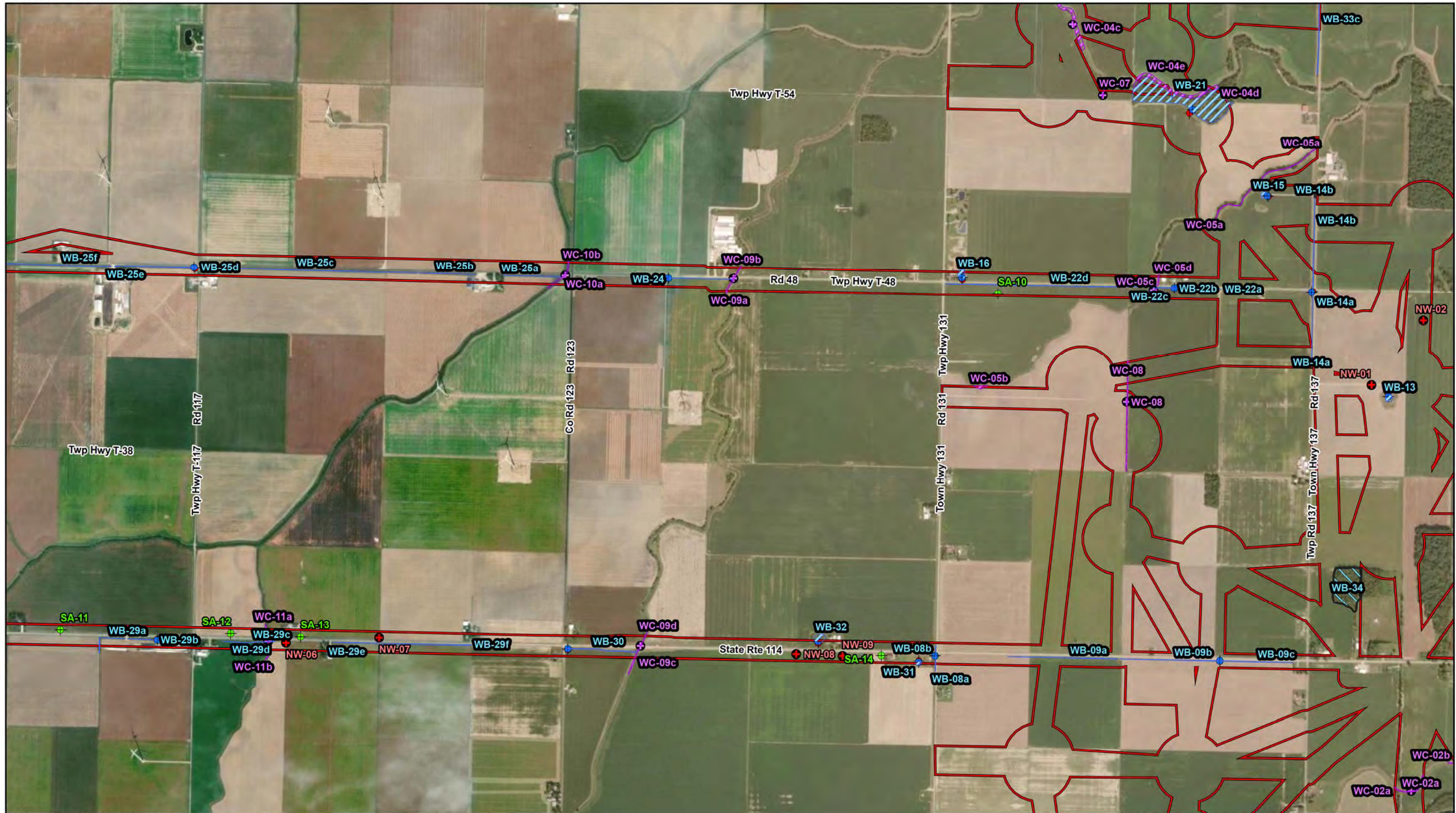
Feet
0 300

Grover Hill Wind Project

Paulding County, Ohio

Field Delineated Wetlands
and Watercourses

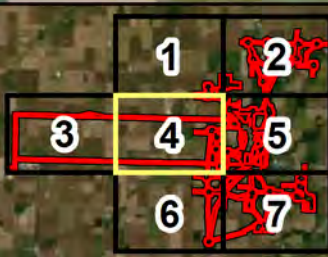
EXHIBIT 6 - Page 3 of 7



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

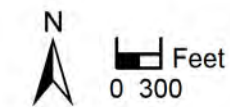
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Legend

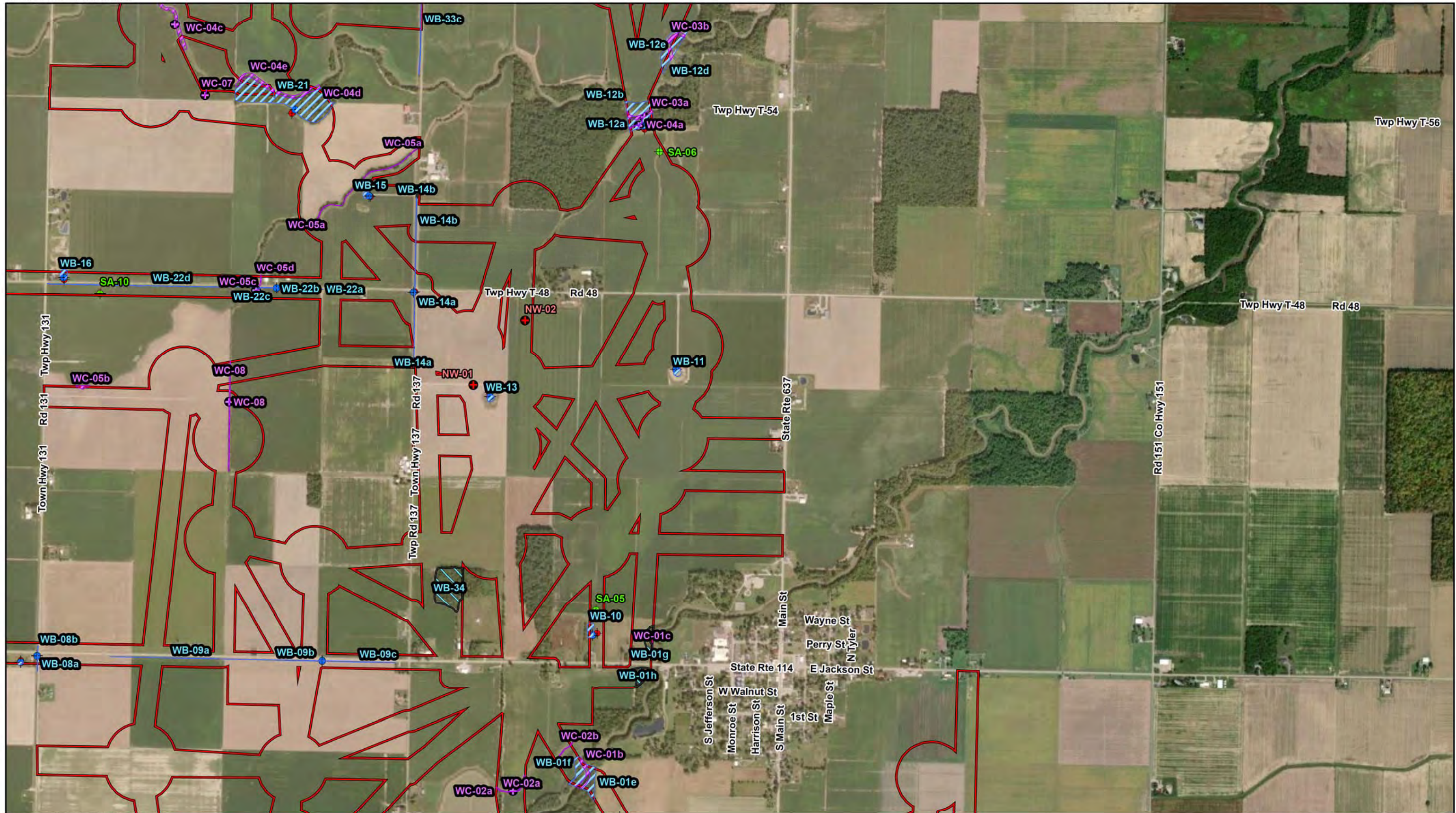
- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |



Grover Hill Wind Project
Paulding County, Ohio

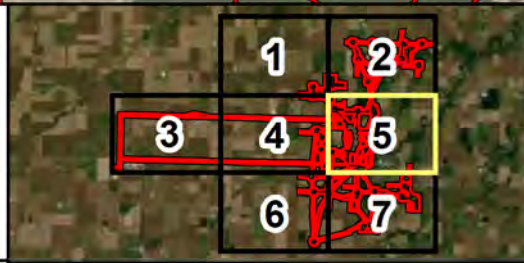
Field Delineated Wetlands
and Watercourses

EXHIBIT 6 - Page 4 of 7



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

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Legend

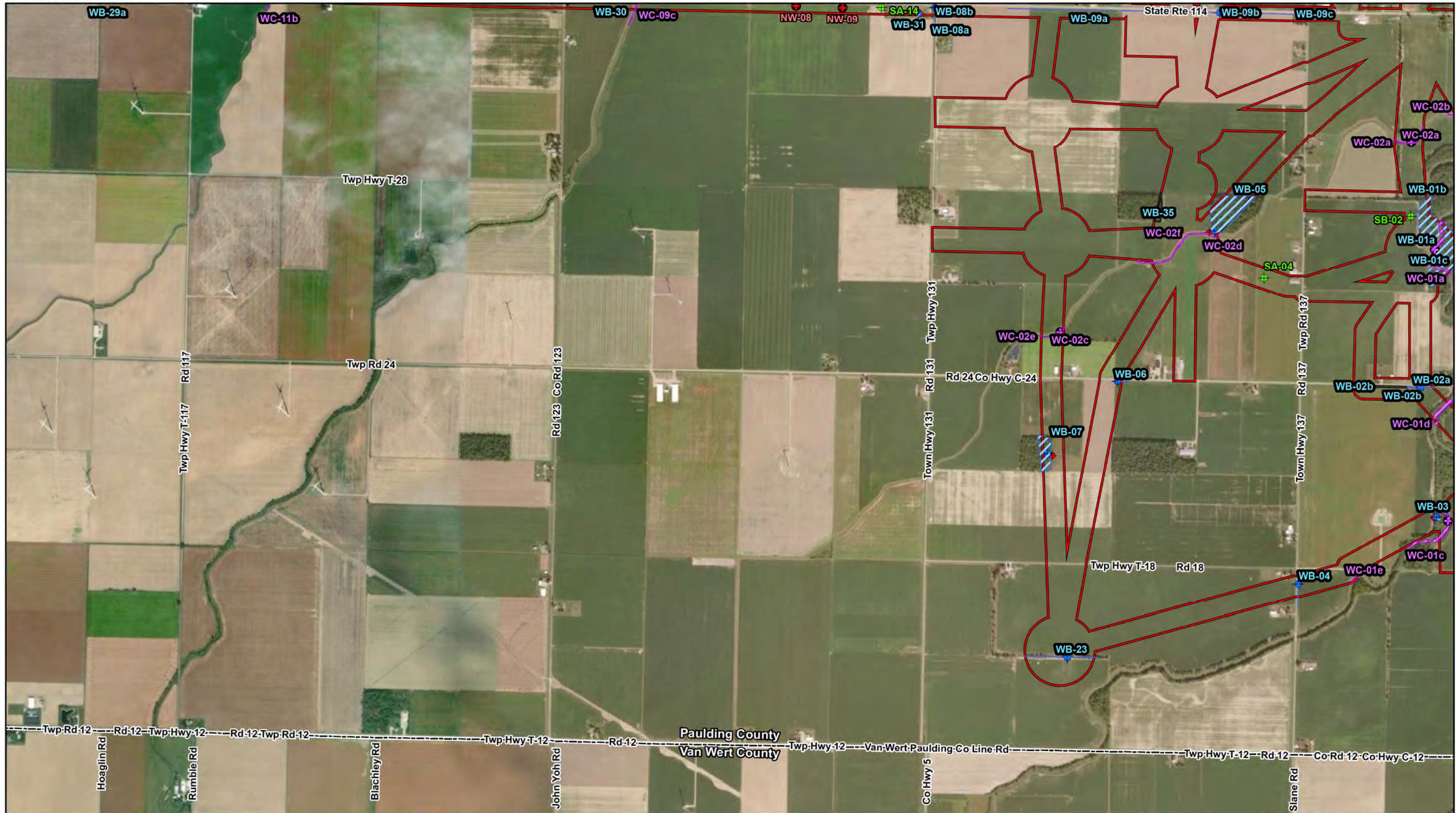
- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |



Grover Hill Wind Project

Paulding County, Ohio

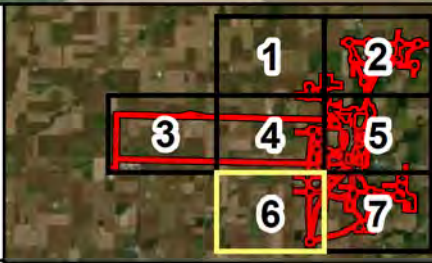
Field Delineated Wetlands
and Watercourses



Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

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Legend

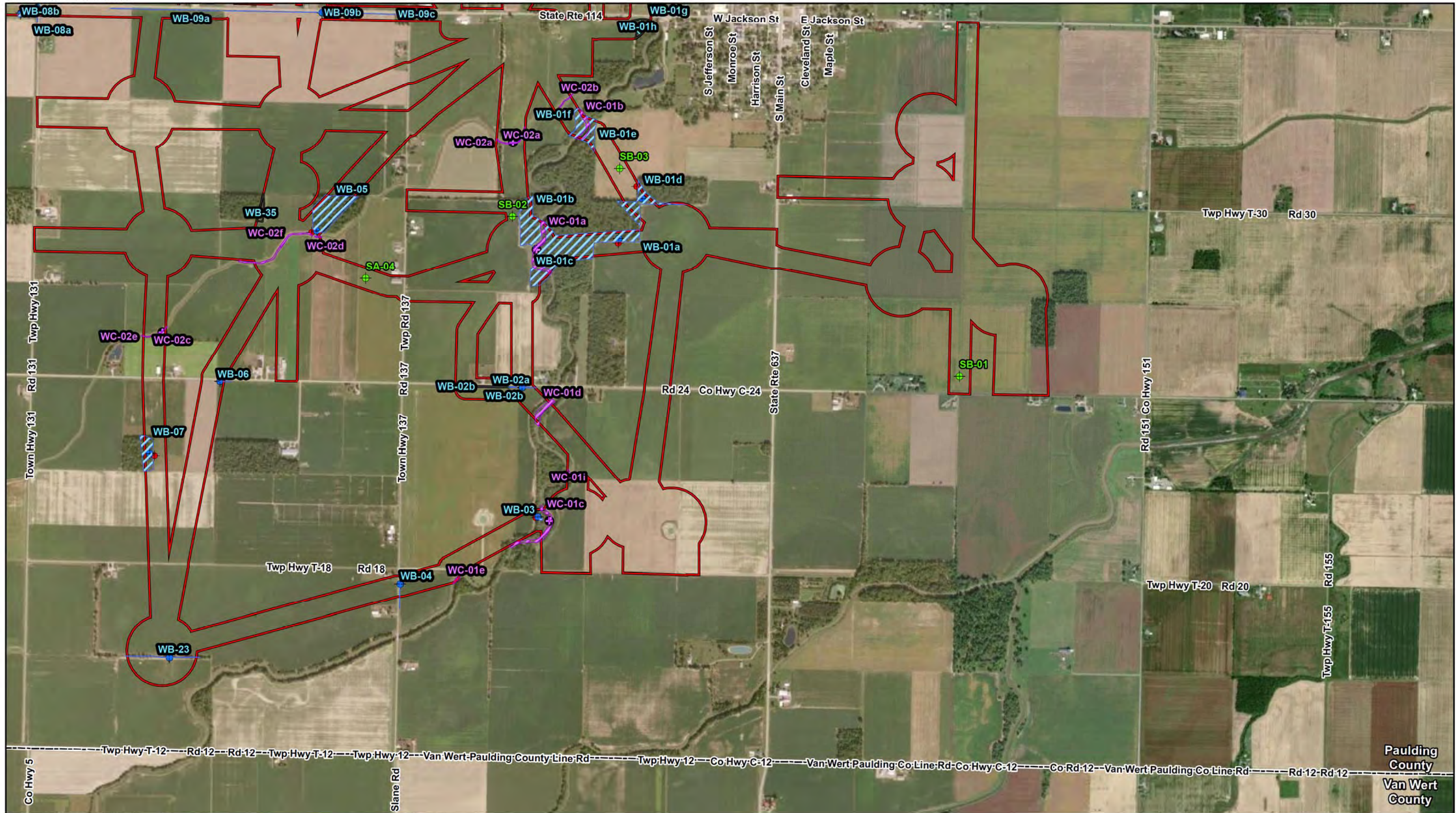
- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |

Grover Hill Wind Project

Paulding County, Ohio

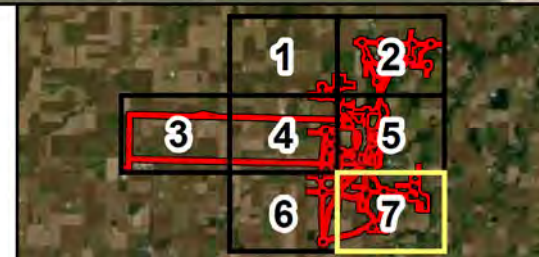
Field Delineated Wetlands
and Watercourses





Data Source(s): Westwood (2021); WMS NAIP Aerial Photography (Accessed 2020); U.S. Census Bureau (2017); United State Elevation Data (NED) (Accessed 2020).

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Legend

- | | | |
|------------------------|------------------------------|--------------------------|
| Delineation Corridor | Delineated Wetland | Wetland Sample Point |
| County Boundary | Watercourse Sample Point | Upland Sample Point |
| Delineated Watercourse | Non-Watercourse Sample Point | Non-Wetland Sample Point |



Grover Hill Wind Project

Paulding County, Ohio

Field Delineated Wetlands and Watercourses

EXHIBIT 6 - Page 7 of 7

Grover Hill Wind Project

Paulding County Ohio

Appendix A: Wetland Delineation Data Forms

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-01-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.01028 Long.: -84.484714 Datum: Lat/Long
 Soil Map Unit Name: NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in a cropped field with drainage tile upslope of a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-01-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	0 (A)		0 (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

 Rapid test for hydrophytic vegetation

 Dominance test is >50%

 Prevalence index is ≤3.0*

 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn at the time of delineation, no volunteer species observed

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SOIL

Sampling Point: WB-01-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-01-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.010467 Long.: -84.484682 Datum: Lat/Long
 Soil Map Unit Name NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-01-WET

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1 <i>Ulmus americana</i>		35	Y	FACW	Tree Stratum	14	35
2 <i>Fraxinus pennsylvanica</i>		35	Y	FACW	Sapling/Shrub Stratum	0	0
3					Herb Stratum	10	25
4					Woody Vine Stratum	0	0
5					Dominance Test Worksheet		
6					Number of Dominant Species that are OBL, FACW, or FAC: <u>4</u> (A)		
7					Total Number of Dominant Species Across all Strata: <u>4</u> (B)		
8					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
9							
10		<u>70</u>	= Total Cover				
Sapling/Shrub Stratum					Prevalence Index Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status	Total % Cover of:		
1					OBL species	<u>0</u> x 1 =	<u>0</u>
2					FACW species	<u>95</u> x 2 =	<u>190</u>
3					FAC species	<u>25</u> x 3 =	<u>75</u>
4					FACU species	<u>0</u> x 4 =	<u>0</u>
5					UPL species	<u>0</u> x 5 =	<u>0</u>
6					Column totals	<u>120</u> (A)	<u>265</u> (B)
7					Prevalence Index = B/A = <u>2.21</u>		
8							
9							
10		<u>0</u>	= Total Cover				
Herb Stratum					Hydrophytic Vegetation Indicators:		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status	<input type="checkbox"/> Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) <input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
1 <i>Carex davisi</i>		25	Y	FAC	*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
2 <i>Carex grayi</i>		25	Y	FACW			
3							
4							
5							
6							
7							
8							
9							
10							
11					Definitions of Vegetation Strata:		
12					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.		
13							
14							
15							
		<u>50</u>	= Total Cover				
Woody Vine Stratum					Hydrophytic vegetation present? <u>Y</u>		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		<u>0</u>	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-01-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-01B-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.012516 Long.: -84.483824 Datum: Lat/Long
 Soil Map Unit Name: NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	If yes, optional wetland site ID: <u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in a cropped field with drainage tile upslope of a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)	Indicators of wetland hydrology present? <u>N</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-01B-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)			
2				Total Number of Dominant Species Across all Strata: 0 (B)			
3				Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)			
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species 0 x 1 = 0			
3				FACW species 0 x 2 = 0			
4				FAC species 0 x 3 = 0			
5				FACU species 0 x 4 = 0			
6				UPL species 0 x 5 = 0			
7				Column totals 0 (A) 0 (B)			
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
6				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
7							
8							
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? N		

Remarks: (Include photo numbers here or on a separate sheet)
 Upland field planted in corn at the time of delineation, no volunteer species observed

Westwood Professional Services

SOIL

Sampling Point: WB-01B-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-01B-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.012047 Long.: -84.483509 Datum: Lat/Long
 Soil Map Unit Name NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> X Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> X FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-01B-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	45	Y	FACW	Tree Stratum	19	48	
2 <i>Fraxinus pennsylvanica</i>	40	Y	FACW	Sapling/Shrub Stratum	3	8	
3 <i>Tilia americana</i>	10	N	FACU	Herb Stratum	13	33	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
	95	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	15	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	5	(A)	
2				Total Number of Dominant Species Across all Strata:	5	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	15	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex davisi</i>	40	Y	FAC	Total % Cover of:			
2 <i>Carex grayi</i>	25	Y	FACW	OBL species	0	x 1 = 0	
3				FACW species	125	x 2 = 250	
4				FAC species	40	x 3 = 120	
5				FACU species	10	x 4 = 40	
6				UPL species	0	x 5 = 0	
7				Column totals	175 (A)	410 (B)	
8				Prevalence Index = B/A =	2.34		
9							
10							
11							
12							
13							
14							
15							
	65	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	0	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u>Y</u>		

Remarks: (Include photo numbers here or on a separate sheet)

Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-01B-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ X Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-02-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.004523 Long.: -84.489495 Datum: Lat/Long
 Soil Map Unit Name: NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-02-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Tree Stratum	0	
2					Sapling/Shrub Stratum	0	
3					Herb Stratum	20	
4					Woody Vine Stratum	0	
5							
6							
7							
8							
9							
10							
				0	= Total Cover		

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				0	= Total Cover		

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				100	= Total Cover		

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1							
2							
3							
4							
5							
				0	= Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)				
Roadside strip of smooth brome between ditch and cropped field				

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic vegetation present? <u>N</u>				

Westwood Professional Services

SOIL

Sampling Point: WB-02-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
Applicant/Owner: B-Dirt, LLC State: OH Sampling Point: WB-02-WET
Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
Slope (%): 3-7% Lat.: 41.004546 Long.: -84.489497 Datum: Lat/Long
Soil Map Unit Name NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation , soil , or hydrology significantly disturbed? Are "normal
Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)				Secondary Indicators (minimum of two required)	
<input checked="" type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Surface Soil Cracks (B6)	
<input type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Drainage Patterns (B10)	
<input checked="" type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Marl Deposits (B15)		<input type="checkbox"/> Moss Trim Lines (B16)	
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Dry-Season Water Table (C2)	
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres on Living		<input type="checkbox"/> Crayfish Burrows (C8)	
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Roots (C3)		<input type="checkbox"/> Saturation Visible on Aerial Imagery	
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> (C9)	
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Recent Iron Reduction in Tilled		<input type="checkbox"/> Stunted or Stressed Plants (D1)	
<input type="checkbox"/> Inundation Visible on Aerial		<input type="checkbox"/> Soils (C6)		<input checked="" type="checkbox"/> Geomorphic Position (D2)	
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Thin Muck Surface (C7)		<input type="checkbox"/> Shallow Aquitard (D3)	
<input type="checkbox"/> Sparsely Vegetated Concave		<input type="checkbox"/> Other (Explain in Remarks)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)	
<input type="checkbox"/> Surface (B8)				<input type="checkbox"/> Microtopographic Relief (D4)	

Field Observations:				Indicators of wetland hydrology present? <u>Y</u>	
Surface water present?	Yes <u> </u>	No <u> </u>	Depth (inches): <u> </u>		
Water table present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 2 </u>		
Saturation present?	Yes <u> X </u>	No <u> </u>	Depth (inches): <u> 2 </u>		
(includes capillary fringe)					
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Primary and secondary wetland hydrology observed at the sample point					

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-02-WET

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	18	45
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC:	2	(A)
2					Total Number of Dominant Species Across all Strata:	2	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1	<i>Carex lacustris</i>	65	Y	OBL	Total % Cover of:		
2	<i>Phalaris arundinacea</i>	25	Y	FACW	OBL species	65 x 1 =	65
3					FACW species	25 x 2 =	50
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	0 x 5 =	0
7					Column totals	90 (A)	115 (B)
8					Prevalence Index = B/A =	1.28	
9							
10							
11							
12							
13							
14							
15							
		90	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by sedge and reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-02-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-03-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 40.999444 Long.: -84.488639 Datum: Lat/Long
 Soil Map Unit Name: Sb-Saranac sily clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in a wooded riparian corridor located upslope of PEM wetland in an old stream oxbow	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-03-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Tilia americana</i>	30	Y	FACU	Tree Stratum	14	35	
2 <i>Carya ovata</i>	30	Y	FACU	Sapling/Shrub Stratum	7	18	
3 <i>Quercus bicolor</i>	10	N	FACW	Herb Stratum	16	40	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
	70	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Zanthoxylum americanum</i>	35	Y	FACU	Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	5	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	35	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex gracillima</i>	40	Y	FACU	Total % Cover of:			
2 <i>Parthenocissus quinquefolia</i>	40	Y	FACU	OBL species	0	x 1 = 0	
3				FACW species	10	x 2 = 20	
4				FAC species	0	x 3 = 0	
5				FACU species	175	x 4 = 700	
6				UPL species	0	x 5 = 0	
7				Column totals	185	(A) 720 (B)	
8				Prevalence Index = B/A =	3.89		
9							
10							
11							
12							
13							
14							
15							
	80	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
	0	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
					Definitions of Vegetation Strata:		
					<p>Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.</p> <p>Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.</p> <p>Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.</p> <p>Woody vines - All woody vines greater than 3.28 ft in height.</p>		
Remarks: (Include photo numbers here or on a separate sheet) Upland woodland dominated by basswood, hickory and oak					Hydrophytic vegetation present?		
					N		

Westwood Professional Services

SOIL

Sampling Point: WB-03-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-03-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 40.999479 Long.: -84.488527 Datum: Lat/Long
 Soil Map Unit Name Sb-Saranac sily clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a small PEM wetland located in an old stream oxbow in a wooded riparian corridor	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>4</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-03-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Fraxinus pennsylvanica</i>	15	Y	FACW
2				
3				
4				
5				
6				
7				
8				
9				
10				
		15 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lacustris</i>	60	Y	OBL
2	<i>Carex grayi</i>	25	Y	FACW
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		85 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

PEM wetland dominated by sedges

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	3	8
Herb Stratum	17	43
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across all Strata: 3 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	60	x 1 =	60
FACW species	40	x 2 =	80
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100	(A)	140 (B)

Prevalence Index = B/A = 1.40

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Westwood Professional Services

SOIL

Sampling Point: WB-03-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-04-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 40.996738 Long.: -84.495556 Datum: Lat/Long
 Soil Map Unit Name: Db-Defiance silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-04-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FAC species	<u>0</u> x 3 =	<u>0</u>
FACU species	<u>10</u> x 4 =	<u>40</u>
UPL species	<u>90</u> x 5 =	<u>450</u>
Column totals	<u>100</u> (A)	<u>490</u> (B)
Prevalence Index = B/A =		<u>4.90</u>

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Roadside strip of smooth brome between ditch and cropped field

Westwood Professional Services

SOIL

Sampling Point: WB-04-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-04-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 35
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 40.996733 Long.: -84.495584 Datum: Lat/Long
 Soil Map Unit Name Db-Defiance silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-04-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Tree Stratum	0	
2					Sapling/Shrub Stratum	0	
3					Herb Stratum	15	
4					Woody Vine Stratum	0	
5							
6							
7							
8							
9							
10							
				0 = Total Cover			

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)		
2					Total Number of Dominant Species Across all Strata: <u>1</u> (B)		
3					Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)		
4							
5							
6							
7							
8							
9							
10							
				0 = Total Cover			

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Total % Cover of:		
2					OBL species <u>70</u> x 1 = <u>70</u>		
3					FACW species <u>5</u> x 2 = <u>10</u>		
4					FAC species <u>0</u> x 3 = <u>0</u>		
5					FACU species <u>0</u> x 4 = <u>0</u>		
6					UPL species <u>0</u> x 5 = <u>0</u>		
7					Column totals <u>75</u> (A) <u>80</u> (B)		
8					Prevalence Index = B/A = <u>1.07</u>		
9							
10							
11							
12							
13							
14							
15							
				75 = Total Cover			

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
6					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
7							
8							
9							
10							
11							
12							
13							
14							
15							
				0 = Total Cover			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
Y				

Remarks: (Include photo numbers here or on a separate sheet)
 Road ditch wetland dominated by sedge and reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-04-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-05-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 27
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.010425 Long.: -84.500603 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in a cropped field with drainage tile upslope of a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-05-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn at the time of delineation, no volunteer species observed

Westwood Professional Services

SOIL

Sampling Point: WB-05-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-05-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 27
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.010489 Long.: -84.500333 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland complex along a perennial stream	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-05-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	30	Y	FACW	Tree Stratum	12	30	
2 <i>Fraxinus pennsylvanica</i>	30	Y	FACW	Sapling/Shrub Stratum	4	10	
3 <i>Quercus bicolor</i>			FACW	Herb Stratum	14	35	
4				Woody Vine Stratum	4	10	
5							
6							
7							
8							
9							
10							
	60	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	10	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	6	(A)	
2 <i>Zanthoxylum americanum</i>	10	Y	FACU	Total Number of Dominant Species Across all Strata:	8	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	75.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	20	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex davisii</i>	25	Y	FAC	Total % Cover of:			
2 <i>Carex grayi</i>	25	Y	FACW	OBL species	0	x 1 = 0	
3 <i>Geranium maculatum</i>	10	N	FACU	FACW species	95	x 2 = 190	
4 <i>Parthenocissus quinquefolia</i>	10	N	FACU	FAC species	35	x 3 = 105	
5				FACU species	40	x 4 = 160	
6				UPL species	0	x 5 = 0	
7				Column totals	170	(A) 455 (B)	
8				Prevalence Index = B/A =	2.68		
9							
10							
11							
12							
13							
14							
15							
	70	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Parthenocissus quinquefolia</i>	10	Y	FACU	Rapid test for hydrophytic vegetation			
2 <i>Toxicodendron radicans</i>	10	Y	FAC	<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	20	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Definitions of Vegetation Strata:					Hydrophytic vegetation present?		
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.					<input checked="" type="checkbox"/> Y		

Remarks: (Include photo numbers here or on a separate sheet)
 Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-05-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-06-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 34
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.00448 Long.: -84.505165 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-06-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	90	Y	UPL	Total % Cover of:			
2	10	N	FACU	OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	10 x 4 =	40	
6				UPL species	90 x 5 =	450	
7				Column totals	100 (A)	490 (B)	
8				Prevalence Index = B/A =		4.90	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Roadside strip of smooth brome between ditch and cropped field

Westwood Professional Services

SOIL

Sampling Point: WB-06-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Grover Hill Wind Project	City/County:	Paulding County	Sampling Date:	June 9, 2020
Applicant/Owner:	Starwood Energy Group	State:	OH	Sampling Point:	WB-06-WET
Investigator(s):	MCV, PWS # 2115, WDC #1101	Section, Township, Range:	T1N, R3E, Sec 34		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Linear/Concave		
Slope (%):	3-7%	Lat.:	41.004509	Long.:	-84.505155
		Datum:	Lat/Long		
Soil Map Unit Name	Lc-Latty silt clay, till substratum, 0-1% slopes	NWI Classification:	Not Mapped		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Yes</u> (If no, explain in remarks)					
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> significantly disturbed?			Are "normal		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic?			circumstances" present? <u>Yes</u>		
(If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)			
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed			

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)				Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)				Indicators of wetland hydrology present? <u>Y</u>			
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks: Primary and secondary wetland hydrology observed at the sample point							

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-06-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	95	Y	OBL	Total % Cover of:			
2	5	N	FACW	OBL species	95 x 1 =	95	
3				FACW species	5 x 2 =	10	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	100 (A)	105 (B)	
8				Prevalence Index = B/A =		1.05	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by sedge and reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-06-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-07-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 34
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.001544 Long.: -84.508462 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-07-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	19	48	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)	
2				Total Number of Dominant Species Across all Strata:	2	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	50.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	50	Y	FACU	Total % Cover of:			
2	25	Y	FAC	OBL species	0 x 1 =	0	
3	10	N	FACU	FACW species	0 x 2 =	0	
4	10	N	FACU	FAC species	25 x 3 =	75	
5				FACU species	70 x 4 =	280	
6				UPL species	0 x 5 =	0	
7				Column totals	95 (A)	355 (B)	
8				Prevalence Index = B/A =		3.74	
9							
10							
11							
12							
13							
14							
15							
95 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Upland field appears to be in CRP

Westwood Professional Services

SOIL

Sampling Point: WB-07-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-07-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 34
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.001617 Long.: -84.5087 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>7</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-07-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	30	Y	FACW	Tree Stratum	20	50	
2 <i>Fraxinus pennsylvanica</i>	30	Y	FACW	Sapling/Shrub Stratum	5	13	
3 <i>Quercus bicolor</i>	30	Y	FACW	Herb Stratum	14	35	
4 <i>Aesculus glabra</i>	10	N	FAC	Woody Vine Stratum	2	5	
5				Dominance Test Worksheet			
6				Number of Dominant Species that are OBL, FACW, or FAC: <u>7</u> (A)			
7				Total Number of Dominant Species Across all Strata: <u>9</u> (B)			
8				Percent of Dominant Species that are OBL, FACW, or FAC: <u>77.78%</u> (A/B)			
9				Prevalence Index Worksheet			
10				Total % Cover of:			
	100 = Total Cover			OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>130</u> x 2 = <u>260</u>			
				FAC species <u>45</u> x 3 = <u>135</u>			
				FACU species <u>30</u> x 4 = <u>120</u>			
				UPL species <u>0</u> x 5 = <u>0</u>			
				Column totals <u>205</u> (A) <u>515</u> (B)			
				Prevalence Index = B/A = <u>2.51</u>			
				Hydrophytic Vegetation Indicators:			
				Rapid test for hydrophytic vegetation			
				<input checked="" type="checkbox"/> Dominance test is >50%			
				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>Y</u>			
Hydrophytic vegetation present? <u>Y</u>							
Remarks: (Include photo numbers here or on a separate sheet) Wooded Swamp wetland dominated by wetland trees and understory							

Westwood Professional Services

SOIL

Sampling Point: WB-07-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-08-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019013 Long.: -84.515073 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-08-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	2	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	40	Y	UPL	Total % Cover of:			
2	40	Y	FACU	OBL species	0 x 1 =	0	
3	10	N	FACU	FACW species	0 x 2 =	0	
4	10	N	FACU	FAC species	0 x 3 =	0	
5				FACU species	60 x 4 =	240	
6				UPL species	40 x 5 =	200	
7				Column totals	100 (A)	440 (B)	
8				Prevalence Index = B/A =		4.40	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Roadside strip of smooth brome between ditch and cropped field

Westwood Professional Services

SOIL

Sampling Point: WB-08-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-08-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.018998 Long.: -84.515049 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>6</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-08-WET

Tree Stratum					50/20 Thresholds				
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%			
1				Tree Stratum	0	0			
2				Sapling/Shrub Stratum	0	0			
3				Herb Stratum	16	40			
4				Woody Vine Stratum	0	0			
5									
6									
7									
8									
9									
10									
				Dominance Test Worksheet Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A) Total Number of Dominant Species Across all Strata: <u>2</u> (B) Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)					
					Prevalence Index Worksheet Total % Cover of: OBL species <u>60</u> x 1 = <u>60</u> FACW species <u>20</u> x 2 = <u>40</u> FAC species <u>0</u> x 3 = <u>0</u> FACU species <u>0</u> x 4 = <u>0</u> UPL species <u>0</u> x 5 = <u>0</u> Column totals <u>80</u> (A) <u>100</u> (B) Prevalence Index = B/A = <u>1.25</u>				
Sapling/Shrub Stratum					Hydrophytic Vegetation Indicators: Rapid test for hydrophytic vegetation <input checked="" type="checkbox"/> Dominance test is >50% <input checked="" type="checkbox"/> Prevalence index is ≤3.0* Morphological adaptations* (provide supporting data in Remarks or on a separate sheet) Problematic hydrophytic vegetation* (explain) *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic Definitions of Vegetation Strata: Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height. Hydrophytic vegetation present? <u>Y</u>				
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status						
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
				Hydrophytic vegetation present? <u>Y</u>					
Herb Stratum									
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status						
1									
2									
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									
15									
Woody Vine Stratum									
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status						
1									
2									
3									
4									
5									

Remarks: (Include photo numbers here or on a separate sheet)
 Road ditch wetland dominated by cattail

Westwood Professional Services

SOIL

Sampling Point: WB-08-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-09-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 27
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019051 Long.: -84.500317 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-09-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	17	43	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>20</u> x 4 = <u>80</u>			
				UPL species <u>65</u> x 5 = <u>325</u>			
				Column totals <u>85</u> (A) <u>405</u> (B)			
				Prevalence Index = B/A = <u>4.76</u>			
					Hydrophytic Vegetation Indicators:		
					<input type="checkbox"/> Rapid test for hydrophytic vegetation		
					<input type="checkbox"/> Dominance test is >50%		
					<input type="checkbox"/> Prevalence index is ≤3.0*		
					<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u>N</u>		

Sapling/Shrub Stratum				
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
				<u>0</u> = Total Cover

Herb Stratum				
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status	
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
				<u>85</u> = Total Cover

Woody Vine Stratum				
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status	
1				
2				
3				
4				
5				
				<u>0</u> = Total Cover

Remarks: (Include photo numbers here or on a separate sheet)

Roadside strip of smooth brome between ditch and cropped field

Westwood Professional Services

SOIL

Sampling Point: WB-09-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-09-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 27
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.01907 Long.: -84.500307 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silt clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-09-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	11	28	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>50</u> x 1 = <u>50</u>			
				FACW species <u>5</u> x 2 = <u>10</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>0</u> x 4 = <u>0</u>			
				UPL species <u>0</u> x 5 = <u>0</u>			
				Column totals <u>55</u> (A) <u>60</u> (B)			
				Prevalence Index = B/A = <u>1.09</u>			
				Hydrophytic Vegetation Indicators:			
				Rapid test for hydrophytic vegetation			
				<input checked="" type="checkbox"/> Dominance test is >50%			
				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>Y</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>55</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)							
Road ditch wetland dominated by cattail							

Westwood Professional Services

SOIL

Sampling Point: WB-09-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-10-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.020387 Long.: -84.486114 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-10-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn at the time of delineation, no volunteer vegetation observed

Westwood Professional Services

SOIL

Sampling Point: WB-10-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-10-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.01907 Long.: -84.500307 Datum: Lat/Long
 Soil Map Unit Name Uc-Udorthents, clayey, hilly NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland with narrow PEM fringe	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-10-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	2	5	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	10	Y	FACW	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	10 x 2 =	20	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	10 (A)	20 (B)	
8				Prevalence Index = B/A =	2.00		
9							
10							
11							
12							
13							
14							
15							
10 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Hydrophytic vegetation present?						
Y						

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with a narrow PEM fringe dominated by reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-10-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-11-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.030833 Long.: -84.482346 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-11-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	13	33	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>65</u> x 4 = <u>260</u>			
				UPL species <u>0</u> x 5 = <u>0</u>			
				Column totals <u>65</u> (A) <u>260</u> (B)			
				Prevalence Index = B/A = <u>4.00</u>			
				Hydrophytic Vegetation Indicators:			
				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
				<input type="checkbox"/> Dominance test is >50%			
				<input type="checkbox"/> Prevalence index is ≤3.0*			
				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>N</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>65</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)							
Upland field planted in clover							

Westwood Professional Services

SOIL

Sampling Point: WB-11-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-11-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.03079 Long.: -84.482337 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland with narrow PEM fringe	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-11-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with no vegetation

Westwood Professional Services

SOIL

Sampling Point: WB-11-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-12-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 14
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.040198 Long.: -84.484243 Datum: Lat/Long
 Soil Map Unit Name: NpB2-Nappanee silty clay loam, 2-6% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-12-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn

Westwood Professional Services

SOIL

Sampling Point: WB-12-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surf (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-12-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 14
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.040327 Long.: -84.484298 Datum: Lat/Long
 Soil Map Unit Name NpB2-Nappanee silty clay loam, 2-6% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland fringe of a watercourse	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>7</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-12-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	30	Y	FACW	Tree Stratum	20	50	
2 <i>Fraxinus pennsylvanica</i>	30	Y	FACW	Sapling/Shrub Stratum	5	13	
3 <i>Quercus bicolor</i>	30	Y	FACW	Herb Stratum	14	35	
4 <i>Aesculus glabra</i>	10	N	FAC	Woody Vine Stratum	2	5	
5				Dominance Test Worksheet			
6				Number of Dominant Species that are OBL, FACW, or FAC: <u>7</u> (A)			
7				Total Number of Dominant Species Across all Strata: <u>9</u> (B)			
8				Percent of Dominant Species that are OBL, FACW, or FAC: <u>77.78%</u> (A/B)			
9				Prevalence Index Worksheet			
10	100	= Total Cover		Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>130</u> x 2 = <u>260</u>			
				FAC species <u>45</u> x 3 = <u>135</u>			
				FACU species <u>30</u> x 4 = <u>120</u>			
				UPL species <u>0</u> x 5 = <u>0</u>			
				Column totals <u>205</u> (A) <u>515</u> (B)			
				Prevalence Index = B/A = <u>2.51</u>			
				Hydrophytic Vegetation Indicators:			
				Rapid test for hydrophytic vegetation			
				<input checked="" type="checkbox"/> Dominance test is >50%			
				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>Y</u>			
Hydrophytic vegetation present? <u>Y</u>							
Remarks: (Include photo numbers here or on a separate sheet) Wooded Swamp wetland dominated by wetland trees and understory							

Westwood Professional Services

SOIL

Sampling Point: WB-12-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ X Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type:

Depth (inches): _____

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-13-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.029724 Long.: -84.491964 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-13-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Trifolium pratense</i>	65	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		65 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in clover

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	13	33
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>65</u>	x 4 =	<u>260</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>65</u> (A)		<u>260</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-13-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-13-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.02957 Long.: -84.491918 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland with narrow PEM fringe	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-13-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with no vegetation

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across all Strata:	0	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)

Prevalence Index Worksheet

Total % Cover of:		
OBL species	0	x 1 = 0
FACW species	0	x 2 = 0
FAC species	0	x 3 = 0
FACU species	0	x 4 = 0
UPL species	0	x 5 = 0
Column totals	0 (A)	0 (B)
Prevalence Index = B/A =		

Hydrophytic Vegetation Indicators:

- ☐ Rapid test for hydrophytic vegetation
 - ☐ Dominance test is >50%
 - ☐ Prevalence index is ≤3.0*
 - ☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 - ☐ Problematic hydrophytic vegetation* (explain)
- *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-13-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-14-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 22
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033608 Long.: -84.49594 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-14-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Field planted in wheat

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
Total Number of Dominant Species Across all Strata:	0	(B)
Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)

Prevalence Index Worksheet

Total % Cover of:		
OBL species	0 x 1 =	0
FACW species	0 x 2 =	0
FAC species	0 x 3 =	0
FACU species	0 x 4 =	0
UPL species	0 x 5 =	0
Column totals	0 (A)	0 (B)
Prevalence Index = B/A =		

Hydrophytic Vegetation Indicators:

- ☐ Rapid test for hydrophytic vegetation
 - ☐ Dominance test is >50%
 - ☐ Prevalence index is ≤3.0*
 - ☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)
 - ☐ Problematic hydrophytic vegetation* (explain)
- *Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-14-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-14-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.033584 Long.: -84.496001 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-14-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	2	5	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	2	(A)	
2				Total Number of Dominant Species Across all Strata:	2	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	5	Y	OBL	Total % Cover of:			
2	5	Y	FACW	OBL species	5 x 1 =	5	
3				FACW species	5 x 2 =	10	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	10 (A)	15 (B)	
8				Prevalence Index = B/A =	1.50		
9							
10							
11							
12							
13							
14							
15							
10 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by open water with sedge and graaes on fringe

Westwood Professional Services

SOIL

Sampling Point: WB-14-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-15-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.037304 Long.: -84.498342 Datum: Lat/Long
 Soil Map Unit Name: NpA-Napanee silt loam, 0-2% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-15-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Trifolium pratense</i>	65	Y	FACU
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		65 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in clover

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	13	33
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>65</u>	x 4 =	<u>260</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>65</u> (A)		<u>260</u> (B)

Prevalence Index = B/A = 4.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-15-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surf (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-15-WET
Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
Slope (%): 3-7% Lat.: 41.037327 Long.: -84.498409 Datum: Lat/Long
Soil Map Unit Name NpA-Napanee silt loam, 0-2% slopes NWI Classification: Not Mapped
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation , soil , or hydrology significantly disturbed? Are "normal
Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
If yes, optional wetland site ID: _____	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)			Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)		
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)			Indicators of wetland hydrology present? <u>Y</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Primary and secondary wetland hydrology observed at the sample point					

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-15-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	0	0
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1					Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)		
2					Total Number of Dominant Species Across all Strata: 0 (B)		
3					Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)		
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1					Total % Cover of:		
2					OBL species 0 x 1 = 0		
3					FACW species 0 x 2 = 0		
4					FAC species 0 x 3 = 0		
5					FACU species 0 x 4 = 0		
6					UPL species 0 x 5 = 0		
7					Column totals 0 (A) 0 (B)		
8					Prevalence Index = B/A =		
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1					Rapid test for hydrophytic vegetation		
2					Dominance test is >50%		
3					Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
6					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
7							
8							
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present?		
					N		

Remarks: (Include photo numbers here or on a separate sheet)
 PUB open water wetland with no vegetation

Westwood Professional Services

SOIL

Sampling Point: WB-15-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-16-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033762 Long.: -84.5141 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-16-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	13	33	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
65 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

50/20 Thresholds

Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	13	33
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	65	x 4 =	260
UPL species	0	x 5 =	0
Column totals	65 (A)		260 (B)
Prevalence Index = B/A = <u>4.00</u>			

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in clover

Westwood Professional Services

SOIL

Sampling Point: WB-16-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-16-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.033841 Long.: -84.514116 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-16-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with no vegetation

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u> (A)		<u>0</u> (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-16-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-17-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.062763 Long.: -84.471719 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-17-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	19	48	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	95	Y	UPL				
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
95 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	0	0
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FAC species	<u>0</u> x 3 =	<u>0</u>
FACU species	<u>0</u> x 4 =	<u>0</u>
UPL species	<u>95</u> x 5 =	<u>475</u>
Column totals	<u>95</u> (A)	<u>475</u> (B)
Prevalence Index = B/A =		<u>5.00</u>

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

field edge dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-17-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface
 (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9)
 (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1)
 (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-17-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.062836 Long.: -84.471676 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>1</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-17-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	Carex lacustris	100	Y	OBL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	100	x 1 =	100
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	100 (A)		100 (B)
Prevalence Index = B/A =		<u>1.00</u>	

Hydrophytic Vegetation Indicators:

 Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0*

 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by sedge

Westwood Professional Services

SOIL

Sampling Point: WB-17-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-18-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.053158 Long.: -84.467325 Datum: Lat/Long
 Soil Map Unit Name: RpB2-Roselms silty clay 2-6% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-18-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn

Westwood Professional Services

SOIL

Sampling Point: WB-18-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-18-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.053078 Long.: -84.467122 Datum: Lat/Long
 Soil Map Unit Name StD2-St Clair silty clay loam, 12-18 % Slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland fringe of a watercourse	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-18-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	25	Y	FACW	Tree Stratum	20	50	
2 <i>Fraxinus pennsylvanica</i>	25	Y	FACW	Sapling/Shrub Stratum	6	15	
3 <i>Quercus bicolor</i>	20	Y	FACW	Herb Stratum	22	55	
4 <i>Aesculus glabra</i>	20	Y	FAC	Woody Vine Stratum	5	13	
5 <i>Aesculus glabra</i>	10	N	FAC				
6							
7							
8							
9							
10							
	100	= Total Cover					

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	15	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	8	(A)	
2 <i>Zanthoxylum americanum</i>	15	Y	FACU	Total Number of Dominant Species Across all Strata:	10	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	80.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	30	= Total Cover					

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex davisii</i>	40	Y	FAC	Total % Cover of:			
2 <i>Carex grayi</i>	30	Y	FACW	OBL species	0 x 1 =	0	
3 <i>Geranium maculatum</i>	20	N	FACU	FACW species	115 x 2 =	230	
4 <i>Parthenocissus quinquefolia</i>	20	N	FACU	FAC species	80 x 3 =	240	
5				FACU species	70 x 4 =	280	
6				UPL species	0 x 5 =	0	
7				Column totals	265 (A)	750 (B)	
8				Prevalence Index = B/A =	2.83		
9							
10							
11							
12							
13							
14							
15							
	110	= Total Cover					

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Parthenocissus quinquefolia</i>	15	Y	FACU	<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation			
2 <i>Toxicodendron radicans</i>	10	Y	FAC	<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	25	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
Y				

Remarks: (Include photo numbers here or on a separate sheet)

Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-18-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-19-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.05078 Long.: -84.464743 Datum: Lat/Long
 Soil Map Unit Name: Sb-Saranac silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-19-UP

Tree Stratum					50/20 Thresholds																																																																																																																																																													
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%																																																																																																																																																												
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2					Sapling/Shrub Stratum	0	0																																																																																																																																																											
3					Herb Stratum	0	0																																																																																																																																																											
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					Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)																																																																																																																																																													
					Total Number of Dominant Species Across all Strata: <u>0</u> (B)																																																																																																																																																													
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Remarks: (Include photo numbers here or on a separate sheet) Upland field planted in corn																																																																																																																																																																		

Westwood Professional Services

SOIL

Sampling Point: WB-19-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
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☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-19-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.050795 Long.: -84.464611 Datum: Lat/Long
 Soil Map Unit Name Sb-Saranac silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland fringe of a watercourse	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u>X</u> No <u>X</u> Depth (inches): <u>5</u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-19-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	30	Y	FACW	Tree Stratum	14	35	
2 <i>Fraxinus pennsylvanica</i>	30	Y	FACW	Sapling/Shrub Stratum	2	5	
3 <i>Quercus bicolor</i>	10	N	FACW	Herb Stratum	18	45	
4				Woody Vine Stratum	5	13	
5							
6							
7							
8							
9							
10							
	70	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	5	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	5	(A)	
2 <i>Zanthoxylum americanum</i>	5	Y	FACU	Total Number of Dominant Species Across all Strata:	7	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	71.43%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	10	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex davisii</i>	60	Y	FAC	Total % Cover of:			
2 <i>Carex grayi</i>	10	N	FACW	OBL species	0 x 1 =	0	
3 <i>Geranium maculatum</i>	10	N	FACU	FACW species	95 x 2 =	190	
4 <i>Viola striata</i>	10	N	FACW	FAC species	70 x 3 =	210	
5				FACU species	30 x 4 =	120	
6				UPL species	0 x 5 =	0	
7				Column totals	195 (A)	520 (B)	
8				Prevalence Index = B/A =	2.67		
9							
10							
11							
12							
13							
14							
15							
	90	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Parthenocissus quinquefolia</i>	15	Y	FACU	<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation			
2 <i>Toxicodendron radicans</i>	10	Y	FAC	<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	25	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Definitions of Vegetation Strata:					Hydrophytic vegetation present?		
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.					<input checked="" type="checkbox"/> Y		

Remarks: (Include photo numbers here or on a separate sheet)
 Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-19-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surface (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-20-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.051855 Long.: -84.468745 Datum: Lat/Long
 Soil Map Unit Name: Sb-Saranac silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-20-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		0 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	0	0
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 0 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>0</u>	x 5 =	<u>0</u>
Column totals	<u>0</u> (A)		<u>0</u> (B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-20-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-20-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.051986 Long.: -84.468886 Datum: Lat/Long
 Soil Map Unit Name Sb-Saranac silty clay loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland fringe of a watercourse	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>8</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>7</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-20-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	40	Y	FACW	Tree Stratum	14	35	
2 <i>Fraxinus pennsylvanica</i>	20	Y	FACW	Sapling/Shrub Stratum	1	3	
3 <i>Quercus bicolor</i>	10	N	FACW	Herb Stratum	16	40	
4				Woody Vine Stratum	5	13	
5							
6							
7							
8							
9							
10							
	70	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	5	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	5	(A)	
2				Total Number of Dominant Species Across all Strata:	6	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	83.33%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	5	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Viola striata</i>	50	Y	FACW	Total % Cover of:			
2 <i>Carex grayi</i>	10	N	FACW	OBL species	0	x 1 = 0	
3 <i>Geranium maculatum</i>	10	N	FACU	FACW species	135	x 2 = 270	
4 <i>Solidago flexicaulis</i>	10	N	FACU	FAC species	10	x 3 = 30	
5				FACU species	35	x 4 = 140	
6				UPL species	0	x 5 = 0	
7				Column totals	180	(A) 440 (B)	
8				Prevalence Index = B/A =	2.44		
9							
10							
11							
12							
13							
14							
15							
	80	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Parthenocissus quinquefolia</i>	15	Y	FACU	<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation			
2 <i>Toxicodendron radicans</i>	10	Y	FAC	<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	25	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Definitions of Vegetation Strata:					Hydrophytic vegetation present?		
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.					<input checked="" type="checkbox"/> Y		

Remarks: (Include photo numbers here or on a separate sheet)
 Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-20-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ X Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-21-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.040496 Long.: -84.502539 Datum: Lat/Long
 Soil Map Unit Name: NpB2-Nappanee silty clay loam, 2-6% slopes eroded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in an upland field with drainage tile upslope of a large PFO wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-21-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	0	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	0 (A)	0 (B)	
8				Prevalence Index = B/A =			
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn

Westwood Professional Services

SOIL

Sampling Point: WB-21-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-21-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 15
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.040646 Long.: -84.502363 Datum: Lat/Long
 Soil Map Unit Name Sb-Saranac silty clay loam, occasionally flooded NWI Classification: PFO1C
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in a large PFO wetland fringe of a watercourse	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u>X</u> No <u> </u> Depth (inches): <u>5</u> Saturation present? Yes <u>X</u> No <u> </u> Depth (inches): <u>6</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-21-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1 <i>Ulmus americana</i>	35	Y	FACW	Tree Stratum	17	43	
2 <i>Fraxinus pennsylvanica</i>	35	Y	FACW	Sapling/Shrub Stratum	1	3	
3 <i>Quercus bicolor</i>	15	N	FACW	Herb Stratum	16	40	
4				Woody Vine Stratum	2	5	
5							
6							
7							
8							
9							
10							
	85	= Total Cover					
Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Fraxinus pennsylvanica</i>	5	Y	FACW	Number of Dominant Species that are OBL, FACW, or FAC:	5	(A)	
2				Total Number of Dominant Species Across all Strata:	6	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	83.33%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
	5	= Total Cover					
Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Carex lacustris</i>	50	Y	OBL	Total % Cover of:			
2 <i>Carex grayi</i>	10	N	FACW	OBL species	50	x 1 = 50	
3 <i>Geranium maculatum</i>	10	N	FACU	FACW species	100	x 2 = 200	
4 <i>Solidago flexicaulis</i>	10	N	FACU	FAC species	5	x 3 = 15	
5				FACU species	25	x 4 = 100	
6				UPL species	0	x 5 = 0	
7				Column totals	180	(A) 365 (B)	
8				Prevalence Index = B/A =	2.03		
9							
10							
11							
12							
13							
14							
15							
	80	= Total Cover					
Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1 <i>Parthenocissus quinquefolia</i>	5	Y	FACU	<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation			
2 <i>Toxicodendron radicans</i>	5	Y	FAC	<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
	10	= Total Cover		*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
Definitions of Vegetation Strata:					Hydrophytic vegetation present?		
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height. Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall. Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall. Woody vines - All woody vines greater than 3.28 ft in height.					<input checked="" type="checkbox"/> Y		

Remarks: (Include photo numbers here or on a separate sheet)
 Wooded Swamp wetland dominated by wetland trees and understory

Westwood Professional Services

SOIL

Sampling Point: WB-21-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

<input type="checkbox"/> Histisol (A1)	<input type="checkbox"/> Polyvalue Below Surface
<input type="checkbox"/> Histic Epipedon (A2)	<input type="checkbox"/> (S8) (LRR R, MLRA 149B)
<input type="checkbox"/> Black Histic (A3)	<input type="checkbox"/> Thin Dark Surface (S9)
<input type="checkbox"/> Hydrogen Sulfide (A4)	<input type="checkbox"/> (LRR R, MLRA 149B)
<input type="checkbox"/> Stratified Layers (A5)	<input type="checkbox"/> Loamy Mucky Mineral (F1)
<input type="checkbox"/> Depleted Below Dark Surf (A11)	<input type="checkbox"/> (LRR K, L)
<input type="checkbox"/> Thick Dark Surface (A12)	<input type="checkbox"/> Loamy Gleyed Matrix (F2)
<input type="checkbox"/> Sandy Mucky Mineral (S1)	<input type="checkbox"/> Depleted Matrix (F3)
<input type="checkbox"/> Sandy Gleyed Matrix (S4)	<input checked="" type="checkbox"/> Redox Dark Surface (F6)
<input type="checkbox"/> Sandy Redox (S5)	<input type="checkbox"/> Depleted Dark Surface (F7)
<input type="checkbox"/> Stripped Matrix (S6)	<input type="checkbox"/> Redox Depressions (F8)
<input type="checkbox"/> Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators observed at the sample point

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-22-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 22
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033612 Long.: -84.503095 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-22-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	100	Y	UPL	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	100 x 5 =	500	
7				Column totals	100 (A)	500 (B)	
8				Prevalence Index = B/A =	5.00		
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-22-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-22-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 22
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.033628 Long.: -84.50311 Datum: Lat/Long
 Soil Map Unit Name Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-22-WET

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	2	5
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Number of Dominant Species that are OBL, FACW, or FAC:	2	(A)
2					Total Number of Dominant Species Across all Strata:	2	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1	Carex lacustris	5	Y	OBL	Total % Cover of:		
2	Phalaris arundinacea	5	Y	FACW	OBL species	5 x 1 =	5
3					FACW species	5 x 2 =	10
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	0 x 5 =	0
7					Column totals	10 (A)	15 (B)
8					Prevalence Index = B/A =	1.50	
9							
10							
11							
12							
13							
14							
15							
		10	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
6					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
7							
8							
9							
10							
11							
12							
13							
14							
15							
		0	= Total Cover				

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
Y				

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by open water with sedge and graaes on fringe

Westwood Professional Services

SOIL

Sampling Point: WB-22-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-23-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 34
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 40.993677 Long.: -84.507471 Datum: Lat/Long
 Soil Map Unit Name: NpA-Nappanee silt loam, 0-2% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-23-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	100	Y	UPL	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	100 x 5 =	500	
7				Column totals	100 (A)	500 (B)	
8				Prevalence Index = B/A =		5.00	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Hydrophytic vegetation present?						
N						

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-23-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-23-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 34
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 40.993642 Long.: -84.50744 Datum: Lat/Long
 Soil Map Unit Name NpA-Nappanee silt loam, 0-2% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u> Hydric soil present? <u>Y</u> Indicators of wetland hydrology present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____
Remarks: (Explain alternative procedures here or in a separate report.) <div style="border: 1px solid black; padding: 10px; min-height: 100px;"> Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed </div>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)			Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)		
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)			Indicators of wetland hydrology present? <u>Y</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:					
Remarks: Primary and secondary wetland hydrology observed at the sample point					

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-23-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		65 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Ditch wetland dominated by sedge

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	13	33
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	65	x 1 =	65
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	65 (A)		65 (B)

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

X Rapid test for hydrophytic vegetation

X Dominance test is >50%

X Prevalence index is ≤3.0*

 Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

 Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Westwood Professional Services

SOIL

Sampling Point: WB-23-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-24-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 21
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033537 Long.: -84.529301 Datum: Lat/Long
 Soil Map Unit Name: NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-24-UP

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
2					Total Number of Dominant Species Across all Strata:	1	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1	<i>Bromus inermis</i>	100	Y	UPL	Total % Cover of:		
2					OBL species	0 x 1 =	0
3					FACW species	0 x 2 =	0
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	100 x 5 =	500
7					Column totals	100 (A)	500 (B)
8					Prevalence Index = B/A =	5.00	
9							
10							
11							
12							
13							
14							
15							
		100	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					<input type="checkbox"/> Rapid test for hydrophytic vegetation		
2					<input type="checkbox"/> Dominance test is >50%		
3					<input type="checkbox"/> Prevalence index is ≤3.0*		
4					<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-24-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-24-WET
Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 21
Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
Slope (%): 3-7% Lat.: 41.033557 Long.: -84.529301 Datum: Lat/Long
Soil Map Unit Name NpA-Nappanee silt loam, 0-1% slopes NWI Classification: Not Mapped
Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
Are vegetation , soil , or hydrology significantly disturbed? Are "normal
Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
(If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)			
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed			

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> High Water Table (A2) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Inundation Visible on Aerial Imagery (B7) <input type="checkbox"/> Sparsely Vegetated Concave Surface (B8)			Water-Stained Leaves (B9) Aquatic Fauna (B13) Marl Deposits (B15) Hydrogen Sulfide Odor (C1) Oxidized Rhizospheres on Living Roots (C3) Presence of Reduced Iron (C4) Recent Iron Reduction in Tilled Soils (C6) Thin Muck Surface (C7) Other (Explain in Remarks)			Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)		
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input checked="" type="checkbox"/> Depth (inches): <u>0</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>4</u> (includes capillary fringe)						Indicators of wetland hydrology present? <u>Y</u>		
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:								
Remarks: Primary and secondary wetland hydrology observed at the sample point								

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-24-WET

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	6	15
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)
2					Total Number of Dominant Species Across all Strata:	1	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1	<i>Hordeum jubatum</i>	25	Y	FAC	Total % Cover of:		
2	<i>Phalaris arundinacea</i>	5	N	FACW	OBL species	0 x 1 =	0
3					FACW species	5 x 2 =	10
4					FAC species	25 x 3 =	75
5					FACU species	0 x 4 =	0
6					UPL species	0 x 5 =	0
7					Column totals	30 (A)	85 (B)
8					Prevalence Index = B/A =	2.83	
9							
10							
11							
12							
13							
14							
15							
		30	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by grasses

Westwood Professional Services

SOIL

Sampling Point: WB-24-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-25-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 19
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033495 Long.: -84.553833 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-25-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1					Tree Stratum	0	
2					Sapling/Shrub Stratum	0	
3					Herb Stratum	20	
4					Woody Vine Stratum	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1					Number of Dominant Species that are OBL, FACW, or FAC:		
2					Total Number of Dominant Species Across all Strata:		
3							
4					Percent of Dominant Species that are OBL, FACW, or FAC:		
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1					Total % Cover of:		
2					OBL species		
3					FACW species		
4					FAC species		
5					FACU species		
6					UPL species		
7					Column totals		
8					Prevalence Index = B/A =		
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1					Rapid test for hydrophytic vegetation		
2					Dominance test is >50%		
3					Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
6					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
7							
8							
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1					N		
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-25-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-25-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: 19T1N, R3E, Sec 21
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.033554 Long.: -84.553875 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>2</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-25-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	10	25	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>2</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>2</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)			
					Prevalence Index Worksheet		
					Total % Cover of:		
					OBL species <u>0</u> x 1 = <u>0</u>		
					FACW species <u>25</u> x 2 = <u>50</u>		
					FAC species <u>25</u> x 3 = <u>75</u>		
					FACU species <u>0</u> x 4 = <u>0</u>		
					UPL species <u>0</u> x 5 = <u>0</u>		
					Column totals <u>50</u> (A) <u>125</u> (B)		
					Prevalence Index = B/A = <u>2.50</u>		
					Hydrophytic Vegetation Indicators:		
					Rapid test for hydrophytic vegetation		
					<input checked="" type="checkbox"/> Dominance test is >50%		
					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u>Y</u>		
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>50</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)							
Road ditch wetland dominated by grasses							

Westwood Professional Services

SOIL

Sampling Point: WB-25-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-26-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R2E, Sec 24
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033554 Long.: -84.5898 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-26-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>0</u> x 4 = <u>0</u>			
				UPL species <u>100</u> x 5 = <u>500</u>			
				Column totals <u>100</u> (A) <u>500</u> (B)			
				Prevalence Index = B/A = <u>5.00</u>			
				Hydrophytic Vegetation Indicators:			
				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
				<input type="checkbox"/> Dominance test is >50%			
				<input type="checkbox"/> Prevalence index is ≤3.0*			
				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>N</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>100</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-26-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Grover Hill Wind Project	City/County:	Paulding County	Sampling Date:	June 10, 2020
Applicant/Owner:	Starwood Energy Group	State:	OH	Sampling Point:	WB-26-WET
Investigator(s):	MCV, PWS # 2115, WDC #1101	Section, Township, Range:	T1N, R2E, Sec 24		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Linear/Concave		
Slope (%):	3-7%	Lat.:	41.033582	Long.:	-84.589785
		Datum:	Lat/Long		
Soil Map Unit Name	Lc-Latty silty clay loam, till substratum, 0-1% slopes	NWI Classification:	Not Mapped		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Yes</u> (If no, explain in remarks)					
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> significantly disturbed?			Are "normal		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic?			circumstances" present? <u>Yes</u>		
(If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u> If yes, optional wetland site ID: _____ <hr/> Remarks: (Explain alternative procedures here or in a separate report.) <div style="padding-top: 20px;">Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed</div>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)						Secondary Indicators (minimum of two required)					
<input checked="" type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Surface Soil Cracks (B6)							
<input type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Drainage Patterns (B10)							
<input checked="" type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Marl Deposits (B15)		<input type="checkbox"/> Moss Trim Lines (B16)							
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Dry-Season Water Table (C2)							
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres on Living		<input type="checkbox"/> Crayfish Burrows (C8)							
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Roots (C3)		<input type="checkbox"/> Saturation Visible on Aerial Imagery							
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> (C9)							
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Recent Iron Reduction in Tilled		<input type="checkbox"/> Stunted or Stressed Plants (D1)							
<input type="checkbox"/> Inundation Visible on Aerial		<input type="checkbox"/> Soils (C6)		<input checked="" type="checkbox"/> Geomorphic Position (D2)							
<input type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Thin Muck Surface (C7)		<input type="checkbox"/> Shallow Aquitard (D3)							
<input type="checkbox"/> Sparsely Vegetated Concave		<input type="checkbox"/> Other (Explain in Remarks)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)							
<input type="checkbox"/> Surface (B8)				<input type="checkbox"/> Microtopographic Relief (D4)							

Field Observations:					
Surface water present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): <u>1</u>
Water table present?	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): <u>0</u>
Saturation present? (includes capillary fringe)	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	Depth (inches): <u>0</u>
				Indicators of wetland hydrology present? <u>Y</u>	

Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Primary and secondary wetland hydrology observed at the sample point

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-26-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	19	48	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>1</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>100.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>95</u> x 2 = <u>190</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>0</u> x 4 = <u>0</u>			
				UPL species <u>0</u> x 5 = <u>0</u>			
				Column totals <u>95</u> (A) <u>190</u> (B)			
				Prevalence Index = B/A = <u>2.00</u>			
				Hydrophytic Vegetation Indicators:			
				Rapid test for hydrophytic vegetation			
				<input checked="" type="checkbox"/> Dominance test is >50%			
				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>Y</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>95</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)							
Road ditch wetland dominated by grasses							

Westwood Professional Services

SOIL

Sampling Point: WB-26-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-27-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R2E, Sec 23
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.022679 Long.: -84.592264 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-27-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Bromus inermis</i>	100	Y	UPL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>100</u>	x 5 =	<u>500</u>
Column totals	<u>100</u> (A)		<u>500</u> (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Westwood Professional Services

SOIL

Sampling Point: WB-27-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Grover Hill Wind Project	City/County:	Paulding County	Sampling Date:	June 10, 2020
Applicant/Owner:	Starwood Energy Group	State:	OH	Sampling Point:	WB-27-WET
Investigator(s):	MCV, PWS # 2115, WDC #1101	Section, Township, Range:	T1N, R2E, Sec 23		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Linear/Concave		
Slope (%):	3-7%	Lat.:	41.02268	Long.:	-84.592215
		Datum:	Lat/Long		
Soil Map Unit Name	Lc-Latty silty clay loam, till substratum, 0-1% slopes	NWI Classification:	Not Mapped		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Yes</u> (If no, explain in remarks)					
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> significantly disturbed?			Are "normal		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic?			circumstances" present? <u>Yes</u>		
(If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)			
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed			

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)				Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)				Indicators of wetland hydrology present? <u>Y</u>			
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks: Primary and secondary wetland hydrology observed at the sample point							

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-27-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lacustris</i>	95	Y	OBL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		95 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by grasses

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	95	(A)	95

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Westwood Professional Services

SOIL

Sampling Point: WB-27-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-28-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R2E, Sec 25
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.018923 Long.: -84.590466 Datum: Lat/Long
 Soil Map Unit Name: Udorthents, clayey, hilly NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-28-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	3	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	34	Y	FACU	Total % Cover of:			
2	33	Y	FACU	OBL species	0 x 1 =	0	
3	33	Y	FACU	FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	100 x 4 =	400	
6				UPL species	0 x 5 =	0	
7				Column totals	100 (A)	400 (B)	
8				Prevalence Index = B/A =		4.00	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)					Hydrophytic vegetation present?		
Upland mowed area dominated by grasses					N		

Westwood Professional Services

SOIL

Sampling Point: WB-28-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Grover Hill Wind Project	City/County:	Paulding County	Sampling Date:	June 10, 2020
Applicant/Owner:	Starwood Energy Group	State:	OH	Sampling Point:	WB-28-WET
Investigator(s):	MCV, PWS # 2115, WDC #1101	Section, Township, Range:	T1N, R2E, Sec 25		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Linear/Concave		
Slope (%):	3-7%	Lat.:	41.018923	Long.:	-84.590466
		Datum:	Lat/Long		
Soil Map Unit Name	Uc-Udorthents, clayey, hilly	NWI Classification:	PUBGx		
Are climatic/hydrologic conditions of the site typical for this time of the year?				Yes	
				(If no, explain in remarks)	
Are vegetation	_____	soil	_____	or hydrology	_____
				significantly disturbed?	Are "normal
Are vegetation	_____	soil	_____	or hydrology	_____
				naturally problematic?	circumstances" present?
					Yes
(If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland sample point in excavated PUB wetland with narrow PEM fringe			

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply)						Secondary Indicators (minimum of two required)					
<input checked="" type="checkbox"/> Surface Water (A1)		<input type="checkbox"/> Water-Stained Leaves (B9)		<input type="checkbox"/> Surface Soil Cracks (B6)							
<input type="checkbox"/> High Water Table (A2)		<input type="checkbox"/> Aquatic Fauna (B13)		<input type="checkbox"/> Drainage Patterns (B10)							
<input checked="" type="checkbox"/> Saturation (A3)		<input type="checkbox"/> Marl Deposits (B15)		<input type="checkbox"/> Moss Trim Lines (B16)							
<input type="checkbox"/> Water Marks (B1)		<input type="checkbox"/> Hydrogen Sulfide Odor (C1)		<input type="checkbox"/> Dry-Season Water Table (C2)							
<input type="checkbox"/> Sediment Deposits (B2)		<input type="checkbox"/> Oxidized Rhizospheres on Living		<input type="checkbox"/> Crayfish Burrows (C8)							
<input type="checkbox"/> Drift Deposits (B3)		<input type="checkbox"/> Roots (C3)		<input type="checkbox"/> Saturation Visible on Aerial Imagery							
<input type="checkbox"/> Algal Mat or Crust (B4)		<input type="checkbox"/> Presence of Reduced Iron (C4)		<input type="checkbox"/> (C9)							
<input type="checkbox"/> Iron Deposits (B5)		<input type="checkbox"/> Recent Iron Reduction in Tilled		<input type="checkbox"/> Stunted or Stressed Plants (D1)							
<input type="checkbox"/> Inundation Visible on Aerial		<input type="checkbox"/> Soils (C6)		<input checked="" type="checkbox"/> Geomorphic Position (D2)							
<input checked="" type="checkbox"/> Imagery (B7)		<input type="checkbox"/> Thin Muck Surface (C7)		<input type="checkbox"/> Shallow Aquitard (D3)							
<input type="checkbox"/> Sparsely Vegetated Concave		<input type="checkbox"/> Other (Explain in Remarks)		<input checked="" type="checkbox"/> FAC-Neutral Test (D5)							
<input type="checkbox"/> Surface (B8)				<input type="checkbox"/> Microtopographic Relief (D4)							

Field Observations:						Indicators of wetland hydrology present? <u>Y</u>
Surface water present?	Yes	<u>X</u>	No	<u> </u>	Depth (inches): <u>5</u>	
Water table present?	Yes	<u>X</u>	No	<u> </u>	Depth (inches): <u>0</u>	
Saturation present? (includes capillary fringe)	Yes	<u>X</u>	No	<u> </u>	Depth (inches): <u>0</u>	
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:						
Remarks: Primary and secondary wetland hydrology observed at the sample point						

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-28-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	1	3	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	5	Y	FACW	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	5 x 2 =	10	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	5 (A)	10 (B)	
8				Prevalence Index = B/A =	2.00		
9							
10							
11							
12							
13							
14							
15							
5 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
0 = Total Cover							

					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
					Hydrophytic vegetation present? <u>Y</u>		

Remarks: (Include photo numbers here or on a separate sheet)
 PUB open water wetland with a narrow PEM fringe dominated by reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-28-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-29-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 30
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.018948 Long.: -84.555311 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-29-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1				Number of Dominant Species that are OBL, FACW, or FAC:			
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1				Total % Cover of:			
2				OBL species	0	x 1 = 0	
3				FACW species	0	x 2 = 0	
4				FAC species	0	x 3 = 0	
5				FACU species	0	x 4 = 0	
6				UPL species	100	x 5 = 500	
7				Column totals	100	(A) 500 (B)	
8				Prevalence Index = B/A =	5.00		
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		0	(A)	
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
6				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
7							
8							
9							
10							
11							
12							
13							
14							
15							
0 = Total Cover							

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				
Hydrophytic vegetation present? <u> N </u>				

Remarks: (Include photo numbers here or on a separate sheet)
 grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-29-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-29-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 30
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.018914 Long.: -84.555318 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-29-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lacustris</i>	95	Y	OBL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		95 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by grasses

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	95	(A)	95

Prevalence Index = B/A = 1.00

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Westwood Professional Services

SOIL

Sampling Point: WB-29-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 10, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-30-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.018897 Long.: -84.534071 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field edge upslope of PEM wetland in a roadside ditch. Soils are assumed, no soil pit excavated due to underground utilities	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-30-UP

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
2					Total Number of Dominant Species Across all Strata:	1	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1	<i>Bromus inermis</i>	100	Y	UPL	Total % Cover of:		
2					OBL species	0 x 1 =	0
3					FACW species	0 x 2 =	0
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	100 x 5 =	500
7					Column totals	100 (A)	500 (B)
8					Prevalence Index = B/A =	5.00	
9							
10							
11							
12							
13							
14							
15							
		100	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					<input type="checkbox"/> Rapid test for hydrophytic vegetation		
2					<input type="checkbox"/> Dominance test is >50%		
3					<input type="checkbox"/> Prevalence index is ≤3.0*		
4					<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

grassed strip between field and ditch dominated by smooth brome

Westwood Professional Services

SOIL

Sampling Point: WB-30-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No soil pit excavated due to utilities, non-hydric soil assumed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site:	Grover Hill Wind Project	City/County:	Paulding County	Sampling Date:	June 10, 2020
Applicant/Owner:	Starwood Energy Group	State:	OH	Sampling Point:	WB-30-WET
Investigator(s):	MCV, PWS # 2115, WDC #1101	Section, Township, Range:	T1N, R3E, Sec 28		
Landform (hillslope, terrace, etc.):	Depression	Local relief (concave, convex, none):	Linear/Concave		
Slope (%):	3-7%	Lat.:	41.018943	Long.:	-84.534055
		Datum:	Lat/Long		
Soil Map Unit Name	Lc-Latty silty clay loam, till substratum, 0-1% slopes	NWI Classification:	Not Mapped		
Are climatic/hydrologic conditions of the site typical for this time of the year? <u>Yes</u> (If no, explain in remarks)					
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> significantly disturbed?			Are "normal		
Are vegetation <u> </u> , soil <u> </u> , or hydrology <u> </u> naturally problematic?			circumstances" present? <u>Yes</u>		
(If needed, explain any answers in remarks)					

SUMMARY OF FINDINGS

Hydrophytic vegetation present?	<u>Y</u>	Is the sampled area within a wetland?	<u>Y</u>
Hydric soil present?	<u>Y</u>		
Indicators of wetland hydrology present?	<u>Y</u>	If yes, optional wetland site ID:	<u> </u>
Remarks: (Explain alternative procedures here or in a separate report.) Wetland sample point in roadside ditch. Due to utilities, no soil pit was excavated and soils are assumed			

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)				Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)			
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>3</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)				Indicators of wetland hydrology present? <u>Y</u>			
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							
Remarks: Primary and secondary wetland hydrology observed at the sample point							

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-30-WET

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Carex lacustris</i>	95	Y	OBL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		95 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

Remarks: (Include photo numbers here or on a separate sheet)

Road ditch wetland dominated by grasses

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	19	48
Woody Vine Stratum	0	0

Dominance Test Worksheet

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

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 100.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	95	x 1 =	95
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column totals	95	(A)	95

Prevalence Index = B/A = 1.00 (B)

Hydrophytic Vegetation Indicators:

Rapid test for hydrophytic vegetation

☒ Dominance test is >50%

☒ Prevalence index is ≤3.0*

Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? Y

Westwood Professional Services

SOIL

Sampling Point: WB-30-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators assumed at sample point, no pit excavated due to utilities in ditch

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 11, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-31-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.018801 Long.: -84.515891 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-31-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	3	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	34	Y	FACU	Total % Cover of:			
2	33	Y	FACU	OBL species	0 x 1 =	0	
3	33	Y	FACU	FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	100 x 4 =	400	
6				UPL species	0 x 5 =	0	
7				Column totals	100 (A)	400 (B)	
8				Prevalence Index = B/A =		4.00	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)					Hydrophytic vegetation present?		
Upland mowed area dominated by grasses					N		

Westwood Professional Services

SOIL

Sampling Point: WB-31-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 11, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-31-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.018748 Long.: -84.515896 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland with narrow PEM fringe	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-31-WET

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	1	3
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)
2					Total Number of Dominant Species Across all Strata:	1	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1	<i>Phalaris arundinacea</i>	5	Y	FACW	Total % Cover of:		
2					OBL species	0 x 1 =	0
3					FACW species	5 x 2 =	10
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	0 x 5 =	0
7					Column totals	5 (A)	10 (B)
8					Prevalence Index = B/A =	2.00	
9							
10							
11							
12							
13							
14							
15							
		5	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					<input checked="" type="checkbox"/> Rapid test for hydrophytic vegetation		
2					<input checked="" type="checkbox"/> Dominance test is >50%		
3					<input checked="" type="checkbox"/> Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with a narrow PEM fringe dominated by reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-31-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- Histisol (A1)
- Histic Epipedon (A2)
- Black Histic (A3)
- Hydrogen Sulfide (A4)
- Stratified Layers (A5)
- Depleted Below Dark Surface (A11)
- Thick Dark Surface (A12)
- Sandy Mucky Mineral (S1)
- Sandy Gleyed Matrix (S4)
- Sandy Redox (S5)
- Stripped Matrix (S6)
- Dark Surface (S7) (LRR R, MLRA 149B)

- Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
- Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
- Loamy Mucky Mineral (F1) (**LRR K, L**)
- Loamy Gleyed Matrix (F2)
- Depleted Matrix (F3)
- Redox Dark Surface (F6)
- Depleted Dark Surface (F7)
- Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 11, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-32-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 21
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019389 Long.: -84.521111 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope of excavated PUB wetland	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-32-UP

50/20 Thresholds				
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds		
	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet	
Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)	
Total Number of Dominant Species Across all Strata: <u>3</u> (B)	
Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)	

Prevalence Index Worksheet	
Total % Cover of:	
OBL species	<u>0</u> x 1 = <u>0</u>
FACW species	<u>0</u> x 2 = <u>0</u>
FAC species	<u>0</u> x 3 = <u>0</u>
FACU species	<u>100</u> x 4 = <u>400</u>
UPL species	<u>0</u> x 5 = <u>0</u>
Column totals	<u>100</u> (A) <u>400</u> (B)
Prevalence Index = B/A = <u>4.00</u>	

Hydrophytic Vegetation Indicators:	
<u> </u> Rapid test for hydrophytic vegetation	
<u> </u> Dominance test is >50%	
<u> </u> Prevalence index is ≤3.0*	
<u> </u> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
<u> </u> Problematic hydrophytic vegetation* (explain)	
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	

Definitions of Vegetation Strata:	
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines - All woody vines greater than 3.28 ft in height.	

Hydrophytic vegetation present?	
	<u> N </u>

Remarks: (Include photo numbers here or on a separate sheet)

Upland mowed area dominated by grasses

Westwood Professional Services

SOIL

Sampling Point: WB-32-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 11, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: WB-32-WET
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 21
 Landform (hillslope, terrace, etc.): Depression Local relief (concave, convex, none): Linear/Concave
 Slope (%): 3-7% Lat.: 41.019458 Long.: -84.521111 Datum: Lat/Long
 Soil Map Unit Name Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: PUBGx
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation , soil , or hydrology significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? Yes
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>Y</u>	Is the sampled area within a wetland? <u>Y</u>
Hydric soil present? <u>Y</u>	
Indicators of wetland hydrology present? <u>Y</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Wetland sample point in excavated PUB wetland with narrow PEM fringe	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input checked="" type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input checked="" type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input checked="" type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input checked="" type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input checked="" type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>5</u> Water table present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> Saturation present? Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> Depth (inches): <u>0</u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>Y</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: Primary and secondary wetland hydrology observed at the sample point		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: WB-32-WET

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	1	3	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	1	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	100.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	5	Y	FACW	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	5 x 2 =	10	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	0 x 5 =	0	
7				Column totals	5 (A)	10 (B)	
8				Prevalence Index = B/A =	2.00		
9							
10							
11							
12							
13							
14							
15							
5 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Rapid test for hydrophytic vegetation			
2				<input checked="" type="checkbox"/> Dominance test is >50%			
3				<input checked="" type="checkbox"/> Prevalence index is ≤3.0*			
4				Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Hydrophytic vegetation present?				
Y				

Remarks: (Include photo numbers here or on a separate sheet)

PUB open water wetland with a narrow PEM fringe dominated by reed canary grass

Westwood Professional Services

SOIL

Sampling Point: WB-32-WET

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surf (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? Y

Remarks:

Hydric soil indicators at sample point, no pit excavated due to deep water

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-01-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 25
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.005364 Long.: -84.466888 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-01-UP

Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Asclepias syriaca</i>	5	Y	UPL
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		5 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds

	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	1	3
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FAC species	<u>0</u> x 3 =	<u>0</u>
FACU species	<u>0</u> x 4 =	<u>0</u>
UPL species	<u>5</u> x 5 =	<u>25</u>
Column totals	<u>5</u> (A)	<u>25</u> (B)
Prevalence Index = B/A =		<u>5.00</u>

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn at the time of delineation, scatter common milkweed at sample point

Westwood Professional Services

SOIL

Sampling Point: SA-01-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface
 (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9)
 (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1)
 (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-02-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.011233 Long.: -84.490202 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, 0-1% NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-02-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	1	3	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
5 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u>	x 1 =	<u>0</u>
FACW species	<u>0</u>	x 2 =	<u>0</u>
FAC species	<u>0</u>	x 3 =	<u>0</u>
FACU species	<u>0</u>	x 4 =	<u>0</u>
UPL species	<u>5</u>	x 5 =	<u>25</u>
Column totals	<u>5</u> (A)		<u>25</u> (B)

Prevalence Index = B/A = 5.00

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in corn at the time of delineation, scatter common milkweed at sample point

Westwood Professional Services

SOIL

Sampling Point: SA-02-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____	Histisol (A1)	_____	Polyvalue Below Surface
_____	Histic Epipedon (A2)	_____	(S8) (LRR R, MLRA 149B)
_____	Black Histic (A3)	_____	Thin Dark Surface (S9)
_____	Hydrogen Sulfide (A4)	_____	(LRR R, MLRA 149B)
_____	Stratified Layers (A5)	_____	Loamy Mucky Mineral (F1)
_____	Depleted Below Dark Surface (A11)	_____	(LRR K, L)
_____	Thick Dark Surface (A12)	_____	Loamy Gleyed Matrix (F2)
_____	Sandy Mucky Mineral (S1)	_____	Depleted Matrix (F3)
_____	Sandy Gleyed Matrix (S4)	_____	Redox Dark Surface (F6)
_____	Sandy Redox (S5)	_____	Depleted Dark Surface (F7)
_____	Stripped Matrix (S6)	_____	Redox Depressions (F8)
_____	Dark Surface (S7) (LRR R, MLRA 149B)		

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-03-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 26
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.013206 Long.: -84.484716 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, 0-1% NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery <input type="checkbox"/> (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-03-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	9	23	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	45	Y	FACU	Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	45 x 4 =	180	
6				UPL species	0 x 5 =	0	
7				Column totals	45 (A)	180 (B)	
8				Prevalence Index = B/A =		4.00	
9							
10							
11							
12							
13							
14							
15							
45 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in winter wheat at the time of delineation, crabgrassat sample point

Westwood Professional Services

SOIL

Sampling Point: SA-03-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

___ Histisol (A1)	___ Polyvalue Below Surface
___ Histic Epipedon (A2)	___ (S8) (LRR R, MLRA 149B)
___ Black Histic (A3)	___ Thin Dark Surface (S9)
___ Hydrogen Sulfide (A4)	___ (LRR R, MLRA 149B)
___ Stratified Layers (A5)	___ Loamy Mucky Mineral (F1)
___ Depleted Below Dark Surface (A11)	___ (LRR K, L)
___ Thick Dark Surface (A12)	___ Loamy Gleyed Matrix (F2)
___ Sandy Mucky Mineral (S1)	___ Depleted Matrix (F3)
___ Sandy Gleyed Matrix (S4)	___ Redox Dark Surface (F6)
___ Sandy Redox (S5)	___ Depleted Dark Surface (F7)
___ Stripped Matrix (S6)	___ Redox Depressions (F8)
___ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-04-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 27
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.008687 Long.: -84.497716 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay loam, 0-1% NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-04-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	0	1	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	0	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Total % Cover of:			
2				OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	0 x 4 =	0	
6				UPL species	1 x 5 =	5	
7				Column totals	1 (A)	5 (B)	
8				Prevalence Index = B/A =	5.00		
9							
10							
11							
12							
13							
14							
15							
1 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Woody Vine Stratum					Definitions of Vegetation Strata:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
2				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
3				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
4				Woody vines - All woody vines greater than 3.28 ft in height.			
5							
0 = Total Cover							

Woody Vine Stratum					Hydrophytic vegetation present?		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in soybeans at the time of delineation, scattered common milkweed at sample point

Westwood Professional Services

SOIL

Sampling Point: SA-04-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

_____ Histisol (A1)	_____ Polyvalue Below Surface
_____ Histic Epipedon (A2)	_____ (S8) (LRR R, MLRA 149B)
_____ Black Histic (A3)	_____ Thin Dark Surface (S9)
_____ Hydrogen Sulfide (A4)	_____ (LRR R, MLRA 149B)
_____ Stratified Layers (A5)	_____ Loamy Mucky Mineral (F1)
_____ Depleted Below Dark Surface (A11)	_____ (LRR K, L)
_____ Thick Dark Surface (A12)	_____ Loamy Gleyed Matrix (F2)
_____ Sandy Mucky Mineral (S1)	_____ Depleted Matrix (F3)
_____ Sandy Gleyed Matrix (S4)	_____ Redox Dark Surface (F6)
_____ Sandy Redox (S5)	_____ Depleted Dark Surface (F7)
_____ Stripped Matrix (S6)	_____ Redox Depressions (F8)
_____ Dark Surface (S7) (LRR R, MLRA 149B)	

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-05-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 23
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.021283 Long.: -84.486177 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-05-UP

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	0	0
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)
2					Total Number of Dominant Species Across all Strata:	0	(B)
3					Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Total % Cover of:		
2					OBL species	0 x 1 =	0
3					FACW species	0 x 2 =	0
4					FAC species	0 x 3 =	0
5					FACU species	0 x 4 =	0
6					UPL species	0 x 5 =	0
7					Column totals	0 (A)	0 (B)
8					Prevalence Index = B/A =		
9							
10							
11							
12							
13							
14							
15							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					<input type="checkbox"/> Rapid test for hydrophytic vegetation		
2					<input type="checkbox"/> Dominance test is >50%		
3					<input type="checkbox"/> Prevalence index is ≤3.0*		
4					<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		

Woody Vine Stratum					Definitions of Vegetation Strata:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
2					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
3					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
4					Woody vines - All woody vines greater than 3.28 ft in height.		
5							
		0	= Total Cover				

Woody Vine Stratum					Hydrophytic vegetation present?		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1							
2							
3							
4							
5							
		0	= Total Cover				

Remarks: (Include photo numbers here or on a separate sheet)
 Upland field planted in corn at the time of delineation

Westwood Professional Services

SOIL

Sampling Point: SA-05-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-06-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 14
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.039304 Long.: -84.483438 Datum: Lat/Long
 Soil Map Unit Name: NpB2-Nappanee silty clay loam, 2-6% slopes, eroded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-06-UP

50/20 Thresholds				
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
		0 = Total Cover		

Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1	<i>Andropogon virginicus</i>	85	Y	FACU
2	<i>Bromus inermis</i>	15	N	UPL
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
		100 = Total Cover		

Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status
1				
2				
3				
4				
5				
		0 = Total Cover		

50/20 Thresholds		
	20%	50%
Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet		
Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)		
Total Number of Dominant Species Across all Strata: <u>1</u> (B)		
Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)		

Prevalence Index Worksheet		
Total % Cover of:		
OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FACU species	<u>0</u> x 3 =	<u>0</u>
UPL species	<u>85</u> x 4 =	<u>340</u>
Column totals	<u>100</u> (A)	<u>415</u> (B)
Prevalence Index = B/A =		<u>4.15</u>

Hydrophytic Vegetation Indicators:	
<input type="checkbox"/> Rapid test for hydrophytic vegetation	
<input type="checkbox"/> Dominance test is >50%	
<input type="checkbox"/> Prevalence index is ≤3.0*	
<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)	
<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)	
*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic	

Definitions of Vegetation Strata:	
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.	
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.	
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.	
Woody vines - All woody vines greater than 3.28 ft in height.	

Hydrophytic vegetation present?	
<u>N</u>	

Remarks: (Include photo numbers here or on a separate sheet)

Upland swale dominated by upland grasses

Westwood Professional Services

SOIL

Sampling Point: SA-06-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-07-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 11
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.059366 Long.: -84.491844 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	If yes, optional wetland site ID: <u> </u>
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field. Area is a filled in excavated pond	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-07-UP

Tree Stratum					50/20 Thresholds		
Tree Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%
1					Tree Stratum	0	0
2					Sapling/Shrub Stratum	0	0
3					Herb Stratum	20	50
4					Woody Vine Stratum	0	0
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Sapling/Shrub Stratum					Dominance Test Worksheet		
Sapling/Shrub Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)		
2					Total Number of Dominant Species Across all Strata: 1 (B)		
3					Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)		
4							
5							
6							
7							
8							
9							
10							
		0	= Total Cover				

Herb Stratum					Prevalence Index Worksheet		
Herb Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Total % Cover of:		
2					OBL species 0 x 1 = 0		
3					FACW species 0 x 2 = 0		
4					FAC species 0 x 3 = 0		
5					FACU species 95 x 4 = 380		
6					UPL species 5 x 5 = 25		
7					Column totals 100 (A) 405 (B)		
8					Prevalence Index = B/A = 4.05		
9							
10							
11							
12							
13							
14							
15							
		100	= Total Cover				

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Woody Vine Stratum	Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status			
1					Rapid test for hydrophytic vegetation		
2					Dominance test is >50%		
3					Prevalence index is ≤3.0*		
4					Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)		
5					Problematic hydrophytic vegetation* (explain)		
					*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic		
					Definitions of Vegetation Strata:		
					Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.		
					Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.		
					Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.		
					Woody vines - All woody vines greater than 3.28 ft in height.		
		0	= Total Cover		Hydrophytic vegetation present? N		

Remarks: (Include photo numbers here or on a separate sheet)

Upland swale dominated by Canada thistle

Westwood Professional Services

SOIL

Sampling Point: SA-07-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-08-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 11
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.058238 Long.: -84.485278 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field. Area is a filled in excavated pond	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-08-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

50/20 Thresholds

Tree Stratum	0	0
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	95	x 4 =	380
UPL species	5	x 5 =	25
Column totals	100 (A)		405 (B)
Prevalence Index = B/A = <u>4.05</u>			

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in soybeans

Westwood Professional Services

SOIL

Sampling Point: SA-08-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-09-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 12
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.051511 Long.: -84.469651 Datum: Lat/Long
 Soil Map Unit Name: BrB2-Broughton silty clay loam, 2-6% slopes, eroded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-09-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	95	Y	FACU	Total % Cover of:			
2	5	N	UPL	OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	95 x 4 =	380	
6				UPL species	5 x 5 =	25	
7				Column totals	100 (A)	405 (B)	
8				Prevalence Index = B/A =		4.05	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				___ Rapid test for hydrophytic vegetation			
2				___ Dominance test is >50%			
3				___ Prevalence index is ≤3.0*			
4				___ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				___ Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in Corn

Westwood Professional Services

SOIL

Sampling Point: SA-09-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- _____ Histisol (A1)
- _____ Histic Epipedon (A2)
- _____ Black Histic (A3)
- _____ Hydrogen Sulfide (A4)
- _____ Stratified Layers (A5)
- _____ Depleted Below Dark Surface (A11)
- _____ Thick Dark Surface (A12)
- _____ Sandy Mucky Mineral (S1)
- _____ Sandy Gleyed Matrix (S4)
- _____ Sandy Redox (S5)
- _____ Stripped Matrix (S6)
- _____ Dark Surface (S7) (LRR R, MLRA 149B)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-10-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 22
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.033243 Long.: -84.512223 Datum: Lat/Long
 Soil Map Unit Name: Pc-Paulding clay, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-10-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Sapling/Shrub Stratum					Dominance Test Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				Number of Dominant Species that are OBL, FACW, or FAC:	0	(A)	
2				Total Number of Dominant Species Across all Strata:	1	(B)	
3				Percent of Dominant Species that are OBL, FACW, or FAC:	0.00%	(A/B)	
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							

Herb Stratum					Prevalence Index Worksheet		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1	95	Y	FACU	Total % Cover of:			
2	5	N	UPL	OBL species	0 x 1 =	0	
3				FACW species	0 x 2 =	0	
4				FAC species	0 x 3 =	0	
5				FACU species	95 x 4 =	380	
6				UPL species	5 x 5 =	25	
7				Column totals	100 (A)	405 (B)	
8				Prevalence Index = B/A =		4.05	
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							

Woody Vine Stratum					Hydrophytic Vegetation Indicators:		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
2				<input type="checkbox"/> Dominance test is >50%			
3				<input type="checkbox"/> Prevalence index is ≤3.0*			
4				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
5				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			

Definitions of Vegetation Strata:				
Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.				
Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.				
Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.				
Woody vines - All woody vines greater than 3.28 ft in height.				

Hydrophytic vegetation present?				
N				

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in Soybeans

Westwood Professional Services

SOIL

Sampling Point: SA-10-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

___ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
 ___ Coast Prairie Redox (A16) (**LRR K, L, R**)
 ___ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
 ___ Dark Surface (S7) (**LRR K, L**)
 ___ Polyvalue Below Surface (S8) (**LRR K, L**)
 ___ Thin Dark Surface (S9) (**LRR K, L**)
 ___ Iron-Manganese Masses (F12) (**LRR K, L, R**)
 ___ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
 ___ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
 ___ Red Parent Material (F21)
 ___ Very Shallow Dark Surface (TF12)
 ___ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-11-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 19
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019226 Long.: -84.560343 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-11-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>95</u> x 4 = <u>380</u>			
				UPL species <u>5</u> x 5 = <u>25</u>			
				Column totals <u>100</u> (A) <u>405</u> (B)			
				Prevalence Index = B/A = <u>4.05</u>			
				Hydrophytic Vegetation Indicators:			
				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
				<input type="checkbox"/> Dominance test is >50%			
				<input type="checkbox"/> Prevalence index is ≤3.0*			
				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>N</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>100</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			
Remarks: (Include photo numbers here or on a separate sheet)							
Upland field planted in Soybeans							

Westwood Professional Services

SOIL

Sampling Point: SA-11-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-12-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 20
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019239 Long.: -84.551531 Datum: Lat/Long
 Soil Map Unit Name: Sb-Saranac silty cly loam, occasionally flooded NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-12-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
0 = Total Cover							
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
100 = Total Cover							
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
0 = Total Cover							

50/20 Thresholds

Tree Stratum	20%	50%
Sapling/Shrub Stratum	0	0
Herb Stratum	20	50
Woody Vine Stratum	0	0

Dominance Test Worksheet

Number of Dominant Species that are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across all Strata: 1 (B)

Percent of Dominant Species that are OBL, FACW, or FAC: 0.00% (A/B)

Prevalence Index Worksheet

Total % Cover of:

OBL species	<u>0</u> x 1 =	<u>0</u>
FACW species	<u>0</u> x 2 =	<u>0</u>
FAC species	<u>0</u> x 3 =	<u>0</u>
FACU species	<u>95</u> x 4 =	<u>380</u>
UPL species	<u>5</u> x 5 =	<u>25</u>
Column totals	<u>100</u> (A)	<u>405</u> (B)
Prevalence Index = B/A =	<u>4.05</u>	

Hydrophytic Vegetation Indicators:

☐ Rapid test for hydrophytic vegetation

☐ Dominance test is >50%

☐ Prevalence index is ≤3.0*

☐ Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)

☐ Problematic hydrophytic vegetation* (explain)

*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic

Definitions of Vegetation Strata:

Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.

Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.

Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.

Woody vines - All woody vines greater than 3.28 ft in height.

Hydrophytic vegetation present? N

Remarks: (Include photo numbers here or on a separate sheet)

Upland field planted in wheat

Westwood Professional Services

SOIL

Sampling Point: SA-12-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-13-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 20
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.019167 Long.: -84.54791 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-13-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>95</u> x 4 = <u>380</u>			
				UPL species <u>5</u> x 5 = <u>25</u>			
				Column totals <u>100</u> (A) <u>405</u> (B)			
				Prevalence Index = B/A = <u>4.05</u>			
				Hydrophytic Vegetation Indicators:			
				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
				<input type="checkbox"/> Dominance test is >50%			
				<input type="checkbox"/> Prevalence index is ≤3.0*			
				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>N</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>100</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)
 Upland field recently planted and unvegetated at the time of delineation

Westwood Professional Services

SOIL

Sampling Point: SA-13-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Westwood Professional Services

WETLAND DETERMINATION DATA FORM - Northcentral and Northeast Region

Project/Site: Grover Hill Wind Project City/County: Paulding County Sampling Date: June 9, 2020
 Applicant/Owner: Starwood Energy Group State: OH Sampling Point: SA-14-UP
 Investigator(s): MCV, PWS # 2115, WDC #1101 Section, Township, Range: T1N, R3E, Sec 28
 Landform (hillslope, terrace, etc.): Sideslope Local relief (concave, convex, none): Linear/Linear
 Slope (%): 3-7% Lat.: 41.018964 Long.: -84.517822 Datum: Lat/Long
 Soil Map Unit Name: Lc-Latty silty clay, till substratum, 0-1% slopes NWI Classification: Not Mapped
 Are climatic/hydrologic conditions of the site typical for this time of the year? Yes (If no, explain in remarks)
 Are vegetation X, soil , or hydrology X significantly disturbed? Are "normal
 Are vegetation , soil , or hydrology naturally problematic? circumstances" present? No
 (If needed, explain any answers in remarks)

SUMMARY OF FINDINGS

Hydrophytic vegetation present? <u>N</u>	Is the sampled area within a wetland? <u>N</u>
Hydric soil present? <u>N</u>	
Indicators of wetland hydrology present? <u>N</u>	
Remarks: (Explain alternative procedures here or in a separate report.)	
Upland sample point in field upslope, identified as a suspect are but determined to be upland. Drainage tile observed in field.	

HYDROLOGY

Primary Indicators (minimum of one is required; check all that apply) <input type="checkbox"/> Surface Water (A1) <input type="checkbox"/> Water-Stained Leaves (B9) <input type="checkbox"/> High Water Table (A2) <input type="checkbox"/> Aquatic Fauna (B13) <input type="checkbox"/> Saturation (A3) <input type="checkbox"/> Marl Deposits (B15) <input type="checkbox"/> Water Marks (B1) <input type="checkbox"/> Hydrogen Sulfide Odor (C1) <input type="checkbox"/> Sediment Deposits (B2) <input type="checkbox"/> Oxidized Rhizospheres on Living <input type="checkbox"/> Drift Deposits (B3) <input type="checkbox"/> Roots (C3) <input type="checkbox"/> Algal Mat or Crust (B4) <input type="checkbox"/> Presence of Reduced Iron (C4) <input type="checkbox"/> Iron Deposits (B5) <input type="checkbox"/> Recent Iron Reduction in Tilled <input type="checkbox"/> Inundation Visible on Aerial <input type="checkbox"/> Soils (C6) <input type="checkbox"/> Imagery (B7) <input type="checkbox"/> Thin Muck Surface (C7) <input type="checkbox"/> Sparsely Vegetated Concave <input type="checkbox"/> Other (Explain in Remarks) <input type="checkbox"/> Surface (B8)		Secondary Indicators (minimum of two required) <input type="checkbox"/> Surface Soil Cracks (B6) <input type="checkbox"/> Drainage Patterns (B10) <input type="checkbox"/> Moss Trim Lines (B16) <input type="checkbox"/> Dry-Season Water Table (C2) <input type="checkbox"/> Crayfish Burrows (C8) <input type="checkbox"/> Saturation Visible on Aerial Imagery (C9) <input type="checkbox"/> Stunted or Stressed Plants (D1) <input type="checkbox"/> Geomorphic Position (D2) <input type="checkbox"/> Shallow Aquitard (D3) <input type="checkbox"/> FAC-Neutral Test (D5) <input type="checkbox"/> Microtopographic Relief (D4)
Field Observations: Surface water present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Water table present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> Saturation present? Yes <u> </u> No <u>X</u> Depth (inches): <u> </u> (includes capillary fringe)		Indicators of wetland hydrology present? <u>N</u>
Describe recorded data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		
Remarks: No evidence wetland hydrology observed at the sample point, drainage tile observed in field		

Westwood Professional Services

VEGETATION - Use scientific names of plants

Sampling Point: SA-14-UP

Tree Stratum					50/20 Thresholds		
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status		20%	50%	
1				Tree Stratum	0	0	
2				Sapling/Shrub Stratum	0	0	
3				Herb Stratum	20	50	
4				Woody Vine Stratum	0	0	
5							
6							
7							
8							
9							
10							
				Dominance Test Worksheet			
				Number of Dominant Species that are OBL, FACW, or FAC: <u>0</u> (A)			
				Total Number of Dominant Species Across all Strata: <u>1</u> (B)			
				Percent of Dominant Species that are OBL, FACW, or FAC: <u>0.00%</u> (A/B)			
				Prevalence Index Worksheet			
				Total % Cover of:			
				OBL species <u>0</u> x 1 = <u>0</u>			
				FACW species <u>0</u> x 2 = <u>0</u>			
				FAC species <u>0</u> x 3 = <u>0</u>			
				FACU species <u>95</u> x 4 = <u>380</u>			
				UPL species <u>5</u> x 5 = <u>25</u>			
				Column totals <u>100</u> (A) <u>405</u> (B)			
				Prevalence Index = B/A = <u>4.05</u>			
				Hydrophytic Vegetation Indicators:			
				<input type="checkbox"/> Rapid test for hydrophytic vegetation			
				<input type="checkbox"/> Dominance test is >50%			
				<input type="checkbox"/> Prevalence index is ≤3.0*			
				<input type="checkbox"/> Morphological adaptations* (provide supporting data in Remarks or on a separate sheet)			
				<input type="checkbox"/> Problematic hydrophytic vegetation* (explain)			
				*Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic			
				Definitions of Vegetation Strata:			
				Tree - Woody plants 3 in. (7.6 cm) or more in diameter at breast height (DBH), regardless of height.			
				Sapling/shrub - Woody plants less than 3 in. DBH and greater than 3.28 ft (1 m) tall.			
				Herb - All herbaceous (non-woody) plants, regardless of size, and woody plants less than 3.28 ft tall.			
				Woody vines - All woody vines greater than 3.28 ft in height.			
				Hydrophytic vegetation present? <u>N</u>			
Sapling/Shrub Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
				<u>0</u> = Total Cover			
Herb Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
				<u>100</u> = Total Cover			
Woody Vine Stratum							
Plot Size ()	Absolute % Cover	Dominant Species	Indicator Status				
1							
2							
3							
4							
5							
				<u>0</u> = Total Cover			

Remarks: (Include photo numbers here or on a separate sheet)
 Upland field planted in wheat at the time of delineation

Westwood Professional Services

SOIL

Sampling Point: SA-14-UP

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

[illegible]

*Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains

**Location: PL=Pore Lining, M=Matrix

Hydric Soil Indicators:

- ___ Histisol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Dark Surface (S7) (**LRR R, MLRA 149B**)

Polyvalue Below Surface (S8) (**LRR R, MLRA 149B**)
 Thin Dark Surface (S9) (**LRR R, MLRA 149B**)
 Loamy Mucky Mineral (F1) (**LRR K, L**)
 Loamy Gleyed Matrix (F2)
 Depleted Matrix (F3)
 Redox Dark Surface (F6)
 Depleted Dark Surface (F7)
 Redox Depressions (F8)

Indicators for Problematic Hydric Soils:

☐ 2 cm Muck (A10) (**LRR K, L, MLRA 149B**)
☐ Coast Prairie Redox (A16) (**LRR K, L, R**)
☐ 5 cm Mucky Peat or Peat (S3) (**LRR K, L, R**)
☐ Dark Surface (S7) (**LRR K, L**)
☐ Polyvalue Below Surface (S8) (**LRR K, L**)
☐ Thin Dark Surface (S9) (**LRR K, L**)
☐ Iron-Manganese Masses (F12) (**LRR K, L, R**)
☐ Piedmont Floodplain Soils (F19) (**MLRA 149B**)
☐ Mesic Spodic (TA6) (**MLRA 144A, 145, 149B**)
☐ Red Parent Material (F21)
☐ Very Shallow Dark Surface (TF12)
☐ Other (Explain in Remarks)

*Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic

Restrictive Layer (if observed):

Type: _____

Depth (inches):

Hydric soil present? N

Remarks:

No hydric soil indicators observed

Grover Hill Wind Project

Paulding County Ohio

Appendix B: Functional Assessment Forms

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6-9-2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:			
Vegetation Communit(ies):	LB-01 PFO Type 7		
HGM Class(es):	Mineral Soil Flats		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See wetland delineation report		
Lat/Long or UTM Coordinate	41.010286 -84.484714		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N R3E 5		
Section and Subsection	Sec 26		
Hydrologic Unit Code			
Site Visit	6/9/2020		
National Wetland Inventory Map	not mapped		
Ohio Wetland Inventory Map	not mapped		
Soil Survey	NpA		
Delineation report/map	LB-01 in report		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-01</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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<u>4</u>	<u>4</u>
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)

<u>1</u>	<u>5</u>
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), shrub land, 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)

<u>13</u>	<u>18</u>
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 |

<u>8</u>	<u>26</u>
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 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 |

<u>26</u>
subtotal this page

Site: WB-01 Rater(s): MCV Date: 6/9/2020

26
subtotal first page

5 31
max 10 pts. subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- ☐ Old growth forest (10)
- ☒ 5 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)

8 39
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
- ☒ 2 X Forest
- ☐ Mudflats
- ☐ Open water
- ☐ Other

6b. horizontal (plan view) Interspersion.

Select only one.

- ☐ High (5)
- ☐ Moderately high (4)
- ☒ 3 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)
- ☒ -1 Sparse 5-25% cover (-1)
- ☐ Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussucks
- ☒ 2 Coarse woody debris >15cm (6in)
- ☒ 2 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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

39

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input checked="" type="radio"/> YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	<input checked="" type="radio"/> YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	4	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	8	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	8	
	TOTAL SCORE	39	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	<input checked="" type="radio"/> YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	<input checked="" type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH
Date:	6-9-2020
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303
Phone Number:	612-280-4009
e-mail address:	matt.vollbrecht@westwoodps.com
Name of Wetland:	WB-02
Vegetation Community(ies):	PEM Type 2
HGM Class(es):	Depressional
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	
See Wetland delineation report	
Lat/Long or UTM Coordinate	41.004546 - 84.489497
USGS Quad Name	
County	Paulding, Ohio
Township	T1N R3E
Section and Subsection	35
Hydrologic Unit Code	
Site Visit	6/9/2020
National Wetland Inventory Map	not mapped
Ohio Wetland Inventory Map	not mapped
Soil Survey	NpA
Delineation report/map	WB-02 in Report

Name of Wetland: WB-02	
Wetland Size (acres, hectares): 1,982 sr ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
See Delineation Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 5	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>Corover Hill</u>	Rater(s): <u>MCV</u>	Date: <u>6/9/2020</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, 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	5
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 type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other

3	8
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 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 type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

8
subtotal this page

Site: <u>Grover Hill</u>	Rater(s): <u>mcV</u>	Date: <u>6/9/2020</u>
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8

subtotal first page

0

8

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

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3, may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>84</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersed, microtopography	<u>-3</u>	
	TOTAL SCORE	<u>5</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-03		
Vegetation Communit(ies):	PEM Type 2		
HGM Class(es):	Depression		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Wetland Delineation Report		
Lat/Long or UTM Coordinate	40.999479 - 84.488527		
USGS Quad Name			
County	Paulding, Ohio		
Township	T1N R3E		
Section and Subsection	35		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	not mapped		
Ohio Wetland Inventory Map	not mapped		
Soil Survey	Sb		
Delineation report/map	yes - WB-03 in Report		

Name of Wetland: WB-03	
Wetland Size (acres, hectares):	2,729 sq ft
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
See Wetland Delineation Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score :	37
Category:	2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-03</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

9	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.

- ☐ 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), shrub land, 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)

13	22
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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)

10	32
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

32
subtotal this page

Site: W13-03 Rater(s): mcv Date: 6/9/2020

32

subtotal first page

0 32

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 37

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

37

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>9</u>	
	Metric 3. Hydrology	<u>13</u>	
	Metric 4. Habitat	<u>10</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersion, microtopography	<u>5</u>	
	TOTAL SCORE	<u>37</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding gray zone</i>)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including any gray zone</i>)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input checked="" type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category
 Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-04		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depression		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	40.996733 - 84.495584		
USGS Quad Name			
County	Paulding, Ohio		
Township	T1N R3E		
Section and Subsection	35		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	not mapped		
Ohio Wetland Inventory Map	not mapped		
Soil Survey	Db		
Delineation report/map	WB-04		

Name of Wetland: <u>W B-04</u>	
Wetland Size (acres, hectares): <u>969 sq ft</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. <div style="text-align: center; font-size: 1.2em;">See Delineation Report</div>	
Comments, Narrative Discussion, Justification of Category Changes: 	
Final score : <u>- 5</u>	Category: <u>1</u>

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	<u>YES</u> Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-04</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, 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)

5	6
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)

Check all disturbances observed

- | | |
|---|---|
| <input checked="" 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 |

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)

3	9
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 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 |

9

subtotal this page

Site: WB-04 Rater(s): mcv Date: 6/9/2020

9

subtotal first page

-10 -1

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 -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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

-5

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>5</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>- 10</u>	
	Metric 6. Plant communities, interspersation, microtopography	<u>- 4</u>	
	TOTAL SCORE	<u>- 5</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-05		
Vegetation Community(ies):	PFO Type 7		
HGM Class(es):	Mineral Soil Flat		
Location of Wetland:	include map, address, north arrow, landmarks, distances, roads, etc. See Delineation Report		
Lat/Long or UTM Coordinate	41.010489 - 84.500333		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	27		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map	WB-05		

Name of Wetland: WB-05	
Wetland Size (acres, hectares): 168,669 sq ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p>See Delineation Report</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score :	34
Category:	2

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812-July 6, 2000)	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>W3-05</u>	Rater(s): <u>MCV</u>	Date: <u>6/9/2020</u>
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3

max 6 pts.

3

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)

1

max 14 pts.

4

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), shrub land, 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

max 30 pts.

12

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"/> point source (nonstormwater) |
| <input checked="" 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 |

12

max 20 pts

24

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 type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input checked="" 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 |

24

subtotal this page

Site: <u>WB-05</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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24

subtotal first page

5	29
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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	34
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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/mounds
- ☒ 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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

34

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1 Critical Habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input checked="" type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 7. Fens	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input checked="" type="radio"/> NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<input checked="" type="radio"/> YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input checked="" type="radio"/> NO	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <input checked="" type="radio"/> NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input checked="" type="radio"/> NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	8	
	Metric 4. Habitat	12	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	5	
	TOTAL SCORE	34	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	<input checked="" type="radio"/> YES Wetland should be evaluated for possible Category 3 status	NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	<input checked="" type="radio"/> YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category
 Choose one Category 1 ☒ Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-06		
Vegetation Community(ies):	Type 2 PEM		
HGM Class(es):	Depressional		
Location of Wetland:	include map, address, north arrow, landmarks, distances, roads, etc.		
	See Delineation Report		
Lat/Long or UTM Coordinate	41.004509 - 84.505155		
USGS Quad Name			
County	Paulding, Ohio		
Township	1 N 3 E		
Section and Subsection	34		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	LC		
Delineation report/map	WB-06		

Name of Wetland: WB-06	
Wetland Size (acres, hectares):	287 s, ft
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p>See Delineation Report</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score :	-1
Category:	1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	<u>YES</u> Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<u>NO</u> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<u>NO</u> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<u>NO</u> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<u>NO</u> Complete Quantitative Rating

Site: <u>W13-06</u>	Rater(s): <u>MCV</u>	Date: <u>6/9/2020</u>
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, 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)

5	6
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.

- | | | | | | | | | | | | |
|---|--|--------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|-----------------------------------|---|--------------------------------|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (12) <input type="checkbox"/> Recovered (7) <input type="checkbox"/> Recovering (3) <input checked="" type="checkbox"/> Recent or no recovery (1) | <div style="border: 1px solid black; padding: 5px;"> <p>Check all disturbances observed</p> <table border="0" style="width: 100%;"> <tr> <td><input type="checkbox"/> ditch</td> <td><input type="checkbox"/> point source (nonstormwater)</td> </tr> <tr> <td><input type="checkbox"/> tile</td> <td><input type="checkbox"/> filling/grading</td> </tr> <tr> <td><input type="checkbox"/> dike</td> <td><input type="checkbox"/> road bed/RR track</td> </tr> <tr> <td><input type="checkbox"/> weir</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> stormwater input</td> <td><input type="checkbox"/> other</td> </tr> </table> </div> | <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 |
| <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 | | | | | | | | | | |

3	9
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.

- | | | | | | | | | | | | | | |
|--|--|--|--|----------------------------------|---|---------------------------------------|--|--|-----------------------------------|---|----------------------------------|---|--|
| <ul style="list-style-type: none"> <input type="checkbox"/> None or none apparent (9) <input type="checkbox"/> Recovered (6) <input type="checkbox"/> Recovering (3) <input checked="" type="checkbox"/> Recent or no recovery (1) | <div style="border: 1px solid black; padding: 5px;"> <p>Check all disturbances observed</p> <table border="0" style="width: 100%;"> <tr> <td><input checked="" type="checkbox"/> mowing</td> <td><input type="checkbox"/> shrub/sapling removal</td> </tr> <tr> <td><input type="checkbox"/> grazing</td> <td><input type="checkbox"/> herbaceous/aquatic bed removal</td> </tr> <tr> <td><input type="checkbox"/> clearcutting</td> <td><input type="checkbox"/> sedimentation</td> </tr> <tr> <td><input type="checkbox"/> selective cutting</td> <td><input type="checkbox"/> dredging</td> </tr> <tr> <td><input type="checkbox"/> woody debris removal</td> <td><input type="checkbox"/> farming</td> </tr> <tr> <td><input type="checkbox"/> toxic pollutants</td> <td><input type="checkbox"/> nutrient enrichment</td> </tr> </table> </div> | <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | <input 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 |
| <input checked="" type="checkbox"/> mowing | <input type="checkbox"/> shrub/sapling removal | | | | | | | | | | | | |
| <input 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 | | | | | | | | | | | | |

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subtotal this page

Site: <u>WB-06</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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subtotal first page

-10	-1
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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	-1
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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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

-1

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	<input checked="" type="radio"/> YES <input type="radio"/> NO	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	0	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	5	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	-10	
	Metric 6. Plant communities, interspersion, microtopography	0	
	TOTAL SCORE	-1	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	<input checked="" type="radio"/> YES Wetland is categorized as a Category 1 wetland	<input type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	<input checked="" type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-07		
Vegetation Community(ies):	PFO Type 7		
HGM Class(es):	Mineral Soil Flat		
Location of Wetland:	include map, address, north arrow, landmarks, distances, roads, etc. See Delineation Report		
Lat/Long or UTM Coordinate	41.001617 -84.508700		
USGS Quad Name			
County	Paulding, Ohio		
Township			
Section and Subsection	1N 3E		
Hydrologic Unit Code	34		
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map	WB-07		

Name of Wetland: <u>WB-07</u>	
Wetland Size (acres, hectares): <u>53,044 sq ft</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p>See Delineation Report</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score :	<u>36</u>
Category:	<u>2</u>

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-07</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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<u>3</u>	<u>3</u>
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)

<u>1</u>	<u>4</u>
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), shrub land, 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)

<u>11</u>	<u>15</u>
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 |

<u>10</u>	<u>25</u>
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 type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input checked="" type="checkbox"/> selective cutting | <input type="checkbox"/> dredging |
| <input checked="" type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

<u>25</u>

subtotal this page

Site: WB-07 Rater(s): mcv Date: 6/9/2020

25

subtotal first page

5 30

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)

6 36

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

36

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	<u>YES</u> NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3
	Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Metric 1. Size	<u>3</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>11</u>	
	Metric 4. Habitat	<u>10</u>	
	Metric 5. Special Wetland Communities	<u>5</u>	
	Metric 6. Plant communities, interspersions, microtopography	<u>6</u>	
	TOTAL SCORE	<u>36</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	Category 1	<input checked="" type="radio"/> Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-08		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.018998 - 84.515049		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	28		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map	WB-08		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: WB-08	Rater(s): MCV	Date: 6/9/2020
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0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, 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	9
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 type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other

5	14
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 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 type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

14
subtotal this page

Site: <u>WB-02</u>	Rater(s): <u>mcu</u>	Date: <u>8/9/2020</u>
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14

subtotal first page

0

14

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

13

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

13

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>8</u>	
	Metric 4. Habitat	<u>5</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersion, microtopography	<u>-1</u>	
	TOTAL SCORE	<u>13</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate</i> OR <i>superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-09		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.619070 -84.500307		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	27		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map	WB-09		

Name of Wetland: WB-09	
Wetland Size (acres, hectares): 19,775 sq ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
<p style="text-align: center;">See Delineation Report</p>	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 10	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: WB-09	Rater(s): mcv	Date: 6/9/2020
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1	1
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)

1	2
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), shrub land, 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)

6	8
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 type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other

3	11
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 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 type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

11

subtotal this page

Site: <u>WB-09</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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11

subtotal first page

<u>0</u>	<u>11</u>
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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)

<u>-1</u>	<u>10</u>
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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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

<u>10</u>

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>6</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersed, microtopography	<u>-1</u>	
	TOTAL SCORE	<u>10</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	LWB-05		
Vegetation Community(ies):	PUB Type S		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.020309 -84.486318		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	23		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Uc		
Delineation report/map	LWB-10		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (85 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-10</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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2	2
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)

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), shrub land, 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)

11	14
max 30 pts.	subtotal

Metric 3. Hydrology.

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

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

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

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

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

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

3b. Connectivity. Score all that apply.

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

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

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

Check all disturbances observed	
<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 type="checkbox"/> filling/grading <input type="checkbox"/> road bed/RR track <input type="checkbox"/> dredging <input type="checkbox"/> other

5	19
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 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 type="checkbox"/> sedimentation <input checked="" type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

19
subtotal this page

Site: <u>WB-10</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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19

subtotal first page

0

19

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

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) 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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

22

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>2</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>11</u>	
	Metric 4. Habitat	<u>5</u>	
	Metric 5. Special Wetland Communities	<u>6</u>	
	Metric 6. Plant communities, interspersion, microtopography	<u>3</u>	
	TOTAL SCORE	<u>22</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

Final Category

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-11		
Vegetation Community(ies):	PUB Type S		
HGM Class(es):	Depression		
Location of Wetland:	include map, address, north arrow, landmarks, distances, roads, etc. <div style="text-align: center; font-size: 1.2em;">See Delineation Report</div>		
Lat/Long or UTM Coordinate	41.030790 - 84.482337		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	23		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	PC		
Delineation report/map	WB-11		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: WB-11 Rater(s): mcv Date: 9/26/9/2020

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, 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)

11	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"/> 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 |

3	15
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 type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

15
subtotal this page

Site: WB-11 Rater(s): mcv Date: 6/9/2020

15

subtotal first page

0 15

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 18

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

18

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3
	Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>11</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersions, microtopography	<u>3</u>	
	TOTAL SCORE	<u>18</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	NO	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-12		
Vegetation Communit(ies):	PFO Type 7		
HGM Class(es):	Mineral Soil Flat		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.640327	-84.484298	
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	14		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Np B2		
Delineation report/map	WB-12		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: WB-12

Rater(s): MCV

Date: 6/9/2020

5	5
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)

1	6
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), shrub land, 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	21
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"/> point source (nonstormwater)
<input checked="" 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

10	31
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 type="checkbox"/> grazing	<input type="checkbox"/> herbaceous/aquatic bed removal
<input type="checkbox"/> clearcutting	<input type="checkbox"/> sedimentation
<input checked="" type="checkbox"/> selective cutting	<input type="checkbox"/> dredging
<input checked="" type="checkbox"/> woody debris removal	<input type="checkbox"/> farming
<input type="checkbox"/> toxic pollutants	<input type="checkbox"/> nutrient enrichment

31
subtotal this page

Site: <u>W13-12</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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31

subtotal first page

5	36
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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)

7	43
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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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

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End of Quantitative Rating. Complete Categorization Worksheets.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<u>NO</u>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	<u>YES</u> Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<u>NO</u>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<u>YES</u> Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<u>NO</u>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<u>NO</u> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category
 Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-13		
Vegetation Community(ies):	PUB Type 2		
HGM Class(es):	Depression		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.029570 -84.491918		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	23		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	PC		
Delineation report/map	WB-13		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: W3-13 Rater(s): mcv Date: 6/9/2020

1	1
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)

1	2
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), shrub land, 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)

9	11
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)

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 |

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)

3	14
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 type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

14
subtotal this page

Site: WB-13	Rater(s): mcv	Date: 6/9/2020
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14

subtotal first page

0	14
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	17
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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

17

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 1.
	Question 6. Bogs	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 7. Fens	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <input type="radio"/> NO <input checked="" type="radio"/>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	9	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersion, microtopography	3	
	TOTAL SCORE	17	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category
 Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	LWB-14		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.633584 -84.496001		
USGS Quad Name			
County	Paulding, Ohio		
Township	1 N 3 E		
Section and Subsection	22		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	PC		
Delineation report/map	LWB-14		

Name of Wetland: <u>WB-14</u>	
Wetland Size (acres, hectares): <u>8390 sq ft</u>	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. <div style="text-align: center; font-size: 1.2em;">See Delineation Report</div>	
Comments, Narrative Discussion, Justification of Category Changes: <div style="text-align: center; font-size: 1.2em;">Road Ditch</div>	
Final score : <u>14</u>	Category: <u>1</u>

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 60 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the graminaceous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>W3-19</u>	Rater(s): <u>MCU</u>	Date: <u>6/9/2020</u>
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1	1
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)

1	2
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), shrub land, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	9
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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)

3	12
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

12
subtotal this page

Site: <u>WB-14</u>	Rater(s): <u>MCU</u>	Date: <u>6/9/2020</u>
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12

subtotal first page

0

12

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)

2

14

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

14

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>7</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersed, microtopography	<u>2</u>	
	TOTAL SCORE	<u>14</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<u>NO</u>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<u>NO</u>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<u>NO</u>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<u>YES</u> Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<u>NO</u>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<u>NO</u> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-15		
Vegetation Community(ies):	PUB Type 5		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.637327		-84.498409
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	15		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	NpA		
Delineation report/map	WB-15		

Name of Wetland: WB-15	
Wetland Size (acres, hectares): 6138 sq ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
See Delineation Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 18	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (85 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<u>NO</u> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<u>NO</u> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<u>NO</u> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<u>NO</u> Complete Quantitative Rating

Site: <u>WBS-15</u>	Rater(s): <u>MCV</u>	Date: <u>6/9/2020</u>
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<u>1</u>	<u>1</u>
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)

<u>1</u>	<u>2</u>
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), shrub land, 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)

<u>11</u>	<u>13</u>
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)

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 |

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)

<u>3</u>	<u>16</u>
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 type="checkbox"/> grazing | <input type="checkbox"/> herbaceous/aquatic bed removal |
| <input type="checkbox"/> clearcutting | <input type="checkbox"/> sedimentation |
| <input type="checkbox"/> selective cutting | <input checked="" type="checkbox"/> dredging |
| <input type="checkbox"/> woody debris removal | <input type="checkbox"/> farming |
| <input type="checkbox"/> toxic pollutants | <input type="checkbox"/> nutrient enrichment |

<u>16</u>

subtotal this page

Site: <u>WB-15</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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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)

2	18
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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

18

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>11</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersions, microtopography	<u>2</u>	
	TOTAL SCORE	<u>18</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

Final Category

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/9/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-16		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.033841		-84.514116
USGS Quad Name			
County	Paulding, Ohio		
Township	1 N 3 E		
Section and Subsection	15		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	PUB 6x		
Ohio Wetland Inventory Map	no		
Soil Survey	PC		
Delineation report/map	WB-16		

Name of Wetland: WB-16	
Wetland Size (acres, hectares): 8565 sq ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Delineation Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 11	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-16</u>	Rater(s): <u>mcv</u>	Date: <u>6/9/2020</u>
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1	1
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)

1	2
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), shrub land, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	9
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

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

- ☐ point source (nonstormwater)
- ☐ filling/grading
- ☐ road bed/RR track
- ☐ dredging
- ☐ other

3	12
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

- ☒ mowing
- ☐ grazing
- ☐ clearcutting
- ☐ selective cutting
- ☐ woody debris removal
- ☐ toxic pollutants

- ☐ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☐ sedimentation
- ☐ dredging
- ☐ farming
- ☐ nutrient enrichment

12

subtotal this page

Site: W13-16 Rater(s): mcv Date: 6/9/2020

12
subtotal first page

0 12
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 11
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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

11

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fans	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>7</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersed, microtopography	<u>-1</u>	
	TOTAL SCORE	<u>11</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<u>NO</u>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<u>NO</u>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<u>NO</u>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<u>YES</u> Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall within the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<u>NO</u>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<u>NO</u> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<u>Category 1</u>	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/10/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-17		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	<p style="text-align: center; font-size: 1.2em;">See Delineation Report</p>		
Lat/Long or UTM Coordinate	41.062836 - 84.471676		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	12		
Hydrologic Unit Code	3		
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	PC		
Delineation report/map	WB-17		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the "scoring boundaries" of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the "jurisdictional boundaries." For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland's jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland's scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to constrict together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-17</u>	Rater(s): <u>mcu</u>	Date: <u>6/9/2020</u>
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1	1
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)

1	2
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), shrub land, young second growth forest. (5)
- ☒ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☐ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	9
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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)

3	12
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

- ☒ mowing
- ☐ grazing
- ☐ clearcutting
- ☐ selective cutting
- ☐ woody debris removal
- ☐ toxic pollutants

- ☐ shrub/sapling removal
- ☐ herbaceous/aquatic bed removal
- ☐ sedimentation
- ☐ dredging
- ☐ farming
- ☐ nutrient enrichment

12
subtotal this page

Site: <u>WB-17</u>	Rater(s): <u>MCV</u>	Date: <u>6/9/2020</u>
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12

subtotal first page

6	12
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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	13
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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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

13

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	1	
	TOTAL SCORE	13	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc, and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	Category 2	Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/10/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-18 / 19 / 20		
Vegetation Community(ies):	PFO Type 7		
HGM Class(es):	Mineral Flat Soil		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.053078	-84.467122	
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	12		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	S+D2		
Delineation report/map	WB-18		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB 18, 19, 20</u>	Rater(s): <u>MCV</u>	Date: <u>6/16/2020</u>
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<u>5</u>	<u>5</u>
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)

<u>1</u>	<u>6</u>
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), shrub land, 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)

<u>19</u>	<u>25</u>
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 |

<u>11</u>	<u>36</u>
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 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 |

<u>36</u>

subtotal this page

Site: WB 18 19 20	Rater(s): mcu	Date: 6/16/2020
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36

subtotal first page

5	41
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max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

- ☐ Bog (10)
- ☐ Fen (10)
- ☐ Old growth forest (10)
- ☒ **5** 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)

11	52
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max 20 pts.

subtotal

Metric 6. Plant communities, interspersions, microtopography.

6a. Wetland Vegetation Communities.

Score all present using 0 to 3 scale.

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

6b. horizontal (plan view) Interspersions.

Select only one.

- ☐ High (5)
- ☐ Moderately high (4)
- ☒ **3** 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)
- ☒ **0** Nearly absent <5% cover (0)
- ☐ Absent (1)

6d. Microtopography.

Score all present using 0 to 3 scale.

- ☐ Vegetated hummocks/tussocks
- ☒ **2** Coarse woody debris >15cm (6in)
- ☒ **1** 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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

52

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES NO	If yes, Category 3	
Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	5	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	19	
	Metric 4. Habitat	11	
	Metric 5. Special Wetland Communities	5	
	Metric 6. Plant communities, interspersion, microtopography	11	
	TOTAL SCORE	52	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category

Choose one	Category 1	Category 2	Category 3
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End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/10/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-21		
Vegetation Community(ies):	PFO Type 7		
HGM Class(es):	Mineral Flat Soil		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.040496 -84.502539		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	15		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	PFO1c		
Ohio Wetland Inventory Map	No		
Soil Survey	Sb		
Delineation report/map	WB-21		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<u>NO</u> Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<u>NO</u> Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<u>NO</u> Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<u>NO</u> Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<u>NO</u> Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<u>NO</u> Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<u>NO</u> Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<u>NO</u> Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the graminaceous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-21</u>	Rater(s): <u>mcu</u>	Date: <u>6/10/2020</u>
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<u>3</u>	<u>3</u>
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)

<u>1</u>	<u>4</u>
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), shrub land, 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)

<u>15</u>	<u>19</u>
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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)

<u>13</u>	<u>32</u>
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

<u>32</u>
subtotal this page

Site: <u>WB-21</u>	Rater(s): <u>mcv</u>	Date: <u>6/16/2020</u>
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32

subtotal first page

5	37
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)

9	46
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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

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End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
Quantitative Rating	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Metric 1. Size	3	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	15	
	Metric 4. Habitat	13	
Metric 5. Special Wetland Communities	5		
Metric 6. Plant communities, interspersions, microtopography	9		
TOTAL SCORE	46	Category based on score breakpoints	

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	NO	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	NO	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	NO	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	YES Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	NO	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	NO Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category
 Choose one Category 1 Category 2 Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:			
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB - 22, 24, 25, 26, 27, 29, 30		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.033582 - 84.589785		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 2E		
Section and Subsection	23		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map			

Name of Wetland: WB 22, 24 - 27, 29, 30	
Wetland Size (acres, hectares): 4 ac	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc. See Delination Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 13	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: **WB-22**

Rater(s): **mcv**

Date: **6/16/2020**

1	1
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)

1	2
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), shrub land, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	9
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 |

3	12
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 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 |

12
subtotal this page

Site: WB-22 Rater(s): mcu Date: 6/16/2020

12

subtotal first page

0 12

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 13

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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

13

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES NO	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES NO	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES NO	If yes, Category 3.
	Question 4. Significant bird habitat	YES NO	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES NO	If yes, Category 1.
	Question 6. Bogs	YES NO	If yes, Category 3.
	Question 7. Fens	YES NO	If yes, Category 3.
	Question 8a. Old Growth Forest	YES NO	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES NO	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
Quantitative Rating	Question 10. Oak Openings	YES NO	If yes, Category 3
	Question 11. Relict Wet Prairies	YES NO	If yes, evaluate for Category 3; may also be 1 or 2.
	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	7	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersions, microtopography	1	
	TOTAL SCORE	13	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<u>NO</u>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<u>NO</u>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<u>NO</u>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<u>YES</u> Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<u>NO</u>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<u>NO</u> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

Final Category

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/10/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WLB-23		
Vegetation Community(ies):	PEM Type 2		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	40.993642 -89.507440		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	34		
Hydrologic Unit Code			
Site Visit	yes		
National Wetland Inventory Map	no		
Ohio Wetland Inventory Map	no		
Soil Survey	NpA		
Delineation report/map	WLB-23		

Name of Wetland: WB-23	
Wetland Size (acres, hectares): 6454 sq ft	
Sketch: Include north arrow, relationship with other surface waters, vegetation zones, etc.	
See Delineation Report	
Comments, Narrative Discussion, Justification of Category Changes:	
Final score : 14	Category: 1

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: WB-23 Rater(s): MCV Date: 6/10/2020

0	0
max 6 pts.	subtotal

Metric 1. Wetland Area (size).

Select one size class and assign score.

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

1	1
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), shrub land, young second growth forest. (5)
- ☐ MODERATELY HIGH. Residential, fenced pasture, park, conservation tillage, new fallow field. (3)
- ☒ HIGH. Urban, industrial, open pasture, row cropping, mining, construction. (1)

7	8
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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)

4	12
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 (8)
- ☐ Recovering (3)
- ☒ Recent or no recovery (1)

Check all disturbances observed

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

12
subtotal this page

Site: WB-23 Rater(s): mcu Date: 6/10/2020

12
subtotal first page

0 12
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)

2 14
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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

14

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>0</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>7</u>	
	Metric 4. Habitat	<u>4</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersion, microtopography	<u>2</u>	
	TOTAL SCORE	<u>14</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit moderate OR superior hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/11/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-31		
Vegetation Community(ies):	PUB Type 5		
HGM Class(es):	Depressions		
Location of Wetland:	include map, address, north arrow, landmarks, distances, roads, etc.		
	See Delineation Report		
Lat/Long or UTM Coordinate	41.018748 -84.515896		
USGS Quad Name			
County	Paulding, Ohio		
Township	1N 3E		
Section and Subsection	28		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	PUB6x		
Ohio Wetland Inventory Map	no		
Soil Survey	Lc		
Delineation report/map	WB-31		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	<u>NO</u> Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	<u>NO</u> Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	<u>NO</u> Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	<u>NO</u> Complete Quantitative Rating

Site: <u>WB-31</u>	Rater(s): <u>MCV</u>	Date: <u>6/11/2020</u>
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<u>1</u>	<u>1</u>
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)

<u>1</u>	<u>2</u>
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), shrub land, 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)

<u>13</u>	<u>15</u>
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)

Check all disturbances observed

- ☐ ditch
- ☐ tile
- ☐ dike
- ☐ weir
- ☐ stormwater input

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 double check.

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

<u>3</u>	<u>18</u>
max 20 pts.	subtotal

Metric 4. Habitat Alteration and Development.

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

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

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

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

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

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

Check all disturbances observed

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

<u>18</u>
subtotal this page

Site: WB-31 Rater(s): MCU Date: 6/11/2020

18

subtotal first page

0 18

max 10 pts.

subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

4 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) 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 acres)
2	Moderate 1 to <4ha (2.47 to 9.88 acres)
3	High 4ha (9.88 acres) or more

Microtopography Cover Scale

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

22

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	<u>1</u>	
	Metric 2. Buffers and surrounding land use	<u>1</u>	
	Metric 3. Hydrology	<u>13</u>	
	Metric 4. Habitat	<u>3</u>	
	Metric 5. Special Wetland Communities	<u>0</u>	
	Metric 6. Plant communities, interspersion, microtopography	<u>4</u>	
	TOTAL SCORE	<u>22</u>	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one	Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<input checked="" type="radio"/> NO Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<input checked="" type="radio"/> NO Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<input checked="" type="radio"/> YES Wetland is assigned to the appropriate category based on the scoring range	<input type="radio"/> NO If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<input checked="" type="radio"/> NO Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<input checked="" type="radio"/> NO Wetland is assigned to category as determined by the ORAM. A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Final Category			
Choose one	<input checked="" type="radio"/> Category 1	<input type="radio"/> Category 2	<input type="radio"/> Category 3

End of Ohio Rapid Assessment Method for Wetlands.

Background Information

Name:	Grover Hill Wind Project, Paulding Co, OH		
Date:	6/11/2020		
Affiliation:	Matthew Vollbrecht, PWS #2115, Westwood Professional Services		
Address:	3701 12th Street N Suite 206, St Cloud, MN 56303		
Phone Number:	612-280-4009		
e-mail address:	matt.vollbrecht@westwoodps.com		
Name of Wetland:	WB-32		
Vegetation Community(ies):	PUB Type 5		
HGM Class(es):	Depressional		
Location of Wetland: include map, address, north arrow, landmarks, distances, roads, etc.	See Delineation Report		
Lat/Long or UTM Coordinate	41.61958 -84.52111		
USGS Quad Name			
County	Paulding, Ohio		
Township	1 N 3 E		
Section and Subsection	21		
Hydrologic Unit Code			
Site Visit	Yes		
National Wetland Inventory Map	no PUBGX		
Ohio Wetland Inventory Map	no no		
Soil Survey	Lc		
Delineation report/map	WB-32		

Scoring Boundary Worksheet

INSTRUCTIONS. The initial step in completing the ORAM is to identify the “scoring boundaries” of the wetland being rated. In many instances this determination will be relatively easy and the scoring boundaries will coincide with the “jurisdictional boundaries.” For example, the scoring boundary of an isolated cattail marsh located in the middle of a farm field will likely be the same as that wetland’s jurisdictional boundaries. In other instances, however, the scoring boundary will not be as easily determined. Wetlands that are small or isolated from other surface waters often form large contiguous areas or heterogeneous complexes of wetland and upland. In separating wetlands for scoring purposes, the hydrologic regime of the wetland is the main criterion that should be used. Boundaries between contiguous or connected wetlands should be established where the volume, flow, or velocity of water moving through the wetland changes significantly. *Areas with a high degree of hydrologic interaction should be scored as a single wetland.* In determining a wetland’s scoring boundaries, use the guidelines in the ORAM Manual Section 5.0. In certain instances, it may be difficult to establish the scoring boundary for the wetland being rated. These problem situations include wetlands that form a patchwork on the landscape, wetlands divided by artificial boundaries like property fences, roads, or railroad embankments, wetlands that are contiguous with streams, lakes, or rivers, and estuarine or coastal wetlands. These situations are discussed below, however, it is recommended that Rater contact Ohio EPA, Division of Surface Water, 401/Wetlands Section if there are additional questions or a need for further clarification of the appropriate scoring boundaries of a particular wetland.

#	Steps in properly establishing scoring boundaries	done?	not applicable
Step 1	Identify the wetland area of interest. This may be the site of a proposed impact, a reference site, conservation site, etc.	X	
Step 2	Identify the locations where there is physical evidence that hydrology changes rapidly. Such evidence includes both natural and human-induced changes including, constrictions caused by berms or dikes, points where the water velocity changes rapidly at rapids or falls, points where significant inflows occur at the confluence of rivers, or other factors that may restrict hydrologic interaction between the wetlands or parts of a single wetland.	X	
Step 3	Delineate the boundary of the wetland to be rated such that all areas of interest that are contiguous to and within the areas where the hydrology does not change significantly, i.e. areas that have a high degree of hydrologic interaction are included within the scoring boundary.	X	
Step 4	Determine if artificial boundaries, such as property lines, state lines, roads, railroad embankments, etc., are present. These should not be used to establish scoring boundaries unless they coincide with areas where the hydrologic regime changes.	X	
Step 5	In all instances, the Rater may enlarge the minimum scoring boundaries discussed here to score together wetlands that could be scored separately.	X	
Step 6	Consult ORAM Manual Section 5.0 for how to establish scoring boundaries for wetlands that form a patchwork on the landscape, divided by artificial boundaries, contiguous to streams, lakes or rivers, or for dual classifications.	X	

End of Scoring Boundary Determination. Begin Narrative Rating on next page.

Narrative Rating

INSTRUCTIONS. Answer each of the following questions. Questions 1, 2, 3 and 4 should be answered based on information obtained from the site visit or the literature *and* by submitting a Data Services Request to the Ohio Department of Natural Resources, Division of Natural Areas and Preserves, Natural Heritage Data Services, 1889 Fountain Square Court, Building F-1, Columbus, Ohio 43224, 614-265-6453 (phone), 614-265-3096 (fax), <http://www.dnr.state.oh.us/dnap>. The remaining questions are designed to be answered primarily by the results of the site visit. Refer to the User's Manual for descriptions of these wetland types. Note: "Critical habitat" is legally defined in the Endangered Species Act and is the geographic area containing physical or biological features essential to the conservation of a listed species or as an area that may require special management considerations or protection. The Rater should contact the Region 3 Headquarters or the Columbus Ecological Services Office for updates as to whether critical habitat has been designated for other federally listed threatened or endangered species. "Documented" means the wetland is listed in the appropriate State of Ohio database.

#	Question	Circle one	
1	Critical Habitat. Is the wetland in a township, section, or subsection of a United States Geological Survey 7.5 minute Quadrangle that has been designated by the U.S. Fish and Wildlife Service as "critical habitat" for any threatened or endangered plant or animal species? Note: as of January 1, 2001, of the federally listed endangered or threatened species which can be found in Ohio, the Indiana Bat has had critical habitat designated (50 CFR 17.95(a)) and the piping plover has had critical habitat proposed (65 FR 41812 July 6, 2000).	YES Wetland should be evaluated for possible Category 3 status Go to Question 2	<input checked="" type="radio"/> NO Go to Question 2
2	Threatened or Endangered Species. Is the wetland known to contain an individual of, or documented occurrences of federal or state-listed threatened or endangered plant or animal species?	YES Wetland is a Category 3 wetland. Go to Question 3	<input checked="" type="radio"/> NO Go to Question 3
3	Documented High Quality Wetland. Is the wetland on record in Natural Heritage Database as a high quality wetland?	YES Wetland is a Category 3 wetland Go to Question 4	<input checked="" type="radio"/> NO Go to Question 4
4	Significant Breeding or Concentration Area. Does the wetland contain documented regionally significant breeding or nonbreeding waterfowl, neotropical songbird, or shorebird concentration areas?	YES Wetland is a Category 3 wetland Go to Question 5	<input checked="" type="radio"/> NO Go to Question 5
5	Category 1 Wetlands. Is the wetland less than 0.5 hectares (1 acre) in size and hydrologically isolated and either 1) comprised of vegetation that is dominated (greater than eighty per cent areal cover) by <i>Phalaris arundinacea</i> , <i>Lythrum salicaria</i> , or <i>Phragmites australis</i> , or 2) an acidic pond created or excavated on mined lands that has little or no vegetation?	YES Wetland is a Category 1 wetland Go to Question 6	<input checked="" type="radio"/> NO Go to Question 6
6	Bogs. Is the wetland a peat-accumulating wetland that 1) has no significant inflows or outflows, 2) supports acidophilic mosses, particularly <i>Sphagnum</i> spp., 3) the acidophilic mosses have >30% cover, 4) at least one species from Table 1 is present, and 5) the cover of invasive species (see Table 1) is <25%?	YES Wetland is a Category 3 wetland Go to Question 7	<input checked="" type="radio"/> NO Go to Question 7
7	Fens. Is the wetland a carbon accumulating (peat, muck) wetland that is saturated during most of the year, primarily by a discharge of free flowing, mineral rich, ground water with a circumneutral pH (5.5-9.0) and with one or more plant species listed in Table 1 and the cover of invasive species listed in Table 1 is <25%?	YES Wetland is a Category 3 wetland Go to Question 8a	<input checked="" type="radio"/> NO Go to Question 8a
8a	"Old Growth Forest." Is the wetland a forested wetland and is the forest characterized by, but not limited to, the following characteristics: overstory canopy trees of great age (exceeding at least 50% of a projected maximum attainable age for a species); little or no evidence of human-caused understory disturbance during the past 80 to 100 years; an all-aged structure and multilayered canopies; aggregations of canopy trees interspersed with canopy gaps; and significant numbers of standing dead snags and downed logs?	YES Wetland is a Category 3 wetland. Go to Question 8b	<input checked="" type="radio"/> NO Go to Question 8b

8b	Mature forested wetlands. Is the wetland a forested wetland with 50% or more of the cover of upper forest canopy consisting of deciduous trees with large diameters at breast height (dbh), generally diameters greater than 45cm (17.7in) dbh?	YES Wetland should be evaluated for possible Category 3 status. Go to Question 9a	NO Go to Question 9a
9a	Lake Erie coastal and tributary wetlands. Is the wetland located at an elevation less than 575 feet on the USGS map, adjacent to this elevation, or along a tributary to Lake Erie that is accessible to fish?	YES Go to Question 9b	NO Go to Question 10
9b	Does the wetland's hydrology result from measures designed to prevent erosion and the loss of aquatic plants, i.e. the wetland is partially hydrologically restricted from Lake Erie due to lakeward or landward dikes or other hydrological controls?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 9c
9c	Are Lake Erie water levels the wetland's primary hydrological influence, i.e. the wetland is hydrologically unrestricted (no lakeward or upland border alterations), or the wetland can be characterized as an "estuarine" wetland with lake and river influenced hydrology. These include sandbar deposition wetlands, estuarine wetlands, river mouth wetlands, or those dominated by submersed aquatic vegetation.	YES Go to Question 9d	NO Go to Question 10
9d	Does the wetland have a predominance of native species within its vegetation communities, although non-native or disturbance tolerant native species can also be present?	YES Wetland is a Category 3 wetland Go to Question 10	NO Go to Question 9e
9e	Does the wetland have a predominance of non-native or disturbance tolerant native plant species within its vegetation communities?	YES Wetland should be evaluated for possible Category 3 status Go to Question 10	NO Go to Question 10
10	Lake Plain Sand Prairies (Oak Openings) Is the wetland located in Lucas, Fulton, Henry, or Wood Counties and can the wetland be characterized by the following description: the wetland has a sandy substrate with interspersed organic matter, a water table often within several inches of the surface, and often with a dominance of the gramineous vegetation listed in Table 1 (woody species may also be present). The Ohio Department of Natural Resources Division of Natural Areas and Preserves can provide assistance in confirming this type of wetland and its quality.	YES Wetland is a Category 3 wetland. Go to Question 11	NO Go to Question 11
11	Relict Wet Prairies. Is the wetland a relict wet prairie community dominated by some or all of the species in Table 1. Extensive prairies were formerly located in the Darby Plains (Madison and Union Counties), Sandusky Plains (Wyandot, Crawford, and Marion Counties), northwest Ohio (e.g. Erie, Huron, Lucas, Wood Counties), and portions of western Ohio Counties (e.g. Darke, Mercer, Miami, Montgomery, Van Wert etc.).	YES Wetland should be evaluated for possible Category 3 status Complete Quantitative Rating	NO Complete Quantitative Rating

Site: <u>WB-32</u>	Rater(s): <u>mcu</u>	Date: <u>6/11/2006</u>
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1	1
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)

1	2
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), shrub land, 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)

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

3	18
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"/> grazing <input 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 type="checkbox"/> sedimentation <input type="checkbox"/> dredging <input type="checkbox"/> farming <input type="checkbox"/> nutrient enrichment

18
subtotal this page

Site: <u>WB-32</u>	Rater(s): <u>mcu</u>	Date: <u>6/11/2020</u>
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18

subtotal first page

0

18

max 10 pts.
subtotal

Metric 5. Special Wetlands.

Check all that apply and score as indicated.

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

5

23

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
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3	Present and comprises significant part, or more, of wetland's vegetation and is of high quality

Narrative Description of Vegetation Quality

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

Mudflat and Open Water Class Quality

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

Microtopography Cover Scale

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

23

End of Quantitative Rating. Complete Categorization Worksheets.

ORAM Summary Worksheet

		circle answer or insert score	Result
Narrative Rating	Question 1. Critical Habitat	YES <u>NO</u>	If yes, Category 3.
	Question 2. Threatened or Endangered Species	YES <u>NO</u>	If yes, Category 3.
	Question 3. High Quality Natural Wetland	YES <u>NO</u>	If yes, Category 3.
	Question 4. Significant bird habitat	YES <u>NO</u>	If yes, Category 3.
	Question 5. Category 1 Wetlands	YES <u>NO</u>	If yes, Category 1.
	Question 6. Bogs	YES <u>NO</u>	If yes, Category 3.
	Question 7. Fens	YES <u>NO</u>	If yes, Category 3.
	Question 8a. Old Growth Forest	YES <u>NO</u>	If yes, Category 3.
	Question 8b. Mature Forested Wetland	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9b. Lake Erie Wetlands - Restricted	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
	Question 9d. Lake Erie Wetlands - Unrestricted with native plants	YES <u>NO</u>	If yes, Category 3
	Question 9e. Lake Erie Wetlands - Unrestricted with invasive plants	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.
Question 10. Oak Openings	YES <u>NO</u>	If yes, Category 3	
Question 11. Relict Wet Prairies	YES <u>NO</u>	If yes, evaluate for Category 3; may also be 1 or 2.	
Quantitative Rating	Metric 1. Size	1	
	Metric 2. Buffers and surrounding land use	1	
	Metric 3. Hydrology	13	
	Metric 4. Habitat	3	
	Metric 5. Special Wetland Communities	0	
	Metric 6. Plant communities, interspersed, microtopography	5	
	TOTAL SCORE	23	Category based on score breakpoints

Complete Wetland Categorization Worksheet.

Wetland Categorization Worksheet

Choices	Circle one		Evaluation of Categorization Result of ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 2, 3, 4, 6, 7, 8a, 9d, 10	YES Wetland is categorized as a Category 3 wetland	<u>NO</u>	Is quantitative rating score <i>less</i> than the Category 2 scoring threshold (<i>excluding</i> gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been over-categorized by the ORAM
Did you answer "Yes" to any of the following questions: Narrative Rating Nos. 1, 8b, 9b, 9e, 11	YES Wetland should be evaluated for possible Category 3 status	<u>NO</u>	Evaluate the wetland using the 1) narrative criteria in OAC Rule 3745-1-54(C) and 2) the quantitative rating score. If the wetland is determined to be a Category 3 wetland using either of these, it should be categorized as a Category 3 wetland. Detailed biological and/or functional assessments may also be used to determine the wetland's category.
Did you answer "Yes" to Narrative Rating No. 5	YES Wetland is categorized as a Category 1 wetland	<u>NO</u>	Is quantitative rating score <i>greater</i> than the Category 2 scoring threshold (<i>including</i> any gray zone)? If yes, reevaluate the category of the wetland using the narrative criteria in OAC Rule 3745-1-54(C) and biological and/or functional assessments to determine if the wetland has been under-categorized by the ORAM
Does the quantitative score fall within the scoring range of a Category 1, 2, or 3 wetland?	<u>YES</u> Wetland is assigned to the appropriate category based on the scoring range	NO	If the score of the wetland is located within the scoring range for a particular category, the wetland should be assigned to that category. In all instances however, the narrative criteria described in OAC Rule 3745-1-54(C) can be used to clarify or change a categorization based on a quantitative score.
Does the quantitative score fall with the "gray zone" for Category 1 or 2 or Category 2 or 3 wetlands?	YES Wetland is assigned to the higher of the two categories or assigned to a category based on detailed assessments and the narrative criteria	<u>NO</u>	Rater has the option of assigning the wetland to the higher of the two categories or to assign a category based on the results of a nonrapid wetland assessment method, e.g. functional assessment, biological assessment, etc. and a consideration of the narrative criteria in OAC rule 3745-1-54(C).
Does the wetland otherwise exhibit <i>moderate OR superior</i> hydrologic OR habitat, OR recreational functions AND the wetland was <i>not</i> categorized as a Category 2 wetland (in the case of moderate functions) or a Category 3 wetland (in the case of superior functions) by this method?	YES Wetland was undercategorized by this method. A written justification for recategorization should be provided on Background Information Form	<u>NO</u> Wetland is assigned to category as determined by the ORAM.	A wetland may be undercategorized using this method, but still exhibit one or more superior functions, e.g. a wetland's biotic communities may be degraded by human activities, but the wetland may still exhibit superior hydrologic functions because of its type, landscape position, size, local or regional significance, etc. In this circumstance, the narrative criteria in OAC Rule 3745-1-54(C)(2) and (3) are controlling, and the under-categorization should be corrected. A written justification with supporting reasons or information for this determination should be provided.

Choose one
Category 1
Category 2
Category 3

Final Category

End of Ohio Rapid Assessment Method for Wetlands.

Grover Hill Wind Project

Paulding County Ohio

Appendix C: Wetland Summary Table

Wetland Summary Table													
Feature ID	Land Use	Circular 39 Wetland Type	Cowardin Wetland Type	Area in Square Feet within Corridor	Mapped on NWI	Mapped on Ohio Wetland Mapping	Mapped on NHD as Flowline	Mapped on NHD as Waterbody	ORAM Category	ORAM Score	Latitude	Longitude	Mapbook Page Number
WB-01	Forested Wetland	Type 7	PFO	708,028	No	No	No	No	Category 2	39	41.010134	-84.486899	25, 27
WB-02	Road Ditch Wetland	Type 2	PEM	1,982	No	No	No	No	Category 1	5	41.004546	-84.489237	29
WB-03	Riparian Wetland	Type 2	PEM	2,729	No	No	No	No	Category 2	37	40.999454	-84.488471	29
WB-04	Road Ditch Wetland	Type 2	PEM	969	No	No	No	No	Category 1	-5	40.996509	-84.495587	31
WB-05	Forested Wetland	Type 7	PFO	168,669	No	No	No	No	Category 2	34	41.011286	-84.499744	26
WB-06	Road Ditch Wetland	Type 2	PEM	287	No	No	No	No	Category 1	-1	41.004496	-84.505075	28
WB-07	Forested Wetland	Type 7	PFO	53,044	No	No	No	No	Category 2	36	41.001614	-84.508748	28
WB-08	Road Ditch Wetland	Type 2	PEM	23,130	No	No	No	No	Category 1	13	41.018870	-84.515033	23
WB-09	Road Ditch Wetland	Type 2	PEM	19,775	No	No	No	No	Category 1	10	41.019049	-84.508442	24, 23
WB-10	Excavated Wetland	Type 5	PUB	11,894	PUBGx	No	No	No	Category 1	22	41.020498	-84.486383	25

Wetland Summary Table													
Feature ID	Land Use	Circular 39 Wetland Type	Cowardin Wetland Type	Area in Square Feet within Corridor	Mapped on NWI	Mapped on Ohio Wetland Mapping	Mapped on NHD as Flowline	Mapped on NHD as Waterbody	ORAM Category	ORAM Score	Latitude	Longitude	Mapbook Page Number
WB-11	Excavated Wetland	Type 5	PUB	9,238	No	No	No	No	Category 1	18	41.030673	-84.482254	16
WB-12	Forested Wetland	Type 7	PFO	140,734	No	No	No	No	Category 2	43	41.040439	-84.484218	6, 9
WB-13	Excavated Wetland	Type 5	PUB	6,075	No	No	No	No	Category 1	17	41.029502	-84.491934	16
WB-14	Road Ditch Wetland	Type 2	PEM	8,390	No	No	Yes	No	Category 1	14	41.032917	-84.495938	8, 15
WB-15	Excavated Wetland	Type 5	PUB	6,138	No	No	No	No	Category 1	18	41.037355	-84.498587	8
WB-16	Excavated Wetland	Type 5	PUB	8,565	PUBGx	No	No	No	Category 1	11	41.033939	-84.514128	14
WB-17	Road Ditch Wetland	Type 2	PEM	6,636	No	No	Yes	No	Category 1	13	41.062811	-84.471724	2
WB-18	Forested Wetland	Type 7	PFO	24,398	PFO1C	No	No	No	Category 2	52	41.052792	-84.467105	4
WB-19	Forested Wetland	Type 7	PFO	66,322	No	No	No	No	Category 2	52	41.051063	-84.464648	4, 7
WB-20	Forested Wetland	Type 7	PFO	118,491	PFO1C	No	No	No	Category 2	52	41.052029	-84.469393	4, 7

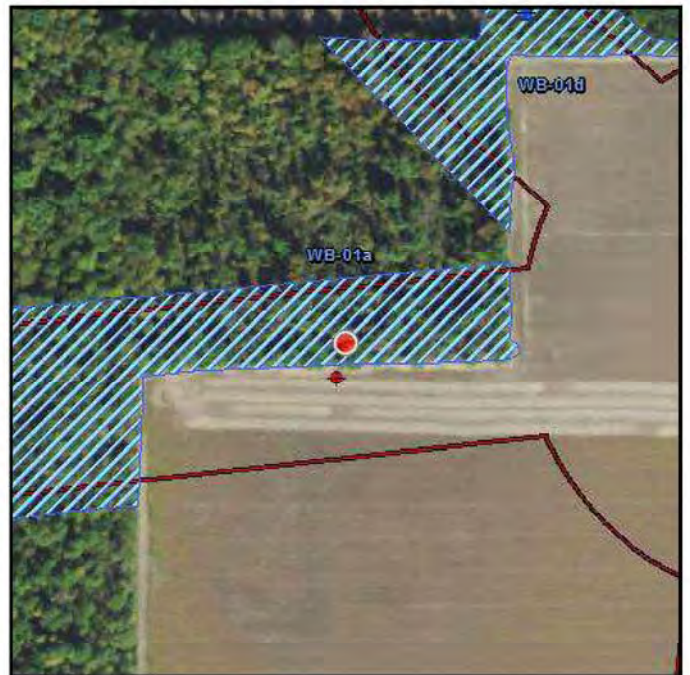
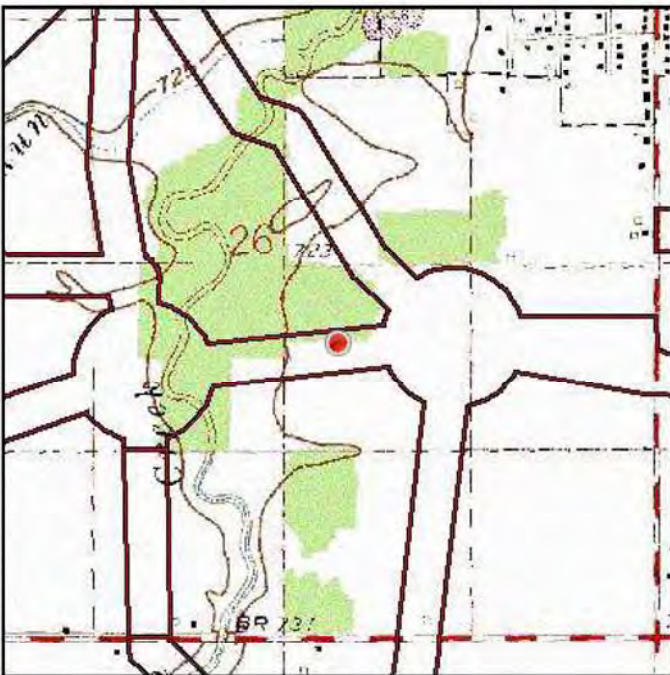
Wetland Summary Table													
Feature ID	Land Use	Circular 39 Wetland Type	Cowardin Wetland Type	Area in Square Feet within Corridor	Mapped on NWI	Mapped on Ohio Wetland Mapping	Mapped on NHD as Flowline	Mapped on NHD as Waterbody	ORAM Category	ORAM Score	Latitude	Longitude	Mapbook Page Number
WB-21	Forested Wetland	Type 7	PFO	162,912	PFO1C	No	No	No	Category 2	46	41.040719	-84.502070	8
WB-22	Road Ditch Wetland	Type 2	PEM	25,635	No	No	No	No	Category 1	13	41.033630	-84.501851	14, 15
WB-23	Excavated Ditch Wetland	Type 2	PEM	6,454	No	No	No	No	Category 1	14	40.993657	-84.507830	31
WB-24	Road Ditch Wetland	Type 2	PEM	6,103	No	No	No	No	Category 1	13	41.033568	-84.527664	13, 14
WB-25	Road Ditch Wetland	Type 2	PEM	55,943	No	No	No	No	Category 1	13	41.033518	-84.536340	11, 12, 13
WB-26	Road Ditch Wetland	Type 2	PEM	31,339	No	No	Yes	No	Category 1	13	41.033910	-84.582578	10, 11
WB-27	Road Ditch Wetland	Type 2	PEM	83,342	No	No	Yes	No	Category 1	13	41.033874	-84.592319	10, 17, 19
WB-28	Excavated Wetland	Type 5	PUB	51,354	PUBGx	No	No	No	Category 1	14	41.018757	-84.589999	19
WB-29	Road Ditch Wetland	Type 2	PEM	23,454	No	No	No	No	Category 1	13	41.018905	-84.557807	21, 22
WB-30	Road Ditch Wetland	Type 2	PEM	6,697	No	No	No	No	Category 1	13	41.018925	-84.532312	22

Wetland Summary Table													
Feature ID	Land Use	Circular 39 Wetland Type	Cowardin Wetland Type	Area in Square Feet within Corridor	Mapped on NWI	Mapped on Ohio Wetland Mapping	Mapped on NHD as Flowline	Mapped on NHD as Waterbody	ORAM Category	ORAM Score	Latitude	Longitude	Mapbook Page Number
WB-31	Excavated Wetland	Type 5	PUB	1,991	PUBGx	No	No	No	Category 1	22	41.018733	-84.515892	23
WB-32	Excavated Wetland	Type 5	PUB	2,338	PUBGx	No	No	No	Category 1	23	41.019466	-84.521081	23

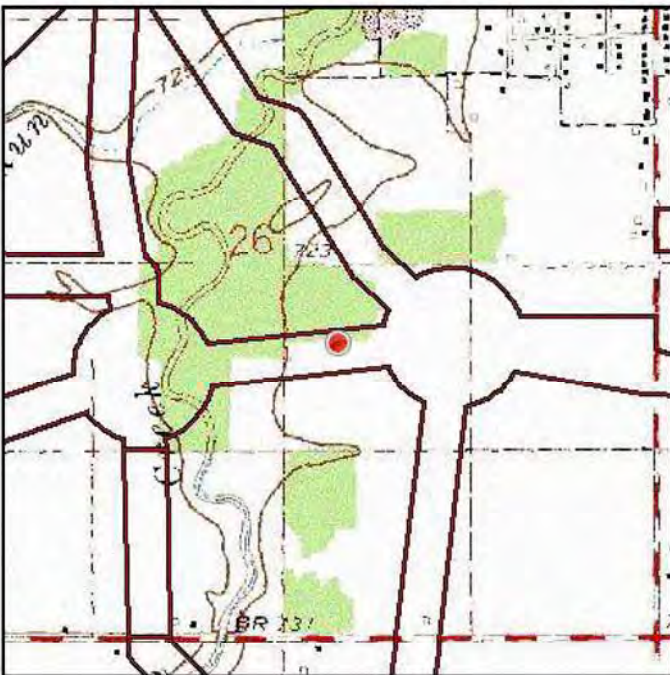
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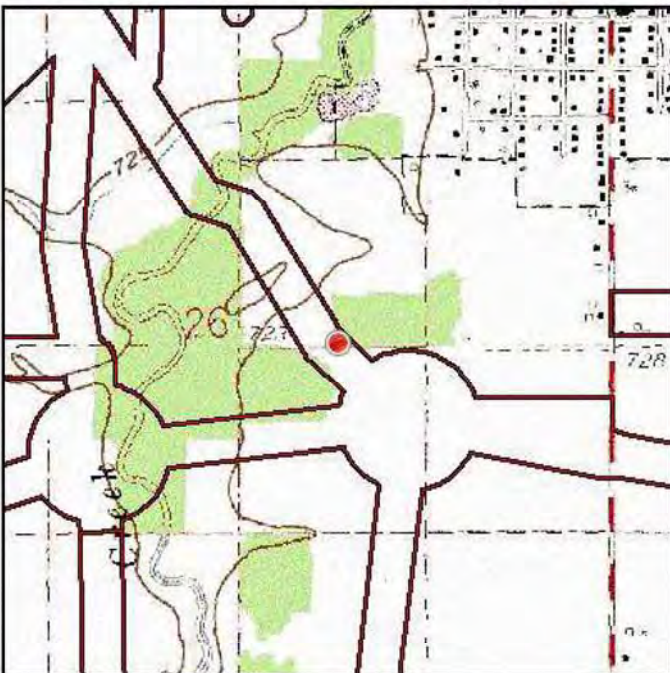
Appendix D: Wetland Photographs



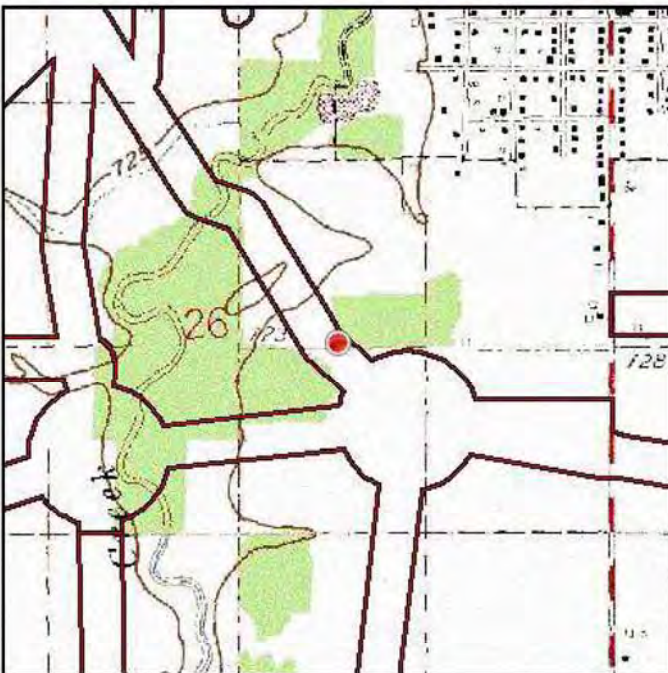
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Cowardin	PFOF
Overall Cir 39 Wetland Type	Type 7



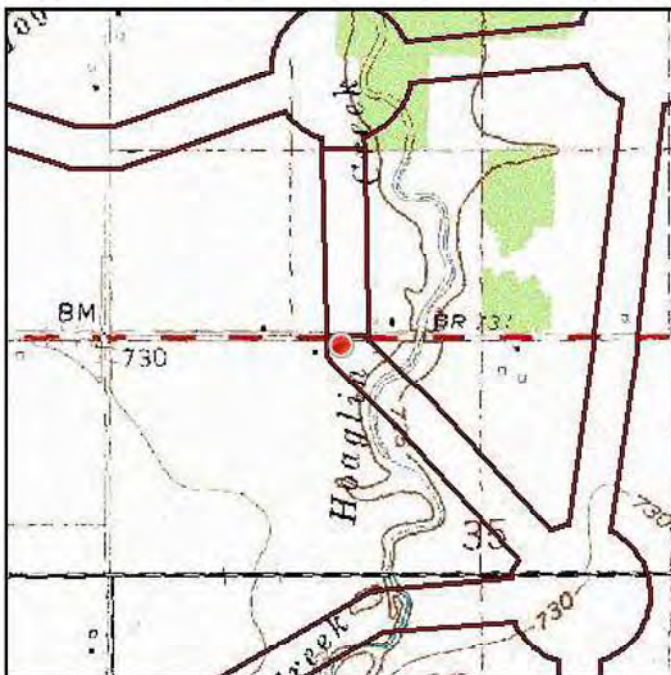
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Cowardin	PFOF
Overall Cir 39 Wetland Type	Type 7



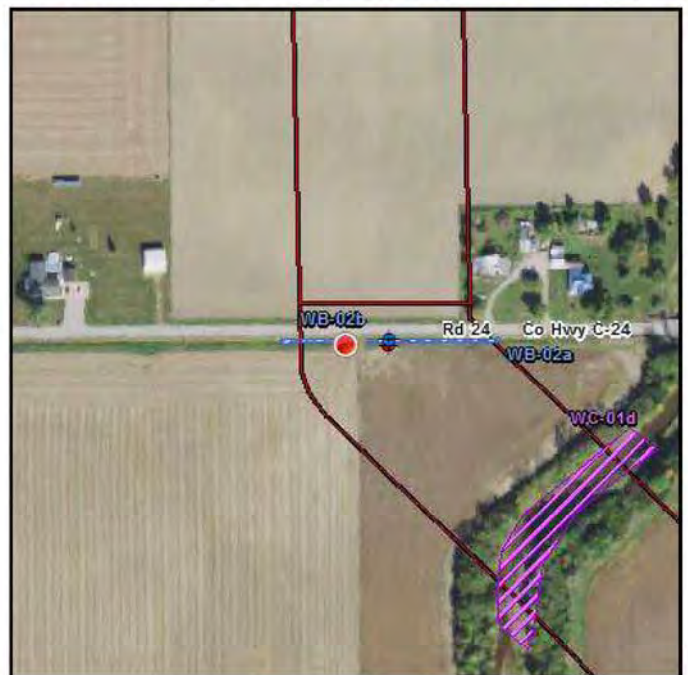
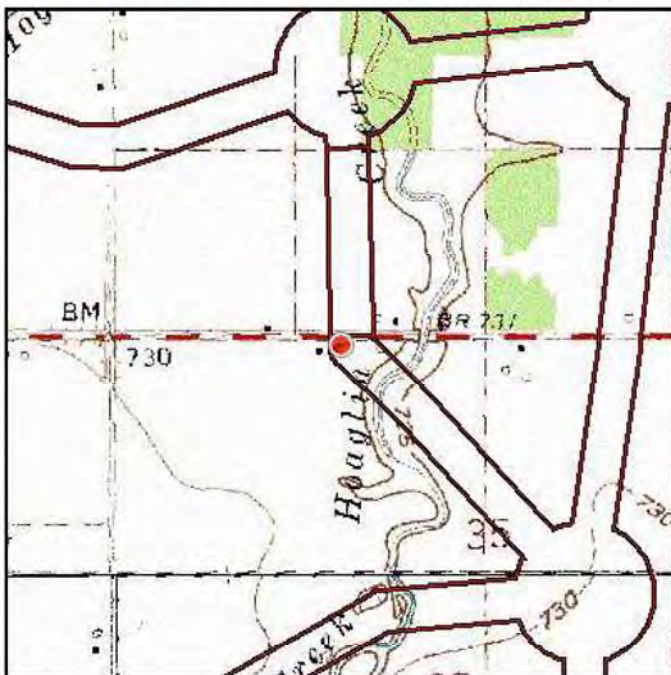
Attributes	
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Cowardin	PFOA
Overall Cir 39 Wetland Type	Type 7



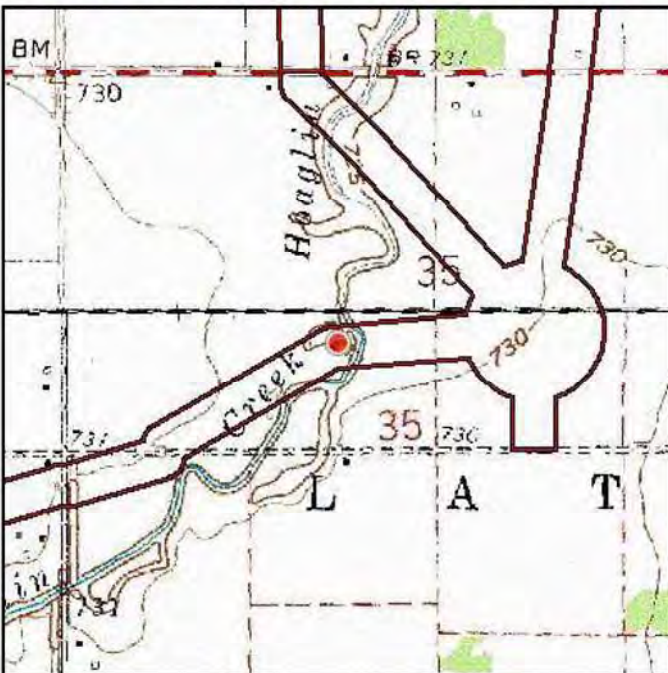
Attributes	
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Cowardin	PFOA
Overall Cir 39 Wetland Type	Type 7



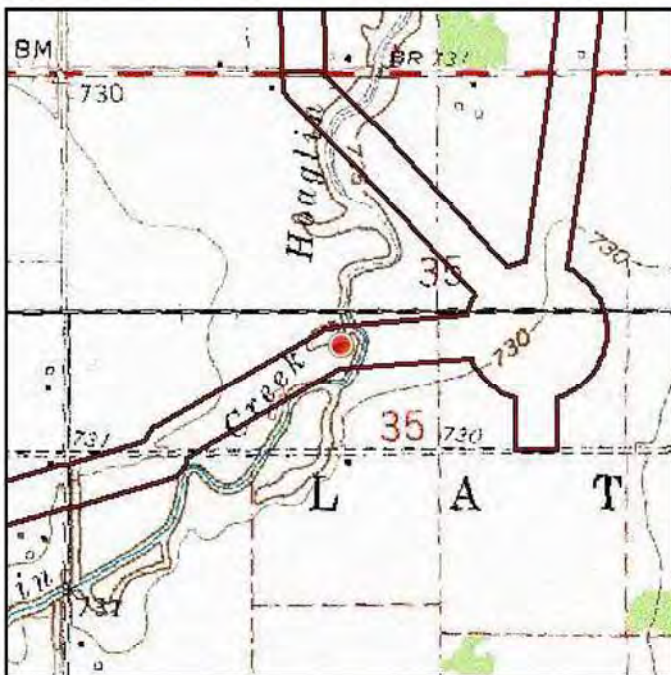
Attributes	
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Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2



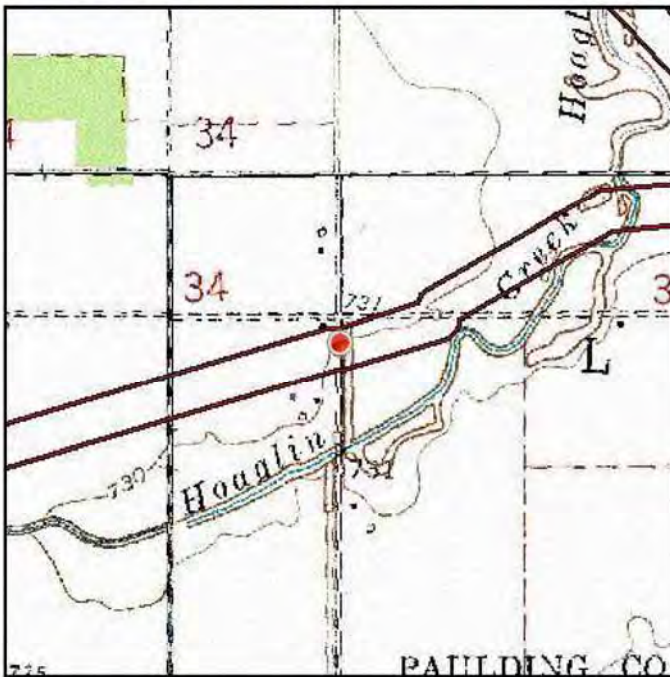
Attributes	
Cir 39 Wetland Type at Photo Point	Type 2
Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2



Attributes	
Cir 39 Wetland Type at Photo Point	Type 2
Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2

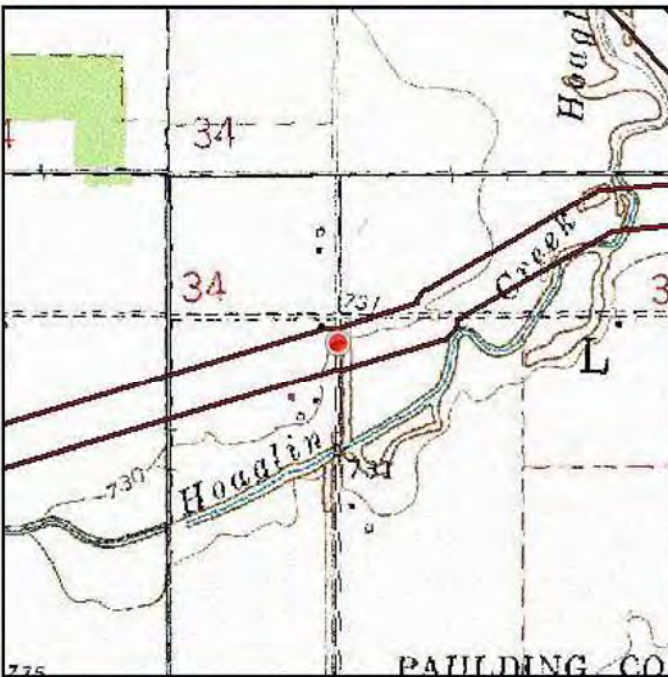


Attributes	
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Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2



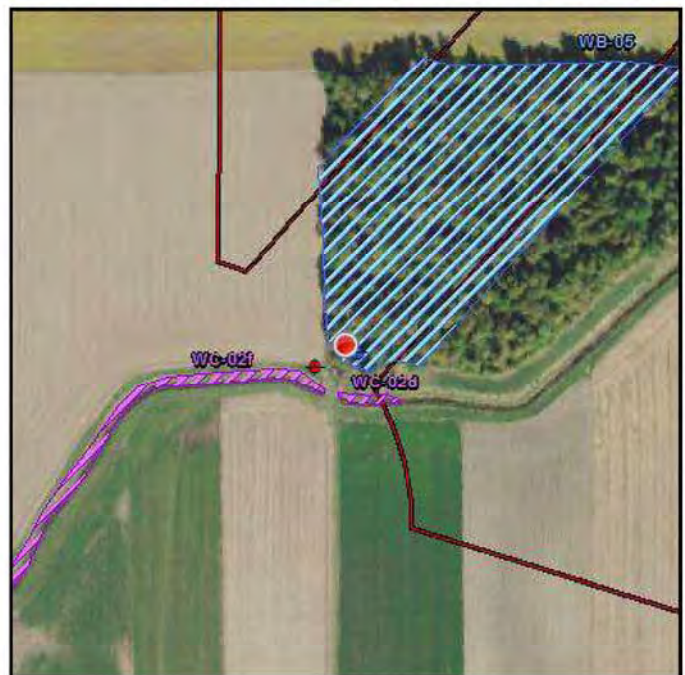
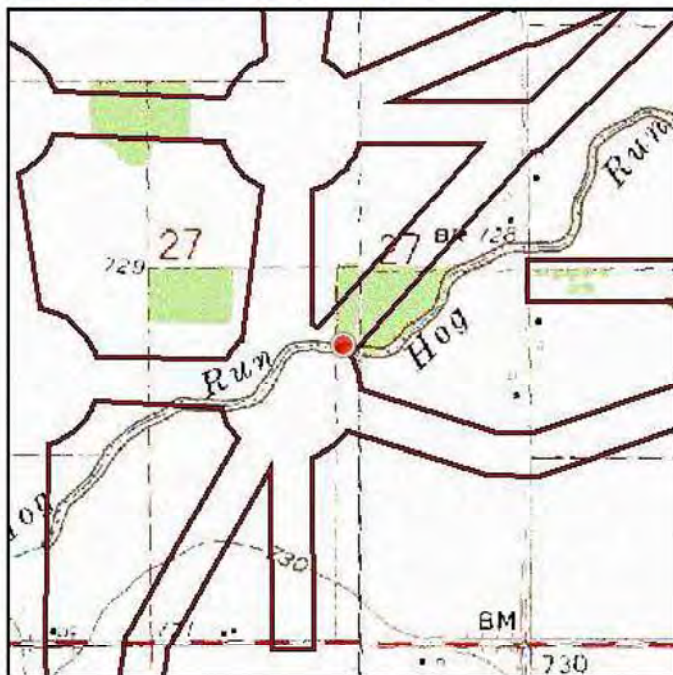
Attributes	
Cir 39 Wetland Type at Photo Point	Type 2
Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2

WB-04

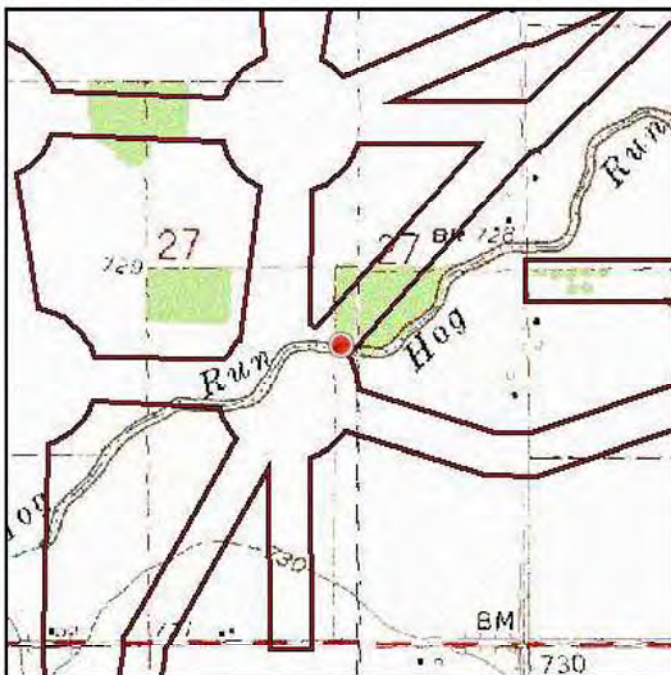


Attributes

Cir 39 Wetland Type at Photo Point	Type 2
Cowardin	PEMB
Overall Cir 39 Wetland Type	Type 2



Attributes	
Cir 39 Wetland Type at Photo Point	Type 7
Cowardin	PFOA
Overall Cir 39 Wetland Type	Type 7



Attributes	
Cir 39 Wetland Type at Photo Point	Type 7
Cowardin	PFOA
Overall Cir 39 Wetland Type	Type 7

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in

Case No(s). 20-0417-EL-BGN

Summary: Application - 15 of 40 (Exhibit L – Part 1 of 3 - Water Resources Delineation Report) electronically filed by Christine M.T. Pirik on behalf of Grover Hill Wind, LLC