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December 8, 2016

*Via Electronic Filing*

Ms. Barcy McNeal  
Public Utilities Commission of Ohio  
Administration/Docketing  
180 East Broad Street, 11<sup>th</sup> Floor  
Columbus, OH 43215-3793

**Re: Hog Creek Wind Farm LLC,  
Case Nos. 16-1422-EL-BGA and 16-1423-EL-BGA**

Dear Ms. McNeal:

On November 29, 2016, the Ohio Power Siting Board ("OPSB") issued an Order on Certificate approving Hog Creek's applications to amend its Hog Creek I Certificate (Case No. 09-277-EL-BGN) and Hog Creek II Certificate (Case No. 10-654-EL-BGN) subject to the conditions set forth in the Stipulation and the conditions set forth in the certificate orders as later amended.

Within these sets of conditions, **Stipulation Condition Nos. 7, 8, and 9** require that:

- 7. In-water work shall be prohibited from April 15 to June 30 to reduce impacts to aquatic species and their habitat.**
- 8. Construction in northern harrier preferred habitat types shall be prohibited during the nesting period of May 15 through August 1.**
- 9. Construction in upland sandpiper preferred habitat types shall be prohibited during the nesting period of April 15 through July 31.**

Attached is a copy of Hog Creek's Ohio Department of Natural Resource ("ODNR") consultation along with ODNR's response that confirms the project area does not contain habitat for upland sandpiper, northern harrier, and mussels, and therefore Staff Report Condition Nos. 7, 8, and 9 are not applicable. If you disagree with any of Applicant's conclusions with respect to these conditions, please let me know as soon as possible.

If you have any questions please call at the number listed above.

Sincerely,

Sally W. Bloomfield

Attachment

cc: Andrew Conway, Jonathan Pawley (w/Attachment)

# **Hog Creek Wind Farm Habitat Assessment Hardin County, Ohio**

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**Prepared for:**  
**Hog Creek Wind Project, LLC**

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**Prepared by:**  
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**November 28, 2016**



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## INTRODUCTION

Hog Creek Wind Project, LLC, an affiliate of Renewable Energy Systems Americas, Inc. is planning the development of the Hog Creek Wind Farm (Project) in Hardin County, Ohio. The Project will be operational in the fall of 2017 and consists of 30 2.2-megawatt Vestas V110 wind turbines that have a 95 meter (m; 311 foot [ft]) hub height and a 55 m (180 ft) blade length. Western EcoSystems Technology, Inc. (WEST) assessed the proposed Project for potential habitat of the northern harrier (*Circus cyaneus*), upland sandpiper (*Bartramia longicauda*), and mussel species.

## STUDY AREA

The Project is located in Hardin County, Ohio and within the Eastern Corn Belt Plains Ecoregion, which encompasses a large portion of central and southern Ohio and Indiana (Woods et al. 1998). The Eastern Corn Belt Ecoregion is a broad, fertile plain with better drained soils than the Huron/Erie Lake Ecoregion. The region is characterized by nearly flat topography; the study area is flat with no hills, ridges, or other areas of starkly elevated topography (USEPA 2002).

The Project occurs within an area formerly dominated by extensive elm (*Ulmus* spp.) - ash (*Fraxinus* spp.) swamps and American beech (*Fagus grandiflora*) forests. Today, most of the forests have been cleared and the swamps artificially drained to make way for highly productive farms producing corn (*Zea mays*), soybean (*Glycine max*), livestock, and vegetables. According to the US Geological Survey (USGS) National Land Cover Database (USGS NLCD 2011, Homer et al. 2015), cultivated cropland and developed open space are the two most dominant land cover types, totaling approximately 98% of the Project vicinity (Table 1, Figure 1). The remaining area (approximately 3%) is composed of small areas of deciduous forest and herbaceous land (Table 1, Figure 1).

**Table 1. The land cover types, coverage, and composition within a half-mile (about 800 meters) of turbine locations at the Hog Creek Wind Farm.**

Habitat	Acres	% Composition
Cultivated Crops	6,146	93%
Developed, Open Space	300	5%
Deciduous Forest	135	2%
Developed, Low Intensity	41	<1%
Herbaceous	21	<1%
Developed, Medium Intensity	2	<0.1%
Developed, High Intensity	<1	<0.1%
<b>Total</b>	<b>6,645</b>	<b>100.0%</b>

Data from USGS NLCD 2011, Homer et al. 2015

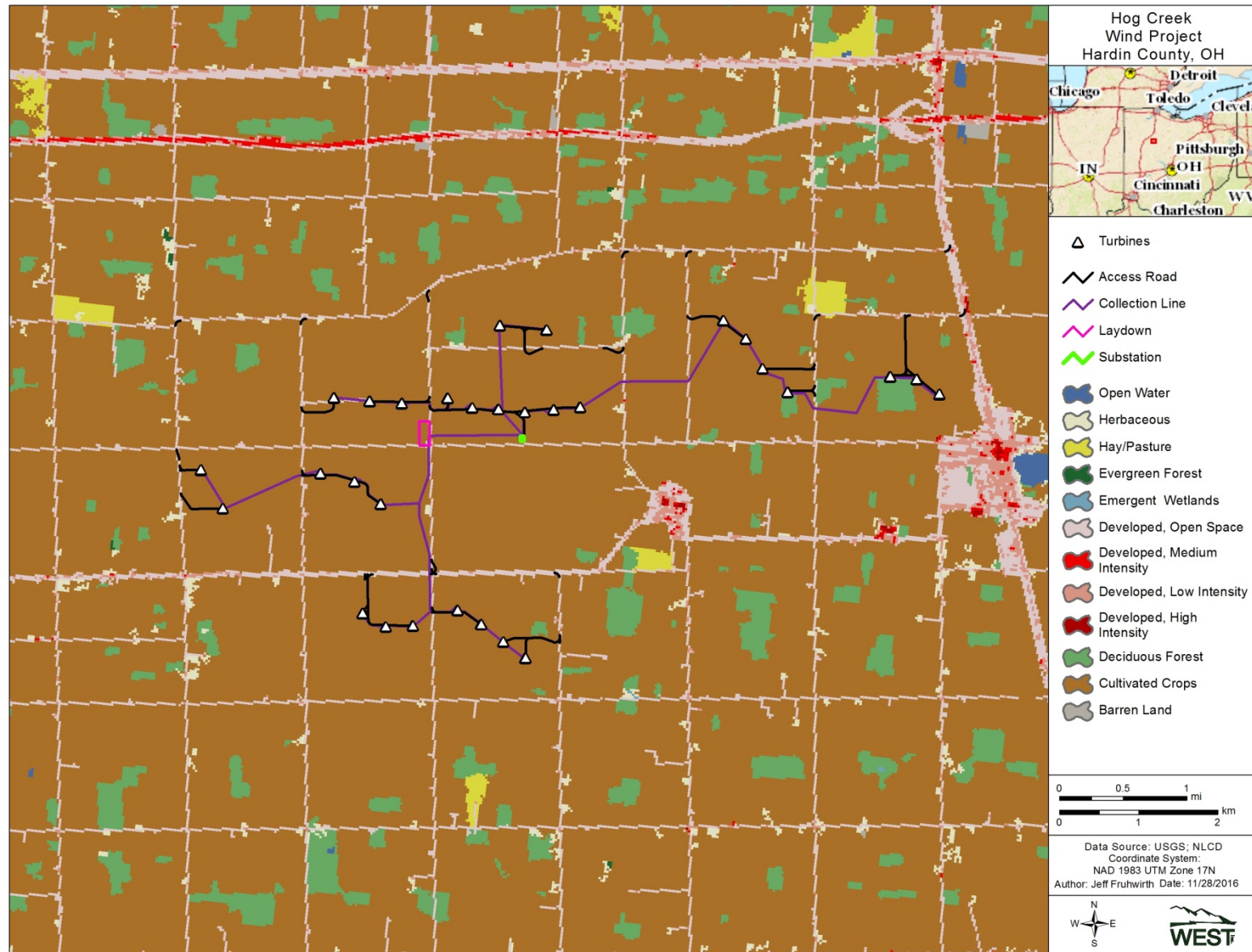


Figure 1. Land cover map and location of searched areas by plot type for the Hog Creek Wind Farm.



## **METHODS**

A site visit was conducted on November 7<sup>th</sup>, 2016 to assess the potential of northern harrier and upland sandpiper nesting habitat within the potential areas of development in the Project (Figure 2). Northern harrier nesting habitat was described within the Ohio Power Siting Board (OPSB) Report of Investigation as large marshes and grasslands, and upland sandpiper habitat as dry grasslands including native grasslands, seeded grasslands, grazed and un-grazed pasture, hayfields, and grasslands established through the Conservation Reserve Program (Appendix A). All areas of development (ie. collection lines, roads, turbine locations) were assessed in the field. The extent and location of potential habitat was mapped and photographed within areas of proposed development from the Project layout.

Locations where streams within the Project will have instream impacts were assessed for potential mussel habitat (Figure 2). An initial desktop assessment was performed to determine if any of the impacted streams were listed as Group 1-5 streams within the Ohio Mussel Survey Protocol. The watershed size above points of impact was also measured using the USGS Stream Stats Tool Version 3.0 to determine if streams occurred within watersheds that were greater than 10 square miles (mi<sup>2</sup>; 25.9 square kilometers [km<sup>2</sup>]) in size. Photographs of streams at areas of impact were taken during the site visit and presented in Appendix B.

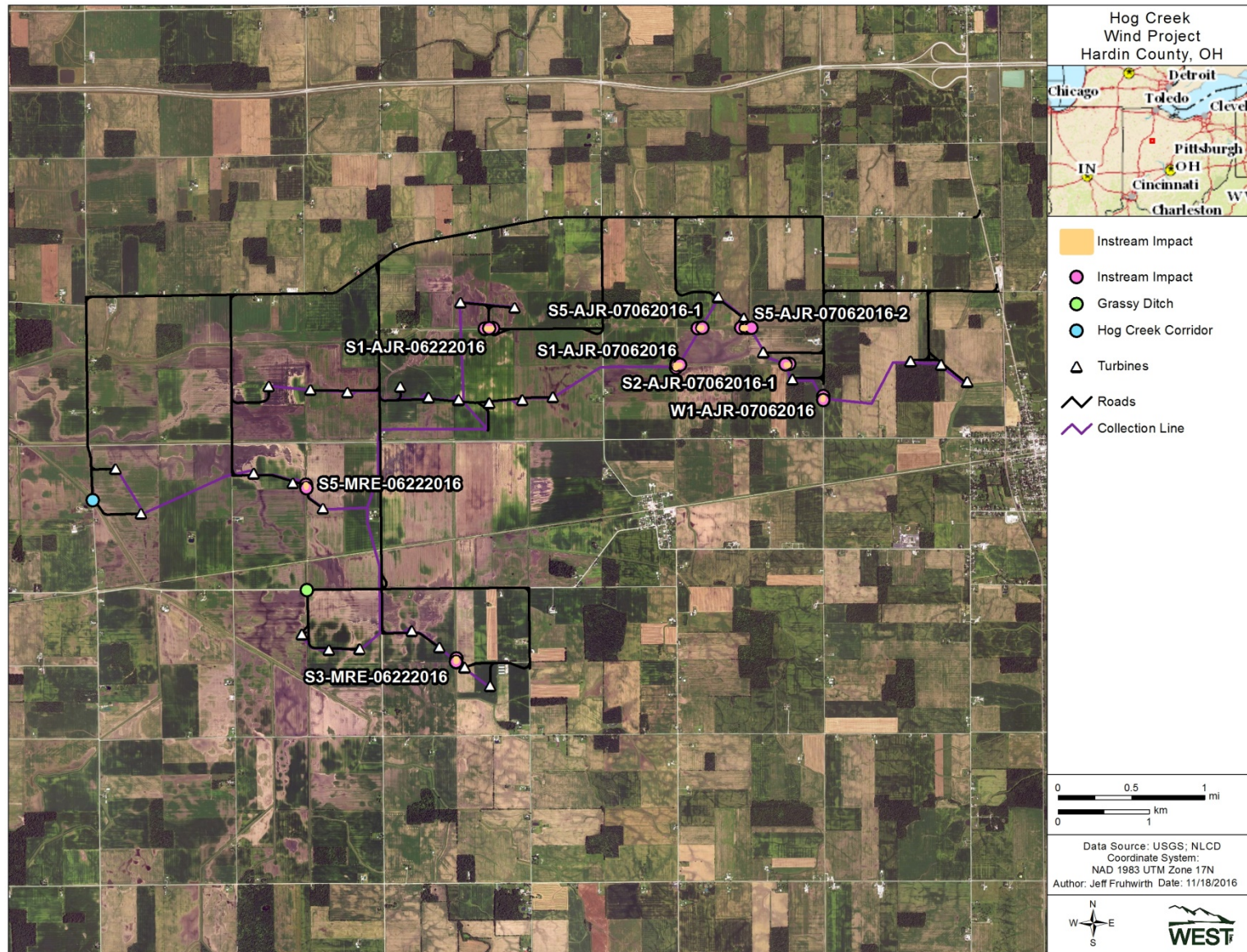


Figure 2. Assessed areas of instream impacts at the Hog Creek Wind Farm.

## RESULTS AND CONCLUSIONS

Nesting habitat for northern harriers and upland sandpipers is not present within the proposed area of development. The vast majority of areas of development were located within tilled agriculture, which does not provide suitable nesting habitat for northern harrier or upland sandpipers. Grass lined ditches were the only areas of impact that were not located in tilled agriculture (Appendix B).

Nine locations where instream impacts within ditches were assessed (Table 2). Impacted streams are all unnamed tributaries, and none of the impacted ditches were listed within the Ohio Mussel survey protocol as Group 1-5 streams. All impacted ditches were associated with watersheds that were less than four mi<sup>2</sup> (10.4 km<sup>2</sup>) in size (Appendix C).

**Table 2. Watershed area for assessed areas of instream impacts at the Hog Creek Wind Farm.**

Location ID	Area of Watershed (mi <sup>2</sup> )
S1_AJR_06222016	0.99
S1_AJR_07062016	3.53
S2_AJR_07062016	1.47
S2_AJR_07062016-2	0.82
S3_MRE_06222016	2.24
S5_AJR_07062016-1	0.89
S5_AJR_07062016-2	0.81
S5_MRE_06222016	0.75
W1_AJR_07062016	0.10
<b>Total Area</b>	<b>11.6</b>

## REFERENCES

- Homer, C. G., J. A. Dewitz, L. Yang, S. Jin, P. Danielson, G. Xian, J. Coulston, N. D. Herold, J. D. Wickham, and K. Megown. 2015. Completion of the 2011 National Land Cover Database for the Conterminous United States-Representing a Decade of Land Cover Change Information. *Photogrammetric Engineering and Remote Sensing* 81(5): 345-354. Available online from: <http://www.mrlc.gov/nlcd2011.php>
- North American Datum (NAD). 1983. NAD83 Geodetic Datum.
- Ohio Department of Natural Resources (ODNR). 2009. On-Shore Bird and Bat Pre- and Post-Construction Monitoring Protocol for Commercial Wind Energy Facilities in Ohio. An Addendum to the Ohio Department of Natural Resource's Voluntary Cooperative Agreement. Exhibit A. ODNR Division of Wildlife. March 4, 2009. Available online at: <http://wildlife.ohiodnr.gov/portals/wildlife/pdfs/species%20and%20habitats/postconstructionmonitoringprotocol.pdf>
- US Environmental Protection Agency (EPA). 2002. Primary Distinguishing Characteristics of Level III Ecoregions of the Continental United States. Available at: <ftp://ftp.epa.gov/wed/ecoregions/us/>, [ftp://ftp.epa.gov/wed/ecoregions/us/Eco\\_Level\\_III\\_descriptions.doc](ftp://ftp.epa.gov/wed/ecoregions/us/Eco_Level_III_descriptions.doc)



- US Geological Survey (USGS) National Land Cover Database (NLCD). 2011. National Land Cover Database 2011 (NLCD 2011). Multi-Resolution Land Characteristics Consortium (MRLC), National Land Cover Database (NLCD). USGS Earth Resources Observation and Science (EROS) Center, Sioux Falls, South Dakota. Information available online at: <http://www.mrlc.gov/nlcd2011.php>; Legend information available at: [http://www.mrlc.gov/nlcd11\\_leg.php](http://www.mrlc.gov/nlcd11_leg.php)
- Woods, A.J., J.M. Omernik, C.S. Brockman, T.D. Gerber, W.D. Hosteter, and S.H. Azevedo. 2016. Ecoregions of Indiana and Ohio. Color poster with map, descriptive text, summary tables, and photographs. US Geological Survey (USGS) map (map scale 1:1,500,000). USGS, Reston, Virginia. US Environmental Protection Agency (USEPA). Information available online at: <https://www.epa.gov/eco-research/ecoregion-download-files-state-region-5#pane-33>

**Appendix A. Ohio Power Siting Board Report of Investigation (Separate  
Attachment)**

**Appendix B. Photographs of Impacted Areas Assessed During the Site  
Visit(Separate Attachment)**

**Appendix B – Photographs of Non-Cropland Landcover and Ditches Where In-stream Impacts Will Occur**





**Photograph 1. 1A - S5\_MRE\_06222016**



**Photograph 2. 1B - S5\_MRE\_06222016**





**Photograph 3. 2A - S3\_MRE\_06222016**



**Photograph 4. 2B - S3\_MRE\_06222016**





**Photograph 5. 2C - S3\_MRE\_06222016**



**Photograph 6. 3A - S1\_AJR\_06222016**





**Photograph 7. 3B - S1\_AJR\_06222016**



**Photograph 8. 3C - S1\_AJR\_06222016**





**Photograph 9. 3D - S1\_AJR\_06222016**



**Photograph 10. 3D West - S1\_AJR\_06222016**





**Photograph 11. 4A - S5\_AJR\_07062016-1**



**Photograph 12. 4B - S5\_AJR\_07062016-1**

**This foregoing document was electronically filed with the Public Utilities**

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**Case No(s). 16-1422-EL-BGA, 16-1423-EL-BGA**

Summary: Correspondence of Hog Creek Wind Farm LLC in Compliance with Stipulation Condition Nos. 7, 8 and 9 - Part 1 of 2 electronically filed by Teresa Orahod on behalf of Sally W. Bloomfield