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October 18, 2016

Via Electronic Filing

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

Re: Hardin Wind Energy LLC, Case No. 09-479-EL-BGN

Dear Ms. McNeal:

The March 22, 2010 Opinion, Order, and Certificate ("Certificate") approving Hardin Wind Energy LLC's ("Hardin Wind Energy") Certificate of Environmental Compatibility and Public Need established a set of conditions as part of the Certificate. On April 29, 2011 in Case No. 11-3446-EL-BGA, the Ohio Power Siting Board ("OPSB") approved an amendment ("Amended Certificate") to Hardin Wind Energy's Certificate, which also established an additional set of conditions.

Within this set of conditions, **Certificate Condition No. 51(b)** requires that:

Hardin shall comply with the following conditions regarding decommissioning:
(b) Pursuant to Rule 4906-17-08 (E)(6), O.A.C., Hardin shall provide a decommissioning program to staff and the Hardin County Engineer for review and for staff approval, at least 30 days prior to the preconstruction conference.

In compliance with Certificate Condition No. 51(b), attached is a copy of Hardin's Decommissioning Plan that covers the Eight-Turbine 2016 Phase of construction. Hardin will file the decommissioning plan for the remainder of the project prior to its construction.

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

Sincerely,

Sally W. Bloomfield

Attachment

cc: Andrew Conway (w/Attachment)
Derek Collins (w/Attachment)

Decommissioning Plan
Eight-Turbine 2016 Phase
Hardin Wind Energy Project
Hardin County, Ohio

Prepared for:
Hardin Wind Energy LLC
One South Wacker Drive
Suite 1800
Chicago, Illinois 60606

Prepared by:
Stantec Consulting Services Inc.
1165 Scheuring Road
De Pere, Wisconsin 54115

Project No: 193704779
October 14, 2016

DECOMMISSIONING PLAN
HARDIN WIND ENERGY PROJECT, HARDIN COUNTY, OHIO

This document entitled Decommissioning Plan Hardin Wind Energy Project, Hardin County, Ohio was prepared by Stantec Consulting Services Inc. ("Stantec") for the use of Hardin Wind Energy LLC (the "Client"), and the applicable regulatory agencies. Any reliance on this document by any other third party is strictly prohibited. The material in this document reflects Stantec's professional judgment in light of the scope, schedule and other limitations stated in the document and in the contract between Stantec and the Client. The opinions in this document are based on conditions and information existing at the time this document was published and do not take into account any subsequent changes.

Prepared by _____

STANTEC CONSULTING SERVICES INC.

Technical Review by _____
Allen D. Robinson, P.E.

Independent Review by _____
Dave Rautmann, P.E.

PE CERTIFICATION

NAME: Allen D. Robinson

TITLE: Senior Construction Manager

COMPANY: Stantec Consulting Services Inc.

REGISTRATION NO: E-51460

STATE: Ohio

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1.0 Introduction

Hardin Wind Energy LLC (Hardin Wind), a subsidiary of Invenergy Wind Development North America LLC (Invenergy), is proposing to construct the Hardin Wind Energy Center (the Project) in Hardin County, Ohio. The Project is to be located within the townships of Marion, Cessna, Roundhead, McDonald and Lynn, near the Village of McGuffey, Ohio (Figure 1). The proposed Phase 1 of the Project consists of up to 107, 2.3-megawatt (MW) wind turbine generators (WTG or turbine) manufactured by General Electric (GE), with a maximum Project nameplate generating capacity of up to 246.1 MW.

This Decommissioning Plan (Plan) report provides a description of the decommissioning and restoration of the limited start-of-construction effort for a portion of Phase 1 of the Project. This limited start-of-construction is proposed from late 2016 through early 2017 and will be referred to as the Eight-Turbine 2016 Phase (2016 Phase). The 2016 Phase will consist of the installation of access roads, excavation for turbine foundations and placement of mud mats for eight of the final turbine sites. Twelve potential locations of the eight 2016 Phase turbines are presented in Figure 2. All of the 12 potential sites are located in Marion Township. Eight of the sites will be chosen for the limited start-of-construction 2016 Phase.

This Plan includes a list of the primary wind farm components to be installed in the 2016 Phase, dismantling and removal activities, and disposed of or recycled materials. A summary of estimated costs associated with decommissioning the 2016 Phase is also included.

1.1 WIND FARM COMPONENTS

The main components of the proposed 2016 Phase of the Project include:

- Turbine foundation excavation;
- Foundation mud mats;
- Access roads.

1.2 EXPECTED LIFETIME AND TRIGGERING EVENTS

If properly maintained, the expected lifetime of the GE utility-scale wind turbine is approximately 20 years. Depending on market conditions and Project viability, the turbines may be re-fitted with updated components, such as nacelles, towers and/or blades to extend the life of the Project. In the event that the turbines are not retrofitted, or at the end of the Project's useful life, the turbines and associated components will be decommissioned and removed from the site.

The 2016 Phase of the Project consists of the installation of access roads, excavation for turbine foundations and placement of mud mats; therefore, if the final wind farm is constructed, the lifetime of these components would be the same as the final turbine installations. An additional triggering event for the 2016 Phase would be if the final wind farm would not be constructed. In this scenario, the eight foundation sites would be restored to pre-construction conditions and the access roads would be removed, if requested by the hosting landowner, and restored.

1.3 DECOMMISSIONING SEQUENCE

Decommissioning activities for the 2016 Phase of the Project are anticipated to be completed within approximately four to six weeks. Monitoring and site restoration may extend beyond this time period to ensure successful revegetation and rehabilitation. The anticipated sequence of decommissioning and removal is described below; however, overlap of activities is expected.

- Backfill and grade turbine sites
- Remove access roads (unless retained at discretion of host landowner)
- De-compact subsoils with deep ripper or chisel plow
- Pick rocks larger than four inches in diameter from surface of subsoil
- Restore and revegetate disturbed land to pre-construction conditions to the extent practicable

2.0 Decommissioning Components and Activities

The wind farm components and decommissioning activities necessary to restore the 2016 Phase of the Project area, as near as practicable, to pre-construction conditions are described within this section. Access roads may be left in place if requested and/or agreed to by the landowner. Estimated quantities of materials to be removed and salvaged or disposed of are included in this section. Public roads damaged or modified during the decommissioning and reclamation process shall be repaired upon completion of the decommissioning.

2.1 WIND FARM SYSTEM OVERVIEW

The final Project will use up to 107 GE 2.3-116 turbines, with a total nameplate generating capacity of up to 246.1 MW. The 2016 Phase will consist of limited access road installation and foundation excavations; therefore, to be conservative, the decommissioning estimate provided in this report assumes that the access roads will be completely removed.

Table 1 presents a summary of the primary components included in this decommissioning plan. A decommissioning plan for the full wind farm project will be submitted once a final Project size and design is determined.

Table 1 Primary Components of Wind Farm to be Decommissioned

Component	Quantity	Unit of Measure
Wind Turbine Backfill and Grading	8	Each
Access Roads (8 longest access roads)	11,100	Lineal Foot (estimated)

2.2 WIND TURBINE FOUNDATION EXCAVATION AND MUD MATS

The octagonal spread foot foundations utilized for the Project turbines will be predominantly located underground. The foundation design consists of a solid, reinforced circular concrete pedestal, approximately 54 inches (4.5 feet) high and 18 feet in diameter. Below the pedestal is

the foundation base, an octagonal-shaped concrete structure approximately 63 feet across and 9 to 10.0 feet deep. The entire foundation sits on supporting sub-grade approximately 10 feet below the ground surface. A typical spread foot foundation design is shown in Figure 3.

The 2016 Phase of the Project includes excavation of eight turbine foundation sites approximately 63 feet in diameter and 10 feet deep. The mud mat, a layer of concrete, two to three inches thick, will then be poured to provide a level and stable base on which to install the balance of the foundation. The 2016 Phase of the Project will end with installation of the mud mats.

Decommissioning of the 2016 Phase would include back-filling the foundation area with clean fill (or fill reserved from the initial excavation), and grading to restore the land and elevation contours as near as practicable to preconstruction conditions. Topsoil will be placed on the disturbed area and revegetated. Any remaining excavated materials would be hauled off-site for recycling or disposal. The cost estimate for back-filling the turbine foundation sites is based on the previously described design parameters and assumes no resale or salvage value.

2.3 ACCESS ROADS

Access roads will be located at each turbine providing access from public roads to the turbine site. The final width of the roads is approximately 16 feet, widening near the turbine base. The total length of the eight 2016 Phase access roads is approximately 11,100 linear feet (2.1 miles). During the construction phase of the wind farm, the existing soils will be graded to match the typical contour of the adjacent land and compacted.

During installation subgrade conditions may be stabilized by either the placement of Geogrid reinforced granular fills over soft ground; chemical stabilization by the application of lime (quicklime, hydrated lime, or lime slurry); or cement stabilization. The appropriate use of chemical stabilization is typically site specific and dependent upon soils characteristics in order to determine the correct mix ratio and rate of application. Geogrid and granular materials are typically easier to work with and install, maintain during use, and remove at decommissioning. Once the Geogrid system is in place, depending on the soils strength, a fill of up to 8 inches of granular materials (No. 2 stone) may be placed followed by compacted granular backfill to seal off the surface. The estimated quantity of these materials is provided in Table 2. A typical access road cross-section is shown in Figure 4.

Table 2 Typical Access Road Construction Materials

Item	Number	Unit
Geogrid	19,733	Square Yards
No. 2 stone, 8” thick	4,385	Cubic Yards
Compacted granular backfill, 4” thick	2,240	Cubic Yards

Access roads will be removed from the Project area during the decommissioning phase, unless written communication is received from the host landowner requesting that the road be retained. Hardin Wind anticipates that most land owners will retain the access roads; however, we have

conservatively assumed that they will be removed and restored to preconstruction conditions. Decommissioning activities include the removal and stockpiling of aggregate materials onsite for salvage preparation. Local townships or farmers may accept the material prior to processing for use on local roads or field access roads; however, it is conservatively assumed that all materials will be removed from the Project area and hauled up to five miles from the site.

The underlying Geogrid will be removed during the decommissioning of the access roads. Geogrid that is easily separated from the aggregate during excavation will be disposed of in a solid waste disposal facility. Geogrid that remains with the aggregate will be sorted out at the processing site and properly disposed of. Following removal of aggregate and Geogrid, the access road areas will be graded, de-compacted (ripped to 18 inches), back-filled with native subsoil and topsoil, as needed, and land contours restored as near as practicable to preconstruction conditions.

2.4 SOILS AND PRIME FARMLAND

The twelve proposed turbines sites are located in agricultural land. The majority of the sites lay within an area known as the Scioto Marsh, which is former marsh land. The marsh formed in a glacial lake basin, resulting in approximately 2 to 10 feet of peat overlying the underlying lacustrine clay. Natural and man-made drainage waterways are located in low-lying areas of the site.

Soils at the twelve proposed turbine locations include the: McGuffey muck (Mc); Pewamo silty clay loam (PkA); Fulton silt loam (FuA); and Blount silt loam (BlgB1 and BLGB1). All of the proposed sites are located in soils classified as prime farm land, if drained. The site is drained by a system of natural and man-made drainage features; therefore, the land to be utilized for the wind farm facilities is considered prime farmland (Figure 5).

Areas of the Project that were previously utilized for agricultural purposes will be restored to their preconstruction condition and land use. Topsoil reserved from the installation of the access roads and foundation pits will be used and supplemented, if needed with a comparable soil. Restored areas will be revegetated in consultation with the current landowner.

2.5 RESTORATION AND REVEGETATION

Project sites that have been excavated and back-filled will be graded as previously described to restore land contours as near as practicable to preconstruction conditions. Topsoil will be placed on disturbed areas and seeded with appropriate vegetation to reintegrate it with the surrounding environment. Soils compacted during de-construction activities will be de-compacted, as necessary, to restore the land to pre-construction land use. Drain tiles that have been damaged will be repaired or replaced to at least pre-construction condition. Work will be completed to comply with the conditions agreed upon by Hardin Wind Energy LLC and the Ohio Power Siting Board or as directed by regulations in affect at the time of decommissioning.

2.6 SURFACE WATER DRAINAGE AND CONTROL

As previously described, the twelve proposed turbines sites are located in actively drained agricultural fields. The access roads and turbine foundation sites do not cross wetlands or

waterways (Figure 6). Drainage ditch locations range from approximately 150 to 1,600 feet from the proposed 2016 Phase construction activities. The terrain is relatively flat and comprised of agricultural fields. Several ditches are protected by grassy buffers and berms along the edges. The existing site conditions and proposed best management practices (BMPs) to protect surface water features are described in the Stormwater Pollution Prevention Plan (SWP3) currently being prepared for the Phase 2016 construction.

Surface water conditions at the site will be reassessed prior to the decommissioning phase. Hardin Wind will obtain the required water quality permits from the Ohio Environmental Protection Agency (OEPA) and the U.S. Army Corp of Engineers (USACE), if needed, before decommissioning of the Project. Construction storm water permits would also be obtained and a SWP3 prepared describing the protection needed to reflect conditions present at the time of decommissioning. BMPs may include: construction entrances, temporary seeding, permanent seeding, mulching (in non-agricultural areas), erosion control matting, silt fence, filter berms, and filter socks.

2.7 MAJOR EQUIPMENT REQUIRED FOR DECOMMISSIONING

The activities involved in the 2016 Phase primarily involve the removal of access roads (if land owner requests), back-filling of turbine foundation site, grading of surfaces to pre-construction land contours and restoration of the disturbed areas. Material removed from the access roads will be stockpiled and sold for alternate use or offered to land owners. The equipment needed for these activities, to stockpile for removal from the site by others, includes: low ground pressure (LGP) track mounted excavator, LGP track bulldozer, LGP off-road end-dump truck, front-end loader, deep ripper, disc plow and tractor to restore subgrade conditions, and ancillary equipment. If the material is to be removed from the site and hauled for disposal, over-the-road dump trucks will also be required.

3.0 Decommissioning Cost Estimate Summary

Expenses associated with decommissioning the Project will be dependent on labor costs at the time of decommissioning. For the purposes of this report approximate mid-2015 to early-2016 average market values were used to estimate labor expenses. Fluctuation and inflation of the labor costs were not factored into the estimates.

3.1 DECOMMISSIONING EXPENSES

Project decommissioning will incur costs associated with the backfilling, grading and restoration of the proposed wind turbine foundation sites and access roads as described in Section 2. Table 3 summarizes the estimates for activities associated with the major components of the Project.

Table 3 Estimated Decommissioning Expenses

Activity	Unit	Number	Cost per Unit	Total
Overhead and management (includes estimated permitting required)	Lump Sum		$8,000	$8,000
Mobilization and demobilization	Lump Sum		$7,000	$7,000
Backfill of wind turbine foundation area	Each	8	$2,890	$23,120
Access road excavation and removal	Lump Sum		$51,300	$51,300
Remove and dispose of Geogrid	Lump Sum		$24,450	$24,450
Topsoil replacement and rehabilitation of site	Lump Sum		$81,150	$81,150
Total estimated decommissioning cost				**$195,020**

3.2 DECOMMISSIONING REVENUES

Revenue from decommissioning the Project will be realized through the sale of wind farm components and construction materials. Upon completion of the final Hardin Wind Energy Center, there will be turbine and other components that may be sold within a secondary market or as salvage; however, the 2016 Phase does not include the installation of turbines or electrical components. For purposes of this report, no estimated recovery or salvage values were considered, as directed in the final order from the Ohio Power Siting Board (OPSB) for the Project (09-0479-EL-BGN and 11-3446-EL-BGA).

3.3 DECOMMISSIONING COST SUMMARY

The estimated cost to decommission the Project, using the information detailed in this report are based on 2015-2016 prices, with no market fluctuations or inflation considered. This Plan was prepared to describe the activities and costs of decommissioning the limited start-of-construction effort for a portion of Phase 1, referred to as the 2016 Phase.

Each individual component of the plan has been conservatively estimated. It is our professional opinion that the actual cost to decommission the 2016 Phase would be lower than the estimate presented here.

3.4 FINANCIAL ASSURANCE

Hardin Wind will post decommissioning funds in the form of a performance bond prior to the preconstruction conference to cover the full cost of the turbines that construction will be started on in 2016. An updated decommissioning plan and additional decommissioning funds will be posted in the form of a performance bond prior to any additional construction.

FIGURES

Figure 1 Project Location

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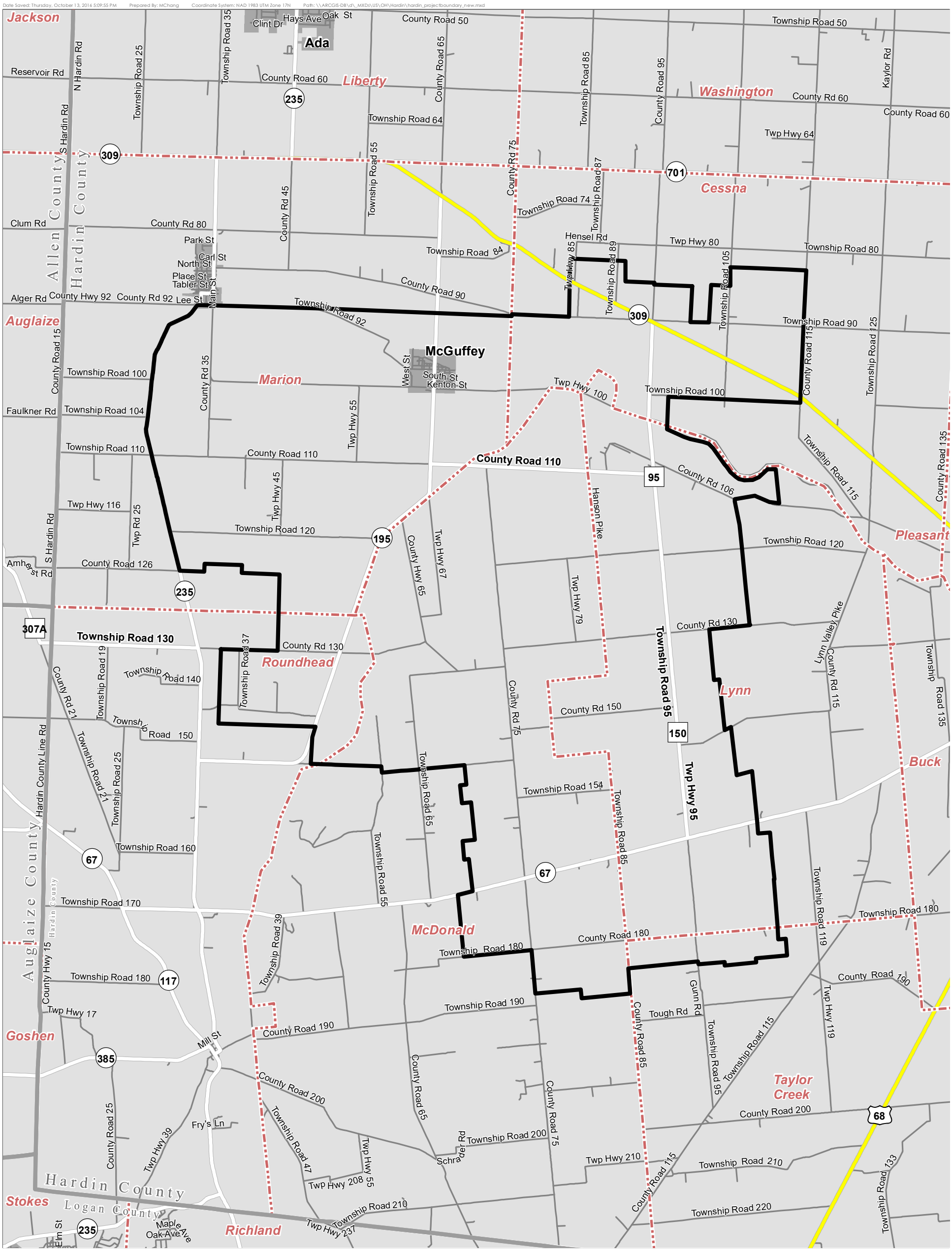

Legend

- Hardin Project Boundary
- Municipal Boundary
- Political Township
- County Boundary
- Primary Road
- Secondary Road
- Local Road

4,000 0 4,000
Feet

Hardin County Wind Project Location

Hardin Wind Energy Project | Hardin County, Ohio

Rev. 00
October 13, 2016

Invenergy

Figure 2 Twelve Proposed Locations for Eight Turbines – 2016 Phase

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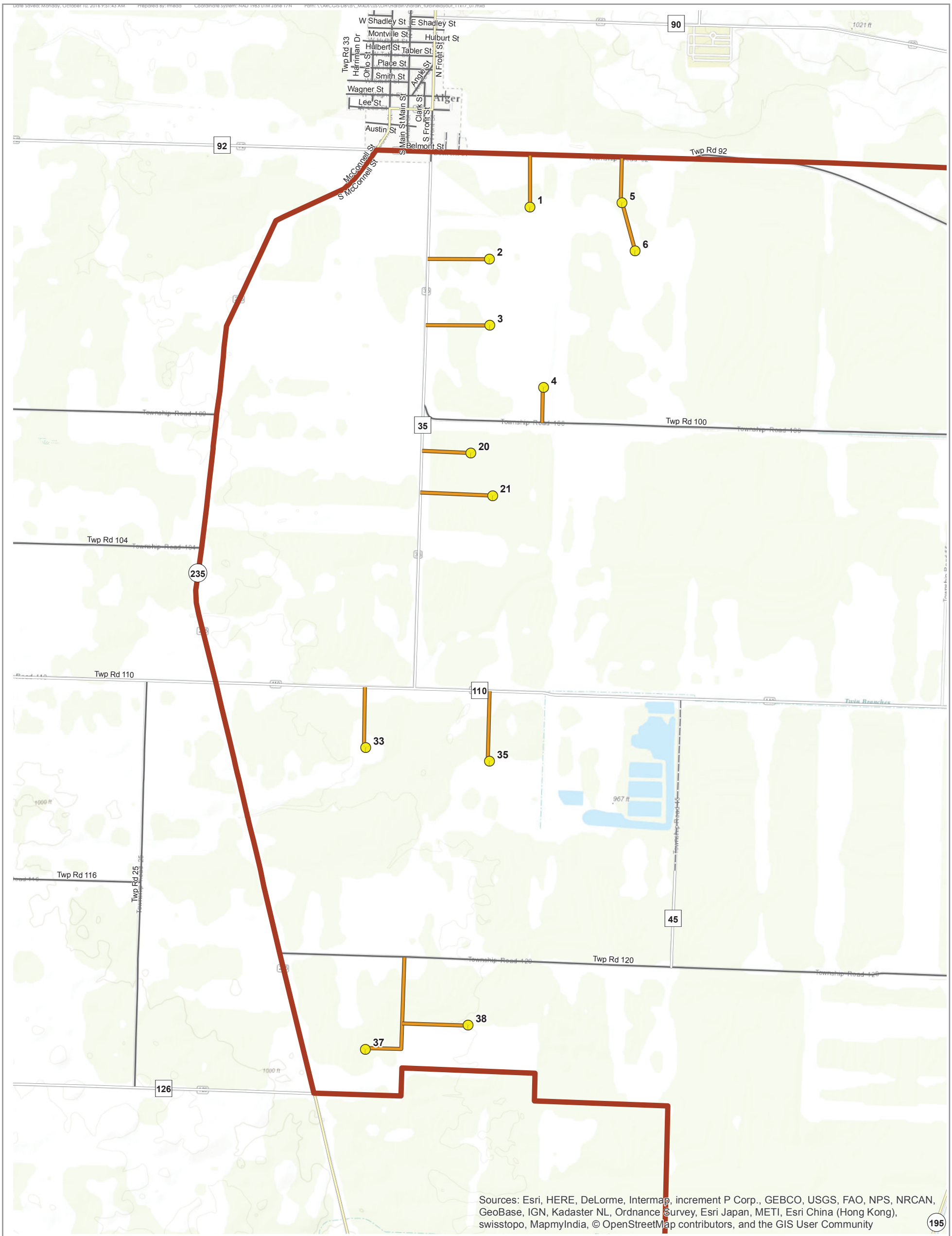

Legend

- Turbine Location
- Access Road
- Project Boundary

Road Classification

- US/State Route
- County Road
- Local Road
- Dirt/Unpaved Road

1,100 0 1,100
Feet

Turbine Layout (12 WTG)

Figure 2

Hardin Wind Energy Center, Hardin County, Ohio

Rev. 00
October 10, 2016

Invenergy

Figure 3 Foundation Detail

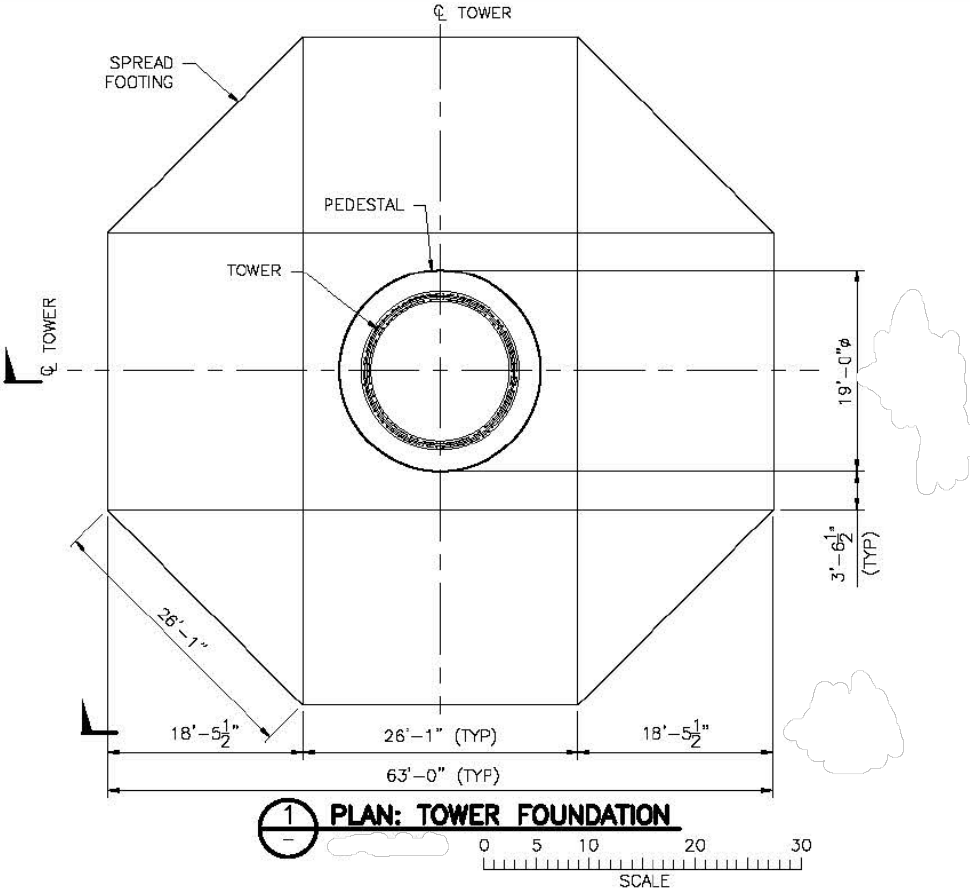

Figure 4 Access Road Detail

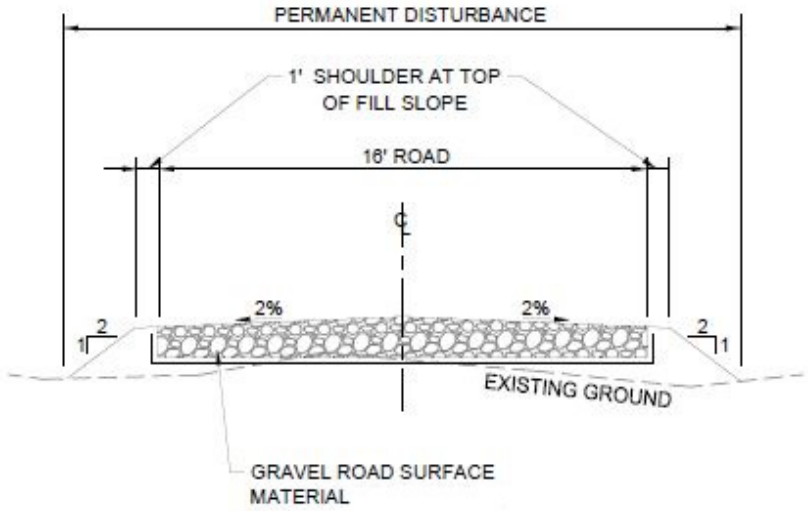

Figure 5 Prime Farmland – 2016 Phase

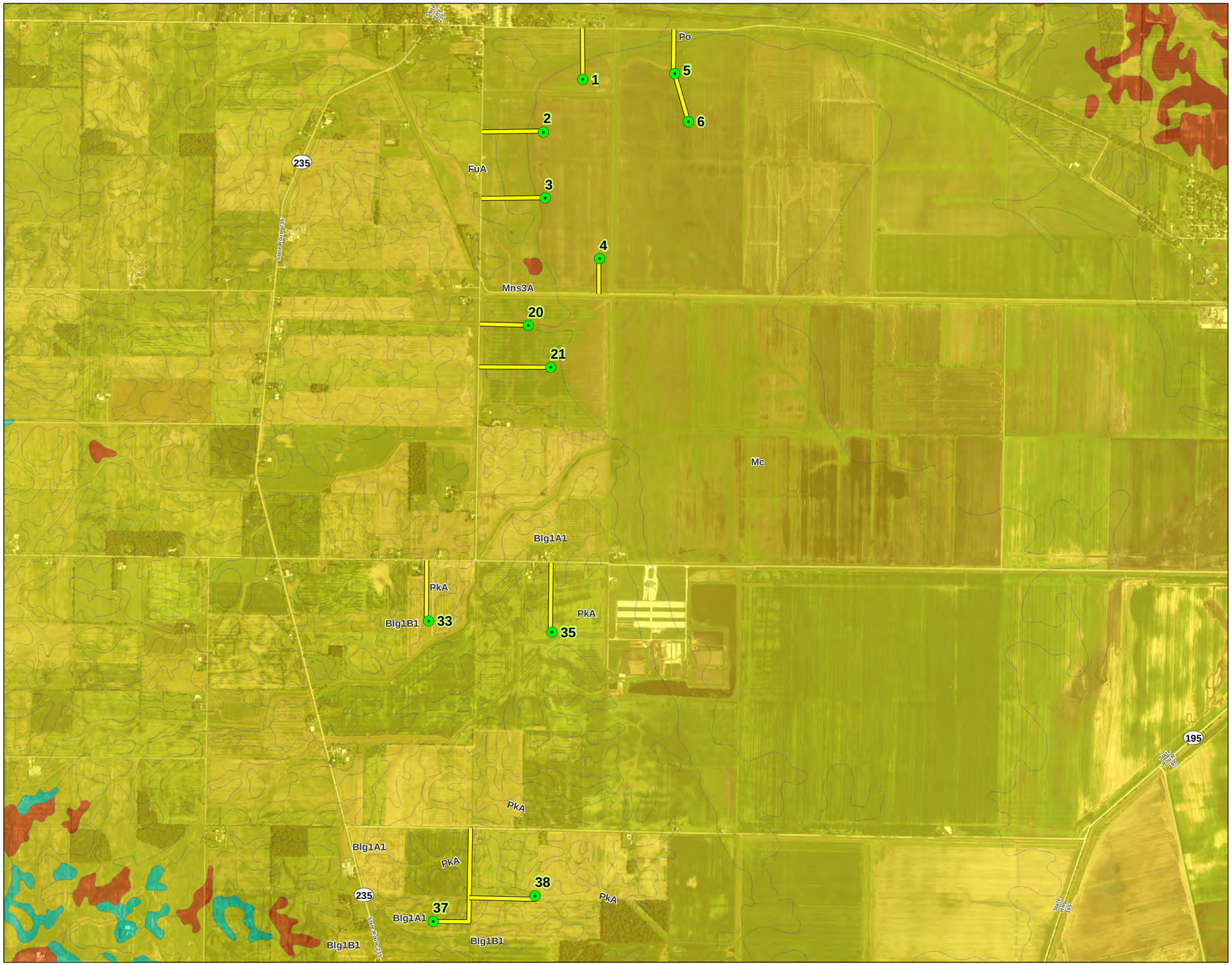

Figure No.
5

Title
NRCS Soil Survey Data
Farmland Classification

Client/Project
Invenergy, LLC
Hardin Wind Energy Center - 2016 Phase

Project Location
Marion Township
Hardin Co., OH

193704779
Prepared by MCP on 2016-10-14
Technical Review by JJB on 2016-10-14
Independent Review by AR on 2016-10-14

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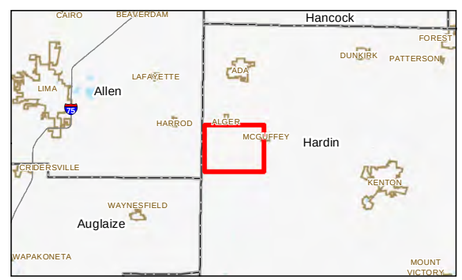
Legend

- Potential Turbine Location
- Access Road

NRCS Soil Survey Data
Farmland Classification

- All areas are prime farmland
- Farmland of local importance
- Prime farmland if drained
- Prime farmland if drained and either protected from flooding or not frequently flooded during the growing season
- Not prime farmland



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, NRCS, NADS
3. Orthophotography: 2015 NAIP

Stantec

Figure 6 Wetlands and Waterways – 2016 Phase

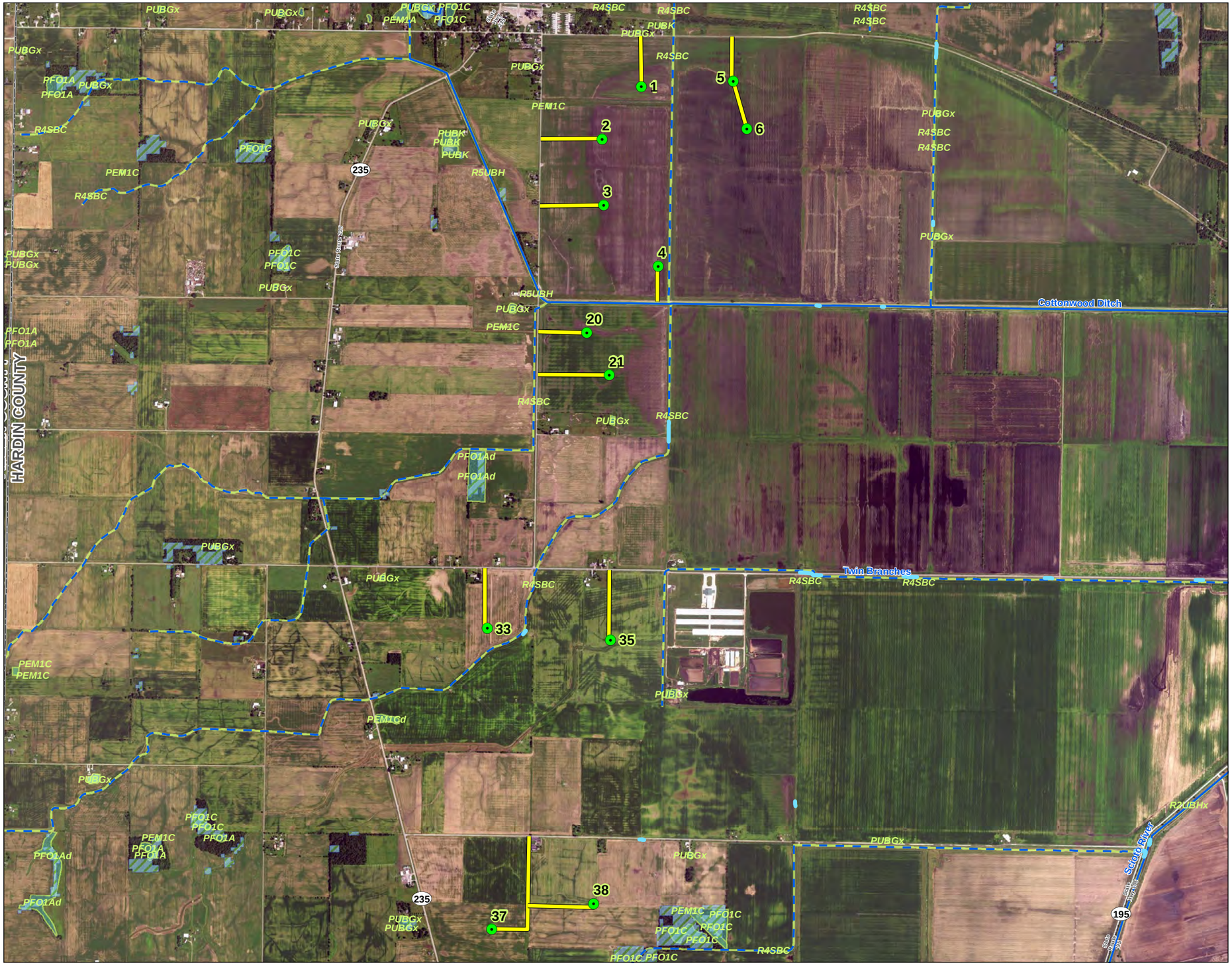


Figure No.
6

Title
Wetlands and Waterway Data

Client/Project
Invenergy, LLC
Hardin Wind Energy Center - 2016 Phase

Project Location
Marion Township
Hardin Co., OH

193704779
Prepared by MCP on 2016-10-14
Technical Review by JJB on 2016-10-14
Independent Review by AR on 2016-10-14

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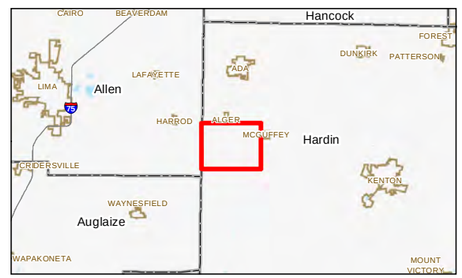
Legend
- Potential Turbine Location
- Access Road
- Field Delineated Waterway
- Hardin County Wetland
- National Wetlands Inventory

National Hydrography Dataset
- Perennial Stream
- Intermittent Stream
- Canal Ditch
- LakePond



Notes
1. Coordinate System: NAD 1983 StatePlane Ohio North FIPS 3401 Feet
2. Data Sources Include: Stantec, USFWS, USGS, NADS
3. Orthophotography: 2015 NAIP

Stantec

Summary: Correspondence of Hardin Wind Energy LLC in Compliance with Certificate Condition No. 51b - Decommissioning Plan electronically filed by Teresa Orahood on behalf of Sally W. Bloomfield