APPLICATION FOR A ZONING PERMIT AND CONDITIONAL USE PERMIT

Whitetail Wind Energy Project

Grant County, Wisconsin MAY 2, 2023

PREPARED FOR: Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 PREPARED BY:



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1.0 Project Overview

Whitetail Wind, LLC (Whitetail or Applicant) is proposing a 70 megawatt (MW) large wind energy system in Grant County, Wisconsin (**Map 1**). The Whitetail Wind Energy Project (Project) is planned to be constructed on approximately 12,793 acres (Project Area) and will consist of up to 21 turbines, on 23 possible turbine locations, ranging from 2.0 and 4.2 MW nameplate capacity, a Project substation, a Utility substation (Ebenezer Station or switchyard), 34.5 kilovolt (kV) underground electrical collection lines, access roads, permanent meteorological towers, one or more temporary laydown yards, and possibly an operation and maintenance (O&M) facility (**Map 2**).

Because the Project is less than 100 MW of nameplate generating capacity, the Project does not require a Certificate of Public Convenience and Necessity (CPCN) from the Public Service Commission of Wisconsin. In Grant County, wind energy systems require a zoning permit and a conditional use permit (CUP) prior to being constructed. The county Wind Energy System Siting Ordinance (WESS Ordinance) defines the Project as a Large Wind Energy System because the nameplate capacity exceeds more than 300 kilowatts (0.3 MW), and each turbine exceeds 100 kilowatts (0.1 MW) (Grant County, 2018).

Whitetail is seeking a zoning permit, CUP, and all other approvals and authorizations required to construct, install, operate, and maintain the Project. The Project is anticipated to be placed in service by the end of 2024.

Whitetail submits this Application for a Zoning Permit and CUP to the Grant County Conservation, Sanitation and Zoning Department.

1.1 Project Owners

Whitetail is an affiliate of ALLETE Clean Energy (ACE) and is the owner of the Project. Whitetail has reviewed the information provided in this Application for accuracy. Whitetail's contact information is provided below:

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Aaron Stout (281) 299-6728 aaron.stout@prcwind.com

ACE is an independent power producer (IPP) established in 2011 with headquarters in Duluth, Minnesota. ACE, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 MW of capacity.

1.1.1 Ownership Change

270-4D: For large wind energy systems, a notice of change in ownership of the wind energy system shall include information showing that the financial responsibility specified under 270-4A(2) of this chapter will be met by the new owner.¹

Whitetail will comply with this requirement, as applicable.

1.2 Project Location

The Project is proposed on privately-owned land in the unincorporated towns of Wingville and Clifton and the village of Livingston in Grant County, Wisconsin (**Map 1**). The Project is generally located around the village of Livingston along the eastern edge of the county and is bisected by W. County Road E. **Table 1-1** identifies the Project location by township, range, and section.

County	Town/Village	Township	Range	Section(s)
Grant	Livingston	5N	1W	13
Grant	Clifton	5N	1W	1-3, 9-16, 22-27, 33-36
Grant	Wingville	6N	1W	34, 35, 36

Table 1-1: Project Location

The Project Area includes about 55 acres in the village of Livingston, 11,940 acres in the town of Clifton, and 853 acres in the town of Wingville for a total of 12,793 acres. Of the total Project Area, approximately 5,814 acres are under lease/easement agreements by Whitetail.

2.0 Application Requirements

Applications for zoning and CUPs must meet the requirements in the WESS Ordinance. This Application has been organized to incorporate the information required by the specific sections in the WESS Ordinance related to Large Wind Energy Systems. Specifically, the applicable sections of Chapter 270-1 through 270-12 were used to organize this Application. This Application also incorporates the information required by Wis. Admin. Code Ch. PSC 128 and the related *Application Filing Requirements for Wind Energy Systems Subject to Political Subdivision Review* (the "AFR"). A checklist showing this Application's compliance with the filing requirements outlined in the WESS Ordinance, Chapter 128, and the related AFR is included in **Appendix A**.

¹ Where applicable, this Application includes excerpts from the WESS Ordinance requirements for ease of crossreferencing. All references beginning with "270" are to the WESS Ordinance, also referred to as the Grant County Wind Energy Siting Ordinance Chapter 70 (approved Nov. 13, 2018).

3.0 Project Description and Maps

270-3C(1)(a): Wind energy system description and maps showing the locations of all proposed wind energy facilities.

Maps 2 through **4** show all pertinent aspects of the temporary and permanent Project features discussed in this Application.

The Project will be designed for nominal operation at a capacity of 70 MW and will consist of up to 21 turbines, on 23 possible turbine locations, with capacities between 2.0 MW to 4.2 MW. The Project will also include a Project substation, a Utility substation, 34.5 kV underground electrical collection lines, access roads, permanent meteorological towers, one or more temporary laydown yards, and possibly an O&M facility. See **Map 2** for the preliminary Project layout.

The turbine layout configuration, as well as crane paths, access roads, and collection line locations have been designed to avoid or minimize impacts on sensitive features and agricultural lands. To ensure compliance with state and local requirements, Whitetail evaluated and confirmed that all Project setbacks (**Map 9**), and shadow flicker standards will be met with the largest model under consideration and that noise standards will be met assuming the model with the highest sound emissions. The Project layout has been designed to accommodate all turbine models under consideration. The Applicant anticipates some minor revisions to the layout pending more detailed engineering work, as well as further input from stakeholders.

Whitetail has been in discussions with landowners for lease agreements in the area since mid-2017. Whitetail is actively in discussions with several landowners to potentially optimize the project layout but currently has enough land to build 70 MW without this extra land. Whitetail has acquired all of the land rights necessary to construct on the 23 proposed turbine locations.

The proposed wind energy system is described below:

- Up to 21 turbines, on 23 possible locations, with an average ground footprint of approximately 0.07 acre each (approximately 1.5 acres total)
- Project substation (approximately one acre)
- Utility substation (approximately one acre)
- If constructed, O&M facility (up to five acres)
- Approximately 8.8 miles of proposed 40- to 60-foot-wide crane paths (42.6 acres to 64.0 acres)
- Approximately 6.6 miles of proposed 16-foot-wide gravel access roads (12.9 acres)
- Roughly 21.3 miles of underground electrical collection lines, with no permanent aboveground impacts
- Temporary laydown yards (approximately seven acres each)
- Up to two permanent met towers with a typical ground footprint of approximately 0.02 acre (total of 0.04 acre)

3.1 Wind Turbine Description

270-3C(1)(*b*): *Technical description of wind turbines and wind turbine sites.*

The Applicant is proposing to install up to 21 wind turbine generators, on 23 possible locations, ranging in size from 2.0 MW to 4.2 MW nameplate capacity. The turbines will be mounted on towers with a total height of up to 200 meters (656 feet) and will have a rotor diameter of up to 150 meters (492 feet). Whitetail is currently in negotiations for a supply of wind turbines for the Project and will confirm the final number and model(s) of turbines that will be used for the Project when current supply negotiations are complete. Any turbine model(s) selected for the Project would be within these size specifications and comply with all applicable setbacks, shadow flicker, sound, and other requirements.

Table 3-1 shows representative turbine characteristics for the Project.

Nameplate Capacity	Up to 4.2 MW per turbine
Hub Height	Up 125 meters (410 feet)
Rotor/Blade Diameter	Up to 150 meters (492 feet)
Total Height	Up to 200 meters (656 feet)
Power Regulation	Use of microprocessor pitch control system. Unit is also equipped with low voltage ride through technology for demanding reliability standards
Generation	Up to 4.2 MW per turbine
Tower	Multi-coated, conical tubular steel with safety ladder to the nacelle
Nacelle	2 part – cast iron front part; girder structure rear part
Bearings	Blade pitch bearing
Supervisory Control and Data Acquisition (SCADA)	Each turbine is equipped with SCADA controller hardware, software, and database storage capability
Lightning Protection	The rotor blades are equipped with lightning receptors mounted in the blade. The turbine is grounded and shielded to help protect against lightning. Lightning rod on top of nacelle.
Lighting	Standard Federal Aviation Administration (FAA) lighting
Foundation	Per manufacturer specifications, foundation structural engineer design and site conditions. Foundations typically will be approximately 12 feet deep and 70 feet in diameter at the base.
Cut-in and Cut-out Speeds	Typically 3m/s and 25m/s
Speed Regulation	Pitch control, 5.7-12.6 rotations per minute (rpm)
Wind Class	IEC S – 8.5 meters per second (m/s) average wind speed; 14% turbulence intensity
Turbine Coolant or Heating Systems	Air or water cooled
Transformer Type, Location, and Size	Dry or liquid filled stand-alone pad-mounted medium voltage transformer next to the turbine. The transformer will step up the voltage to 34.5 kV from the voltage generated by the turbine.

Table 3-1: Representative Turbine Characteristics

The turbine models under consideration are three bladed, active and passive yaw, and active aerodynamic pitch control regulated wind turbine generators with power/torque control capabilities. The rotors utilize blade pitch regulation and other technologies to achieve optimum power output under various site conditions and wind speeds. The criteria used in turbine selection are: 1) overall performance and reliability; 2) turbine suitability for the Project's wind and electrical grid requirements; and 3) availability and cost of turbines.

A control panel inside the base of each turbine tower houses communication and electronic circuitry. Each turbine is equipped with a wind speed and a direction sensor that communicates to the turbine's control system to signal when sufficient winds are present for operation. The development site will also include an automated SCADA system located at the Project substation, which provides local and remote supervision and control of key aspects of the performance and equipment of the Project. The turbines feature variable-speed control and independent blade pitch to enhance aerodynamic efficiency.

The turbine nacelles that house the generators will be mounted on top of tapered, round tubular towers. Towers generally consist of three to four manufactured steel sections. Welds are typically factory fabricated in automatically controlled welding machines and ultrasonically inspected during manufacturing per American National Standards Institute (ANSI) specifications. Surfaces are typically sandblasted, and multi-layer coated (generally non-glare white, off-white, or gray) for protection against corrosion. Access to the turbine is generally through a lockable steel door at the base of the tower. Platforms inside the tower are accessed by a ladder or lift within the tower and include attachments for a fall arresting safety system to facilitate access to the interior and exterior of the nacelle.

Power from each turbine will be fed from the generator through power conditioning equipment and a breaker panel. The generator voltage is stepped up to the collector system voltage of 34.5 kV by means of a generator step-up (GSU) transformer, which will be located either within each turbine or on a ground-mounted pad outside the base of each tower. The 34.5 kV collection lines will deliver the power from the turbines to the Project substation.

3.1.1 Aesthetic Impacts

Project turbines will be visible on the landscape after Project construction is complete. Whitetail will minimize visual impacts by using turbines painted neutral colors, using only the required signage, and minimizing lighting impacts at the Project substation and potential O&M facility. Whitetail will also comply with the requirements in Wis. Admin. Code § PSC 128.18(1)(a), (b), and (c) with respect to the appearance of Project facilities.

3.1.2 Photographs

Photographs of wind turbines at operating wind farms are provided in Appendix B.

3.2 Project Substation and Interconnection Facilities

The Project and Utility substations are where the electricity collected from the wind turbines interface with the electrical grid to become deliverable power. Both substations will be located on the south side of Ebenezer Road, approximately 0.7 mile west of Stockyard Road in the

northeastern portion of the Project Area. The Project substation and generation tie (gen-tie) line will be owned and operated by Whitetail. The Utility substation and in-and-out tap lines will be constructed and owned by American Transmission Company (ATC).

The Project substation will step-up power from the 34.5 kV collection lines to 138 kV. Inside the Project substation, the main power transformer (MPT) will increase the voltage to the transmission line voltage of 138 kV. The Project substation will connect to the Utility substation via a short gen-tie line. The Utility substation will then connect to the existing Eden to Lancaster 138 kV transmission line owned by ATC via aboveground in-and-out tap lines supported by monopoles. The Utility substation is the point of interconnection (POI) that connects the Project to the transmission grid.

The Project substation will consist of switch gear, metering equipment, transformers, electrical control and communications systems, and other high voltage equipment needed to "step-up" the electricity generated by the Project from 34.5 kV to 138 kV. Transformers within the Project substation will be designed to National Electrical Manufacturer Association (NEMA) standards. The Project substation will be west of the Utility substation and located on approximately one acre. The Utility substation will be oriented east-to-west to connect to the transmission line and will be located on approximately one acre. Whitetail will develop specific landscaping for the Project substation as final designs are completed.

All facilities associated with the Project substation and Utility substation will be confined to land that is under lease or owned in fee for Project facilities. A portion of the Project substation area will be fenced. The Project substation will be equipped with exterior building lighting, which will be down-shielded. The Project substation is located about 250 feet from the nearest residence. No sound is anticipated to be detectable from the residence. See Section 6.0 for information on pre- and post-construction noise levels. Final equipment specifications for sound levels will be checked to confirm that sound levels are within acceptable levels under state and local statutes.

As such, no impacts to adjacent landowners from these facilities are anticipated.

The Generator Interconnection Agreement (GIA) with the Midcontinent Independent System Operator (MISO) will need to be in place prior to construction, and Whitetail expects the GIA will be executed in Q3 2023. Final specifications for the Project substation and Utility substation will be determined once agreements with MISO and ATC are finalized.

3.3 O&M Facility

The Applicant may construct an O&M facility that includes a building and parking lot. The O&M facility will provide storage for Project operations and maintenance activities. The location for the O&M facility has not yet been finalized. Potential locations are shown on **Map 2**. If constructed, it is anticipated to be approximately three to five acres in size and may also be used as a laydown area during Project construction.

Water and sanitary sewer systems will only be required for the O&M building. The source of water and sanitary sewer (or septic) for the O&M building will be identified when the final engineering plans are complete, and the location is selected.

3.4 Crane Paths

Construction cranes will move from turbine to turbine along identified crane paths. These temporary crane paths will be approximately 40 to 60 feet wide depending on the size of the crane being used. It is generally not necessary to place base material to a specific depth, and cranes typically walk across the existing ground surface. Surface grading may be necessary to create a level path or for crossing upland drainage ditches or swales. Geotextile fabric, culverts, riprap, and timber mats may be used where necessary to facilitate these types of crossings.

All disturbed areas will be restored to pre-construction conditions following crane movements by removing construction materials, decompacting soils, shaping the ground surface to preconstruction elevations, seeding disturbed slopes, installing erosion control blankets on disturbed slopes greater than 3:1, and removing erosion control measures once final stabilization has occurred.

The final location of crane paths will be determined based on civil, structural, environmental, and operational factors, as well as considering the input of landowners and Grant County. Proposed crane paths are shown on **Map 2**.

Site access and control during construction will depend in part on land use and private agreements that are in place with landowners. Whitetail will work closely with landowners to ensure the construction site is secure. If there is currently a fence on the property for livestock where access is needed, Whitetail will work with each individual landowner to install a lockable access gate. Whitetail will also provide no trespassing signage at access points in compliance with local requirements.

3.5 Access Roads

Whitetail will construct low-profile access roads extending from each turbine to a public road utilizing existing field roads when possible. The final location of access roads will be determined based on civil, structural, environmental, and operational factors, as well as considering the input of landowners and Grant County. The access roads will be all-weather gravel during construction and approximately 16 feet wide once the Project is operational. Proposed access roads are shown on **Map 2**.

To facilitate crane movement and equipment delivery during construction, additional temporary, gravel access roads will be installed on either side of the proposed permanent access road locations if necessary. Temporary access roads are typically 20 to 24 feet wide and will be reduced to 16 feet following construction.

The Town of Wingville's driveway ordinance (Ordinance #5) requires unobstructed views at the intersection of an access road and public highway in each direction of at least 300 feet. No Project access roads are proposed in the town of Wingville. An approximate 160-foot-long by 24-foot-wide driveway will be constructed off Ebenezer Road for the Project substation.

In the Town of Clifton, access roads for three turbines and two met towers will be constructed off a public highway.

Table 3-2: Proposed Access Roads

Access roads for turbines W02, W16, and W07 will be constructed off State Highway 80 and provide access to turbines W01, S02, W15, and W14. Met towers PMM1, PMM2, and PMM3 will also be constructed off State Highway 80. No Project infrastructure will be constructed at the access entrances that would obstruct views of at least 300 feet in either direction along State Highway 80.

All access roads will be constructed in cropland or on existing field roads. Table 3-2 provides the location of each proposed access road and the land use at the entrance.

Turbine ID	Access Road Entrance Name	Access Road Land Use
W01	State Highway 80	Cropland
W02	State Highway 80	Cropland
W04	Rock Church Road	Existing field road
W05	Rock Church Road	Existing field road
W06	Rock Church Road	Existing field road
W07	State Highway 80	Cropland
W08	AW	Cropland
W09	Rock Church Road	Cropland
W10	W County Road E	Cropland
W11	W County Road E	Cropland
W12	W County Road E	Cropland
W14	State Highway 80	Cropland
W15	State Highway 80	Cropland
W16	State Highway 80	Cropland
W18	Existing field road off of Hopewell Road	Cropland
W19	New California Road	Cropland
W20	Hickory Grove Road	Cropland
W21	Rock Church Road	Cropland
S01	W County Road E	Cropland
S02	State Highway 80	Cropland
S03	AW	Cropland

Access road locations may change due to engineering and other constraints that might be identified as Project plans mature. Any design changes will also comply with any driveway ordinance requirements.

Access roads may be gated or fenced, or have other site access control, depending on existing land use and in coordination with landowners. However, views from the existing roads will not be obstructed and existing viewsheds in each direction of public highways or local roads will be maintained.

3.6 Electrical Collection System

The Project will use an underground electrical collection system consisting of 34.5 kV lines. The electrical collection lines will deliver power from the turbines to the Project substation. The location and configuration of the collection lines are shown on **Map 2**. Overhead collection lines are not proposed for the Project.

Whitetail anticipates the electrical collection lines will be buried approximately 48 inches underground and will be installed via the open trench construction method unless site specific conditions warrant another construction or installation method or location.

The Project's electrical system will be designed by a professional, experienced, and qualified electrical system design firm. The Project will comply with applicable state construction and electrical codes and the National Electrical Code (NEC). The collection system will be designed to meet National Electric Safety Code (NESC), NEC, ANSI, NEMA, and Occupational Safety and Health Administration standards.

3.7 Temporary Laydown Areas

Whitetail Wind will use temporary laydown areas during construction of the Project to receive deliveries and prepare Project components for installation. Three potential locations are being considered and are shown on **Map 2**. Whitetail has not identified final locations for any temporary laydown areas. It is anticipated that laydown areas will be approximately seven acres and constructed in agricultural land and sited to avoid sensitive resources.

Laydown areas serve as a parking area for construction personnel, unloading of large equipment deliveries, and a staging area for turbine components during construction. They may also house temporary construction offices and facilities. The main laydown area will consist of a gravel pad and will have geotextile fabric placed in between the gravel and the native soil to increase the ease of site restoration. Laydown areas would be temporarily cleared, graded, and restored after Project construction is complete in coordination with the landowner(s).

3.8 Meteorological Towers

Whitetail proposes to install 1 to 2 permanent meteorological towers (met towers) to maintain the performance of the Project, conform to grid integration requirements, and validate wind turbine power curves. Whitetail has proposed 4 possible met tower locations (**Map 3**). The final selection locations will be determined upon selection of towers and finalization of power performance testing plans. The permanent met towers will be up to 131 meters tall and located within the Project Area.

4.0 Construction Schedule and Description

270-3C(*1*)(*c*): *Timeline and process for constructing the wind energy system.*

4.1 Anticipated Construction Schedule

Whitetail anticipates that Project construction may begin as soon as Q2 2024, pending approval of this Application and receipt of other required approvals, and be completed in Q4 2024. The Applicant will not start any construction without the necessary permits and approvals (see Section 10).

4.2 Construction Sequence

To begin construction, land will be graded for the turbine pads. Access roads, laydown and staging areas, and operation and maintenance facilities will be constructed as necessary to fully accommodate all aspects of construction, operation, and maintenance of the Project. Where applicable and in coordination with landowners, topsoil will be separated and stored separately from subsoil.

Professional engineering firms and experienced pre-qualified trade contractors will be hired for the preliminary layout, construction, and final design of the Project. Whitetail will have overall project management responsibilities.

Below is a preliminary schedule of activities necessary to develop and construct the Project:

- Order necessary components including towers, nacelles, blades, foundations, transformers, etc.
- Finalize turbine micro-siting.
- Complete survey to establish locations of structures and roadways.
- Document and potentially improve existing road sections of access routes to the Project Area.
- Complete soil borings, testing, and analysis for proper foundation design and materials.
- Clear and grub for access roads, laydown yards, and if needed, O&M facilities.
- Obtain necessary over-weight and over-size permits for turbine delivery.
- Construct culverts and stormwater basins to maintain drainage patterns and manage stormwater, as needed.
- Complete construction of access roads, to be used for construction and during Project operations.
- Construct underground feeder lines.
- Design and construct the Project substation.
- Design and construct the Utility substation by ATC.
- Install site fencing and security measures.
- Install tower foundations.
- Install underground collection lines for connecting turbine strings for delivery to collection and metering locations.
- Place towers and set wind turbines.
- Complete facility acceptance testing.
- Commence commercial operation.

After construction, the Project site will be restored. This includes decompacting soil, reducing the width of temporary access roads, and revegetating temporarily disturbed areas in coordination with landowners.

The entire construction and commissioning of the Project is anticipated to take approximately 9 months.

4.3 Construction Impacts

Temporary Project impacts from construction are anticipated to be approximately one acre per turbine location, along with the construction impacts of the electrical collection system, temporary access roads, and other associated facilities. Temporary impacts will be restored in accordance with applicable state and local requirements, as well as in coordination with the landowners, after construction is complete. Overall, the Project is anticipated to have permanent impacts on approximately 19.2 acres, which is about 0.2 percent of the Project Area.

4.4 Bedrock Construction Methods

At this time, special bedrock construction methods are not anticipated to accommodate turbine foundations. However, the site will be carefully evaluated with regards to bedrock depth. Prior to construction, each proposed turbine location will be assessed through geotechnical evaluations to inform foundation design and construction methods.

4.5 Special Construction Methods Related to Soil Conditions

Whitetail Wind is not aware of any soil conditions at this time related to site geology, groundwater, contamination, erosion, or other factors that might create circumstances requiring special methods or management during construction. Geotechnical evaluations to be completed prior to construction will inform the Applicant if special construction methods related to soil conditions are warranted for any particular turbine location.

4.6 Construction Equipment and Delivery Vehicles

A variety of construction equipment will be needed to prepare the site for construction and to deliver turbines and accessory structure components to the site. The access roads, turbine pads, laydown yards, Project substation, and O&M building pad will be graded using scrapers and bulldozers. Dump trucks and concrete trucks will be used to deliver road base and concrete for turbine foundations. Construction cranes will be transported to the site and used to set turbine towers and raise the rotors and nacelles into place at the top of the towers. Cranes will also be used to load and unload various large components such as substation transformers. Electrical collection lines will be installed using a backhoe where trenched. Specially equipped tractor trailers will deliver turbine components to the site.

5.0 Local Infrastructure

270-3C(1)(d): Information regarding anticipated impact of the wind energy systems on local infrastructure.

The Project is in a rural, agricultural area in southwestern Wisconsin. Local infrastructure within the vicinity of the Project includes roads, drain tile systems, and utility systems.

The Project is expected to have minimal and primarily temporary impacts on local infrastructure. As such, extensive mitigation measures are not anticipated or proposed. Post-construction road use for Project inspections and maintenance is anticipated to be in the range of 1 to 4 vehicle trips per day.

5.1 Roads and Traffic

Prior to construction, the Applicant will coordinate with applicable local and state road authorities to ensure that the weights being introduced to area roads are acceptable and to obtain all relevant permits. Whitetail will also coordinate with applicable road authorities regarding road closures. Construction of the Project will result in temporary increased traffic on roads within the Project Area. However, these impacts will cease after construction is complete, and Project operations will not have noticeable impacts on traffic in the Project Area. See Section 11 for information on the identification of haul roads and road impacts.

5.2 Drainage Systems

The Applicant will coordinate with landowners to identify drain tile systems within areas of proposed infrastructure and construction. Existing drain tile lines will be avoided where practical. Whitetail will repair any Project related damaged drain tiles following construction.

5.3 Utility Location and Crossing Agreements

Prior to construction, Whitetail and its contractors will use the Wisconsin Diggers Hotline to identify all utilities within the path of construction, including electric, gas, communications, water, and sewer to avoid impacts to those services. Whitetail will also coordinate directly with applicable utility owners well in advance of Project construction to obtain any required crossing agreements.

5.4 Electric Distribution and Other Lines

Whitetail does not anticipate that existing electric distribution or other lines will need to be disconnected in relation to Project construction. Should temporary disconnections become necessary, Whitetail will closely coordinate these activities with electric utilities to minimize impacts on affected residents.

6.0 Noise from Operating Wind Turbines

270-3C(1)(e): Information regarding noise anticipated to be attributable to the wind energy system.

6.1 Compliance with Noise Requirements

270-4C(2)(a): If an owner receives a complaint of a violation of the noise standards contained in § PSC 128.14, Wis. Adm. Code, and the owner has not provided the office with the results of an accurate test conducted within two years of the date of the complaint showing that the wind energy system is in compliance with the noise standard at the location relating to the complaint, the owner shall promptly conduct a noise study to evaluate compliance with the noise standards at that location using the most current version of the noise measurement protocol as described in § PSC 128.50(2), Wis. Adm. Code.

Wis. Admin. Code § PSC 128.14 requires that sound produced by wind turbines under normal operating conditions, measured as near as possible to the outside wall of a nonparticipating residence or occupied community building to the closest wind turbine should not exceed 50 A-weighted decibels (dB(A)) during daytime hours (6:00 a.m. – 10:00 p.m.) and 45 dB(A) during nighttime hours (10:00 p.m. – 6:00 a.m.).

6.1.1 Sound Modeling Methodology

Sound modeling was completed by ReGenerate Consulting (ReGenerate) on behalf of the Applicant to predict the sound levels generated by the Project at all sensitive locations (receptors) within or near the Project Area and in accordance with any applicable regulations. ReGenerate used OpenWind software to model sound at 315 receptors to quantify the impact before the proposed Project is constructed. Receptors included occupied residences (participating and non-participating) and occupied community buildings.

The turbines modeled included: General Electric (GE) 2.5-116 low noise trailing edge (LNTE) turbines (including 2 NRO 104 and 1 NRO 103) at 90 meter hub height; and larger turbines including GE 3.4-140 at 98 meters, GE 5.8-158 at 114 meters, Vestas V150-4.2 at 105 meters, and Nordex N155-4.8 at 108 meters hub height. Sound was modeled assuming the GE 3.4-140 at 98 m hub height including 4 standard versions, 5 NRO 106, 8 NRO 105 and 1 NRO 100. The Sound Modeling Assessment is in **Appendix C**.

Sound levels were evaluated at 315 participating and nonparticipating occupied residences and occupied community building receptor locations. The receptors were located within the Project Area and surrounding area to ensure compliance with applicable sound requirements.

According to manufacturer specifications, the highest normal operating sound power level emitted by the turbine models under consideration is 106.8 dB(A). It should be noted that the models are likely to produce noise estimates higher than those that will be experienced by receptors because a "worst-case" scenario was used. ReGenerate used the following modeling assumptions for the sound analysis:

- Sound modeled in accordance with International Standard ISO 9613-2.
- Turbine is operating 100% of the time.

- Turbine sound emission used octave band sound power level provided by GE Renewable Energy.
- Sound emission was assumed at rated power.
- A safety margin of +2 dB(A) was added to the sound power level.
- Ground porosity was set to 0.5.
- Miscellaneous attenuation was set to zero.
- Vegetative dampening effects were ignored.
- Default observer eye level is 1.75 meters.

ReGenerate also reviewed neighboring wind projects (i.e., Red Barn and Montfort) as part of the modeling, and the effects of those turbines were included in the calculations. The Red Barn and Montfort wind projects are north and northeast of the Whitetail Project, respectively. The Red Barn sound study, completed by EAPC in May, 2019, modeled 29 turbines and identified 216 receptors. EAPC used WindPRO software to perform the sound analysis. EAPC concluded that no receptor locations would be above 45 dB(A). Like the ReGenerate sound study, the Red Barn sound study used a "worst-case" scenario, and the highest normal operating sound power level emitted by the largest turbine was 105.5 dB(A). A pre-construction sound study, if any, for the Montfort project is not available to Whitetail.

The sound modeling for Red Barn and Whitetail projects was intentionally conservative and both assumed (1) a turbine is operating 100% of the time, (2) all turbines are assumed to be operating simultaneously at maximum sound output, (3) a ground attenuation factor of 0.5 was assumed, and (4) all final emissions levels were increased by two dB(A). Because of these conservative assumptions, the base-case analysis of sound emissions from the projects are likely to produce higher estimates than those that will actually be experienced.

6.1.2 Sound Modeling Results

The Project is not anticipated to cause or contribute to an exceedance of applicable noise standards at non-participating residences. More specifically, noise attributable to the Project will not exceed 50 dBA during daytime hours and 45 dBA during nighttime hours at non-participating residences and occupied community buildings. The ReGenerate noise study did identify six receptors for which the nighttime noise standard will be exceeded, but the exceedance is not attributable to the Project. Rather, the Project is expected to cause less than 0.1 dB(A) to each of these receptors. An increase of this size would be imperceptible to the human ear. All other receptors are under the 45 dB(A) nighttime limit, and it was found the Whitetail project does not cause or contribute to potential exceedance of the standard.

6.2 **Pre-Construction Noise Levels**

The Sound Modeling Assessment in **Appendix C** discusses the Project's compliance with applicable noise criteria; because the applicable noise limits apply to the noise produced by Project wind turbines, Whitetail has not conducted pre-construction noise measurements for the Project. Based on Whitetail's experience at other wind project sites, current background sound levels in the Project Area likely vary depending upon the weather and human and environmental activity.

6.3 **Post-Construction Noise Levels**

Whitetail will comply with Wis. Admin. Code PSC 128.14(4) with respect to assessing postconstruction noise levels. If there is a complaint regarding a violation of the noise standards, the Applicant will conduct noise testing at the location relating to the complaint and will use operational curtailment to eliminate the noise until the noise problem is permanently corrected. **Appendix D** includes a draft of the complaint procedures Whitetail has developed for the Project.

6.4 Noise Waivers

PSC 128.14(5): Upon request by an owner of a wind energy system, an owner of an affected nonparticipating residence or occupied community building may relieve the owner of the wind energy system of the requirement to meet any of the noise limits in this section at the affected residence or occupied community building by written contract with the wind energy system owner. Unless otherwise provided in a contract signed by an owner of an affected nonparticipating residence or occupied community building, a waiver by an owner of an affected nonparticipating residence or occupied community building is an encumbrance on the real property, runs with the land until the wind energy system is decommissioned, and shall be recorded under ch. 706, Stats.

The Project has been designed to comply with applicable noise requirements and, as such, Whitetail is not seeking waivers.

6.5 Noise Notifications

PSC 128.14(6)(a): Before entering into a contract under sub. (5) Waiver, an owner of a wind energy system shall provide written notice of the requirements of this section to the owner of an affected nonparticipating residence or occupied community building.

Whitetail does not anticipate that this notification will be needed for the Project.

PSC 128.14(6)(b): Before the initial operation of the wind energy system, an owner of a wind energy system shall provide notice of the requirements of this section to an owner of a nonparticipating residence or occupied community building within 0.5 mile of a constructed wind turbine that has not entered into a contract.

Whitetail will provide the notice to owners of a nonparticipating residence or occupied community building within 0.5 mile of a constructed wind turbine prior to the initial operation of the Project.

7.0 Shadow Flicker from Operating Wind Turbines

270-3C(1)(f): Information regarding shadow flicker anticipated to be attributable to the wind energy system.

Shadow flicker from wind turbines is defined as alternating changes in light intensity at a given stationary location or receptor, such as the window of a home, caused by the shadow cast by moving turbine blades. Multiple independent conditions must be met in order for shadow flicker to occur, and these conditions play a role in the intensity and frequency at which a receptor may experience shadow flicker. Some of those conditions include location of windows in relation to an operating wind turbine, sunshine, time of day, seasons, natural visual screening, location of wind turbine, and turbine operation.

7.1 Shadow Flicker Modeling Methodology

PSC 128.15(1)(c): An owner shall use shadow flicker computer modeling to estimate the amount of shadow flicker anticipated to be caused by a wind energy system and shall design the wind energy system so that computer modeling indicates that no nonparticipating residence or occupied community building will experience more than 30 hours per year of shadow flicker under planned operating conditions.

Shadow flicker modeling was completed by ReGenerate on behalf of the Applicant to predict the total amount of shadow flicker generated by the Project at all sensitive locations (receptors) within or near the Project Area. Receptors included occupied residences (participating and non-participating) and occupied community buildings.

ReGenerate used WindPRO software to model shadow flicker at 315 receptors. The turbines modeled included: General Electric (GE) 2.5-116 LNTE turbines at 90 meter hub height; and larger turbines including GE 3.4-140 at 98 meters, GE 5.8-158 at 114 meters, Vestas V150-4.2 at 105 meters, and Nordex N155-4.8 at 108 meters hub height. Shadow flicker was modeled assuming the largest rotor diameter turbine (GE 5.8-158 at 114 meters) because that turbine would result in highest flicker levels.

Modeling assumptions for the shadow flicker analysis included:

- Turbine is operating 100% of the time.
- Flicker is modeled out to 10 times the rotor diameter from each respective turbine.
- Neighboring projects within ten times the rotor diameter of a receptor were included in modeling.
- Flicker is ignored if sun is less than 3° above horizon.
- Default observer eye level is 1.75 meters.
- Receptors are perpendicular to all turbines, also known as greenhouse mode.
- Monthly sunshine probability has been considered from nearest meteorological station.
- Turbine orientation is considered.

The results of the shadow flicker modeling conducted for the Project are provided in **Appendix E**.

7.2 Compliance with Shadow Flicker Requirements

Shadow flicker requirements are described in Wis. Admin. Code § PSC 128.15 and apply to nonparticipating residences or occupied community buildings existing at the time the applicant gives notice under Wis. Admin. Code § PSC 128.105(1). The rule limits shadow flicker on nonparticipating residences or occupied community buildings to 30 hours per year (hr/yr) caused by the Project under the wind energy system's normal operating conditions. Landowners participating in the Project Area are excluded from the requirement.

The maximum value of shadow flicker without curtailment at any receptor location was found to be 92.7 hr/yr (non-participating), with 28 receptors exceeding the 30 hr/yr limit. Of the 28 receptors, 16 are non-participating and 12 are participating. After implementation of a scheduled curtailment plan, there is one non-participating receptor over 30 hr/yr with a maximum of 30.9 hr/yr, but this shadow flicker is not attributable to the Project. The modeling demonstrated that the Project does not increase shadow flicker at this receptor. Therefore, the Project does not cause or contribute to the exceedance of the standard and is in compliance with the state standard of no more than 30 hours of shadow flicker per year.

7.3 Shadow Flicker Minimization and Limits

PSC 128.15(1)(b): An owner shall design the proposed wind energy system to minimize shadow flicker at a residence or occupied community building to the extent reasonably practicable.

PSC 128.15(2): An owner shall operate the wind energy system in a manner that does not cause more than 30 hours per year of shadow flicker at a nonparticipating residence or occupied community building. If a nonparticipating residence or occupied community building experiences more than 30 hours per year of shadow flicker under the wind energy system's normal operating conditions, the owner shall use operational curtailment to comply with this subsection.

Results of the shadow flicker modeling show one receptor exceeds the identified limit of 30 hr/yr. However, this receptor is located near the Montfort wind turbines and was found to be over this limit prior to inclusion of turbines from the Whitetail Project. As such, the Project is not anticipated to contribute to an exceedance of this limit at this residence. See **Appendix E** for a copy of the Shadow Flicker Assessment.

7.4 Shadow Flicker Mitigation

PSC 128.15(3):

- a) An owner of a wind energy system shall work with an owner of a nonparticipating residence or occupied community building to mitigate the effects of shadow flicker to the extent reasonably practicable.
- b) An owner shall provide reasonable shadow flicker mitigation at the owner's expense for a nonparticipating residence or occupied community building experiencing 20 hours or more per year of shadow flicker.
- c) An owner shall model shadow flicker and a nonparticipating residence or occupied community building is eligible for mitigation if computer modeling shows that shadow flicker at the nonparticipating residence or occupied community building will be 20 hours or more per year. An owner of a nonparticipating residence or occupied

community building is not required to document the actual hours per year of shadow flicker if modeling indicates the nonparticipating residence or occupied community building is eligible for mitigation. A nonparticipating residence or occupied community building that experiences 20 hours or more per year of shadow flicker based on records kept by the resident of a nonparticipating residence or the occupant of an occupied community building shall also be eligible for mitigation.

- d) An owner may provide shadow flicker mitigation for any residence or occupied community building in addition to the mitigation required under par. (b).
- e) The requirement under par. (b) to mitigate shadow flicker applies when the owner receives a complaint or request for mitigation regarding shadow flicker for an eligible nonparticipating residence or occupied community building. If shadow flicker mitigation is required, the owner of the wind energy system shall allow the owner of the nonparticipating residence or occupied community building to choose a preferred reasonable mitigation technique, including installation of blinds or plantings at the wind energy system owner's expense.

Analysis demonstrated that the Project will not cause shadow flicker limits to be exceeded. After implementation of a scheduled curtailment plan, one receptor was found to exceed the 30 hr/yr limit; however, this non-participating residence receptor was found to be over this limit prior to inclusion of turbines from the Project. Therefore, the Project will not cause or contribute to potential exceedance of the standard. In Whitetail's experience, complaints regarding shadow flicker are rare. Options for mitigating shadow flicker include implementation of a scheduled curtailment plan, installing curtains, awnings, or additional vegetation screening such as trees.

7.5 Shadow Flicker Waivers

PSC 128.15(4): Upon request by an owner of a wind energy system, an owner of an affected nonparticipating residence or occupied community building may relieve the wind energy system owner of a requirement under sub. (2) or (3) (b) at the affected nonparticipating residence or occupied community building by written contract with the wind energy system owner. Unless otherwise provided in a contract signed by an owner of an affected nonparticipating residence or occupied community building, a waiver by an owner of an affected nonparticipating residence or occupied community building is an encumbrance on the real property and runs with the land until the wind energy system is decommissioned, and shall be recorded under ch. 706, Stats.

The Project has been designed to comply with applicable shadow flicker requirements and, as such, Whitetail is not seeking waivers.

7.6 Shadow Flicker Notifications

PSC 128.15(5)(a): Before entering into a contract under sub. (4) Waiver, a wind energy system owner shall provide notice of the requirements of this section to individual owners of an affected nonparticipating residence or occupied community building.

Whitetail does not anticipate that this notification will be needed for the Project.

PSC 128.15(5)(b): Before the initial operation of the wind energy system, a wind energy system owner shall provide notice of the requirements of this section to an owner of a nonparticipating residence or occupied community building within 0.5 mile of a constructed wind turbine that has not entered into a contract.

Whitetail will provide the notice to owners of a nonparticipating residence or occupied community building within 0.5 mile of a constructed wind turbine prior to the initial operation of the Project.

8.0 Airports and Airspace

270-3C(1)(h): Information regarding the anticipated effects of the wind energy system on airports and airspace.

8.1 Location of Airports or Heliports in Project Area

14 CFR Part 77 requires that structures exceeding 200 feet above ground level (AGL) be submitted to the FAA so that an aeronautical study can be conducted. The FAA's objective in conducting aeronautical studies is to ensure that proposed structures do not have an effect on the safety of air navigation and the efficient utilization of navigable airspace by aircraft. The end result of an aeronautical study is the issuance of a determination of 'hazard' or 'no hazard.' The Applicant submitted the Notice of Proposed Construction or Alteration (Form 7460-1) to the FAA on June 23, 2022. The FAA issued a determination of no hazard on November 23, 2022. The FAA response is provided in **Appendix F**.

Because the project design has changed since the initial FAA filing, the Applicant will submit a filing amendment based on the updated design layout. The Applicant anticipates a response time of approximately four months and will provide results of the determinations to the County.

In addition, the Applicant contracted with Capitol Airspace Group to conduct a detailed obstruction evaluation and airspace analysis for the Project. The purpose of the analysis was to identify obstacle clearance surfaces established by the FAA that could limit the height or location of proposed wind turbines. The analysis assessed height constraints overlying an approximately 38 square mile study area to aid in identifying optimal wind turbine locations. The Obstruction Evaluation and Airspace Analysis is provided in **Appendix F**.

Pilots operating during periods of reduced visibility and low cloud ceilings rely on terrestrial and satellite based navigational aids (NAVAIDS) in order to navigate from one point to another and to locate runways. The FAA publishes instrument approach procedures that provide course guidance to on-board avionics that aid the pilot in locating the runway. Capitol Airspace

assessed a total of 28 published instrument approach procedures at eight public-use airports in proximity to the Project: Iowa County Airport, Richland Airport, Dubuque Regional Airport, Boscobel Airport, Prairie Du Chien Municipal Airport, Tri-County Regional Airport, Platteville Municipal Airport, and the Lancaster Municipal Airport. Wind turbines that exceed these surfaces would require an increase to instrument approach procedure minimum altitudes. A list of nearby public and private airports and their proximity to the nearest project turbine is provided in **Table 8-1**.

Facility Name	Public or Private	Nearest Turbine	Approximate Distance to Turbine (miles)
Iowa County Airport	Public	W16	10.3
Richland Airport	Public	W18	25.5
Dubuque Regional Airport	Public	W01	34.5
Boscobel Airport	Public	W18	19.4
Prairie Du Chien Municipal Airport	Public	W12	33.3
Tri-County Regional Airport	Public	W17	23.6
Platteville Municipal Airport	Public	W02	12.0
Lancaster Airport	Public	W03	12.2
Southwest Health Heliport	Private	W02	9.9
Grant Regional Health Center Heliport	Private	W21	12.1

 Table 8-1:
 Public and Private Airports

While the Obstruction Evaluation and Airspace Analysis identified obstacle clearance surfaces established by the FAA that could limit the placement of turbines and met towers, the final determination of no hazard with conditions was provided by the FAA on November 23, 2022. The FAA concluded the turbines would not be a hazard to air navigation provided they are marked/lighted in accordance with FAA Advisory Circular 70/7460-1M, Obstruction Marking and Lighting, Chapters 4 (Lighting Guidelines), 13 (Marking and Lighting Wind Turbines), and 15 (Marking and Lighting Equipment and Information). The Applicant will adhere to the FAA marking/lighting requirements (see **Appendix F**).

8.2 Medical Heliports

There are no medical heliports within the Project Area. The nearest medical heliports are at Southwest Health in Platteville and Grant Regional Health Center in Lancaster. See **Table 8-1** for their proximity to the Project Area.

8.3 Setbacks from Airports and Heliports

The nearest airport and heliport are about 10 miles from the Project Area. See Section 8.1 above.

9.0 Line-of-Sight Communications

270-3C(1)(i): Information regarding the anticipated effects of the wind energy system on line-of-sight communications.

The Applicant contracted Comsearch to assess potential interference with mobile phone communications, AM/FM radio broadcasts, internet, off-air television, the commercial doppler radar network, land mobile and emergency services, and microwave paths and Fresnel zones. The Comsearch reports are in **Appendix G**. The Applicant also contacted the National Telecommunications and Information Administration (NTIA) for a review. See Section 9.5 for additional information on the NTIA review and response.

9.1 Microwave Beam Path

Using industry standard procedures and Comsearch's technical databases, a search was conducted in July 2021 to determine the presence of existing microwave paths crossing the subject property, land mobile, and other radio frequency (RF) facilities within or adjacent to the identified Project Area and broadcast signals receivable in the area.

Comsearch identified nine microwave paths intersecting the Project Area. No turbines are sited within nine microwave paths identified by Comsearch. The Microwave Study is provided in **Appendix G**.

9.2 Television Broadcast Facilities

An Off-Air TV Analysis was conducted by Comsearch in July 2021 on behalf of the Applicant for the Project Area and the surrounding 150 kilometers. Comsearch identified 10 full-power digital stations and one low-power digital station with potential to have their reception disrupted in and around the Project Area. Whitetail recognizes that some impacts to TV service within the Project Area may occur, but these impacts are likely to be minimal based on the findings of the Off-Air TV Analysis. The Applicant is committed to operating the facility in a manner that does not adversely impact television reception. Should issues arise following construction of the project, Whitetail will work with the affected residents in a timely manner to determine the cause of the interference and establish acceptable reception. The Off-Air TV Analysis is provided in **Appendix G**.

9.3 AM and FM Facilities

Comsearch analyzed AM radio broadcast stations whose service could potentially be affected by the proposed Project. Four AM stations were identified within approximately 30 kilometers, or 18.6 miles, of the Project Area, with the closest station being 11.24 kilometers (7 miles) south of the Project Area.

Comsearch analyzed FM radio broadcast stations whose service could potentially be affected by the proposed Project. Eleven database records were identified within approximately 30 kilometers (18.6 miles) of the Project Area. All the stations are currently licensed and operating. Comsearch determined that there is only one FM station, WJTY, operating about 0.2 mile north of the Project Area, near the intersection of Ebenezer Road and State Highway 80. It is

recommended that all turbines and blades be located at least 0.245 kilometer (0.15 mile) away from station WJTY. The nearest turbine (W17) is located about 2.2 miles southwest of the station. The AM and FM Radio Report is provided in **Appendix G**.

9.4 Government Radar System Analysis

Comsearch was contracted by Whitetail to determine if there would be any significant degradation to the operational coverage of Government radar systems located near the proposed Project.

There are three types of radar systems that Comsearch examined as part of their analysis: Department of Defense (DoD) military systems, FAA long range radar systems, and National Weather Service (NWS) NEXRAD WSR-88D systems. Based on the DoD screening tool, Comsearch noted there are likely no impacts to military space from the Project. No issues were identified with the Weather Service's NEXRAD Radar Systems. The screening results for the FAA long range radar system showed at least four FAA radar systems in the surrounding area. The screening tool returned a "yellow" designation for the Project Area indicating an aeronautical study is required. The FAA performed an aeronautical study and concluded the turbines would not be a hazard to air navigation if they are marked/lighted in accordance with Advisory Circular 70/7460-1M, Obstruction Marking and Lighting, Chapters 4 (Lighting Guidelines), 13 (Marking and Lighting Wind Turbines), and 15 (Marking and Lighting Equipment and Information). A copy of the FAA aeronautical study and the Obstruction Evaluation and Airspace Analysis is provided in **Appendix F**. The Government RADAR System Analysis Report is provided in **Appendix G**. See Section 19 for additional information on turbine lighting.

9.5 NTIA Review

In addition to the studies performed by Comsearch, the Applicant submitted Project information to the NTIA on February 13, 2023. The NTIA provided the information to the Interdepartmental Radio Advisor Committee (IRAC) on February 14, 2023. The review process provides a 45-day period for agencies within IRAC to comment on the proposed Project in regard to potential impacts the Project may have on various radio communications. Members of IRAC include the Air Force, Army, FAA, Department of Homeland Security, National Aeronautics and Space Administration, Department of State, and Department of Transportation (WisDOT), among others. The NTIA set a comment deadline of March 31, 2023. As of the date of this Application, no responses have been received. If comments are received after the deadline, Whitetail will forward results of the NTIA review to the County.

10.0 Federal, State, and Local Permits and Approvals

270-3C(1)(j): A list of all state and federal permits required to construct and operate the wind energy system.

The federal, state, and local permits or approvals that have been identified as potentially being required for the Project are provided in **Table 10-1**. Note that, depending on the final design of the Project, some of these permits may not ultimately be required for the Project. Whitetail is in the process of obtaining all required permits and approvals for the Project, and construction of the Project will not commence without applicable required permits and approvals.

Agency	Name and Type of Permit/Approval	Status				
Federal	Federal					
Federal Aviation Administration	FAA Form 7460-1: Notice of Proposed Construction or Alteration	Submitted to FAA on June 23, 2022 Determination received on November 23, 2022 An amendment to the initial filing will be submitted to the FAA to reflect the turbine layout presented in this application.				
	FAA Form 7460-2: Supplemental Notice (Notice of Actual Construction or Alteration)	To be completed at least 10 days prior to start of construction (7460-2, Part I) or within 5 days after construction reaches its greatest height (7460-2, Part II)				
U.S. Army Corps of Engineers	Section 404 Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals; Jurisdictional Determination	To be completed after detailed engineering design is complete				
U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species	Ongoing				
U.S. Department of Commerce – National Telecommunications and Information Administration	NTIA Communications Study	Submitted to NTIA on February 13, 2023 No responses received by the March 31, 2023 deadline set by the NTIA.				
National Oceanic and Atmospheric Administration	NEXRAD	Completed through FAA/NTIA				
Environmental Protection Agency	Spill Prevention, Control, and Countermeasure (SPCC) Plan	To be completed by EPC Contractor after detailed engineering design is complete				
State						

Table 10-1: Potential Federal, State, and Local Permits and Approvals

Agency	Name and Type of Permit/Approval	Status
	Wisconsin Pollutant Discharge Elimination System (WPDES)/ Stormwater Runoff Permit (NR216)	To be completed by EPC Contractor after detailed engineering design is complete
	Wisconsin Navigable Waters, Harbors and Navigation (Chapter 30)	To be completed after detailed engineering design is complete
Wisconsin Department of	Private Well Notification Number and Approval (required if a new well is constructed for O&M building)	To be completed by EPC Contractor after detailed engineering design is complete
Natural Resources	Endangered Resource Review (ERR)	Complete (ERR Log # 21-194)
	Wetland and Waterway Crossing Permits	To be completed after detailed engineering design is complete
	Very Small Quantity Generator Hazardous Waste Collection Facility Notification Form	To be completed after detailed engineering design is complete and 30 days prior to collection of VSQG hazardous waste
	Grading Permit for Waterway Protection	To be completed after detailed engineering design is complete
Wisconsin Department of Agriculture, Trade and Consumer Protection	Aboveground Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)	To be completed by EPC Contractor after detailed engineering design is complete
Wisconsin Department of Safety and Professional Services	Private Onsite Water Treatment Systems (POWTS) Plan Review	To be completed by EPC Contractor after detailed engineering design is complete
	Oversize-Overweight Permit for transportation of oversize- overweight loads, such as the substation	To be completed by EPC Contractor after detailed engineering design is complete
Wisconsin Department of Transportation	Permit to Erect Tall Structures	To be completed by EPC Contractor after detailed engineering design is complete
mansportation	Utility Permit to construct, operate, or maintain a utility facility on state trunk highway right-of-way	To be completed after detailed engineering design is complete
	State Right-of-Way Permit required to work in the ROW of a state highway	To be completed after detailed engineering design is complete
Local		
Grant County	Zoning Permit Conditional Use Permit	Pending Pending
Grant County		

Agency	Name and Type of Permit/Approval	Status
	Building Permits	To be completed by EPC Contractor after detailed engineering design is complete
	Sanitary Permit (for O&M building)	To be completed by EPC Contractor after detailed engineering design is complete
	Utility Right-of-Way Permit	To be completed by EPC Contractor after detailed engineering design is complete
	Driveway Entrance Permit	To be completed by EPC Contractor after detailed engineering design is complete
	Oversize/Overweight Permit	To be completed by EPC Contractor after detailed engineering design is complete
	Road Use Agreement	To be completed by EPC Contractor after detailed engineering design is complete
	Driveway Permits (for creation of new driveways/access points)	To be completed by EPC Contractor after detailed engineering design is complete
Townships	Utility Right-of-Way Access Permits	To be completed by EPC Contractor after detailed engineering design is complete
	Road Use Agreement	To be completed by EPC Contractor after detailed engineering design is complete
Village of Livingston	Conditional Use Permit	To be completed after detailed engineering design is complete, if needed.

10.1 Agency Correspondence

As part of the pre-application notice (see Section 13.0), Whitetail provided information about the Project to the following federal and state agencies: Deputy Undersecretary of the U.S. DoD, WisDOT, Public Service Commission (PSC), Wisconsin Department of Natural Resources (WDNR), and Department of Agriculture, Trade and Consumer Protection (DATCP). Whitetail coordinated with the WDNR and U.S. Fish and Wildlife Service (USFWS) for the purpose of identifying potential sensitive species in the Project Area. Whitetail also sent file search requests to the Wisconsin Historic Preservation Database (WHPD) and the Wisconsin State Historic Preservation Office (SHPO). See Sections 20.6 and 20.7 for additional information on WDNR and SHPO correspondence. Agency comments received to date are provided in **Appendix H**.

11.0 Planned Use and Modifications of Roads

270-3C(1)(k): Information regarding the planned use and modification of roads during the construction, operation, and decommissioning of the wind energy system, including a process for assessing road damage caused by wind energy system activities and for conducting road repairs at the owner's expense.

11.1 Identification of Haul Routes

While the delivery plan for turbine components and other construction materials has not been finalized, it is anticipated that a combination of state and local roads will need to be utilized to facilitate deliveries to the site. In some cases, roads may need to be widened or in other ways modified to ensure deliveries and to protect existing transportation infrastructure.

11.2 Road Modifications and Impacts

Typical improvements to accommodate turbine component delivery vehicles may include the following: installing longer culverts to accommodate a temporary widening of roadways, fortifying road shoulders, widening intersections for larger turning radii, bridge widening or improvements, and increasing aggregate thickness of road surfaces.

The Applicant will enter into Road Use Agreements (RUA) regarding Project construction activities prior to the commencement of construction. The RUAs will govern the use of county and town roads for Project construction activities. Among other things, the RUAs will specifically include "a process for assessing road damage caused by wind energy system activities and for conducting road repairs at the owner's expense." The RUAs will also identify local roads and culverts that may be altered or modified for the Project. Whitetail anticipates these provisions will be negotiated with the applicable agencies after final engineering design.

Whitetail anticipates that the general process will include negotiating and executing RUA with the applicable road authority; doing a preliminary road assessment to determine the initial condition of roads and where improvements are needed; acquiring appropriate permits for the improvements; completing the identified improvements; restoring roads and associated infrastructure per the RUA, and coordinate with each local government to close out the process.

Following construction, roadways will be restored in accordance with the requirements of the RUAs. The Applicant will ensure that the general contractor communicates with relevant road authorities throughout the construction process, particularly regarding the movement of equipment on roads and the terms of the RUAs.

Information regarding the removal of roads during decommissioning is provided in the Decommissioning Plan (**Appendix I**).

12.0 Land Use and Zoning

270-3C(2)(b): Information regarding the anticipated effects of the wind energy system on existing land uses within 0.5 mile of the wind energy system.

12.1 Existing Land Use

According to the Grant County Comprehensive Plan, existing land use in the Project Area is Agricultural (Grant County, 2009). Consistent with Section 270-5A(6) of the WESS Ordinance, the Project is not located in "an area primarily designated for future residential or commercial development as shown in an adopted comprehensive plan." Whitetail has completed multiple studies that take into consideration existing land uses and lands within 0.5-mile of the Project, and beyond. The results of those studies are discussed in this Application and attached appendices.

12.1.1 Agricultural Land Use

Agricultural activities are the predominant land use within the Project Area. The Project will permanently impact approximately 18.3 acres (0.1 percent) of agricultural land within the Project Area, and temporary impacts will be restored after Project construction is complete. Collector lines will be buried, and access roads will generally be at-grade to allow farm equipment to easily pass across.

On agricultural properties, topsoil will be separated from subsoil during grading activities. After construction is complete, disturbed areas will be restored by decompacting soils and replacing subsoil, followed by topsoil. Damage to drainage systems is not anticipated because few are present within the Project Area.

12.1.2 Project Impacts on Existing Land Use

The Project Area includes approximately 12,793 acres, of which proposed facilities will permanently occupy about 0.2 percent (approximately 19.2 acres) of the entire Project Area. Based on Wiscland 2.0 Land Cover data developed by the WDNR, Bureau of Technology Services (WDNR, 2019), approximately 65 percent of the Project Area consists of cultivated crops, 30 percent grassland, five percent forest, and less than one percent developed land (**Map 5**). Nearly all of the construction footprint is located on agricultural land. Although tree clearing is not anticipated to be generally required for the construction and operation of Project facilities, some individual trees located along field edges may be removed to allow safe passage of construction of equipment.

Apart from the approximately 0.2 percent of the Project Area which will be occupied by the permanent Project facilities after construction is complete, the Project is not anticipated to impact existing land use, as wind energy system facilities are consistent with continuing agricultural use, the predominant land use in the area.

12.1.3 Avoidance and Minimization of Impacts on Existing Land Use

As discussed above, Project facilities are anticipated to permanently impact about 0.2 percent of the Project Area. Temporary construction impacts will be restored after construction is complete, including in accordance with Wis. Admin. Code § PSC 128.18(3)(am) and (b) with respect to minimizing soil compaction, topsoil mixing, damage to drainage systems, and restoring the topography, soils, and vegetation in temporary disturbance areas to preconstruction conditions.

12.1.4 Changes to Existing Land Uses since the Pre-Application Notice

Whitetail is not aware of any changes to existing land uses that have occurred since the preapplication notice was provided.

12.2 Future Land Use

270-5(A)(6): For large wind energy systems, the County may deny an application if the proposed site of the wind energy system is in an area primarily designated for future residential or commercial development as shown in an adopted comprehensive plan.

No areas within the Project Area are designated for future residential or commercial development in the towns of Clifton (2009) and Wingville (2009). The village of Livingston Future Land Use Map indicates outward growth from the village center. The southern portion of the Project Area that overlaps the village of Livingston is planned to convert A-1 General Agricultural land to I-2 General Industrial, R-2 One/Two Family Residential, and R-3 Multi-Family Residential. The Comprehensive Plan suggests that housing expansion measures are either ongoing or will occur as needed. The future land use map is dated 2003 (Village of Livingston, 2003). Based on County 2020 Wisconsin Regional Orthoimagery Consortium aerial imagery (Grant County, 2022), the areas planned for land use conversion remain in agricultural use. Regardless, no Project facilities are proposed to be sited in these future land use areas. As a result, no impacts on future residential or commercial development are anticipated.

12.3 Zoning

Based on the Grant County digital zoning data (Grant County, 2021), the portion of the Project Area within the town of Clifton (11,918 acres) is predominantly zoned Farmland Preservation, except for several scattered parcels that are zoned Agricultural District (A-1), Agricultural District (A-2), Commercial District (C-1), Commercial District (C-2), Residential District (R-1), and Conservancy/Forestry/Recreation (CFR). The portion of the Project Area in the town of Wingville (800 acres) is predominantly zoned Farmland Preservation with one parcel (about 3.4 acres) zoned for A-2 Agricultural District. The portion of the Project Area in the village of Livingston (about 54 acres) is shown as General Agricultural (A-1). Project Area zoning is shown on **Map** 7.

The Project Area also includes a Flood Plain District and a Shoreland District. These districts are a supplement to and in addition to the regulations, restrictions, and special provisions in the underlying primary district. All property located in a floodplain or shoreland overlay district must meet the requirements of the Grant County Floodplain Ordinance (Chapter 290) and

Shoreland Zoning Ordinance (Chapter 316). Floodplain and Shoreland Districts are shown on **Map** 7.

Most of the Project Area is in Zone X (area of minimal flood hazard). About 0.10 mile of Federal Emergency Management Agency Zone A floodplain is within the southern portion of the Project Area. The floodplain is associated with the Little Platte River. There are no Project facilities located within the Zone A floodplain. The nearest facility is turbine Wo2, which is about 0.6 mile northwest of the floodplain. The Grant County Conservation, Sanitation and Zoning Department confirmed the absence of floodplain within the Project Area.

Section 316, 2.1(1) of the County Shoreland Ordinance refers to areas regulated as shorelands include areas within 1,000 feet of the ordinary high water mark (OHWM) of navigable lakes, ponds, or flowages and within 300 feet of the OHWM of navigable rivers or streams or to the landward side of the floodplain (whichever is greater). The Project has been designed avoid and/or minimize impacting shoreland areas to the greatest extent possible, and the collection lines will be bored. Temporary crane crossings of navigable rivers and streams will be permitted under the WDNR Waterway Crossings (Culverts, Clear Span Bridges, Fords) general permit and covered by the U.S. Army Corps of Engineers under the Utility Regional General Permit (Utility RGP) or applicable Nationwide Permits. Three waterways include a Shoreland Overlay District. According to discussions with the County, a Shoreland Zoning Permit is not required from the Conservation, Sanitation and Zoning Department per Section 10 of Wisconsin Act 391. County floodplain and shoreland correspondence is provided in **Appendix H**.

12.4 Public Lands

According to the WDNR's Public Lands Access mapping tool, there is one public land within 0.5mile of the Project Area (**Map 8**). A Turkey Hunting Access Program (THAP) property is located within the northern portion of the Project Area and is identified T55 (WDNR, 2022a). The T55 property consists of 350 acres that includes 214 acres of agricultural land, 99 acres of grassland/wetland, and 37 acres of forest (WDNR, 2022b). THAP is a program that provides financial incentives to private landowners who open their land for public use. The THAP is administered by the WDNR, and these leased properties are only open to the public for spring turkey hunting and scouting from March 1 to May 29 (WDNR, 2022c). The Applicant will coordinate with the landowner to minimize potential construction interference with public hunting.

13.0 Pre-Application Notice

270-3C(2)(c)(1): PSC 128.105(1): Pre-application notice. At least 90 days before an owner files an application to construct a wind energy system, an owner shall use commercially reasonable methods to provide written notice of the planned wind energy system to all of the following:

- a) Landowners within one mile of the planned wind turbine host property.
- b) Political subdivisions within which the wind energy system may be located.
- c) Emergency first responders and air ambulance service providers serving the political subdivisions within which the wind energy system may be located.
- d) The Wisconsin Department of Transportation.

- e) The Public Service Commission.
- f) The Wisconsin Department of Natural Resources.
- g) The Wisconsin Department of Agriculture, Trade and Consumer Protection.
- *h)* The office of the Deputy Undersecretary of the United States Department of Defense.

Notices were sent by mail on May 23, 2022 to landowners within one mile of the Project Area and political subdivisions within the Project Area. Emergency first responders and air ambulance service providers, WisDOT, PSC, WDNR, DATCP, and the Deputy Undersecretary of the U.S. DoD were sent notice letters via certified mail on May 16, 2022. The notice sent to IHC AirCare Air Ambulance Base at 11120 Airport Rd, Dubuque, IA 52003 was returned and resent on June 15, 2022 to 200 Hawkins Drive, Iowa City, IA 52242. The 90-day pre-application notices (PSC 128.105(1)) and Affidavit of Mailing are provided in **Appendix J**.

In addition, because the turbines are proposed to exceed 600 feet, an additional pre-application notice was provided to the Public Service Commission of Wisconsin under Wis. Admin. Code PSC 128.105(1m). The 180-day pre-application notice is provided in **Appendix J** as an attachment to the 90-day notice.

14.0 Complaint Process

270-3C(2)(c)(2): Notice of process for making complaints. Before construction of a wind energy system begins, an owner shall provide written notice of the process for making complaints and obtaining mitigation measures to all residents and landowners within 0.5 mile of any wind energy system facility. An owner shall include in the notice the requirements under § PSC 128.40(1), Wis. Adm. Code, for submitting a complaint to the owner, a petition for review to the political subdivision, and an appeal to the Commission, and shall include a contact person and telephone number for the owner for receipt of complaints or concerns during construction, operation, maintenance and decommissioning.

Prior to construction, Whitetail will provide written notice of the process for making complaints and obtaining mitigation measures to all residents and landowners within 0.5 mile of the Project Area. The Draft Complaint Process letter is provided in **Appendix D**.

Chapter 270-12A(4) of the WESS Ordinance requires Whitetail to respond to the complainant within 30 days of receipt of the complaint. In accordance with Chapter 270-12A(5), Whitetail's response will include:

- Name, address, and telephone number of the person filing the answer.
- Statement describing the actions taken by the owner in response to the complaint.
- Statement of the reasons why the owner believes that the complaint has been resolved or why the complaint remains unresolved.
- Statement describing any additional action the owner plans or is willing to take to resolve the complaint.
- Any other information the owner deems relevant to the complaint.

• Notarized signature of the person filing the answer.

15.0 Emergency Plans

270-3C(2)(d): A copy of all emergency plans developed in collaboration with appropriate first responders under § PSC 128.18(4)(b), Wis. Adm. Code. An owner may file plans using confidential filing procedures as necessary.

A draft copy of Whitetail Wind's Emergency Response Plan (ERP) is provided in **Appendix K** as required by Chapter 270-3C(2)(d) of the WESS Ordinance. In addition, an Emergency Construction Plan (ECP) will be developed by the general contractor and circulated to the county and emergency responders prior to construction. The ERP will be reviewed at least once a year and after any emergency event during which it has been implemented. Whitetail also anticipates that the ERP will be updated by the general contractor for construction and by the Project operations team with respect to Project operations.

Whitetail is actively working with local first responders to provide information about the Project and will provide the final ERP to the County and appropriate first responders before the Project becomes operational. Whitetail will also provide first responders with any subsequent updated versions of the ERP.

16.0 Decommissioning and Site Restoration

270-3C(2)(e): A decommissioning and site restoration plan providing reasonable assurance that the owner will be able to comply with PSC 128.19, Wis. Adm. Code.

After decommissioning, the Applicant will ensure the Project Area is restored to preconstruction conditions, unless otherwise provided in a contract signed by an affected landowner. Additional information on decommissioning and site restoration is provided in the Decommissioning Plan (see **Appendix I**).

16.1 Abandonment and Decommissioning

The Project is expected to operate for approximately 30 years, although the Project may be repowered to extend beyond this period. At the conclusion of the Project's operation, it will be decommissioned.

All decommissioning and reclamation activities will comply with Federal and State permit requirements. Decommissioning activities that will disturb more than one acre of soil will require coverage under the state specific NPDES permit for construction stormwater. The permits will be applied for and received prior to decommissioning construction activities commencing. An Erosion Control and Storm Water Management Plan (ECSWMP) will be developed prior to filing for construction stormwater permit coverage.

If necessary for decommissioning activities, wetlands and waters permits will be obtained as needed from the US Army Corps of Engineers (USACE) or Wisconsin Department of Natural

Resources. A Spill Prevention, Control and Countermeasures (SPCC) Plan for decommissioning will likely be required for decommissioning work as well.

16.2 Financial Assurance for Decommissioning

270-4A(2)(a): An owner with a nameplate capacity of one megawatt or larger shall provide the County with financial assurance of the owner's ability to pay the actual and necessary cost to decommission the wind energy system before commencing major civil construction activities.

270-4A(2)(b):An owner shall provide the County with three estimates of the actual and necessary cost to decommission the wind energy system. The cost estimates shall be prepared by third parties agreeable to the owner and the County. The amount of financial assurance required by the County will be the average of the three estimates.

270-4A(2)(c): An owner shall establish financial assurance that is acceptable to the County and that places the County in a secured position. The financial assurance must provide that the secured funds may only be used for decommissioning the wind energy system until such time as the County determines that the wind energy system has been decommissioned, as provided for in § PSC 128.19(5), Wis. Adm. Code, or the County approves the release of the funds, whichever occurs first. The financial assurance must also provide that the County may access the funds for the purpose of decommissioning the wind energy system if the owner does not decommission the system when decommissioning is required.

270-4A(2)(d): The County may periodically request information from the owner regarding industry costs for decommissioning the wind energy system. If the County finds that the future anticipated cost to decommission the wind energy system is at least 10% more or less than the amount of financial assurance provided under this section, the County may correspondingly increase or decrease the amount of financial assurance required.

270-4A(2)(e): The County may require an owner to submit a substitute financial insurance of the owner's choosing if an event occurs that raises material concern regarding the viability of the existing financial assurance.

270-4A(2)(f): An owner shall, within 30 days of consulting with any federal or state agency about the construction, operation, or decommissioning of the wind energy system, provide the County with information about the reason for the consultation.

270-4A(2)(g): An owner shall, within 30 days of receiving any nonbinding recommendation for the construction, operation, or decommissioning of the wind energy system from any federal or state agency, provide the County with information about the consultation.

Prior to commencing major civil construction activities, Whitetail will provide Grant County with decommissioning cost estimates and coordinate with Grant County to provide financial assurance acceptable to the county.

16.3 Decommissioning Notification and Review

270-10A: An owner shall file a notice of decommissioning completion with the County and any political subdivision within which its wind energy system facilities are located when a wind energy system approved by the County has been decommissioned and removed. 270-10B: The

office shall conduct a decommissioning review to determine whether the owner has decommissioned and removed the wind energy system as required by § PSC 128.19(1)(a), Wis. Adm. Code, and whether the owner has complied with its site restoration obligation under § PSC 128.19(4), Wis Adm. Code. 270-10C: The owner shall cooperate with the County by participating in the decommissioning review process.

Whitetail will comply with the notice of decommissioning in accordance with Chapter 270-10A. Whitetail understands the Grant County Conservation, Sanitation, and Zoning Department will conduct a review to determine whether the owner has decommissioned and removed the wind energy system as required by § PSC 128.19(1)(a), Wis. Adm. Code and whether the owner has complied with its site restoration obligation under § PSC 128.19(4), Wis Adm. Code. Whitetail will participate in the decommissioning review process.

16.4 Site Restoration

After decommissioning, the Project Area will be restored to preconstruction condition, unless otherwise specified in landowner agreements. This includes the following activities:

- Roads subjected to decommissioning traffic will be restored to a condition equal to or better than the condition of the road prior to decommissioning activities.
- Following removal of the top four feet of the turbine foundation, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. Topsoil will be reapplied to the site and graded to match surrounding grade to preserve existing drainage patterns. The topsoil and subsoil will be decompacted to a minimum depth of 18 inches and revegetated to match preconstruction conditions.
- Access road soil and topsoil will be decompacted to a minimum depth of 18 inches and restored to pre-construction tillable conditions or revegetated.
- Underground electrical collection cables at a depth of less than five feet, such as cables entering and exiting the turbine foundations, junction boxes, or substation components, will be removed and the area restored to pre-construction conditions.
- The substation will be disassembled and removed, foundations and underground components will be removed to a depth of 4 feet; any permanent stormwater treatment facilities will be removed, and the topsoil and subsoil will be decompacted to a minimum depth of 18 inches and the site will be revegetated to match pre-construction conditions. site.
- Areas formerly used for agriculture will be re-tilled to a farmable condition. In areas not to be used for crops, the topsoil will then be revegetated using seed mixes approved by the local Farm Service Agency, Soil and Water Conservation District, Natural Resource Conservation Service, or other state agency.

17.0 Accurate Information

270-3C(*3*): For all applications, the owner shall ensure that information contained in the application is accurate.

Whitetail has reviewed the information in this Application for accuracy.

18.0 Same Day Notice to Property Owners and Residents

270-3(4): Evidence shall be included for all applications to show that, on the same day an owner filed an application under this chapter, the owner did use commercially reasonable methods to provide written notice of the filing of the application to property owners and residents located within one mile of the proposed location of any wind energy system facility. The notice shall include all of the following:

- a) A complete description of the wind energy system, including the number and size of the wind turbines.
- b) A map showing the location of all proposed wind energy system facilities.
- c) The proposed timeline for construction and operation of the wind energy system.
- d) Locations where the application is available for public review.
- e) Owner contact information.

Whitetail will send written notices the same day as submitting this Application with the required information to property owners and residents located within one mile of the Project Area. A notice template is provided in **Appendix L**.

19.0 Lighting and Signage

19.1 Proposed Turbine Lighting

The Applicant submitted information for 27 turbine locations to the FAA for review on June 23, 2022. The FAA conducted aeronautical studies and issued Determinations of No Hazard on November 23, 2022. Because the project layout has slightly changed since the initial FAA filing, the Applicant will submit an amended filing as discussed in Section 8.0. Because the number of turbines were reduced, and they shifted less than 1,000 feet, the Applicant believes the FAA determination of no hazard will apply to the proposed layout and will adhere to the marking and lighting conditions in accordance with FAA Advisory Circular 70/7460-1M, Obstruction Marking and Lighting, Chapters 4 (Lighting Guidelines), 13 (Marking and Lighting Wind Turbines), and 15 (Marking and Lighting Equipment and Information).

The Applicant will e-file FAA Form 7460-2 Notice of Actual Construction or Alteration, parts 1 and 2, for each turbine within at least 10 days prior to start of construction and within five days after construction reaches its greatest height as required by the FAA Aeronautical Studies.

19.2 Facility Lighting

If constructed, permanent lighting will be provided for the O&M building and within the parking area. The Project substation will be equipped with exterior building lighting. Facility lighting will be down-shielded to keep light to the minimum amount and intensity necessary for the intended use. Nighttime O&M activities within the Project Area will be performed using temporary lighting sources, as necessary. Temporary lighting will also be provided in the construction laydown yards. Night lighting used during construction, operation, and

maintenance of the Project will be controlled or reduced using directed lighting, shielded lighting, and/or reduced lumen intensity. The Project will also comply with the FAA's requirements for lighting turbines and any other facilities, as applicable.

19.3 Signage

Whitetail and its contractors will use temporary and permanent warning signs during construction and operation of the Project to prevent unauthorized access to equipment and spaces. External electrical equipment will be clearly marked with appropriate warning signs. Signage not specifically designed for safety, or to identify the manufacturer or installer, will not be used. Temporarily signage used during construction of the Project will be removed from the Project Area upon commercial operation.

20.0 Siting Criteria

The Applicant has designed the Project to optimize wind resources, transmission interconnection opportunities, and economic factors, while avoiding and minimizing impacts to environmental resources.

20.1 Setbacks

270-4E: Setbacks. A large wind energy system shall comply with the setback distances shown in Table 1 in § PSC 128.13, Wis. Adm. Code.

The Project has been designed to comply with applicable setback requirements identified by Chapter 270-4E of the WESS Ordinance (**Map 9**). **Table 20-1** shows the setbacks from Table 1 in PSC 128.13, Wis. Adm. Code. that were used in the preliminary design of the Project. The Project is in compliance with the ordinance setbacks, and any design changes will also comply with all applicable ordinance setbacks.

Siting Requirement/Setback	Wind Siting Ordinance Setback Distance
Occupied Community Buildings	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Residences	1.1 times the maximum blade tip height
Nonparticipating Residences	The lesser of 1,250 feet or 3.1 times the maximum blade tip height
Participating Property Lines	None
Nonparticipating Property Lines	1.1 times the maximum blade tip height
Public Road Right-of-Way	1.1 times the maximum blade tip height
Overhead Communication and Electric Transmission or Distribution Lines – not including utility service lines to individual houses or outbuildings	1.1 times the maximum blade tip height
Overhead Utility Service Lines – Lines to individual houses or outbuildings	None

Table 20-1: Project Setbacks

20.2 Setback Waivers

Whitetail is not seeking setback waivers (PSC 128.13(1)(d)) for the Project.

20.3 General Description of Siting Criteria

Whitetail selected Grant County and the Project Area for the Project for the following reasons:

- Regional demand for renewable energy
- Wind resource
- Viable interconnection capabilities
- Predominantly agricultural land use
- Lack of significant environmental constraints
- Interested landowners

20.3.1 Regional Demand for Renewable Energy

The Applicant is proposing the Project in response to regional demand for renewable energy from load-serving entities and commercial and industrial companies, as well as state and local governments. Consequently, it is anticipated that future energy generation from the Project will be distributed to the local utility ratepayers and/or industrial partner(s). The Project will provide cost-effective electricity supply and support compliance with renewable energy standards and/or goals.

20.3.2 Wind Resource

With respect to the wind resource, as indicated on the National Renewable Energy Laboratory (NREL) Annual Average Wind Speed maps, eastern Grant County represents one of the stronger wind resources in Wisconsin with average wind speeds of 6.0 to 7.5 meters per second at a height of 80 meters (Office of Energy Efficiency & Renewable Energy, 2010). These wind speeds have been corroborated through the Applicant's own wind resource analysis. The Applicant has been collecting wind speed data at the site from two temporary, 60-meter met towers and a Sonic Detection and Ranging (SoDAR) unit since 2020.

20.3.3 Viable Interconnection Capabilities

With respect to interconnection, the location of the Project in proximity to an existing 138 kV transmission line means that a new transmission line is not needed for the Project. Eliminating additional transmission reduces infrastructure, the overall Project footprint, impacts to the environment, and Project costs.

The Project is being developed to optimize the wind resources of the area while minimizing impacts to present land uses, the environment, and the surrounding communities. For example, only 18.3 acres (or 0.1 percent) of the approximately 12,793 acres within the Project Area is expected to be taken out of agricultural production during Project operations.

20.3.4 Predominantly Agricultural Land Use

As stated in Section 12, the Project Area is predominantly agricultural (approximately 65 percent), and turbines and infrastructure have been sited predominantly in previously disturbed agricultural areas to avoid or minimize impacts to the environment.

20.3.5 Brownfields

Whitetail reviewed the site for known brownfields. There are no known brownfields, as defined in Wis. Stat. § 560.13(1)(a), in the Project Area. However, there are six brownfield sites that are near the Project Area (WDNR, 2022d). All six sites are closed and are listed in **Table 20-2**.

Brownfield Site Name	County	Acreage	Approximate Distance from Project Area
Livingston Coop Oil Co	Grant	1.0	16 feet
B-L Agri Service Inc.	Grant	Not Listed	77 feet
Biddick Estate Property	Grant	Not Listed	0.12 mile
The Friendly Place	Grant	0.5	0.20 mile
Livingston Elementary School	Grant	Not Listed	0.20 mile
Crossroad Feeds and Needs	Grant	Not Listed	0.70 mile

Table 20-2: Identified Brownfields

20.4 Additional Siting Criteria

As discussed in Section 20.5, Whitetail's design of the Project takes into consideration the environmental surveys and studies that have been conducted for the Project to avoid and minimize Project impacts. In addition, Whitetail has incorporated public comments into the Project design presented in this Application.

20.5 Effects of Additional Siting Criteria

Whitetail incorporated environmental analyses and public comment into its design of the Project to minimize the Project's environmental and human impacts.

20.6 Potential Environmental Constraints

Whitetail coordinated with the WDNR for the purpose of identifying potential sensitive species in the Project Area and to determine whether pre-construction wildlife surveys would be required for the Project. On March 26, 2021, a WDNR Endangered Resources Review (ERR) was requested to identify any records of sensitive species or habitats within or near the Project Area (WDNR's standard one-mile buffer for terrestrial species and two-mile buffer for aquatic species). The WDNR responded on April 9, 2021. Whitetail subsequently requested updated ERRs based on layout changes. Whitetail received responses from the WDNR on March 29, 2022 and February 15, 2023 (ERR Log #21-194). The complete ERRs are confidential and thus not included in the Application; however, the cover pages are provided in **Appendix H**. Whitetail has reviewed the required and recommended actions and will comply with them, in coordination with WDNR, as appropriate. Whitetail plans to continue consultation with the WDNR as required. Whitetail performed an informal federal Information for Planning and Consultation (IPaC) query on March 22, 2023 for a list of federal Endangered Species Act (ESA) threatened, endangered, or candidate species that may occur in the region. Species reported in the IPaC report include northern long-eared bat (*Myotis septentrionalis*; threatened), tricolored bat (*Perimyotis subflavus*; proposed endangered), whooping crane (*Grus americana*; experimental, non-essential), Hine's emerald dragonfly (*Somatochlora hineana*; endangered), monarch butterfly (*Danaus plexippus*; candidate), and northern wild monkshood (*Aconitum noveboracense*; threatened).

In addition to species listed under the ESA, the IPaC list includes bald eagle (*Haliaeetus leucocephalus*) which is protected by the Bald and Golden Eagle Protection Act (BGEPA), Henslow's Sparrow (*Centronyx henslowii*; state threatened), and the upland sandpiper (*Bartramia longicauda*; state threatened), which could occur in the Project Area. Additionally, other avian species are noted as potentially occurring within the Project Area that are protected by the Migratory Bird Treaty Act (MBTA).

20.6.1 Pre-Construction Wildlife Surveys and Habitat Assessments

Tetra Tech, Inc. (Tetra Tech) conducted pre-construction wildlife surveys beginning in 2020 and included aerial and ground-based Bald Eagle nest surveys, eagle use surveys, avian surveys, and bat acoustic monitoring surveys. Tetra Tech also evaluated the suitability of habitat for bats in the Project Area. At the time of Tetra Tech's surveys, the Project Boundary only involved the approximate southern half of the current boundary, south of County Road E and extended much further east, which is no longer part of the Project. Habitats and landforms are highly similar in the previous versus current Project boundaries. Results of the surveys and bat habitat assessment are summarized below.

20.6.1.1 Aerial and Ground Based Bald Eagle Nest Survey

Tetra Tech conducted aerial- and ground-based follow-up surveys for eagle nests in and around the Project Area. The surveys were performed based on the approach outlined in the USFWS Eagle Conservation Plan Guidance (ECPG) (USFWS, 2013). The purpose of the nest survey was to inventory Bald Eagle (*Haliaeetus leucocephalus*) nests within the Project Area and a surrounding 10-mile buffer.

The aerial survey was conducted between March 30 to April 1, 2020 using a helicopter to survey the land between 60 and 200 feet above ground at approximate speeds of 50 miles per hour. The aerial survey covered a total of 542 transect miles. No Bald Eagle nests were identified within the Project Area. However, one nest was within one mile of the Project Area. This nest was reported in the Wisconsin DNR ERR report as located within 660-feet of the current Project Boundary. This nest was in-use in 2020, but the current status is not known.

The ground-level survey was conducted on June 16 and 17, 2020. No Bald Eagle nests were identified in the Project Area. Surveys were conducted from public road rights-of-way. Two nests were identified within a one-mile buffer of the Project Area. Both nests were in-use with one adult sitting on nest. No other nests were located during Tetra Tech's 2020 surveys that were within one mile of the current Project boundary.

20.6.1.2 Eagle Use Survey

Tetra Tech conducted monthly eagle use surveys for nearly a full year (March 27, 2020 to February 14, 2021) to document spring, summer, fall, and winter eagle use on the Project Area. The purpose of the surveys was to document Bald and Golden Eagle use in the Project Area. Ten survey points were distributed to represent habitats found in the Project Area. Surveys were conducted for 60 minutes each, during which all eagles seen within a 200 meter high x 800meter radius survey plot (turbine hazard zone) were documented. The total minutes an eagle spent flying in a turbine hazard area was documented and mapped.

No Golden Eagles were observed. Eleven Bald Eagles in the spring and one in the winter were observed flying in the turbine hazard area for a total of 11 minutes of flight. It appears likely that these eagles may be associated with the two nests identified within one mile of the Project Area.

20.6.1.3 Avian Survey

Tetra Tech conducted bimonthly spring, summer, and fall avian point count surveys from March 27 through November 8, 2020. The purpose of the surveys was to document bird use in the Project Area. The same survey plots used for eagle use surveys were used for avian surveys. A total of 2,848 birds from 68 species were observed during surveys. Data were analyzed as to number and species of birds that flew in the survey plot per unit period of time. Red-winged Black Bird and Horned Lark were the two most-encountered species (average 4.4 and 3.4 birds per 20 minute count, respectively). No state or federal threatened or endangered birds were observed during surveys. Five Bald Eagles, protected by the BGEPA, were also encountered. Birds that were most commonly observed flying in the turbine hazard zone (i.e., species most likely to encounter turbines) were Killdeer, Turkey Vulture, and Barn Swallow. These species are common and abundant. Three of the five observed Bald Eagles were seen flying in the turbine hazard zone.

20.6.1.4 Bat Acoustic Monitoring Survey

Tetra Tech conducted bat acoustic monitoring from March 28 through November 6, 2020 within the Project Area to determine if any state or federally protected bats were present. Two detectors were established within the south-central part of the Project Area. The detectors were approximately one mile apart. One was situated near forest and the other in open field. No federally listed threatened or endangered bats were detected during the survey. However, the Tri-Colored Bat and Little Brown Bat, whose presence were confirmed within the Project Area, are currently under review to determine if listing under the federal ESA is warranted. No federal legal protections are conferred until a final rule is released. As of the date of this Application, the Tri-colored Bat is still proposed to be listed, and the Little Brown Bat decision will be made by September 2023.

Three state threatened species were confirmed in the Project Area, including the Big Brown Bat, Little Brown Bat, and the Tri-Colored Bat. They are legally protected from incidental take unless otherwise permitted. Tetra Tech recommends the implementation of best management practices to limit incidental take of the bat species present within the Project Area.

20.6.1.5 Bat Habitat Assessment

Tetra Tech completed a desktop bat habitat assessment in May 2021 to determine if habitat for the Northern Long-Eared Bat or any other state or federally protected bats was present within the Project Area or a 1.5-mile buffer around the Project Area. A total of six bat species (Big Brown Bat, Eastern Red Bat, Hoary Bat, Little Brown Bat, Tri-Colored Bat, and Northern Long-Eared Bat) can be expected to inhabit the Project and buffer area with moderate to high likelihood of occurrence. Based on the bat habitat assessment results, the Northern Long-Eared bat has a moderate likelihood of inhabiting during summer and migration seasons.

The Northern Long-Eared Bat is listed as threatened by the USFWS.² Tetra Tech recommended that construction and operation activities may proceed if there are no Project disturbances (1) within a hibernaculum, (2) within a quarter mile of a known hibernaculum at any time of the year, or (3) tree removal or any similar activities within 150 feet of a known and occupied maternity roost tree from June 1 through July 31.

20.6.1.6 Wetlands and Waterways

A desktop-wetland assessment was performed in March 2021 using available resources including Wisconsin Wetland Inventory (WWI) and National Wetland Inventory (NWI). Field wetland delineation has not occurred except around the Project substation located south of Ebenezer Road about 0.3 mile west of Stockyard Road, southwest of Montfort. The delineation resulted in 4.7 acres of wetlands and 1.1 acres of waterways in the 16.5 acre substation parcel.

For the remainder of the Project, wetlands are strongly associated with the many waterways crossing the Project Area. Waterways consist of rivers, streams, and unnamed tributaries. Major waterways that course through the Project Area include the Platte River, Martinville Creek, Crow Branch, and Little Platte River.

20.6.2 Summary of Potential Environmental Constraints

- Due to Project boundary changes since the initial surveys, one potentially in-use Bald Eagle nest is now located within 660 feet of the Project boundary. The nearest proposed turbine is sited 0.5 mile from the nest. This proximity may increase the risk of unpermitted take of Bald Eagles. Whitetail will monitor the circumstance and respond as needed, up to and including applying for an eagle Incidental Take Permit.
- Suitable habitat is present for Northern Long-eared Bat. This species was reclassified as endangered on November 29, 2022.³ Tetra Tech indicated that if NLEB was reclassified, Project constraints may result. Whitetail will follow anticipated new guidance to the extent possible to avoid take of NLEB and/or will consult with the USFWS for an effect determination.
- The WI DNR ERR lists several required and recommended actions to avoid impacts to state listed species. Whitetail will follow all required actions provided in the ERR or apply for an Incidental Take Permit if the required actions cannot be attained. Furthermore, the ERR provided several recommended actions, and Whitetail will incorporate these recommendations to the extent possible.

² The USFWS published a final rule on November 29, 2022 to reclassify the NLEB as endangered under the ESA. The agency extended the effective of the final rule to March 31, 2023.

³ Id.

20.7 Cultural Resources

The Applicant conducted a cultural resources desktop review for the Project in August 2022. The literature review included file search requests to the WHPD and the SHPO. Additional resources examined included historic maps and atlases, aerial photographs, and county/local histories to ascertain the potential for unrecorded cultural resources.

The review identified five previously recorded archaeological or burial sites (existing cemeteries); four inventoried historic structures within the Project Area; and three additional archaeological sites and six inventoried structures within a one-mile buffer. None of these sites are listed in the National Register of Historic Places (NRHP), the State Register of Historic Places (SRHP) or the list of locally designated places. All Project infrastructure has been sited to avoid these sites.

20.8 Minimization of Hardships

Wind turbines have been sited to comply with applicable setbacks and meet noise and shadow flicker requirements. In addition, the Project will result in benefits to landowners hosting the wind turbines and to the community more generally, as discussed in Section 26.

21.0 Material Change

270-6A: Material change. An owner may not make a material change in the approved design, location or construction of a wind energy system without the prior written approval of the office. An owner shall submit an application for a material change to an approved wind energy system to the County. The County may not reopen the merits of the earlier approval, but shall consider only those issues relevant to the proposed change.

Whitetail respectfully requests that shifts to access roads, collection lines, crane paths, and other associated facilities not constitute a material change warranting prior written approval from Grant County. In addition, Whitetail further requests that turbine shifts of less than 500 feet from their current proposed location not be considered material changes requiring approval under Section 270-6A of the WESS Ordinance, provided that such shifts comply with other applicable permit requirements and setbacks and are on land under lease for the Project.

22.0 Third-Party Construction Inspector

270-7: The office may contract with a third-party inspector to monitor and report to the office regarding the owner's compliance with permit requirements during construction. The inspector monitoring compliance under this section shall also report to a state permitting authority upon the state permitting authority's request. The inspector shall make monthly written reports to the office. The owner shall reimburse the County for the actual and necessary cost of the inspector.

Whitetail understands that Grant County Conservation, Sanitation and Zoning Department may contract with a third-party inspector to monitor and report Project compliance with permit requirements during construction.

23.0 Post-Construction Filing Requirement

270-8(a): Within 90 days of the date a wind energy system commences operation, the owner shall file with the office and the public service commission an as-built description of the wind energy system, an accurate map of the wind energy system showing the location of all wind energy system facilities, geographic information system information showing the location of all wind energy system facilities, and current information identifying the owner of the wind energy system.

270-8(b): An owner shall label each wind turbine location described in its filing and shown on the map of the wind energy system with a unique identifier consistent with the information posted at the wind turbine location under § PSC 128.18(1), Wis. Adm. Code.

Whitetail will provide the as-built and geographic information, along with current owner information, to Grant County Conservation, Sanitation and Zoning Department within 90 days of the Project's commercial operation date.

24.0 Compliance Monitoring

270-9A: This section applies to large wind energy systems only. An owner shall maintain a maintenance log for each wind turbine. The log must contain the following information:

- (1) Date and time maintenance was performed.
- (2) Nature of the maintenance performed.
- (3) Reason for the maintenance.

270-9B: An owner shall, at the owner's expense, provide the office with a copy of the maintenance log for each wind turbine for each month upon the request of the County.

270-9C: The office may retain such consultants or experts as it deems necessary to assess and determine whether the wind energy system facilities are compliant or to assess whether the wind energy system facilities are being maintained in good repair and operating condition.

Whitetail will maintain a maintenance log for each wind turbine that includes information on the date and time, nature, and reason maintenance was performed. Copies of the maintenance log will be made available to the County upon request.

25.0 Safety

Whitetail and its contractors will use temporary and permanent fencing, warning signs, and locks during construction and operation of the Project to prevent unauthorized access to equipment and spaces. External electrical equipment will be clearly marked with appropriate warning signs. Signage not specifically designed for safety, or to identify the manufacturer or installer, will not be used. Temporary signage used during construction of the Project will be removed from the Project Area upon commercial operation. Towers, electrical components, and control equipment will be labeled and securely locked to prevent unauthorized access.

The Project will be covered by general liability insurance related to claims for property damage or bodily injury during construction, operation, and decommissioning of the Project.

25.1 Stray Voltage

Whitetail does not anticipate issues regarding stray voltage resulting from the Project. The Project is self-contained with all electrical components, including collection wiring, both substations, and the gen-tie line, being underground or inside the fenced areas of the substations. The Project will be designed and installed per the guidelines of the NEC and NESC as applicable, including the proper selection of grounding equipment, conductors, insulation, and shielding. Project monitoring and controls can detect ground faults and remotely shut down equipment as needed.

25.2 Hazardous Materials

Whitetail anticipates that the Project's use of hazardous materials will be limited. Gearbox and hydraulic oils, lubricants, grease, antifreeze, and cleaning solvents will be used on the site to maintain the wind turbines. Materials will be transported, handled, and disposed of by trained and qualified personnel utilizing established procedures and proper equipment. Lubricants, used oils, coolants, and waste products will be handled according to applicable regulations and disposed of through an approved waste disposal firm. Whitetail will comply with any applicable federal or state requirements, including development of an SPCC plan, as required.

Whitetail anticipates that the Project's use of hazardous materials will be limited. Whitetail Wind will comply with any applicable federal or state requirements, including development of an SPCC plan, as required.

26.0 Economic Benefits

When operational, the Project will generate approximately \$367,00 annually under Wisconsin's utility revenue sharing program for Grant County and the towns of Wingville and Clifton, with more than approximately \$214,000 to Grant County and more than approximately \$153,000 to the towns of Wingville and Clifton, together.

Wind projects of similar size have created temporary construction-related jobs and 3-8 full-time local operations and maintenance related jobs. These jobs will result in increased revenues to local businesses that provide services such as housing, meals, fuel, and supplies. Construction materials such as concrete and gravel will likely be sourced from local or regional suppliers if available. These combined additional revenues will multiply the total economic benefit to the community. In addition, landowners and other local residents receiving revenue from the Project are likely to spend the new revenue in their community.

In addition, the Project will positively impact local economies by providing a diversified and consistent income stream for landowners, temporary and permanent jobs for local workers, and long-term utility revenue sharing program benefits to the local governments that do not fluctuate widely from year to year.

27.0 References

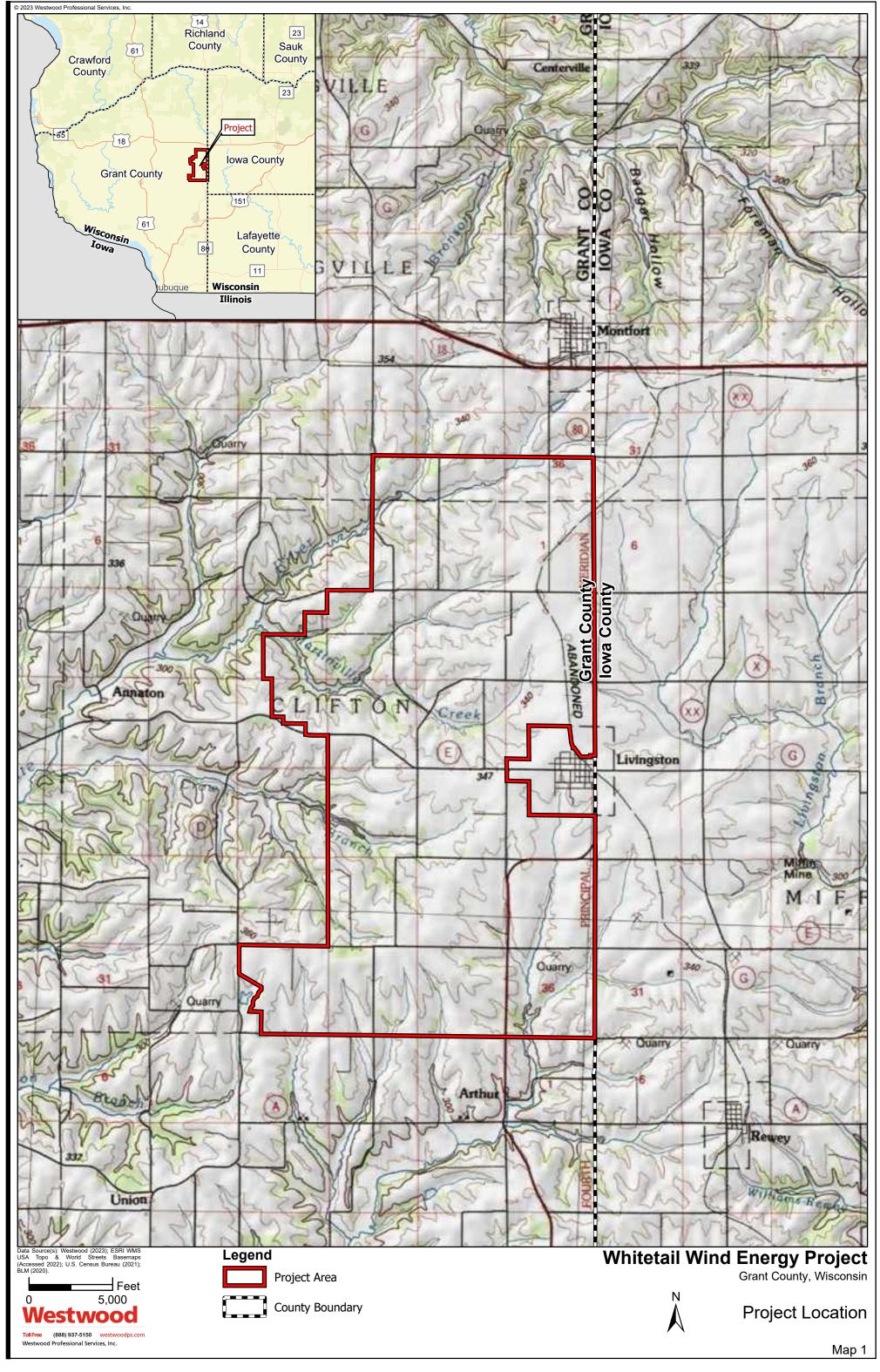
- Grant County, Wisconsin. 2009. Comprehensive Plan. Map 8.1 Existing Land Use. Adopted December 15, 2009, Amended February 16, 2010. Available online: <u>https://www.swwrpc.org/our-work/comprehensive-plans</u>. Accessed July 2022.
- Grant County, Wisconsin. 2018. Chapter 270, Wind Siting Ordinance, adopted November 13, 2018. Available online: https://ecode360.com/34102928. Accessed June 2022.
- Grant County, Wisconsin. 2021. Zoning Grant County, WI 2021. Available online: https://geodata.wisc.edu/catalog/CE5748E3-B267-4F40-ABC6-306C323190B8. Accessed June 2022.
- Grant County, Wisconsin. 2022. Parcel Explorer. Aerial Imagery (2020 WROC). Available at: <u>https://gis.co.grant.wi.gov/Parcel_Explorer/</u>. Accessed July 2022.
- Office of Energy Efficiency & Renewable Energy, 2010. Wisconsin 80-Meter Wind Resource Map. October 14, 2010. Wind resource estimates developed by AWS Truepower, LLC for windNavigator (http://www.windnavigator.com and http://www.awstruepower.com). Spatial resolution of wind resource data: 2.5 km. Projection: Transverse Mercator GRS1980. Available online: <u>https://windexchange.energy.gov/maps-data/136</u>. Accessed May 2022.
- Town of Clifton, Wisconsin. 2009. Comprehensive Plan. Available online: <u>https://www.swwrpc.org/our-work/comprehensive-plans</u>. Accessed July 2022.
- Town of Wingville, Wisconsin. 2009. Comprehensive Plan. Available online: <u>https://www.swwrpc.org/our-work/comprehensive-plans</u>. Accessed July 2022.
- U.S. Fish and Wildlife Service. 2013. Eagle Conservation Plan Guidance. Module 1 Land-based Wind Energy, Version 2. April 2013. Available online: <u>https://www.fws.gov/sites/default/files/documents/eagle-conservation-plan-guidance.pdf</u>
- Village of Livingston. 2003. Comprehensive Plan. Available online: <u>https://www.swwrpc.org/our-work/comprehensive-plans</u>. Accessed June 2022.
- Wisconsin Department of Natural Resources. 2019. Wiscland 2 Land Cover Data. Available online: <u>https://p.widencdn.net/lkfpeb/wiscland2_landcover</u>. Accessed June 2022.
- Wisconsin Department of Natural Resources. 2022a. Public Access Lands Maps. Available online: <u>https://dnrmaps.wi.gov/H5/?Viewer=Public Access Lands</u>. Accessed June 2022.
- Wisconsin Department of Natural Resources. 2022b. Public Access Lands Maps. Available online: <u>https://widnr.widen.net/s/b2tbk8lij6/thap_a_grant55</u>. Accessed June 2022.
- Wisconsin Department of Natural Resources. 2022c. Turkey Hunting Access Program. 2022. Available online: <u>https://dnr.wisconsin.gov/topic/Lands/THAP</u>. Accessed June 2022.
- Wisconsin Department of Natural Resources. 2022d. RR Sites Map. Available online: <u>https://dnrmaps.wi.gov/H5/?viewer=rrsites</u>. Accessed July 2022

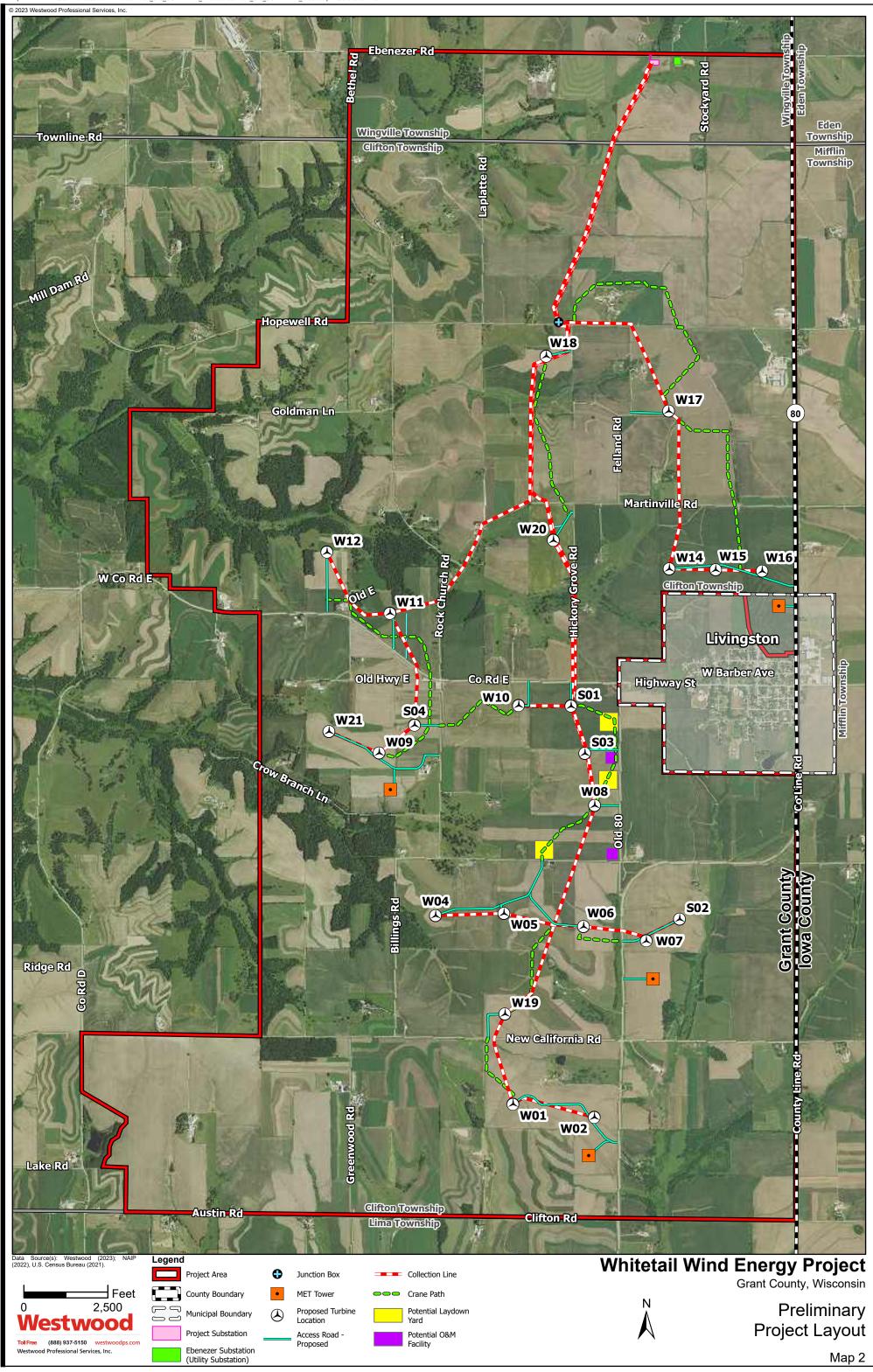
Maps

Whitetail Wind Energy Project

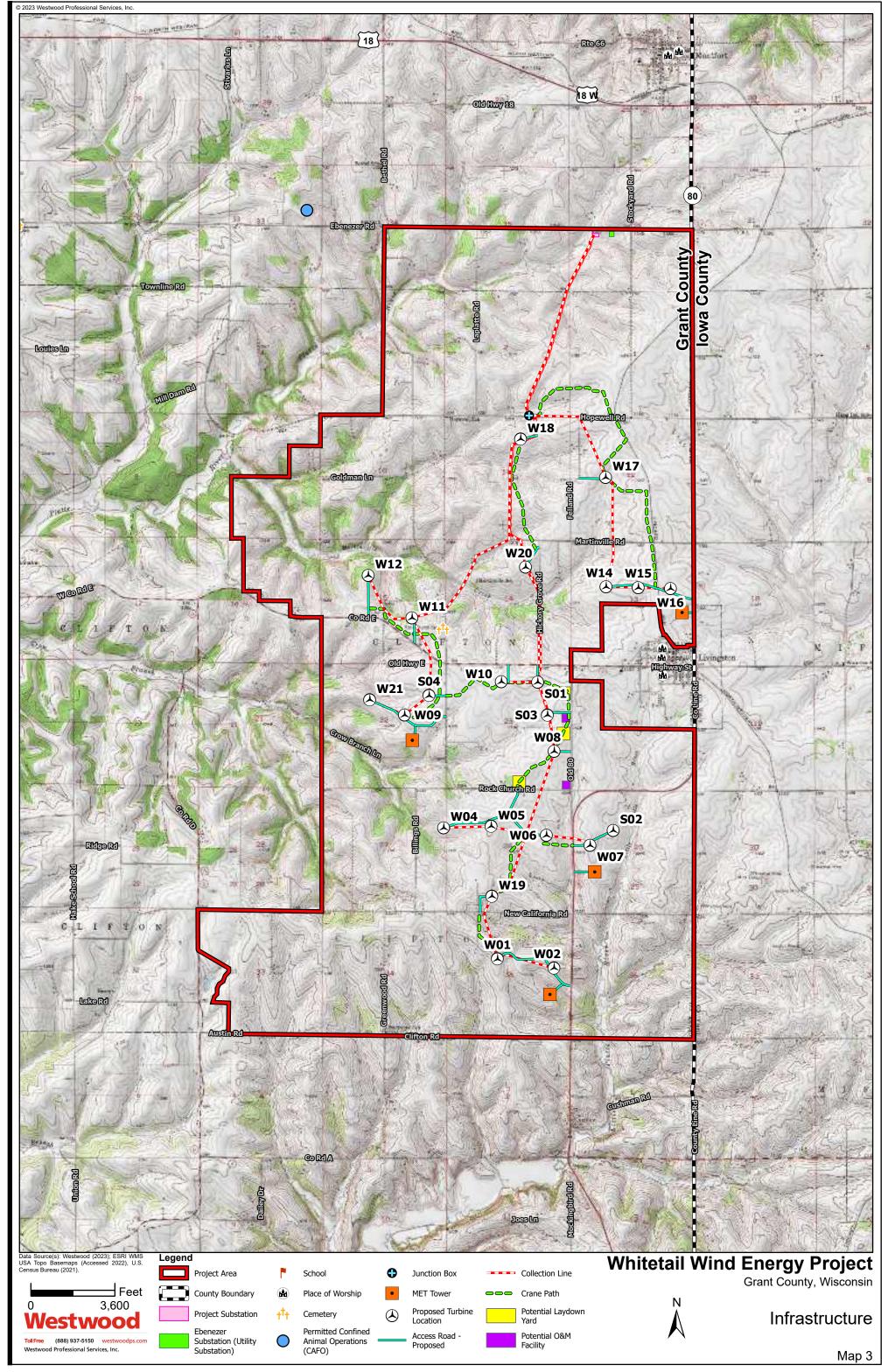
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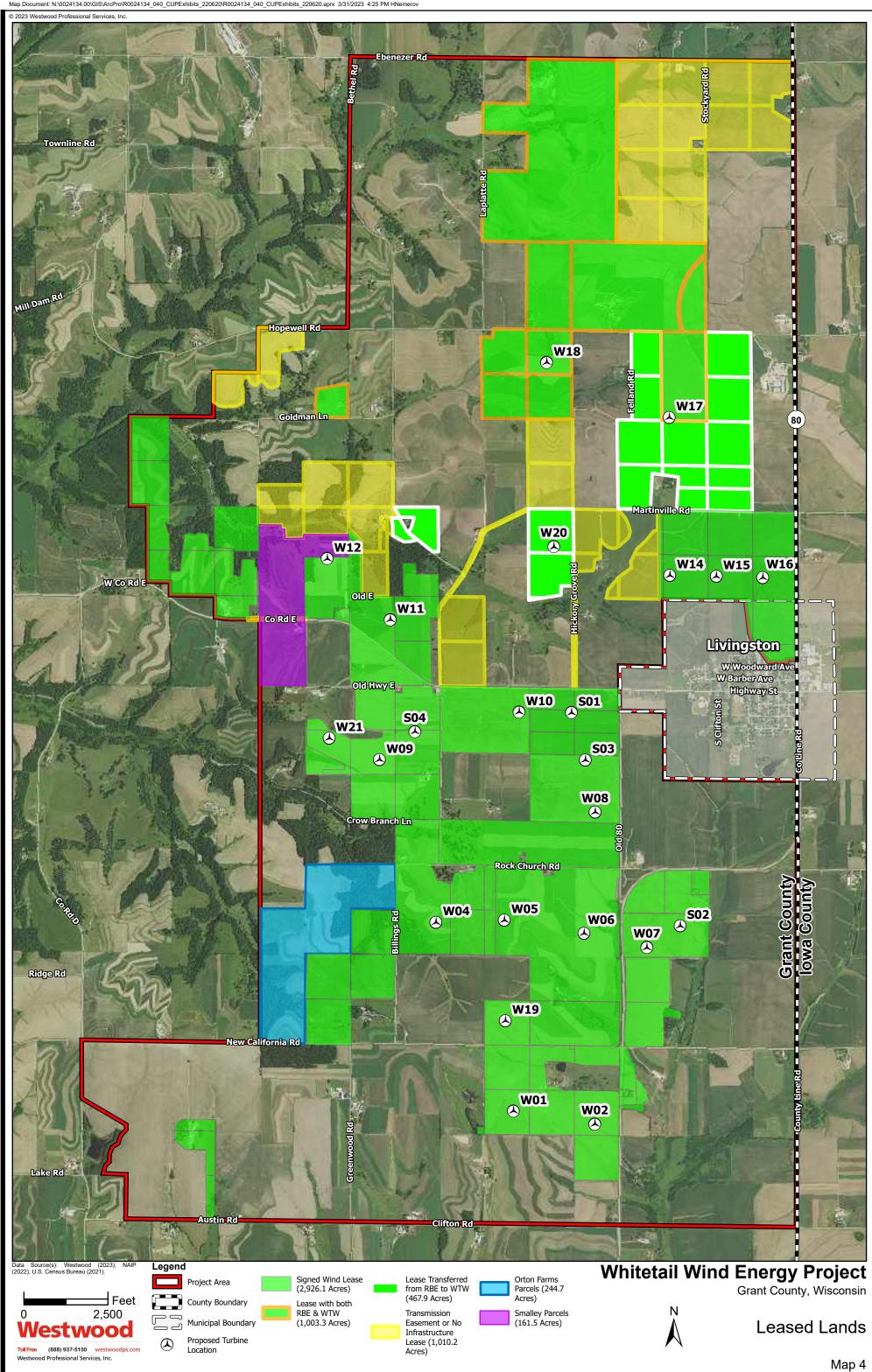
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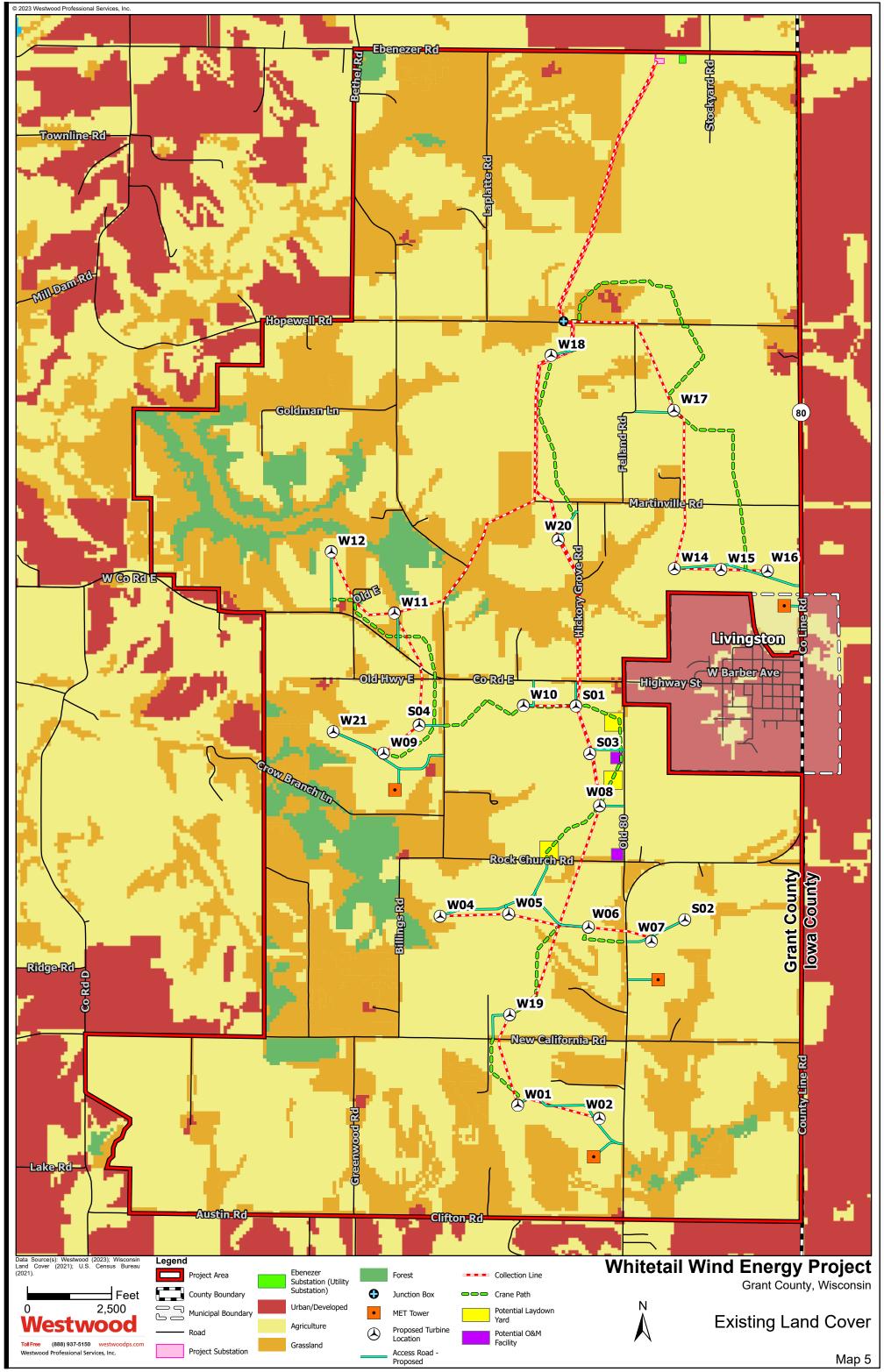


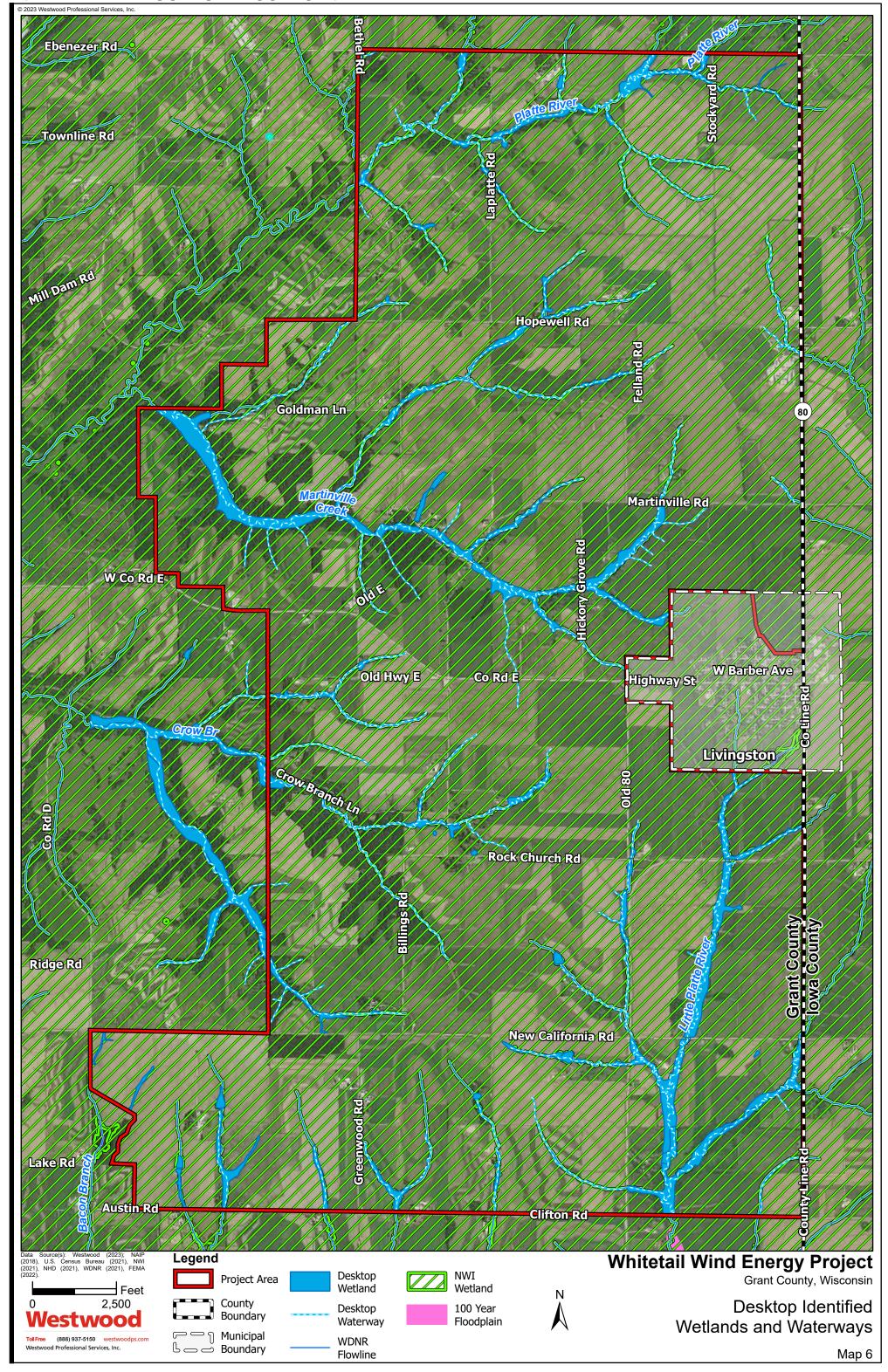


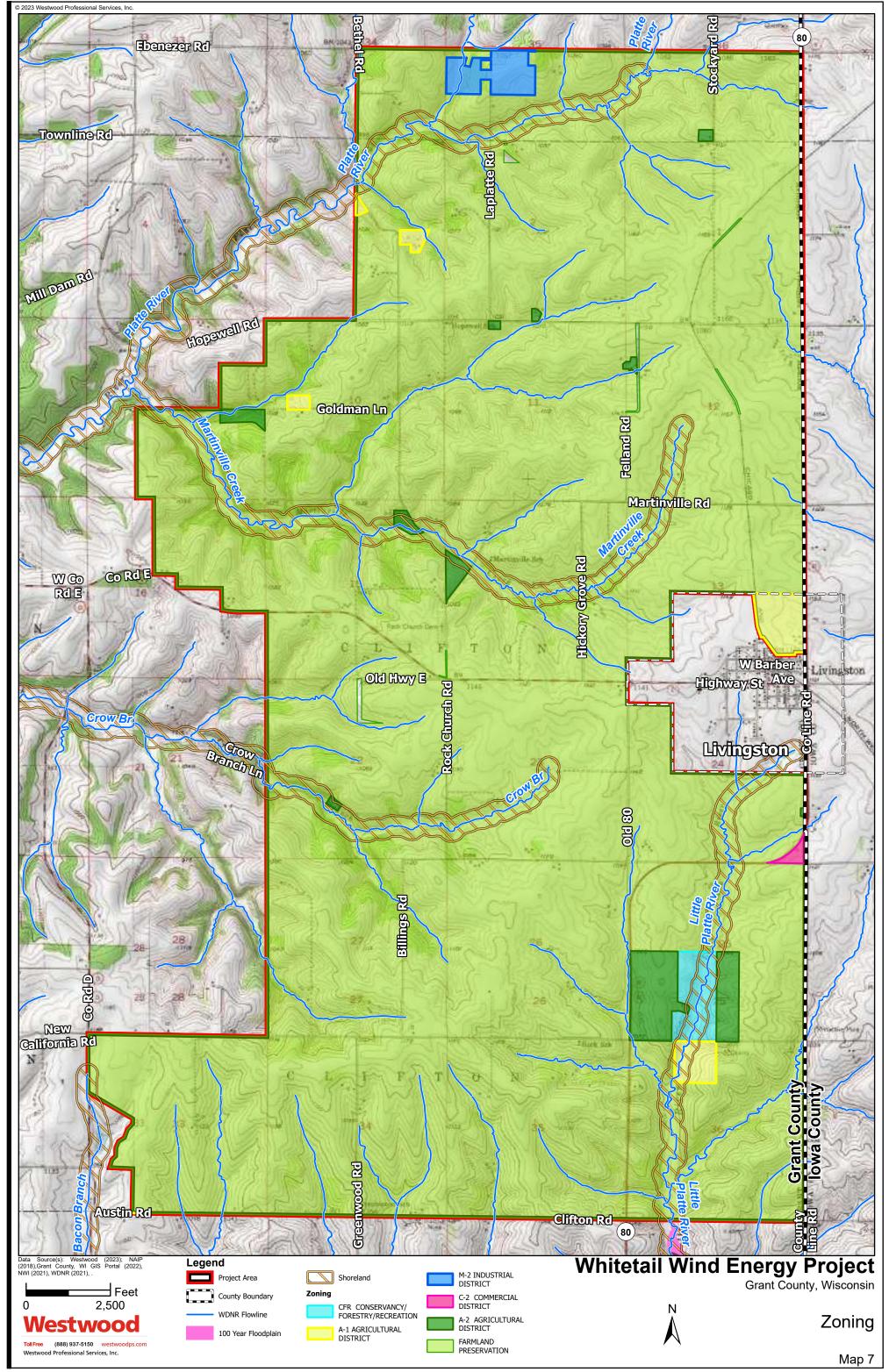
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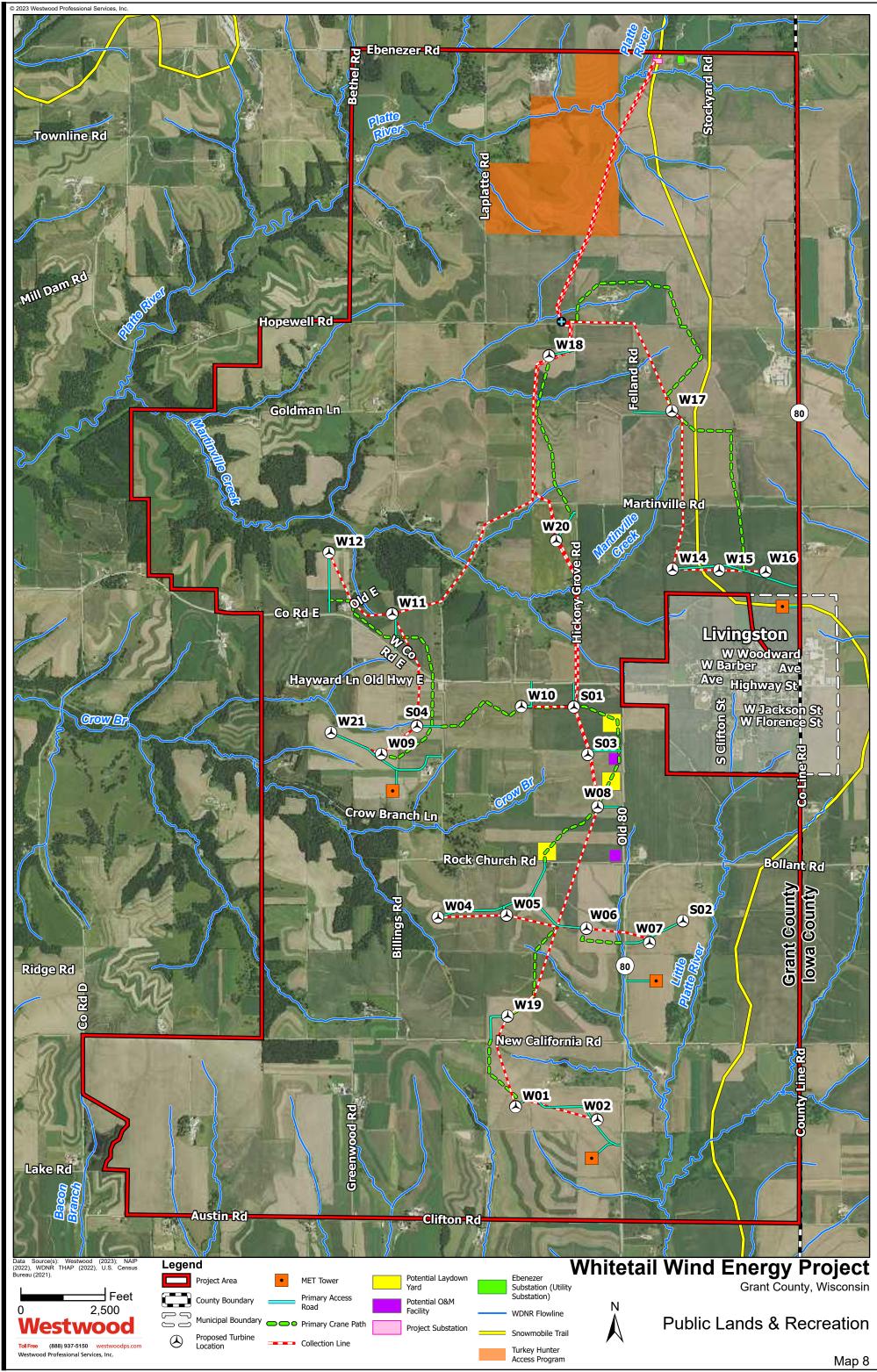




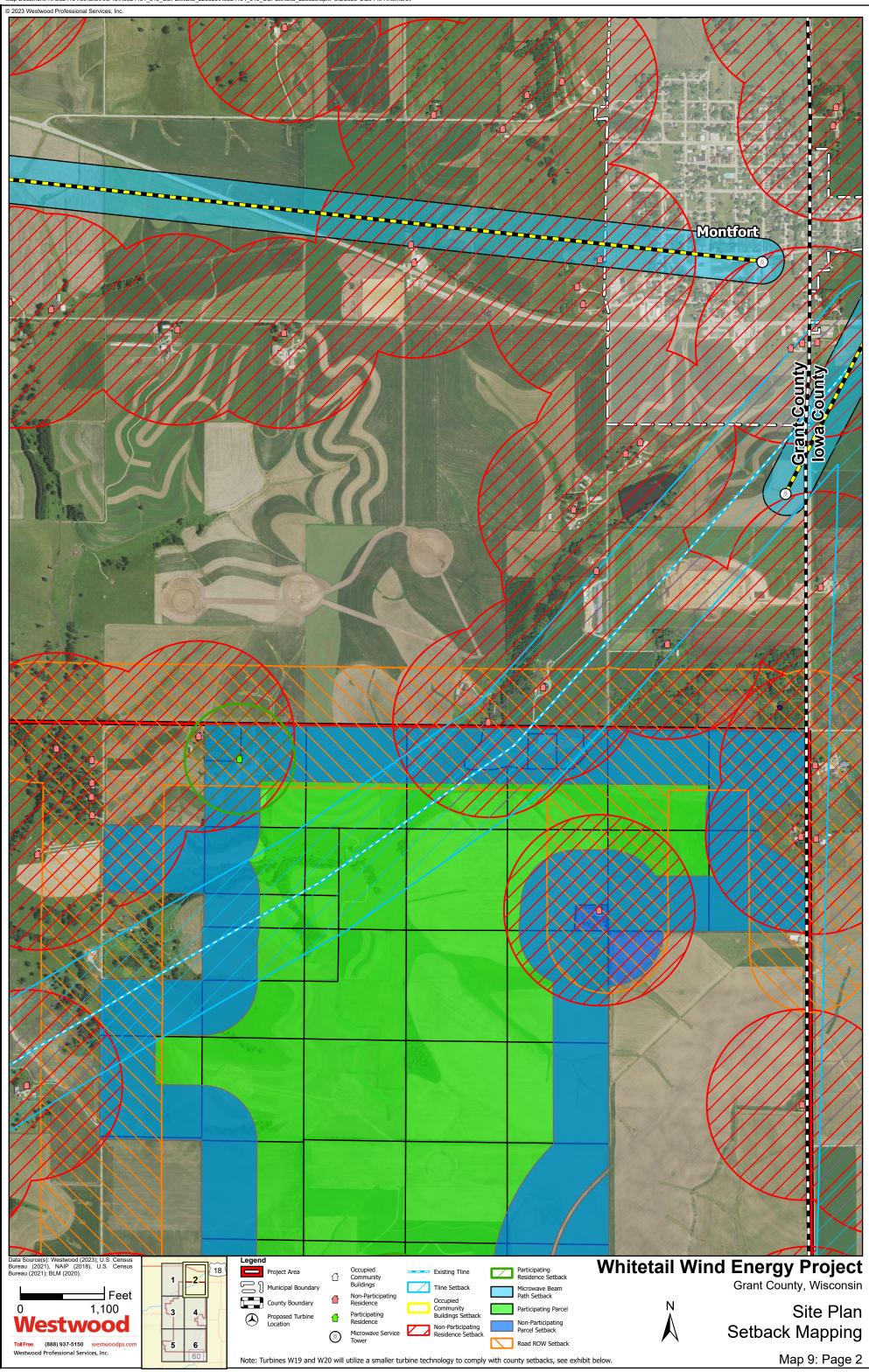


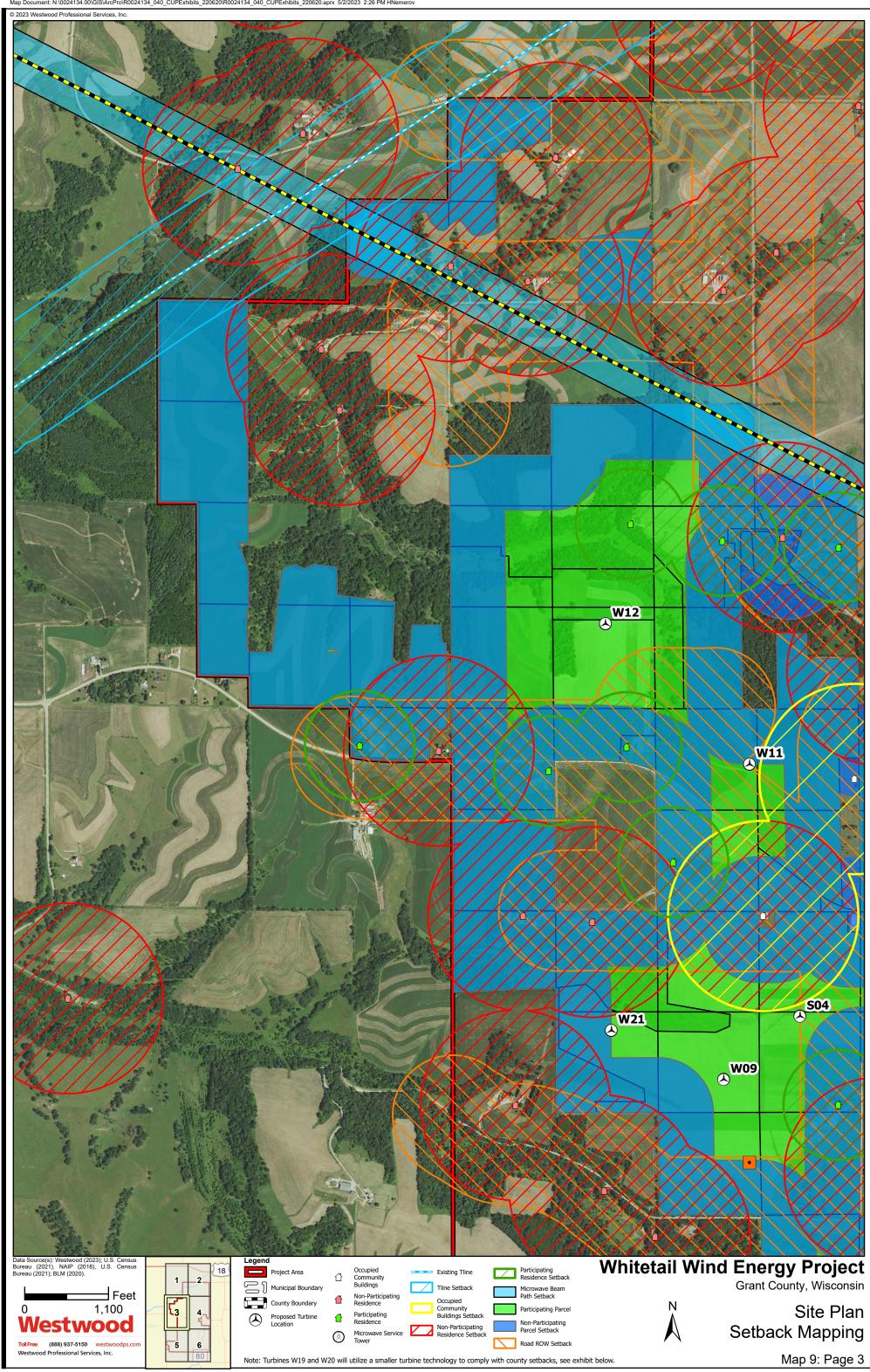


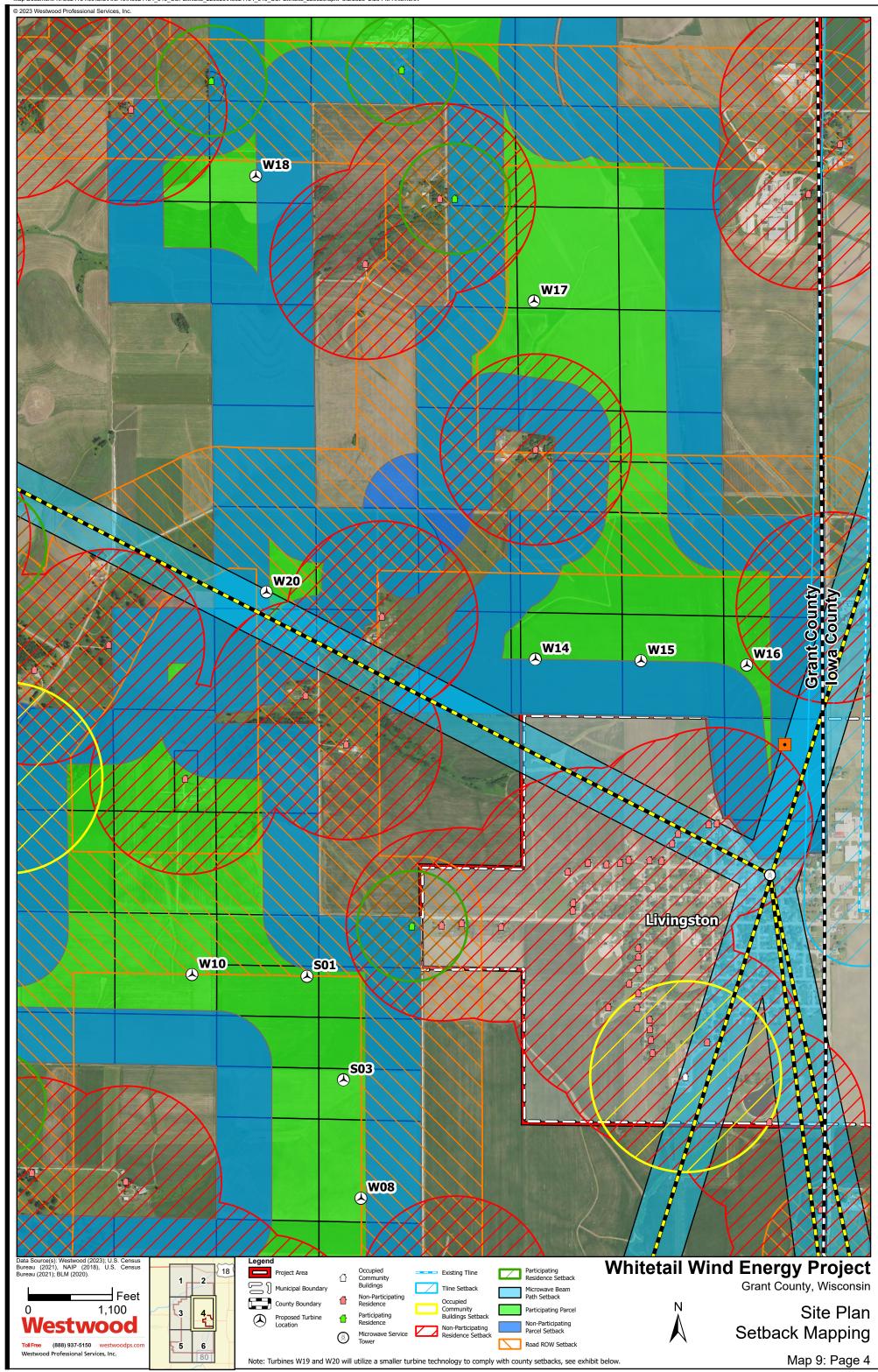


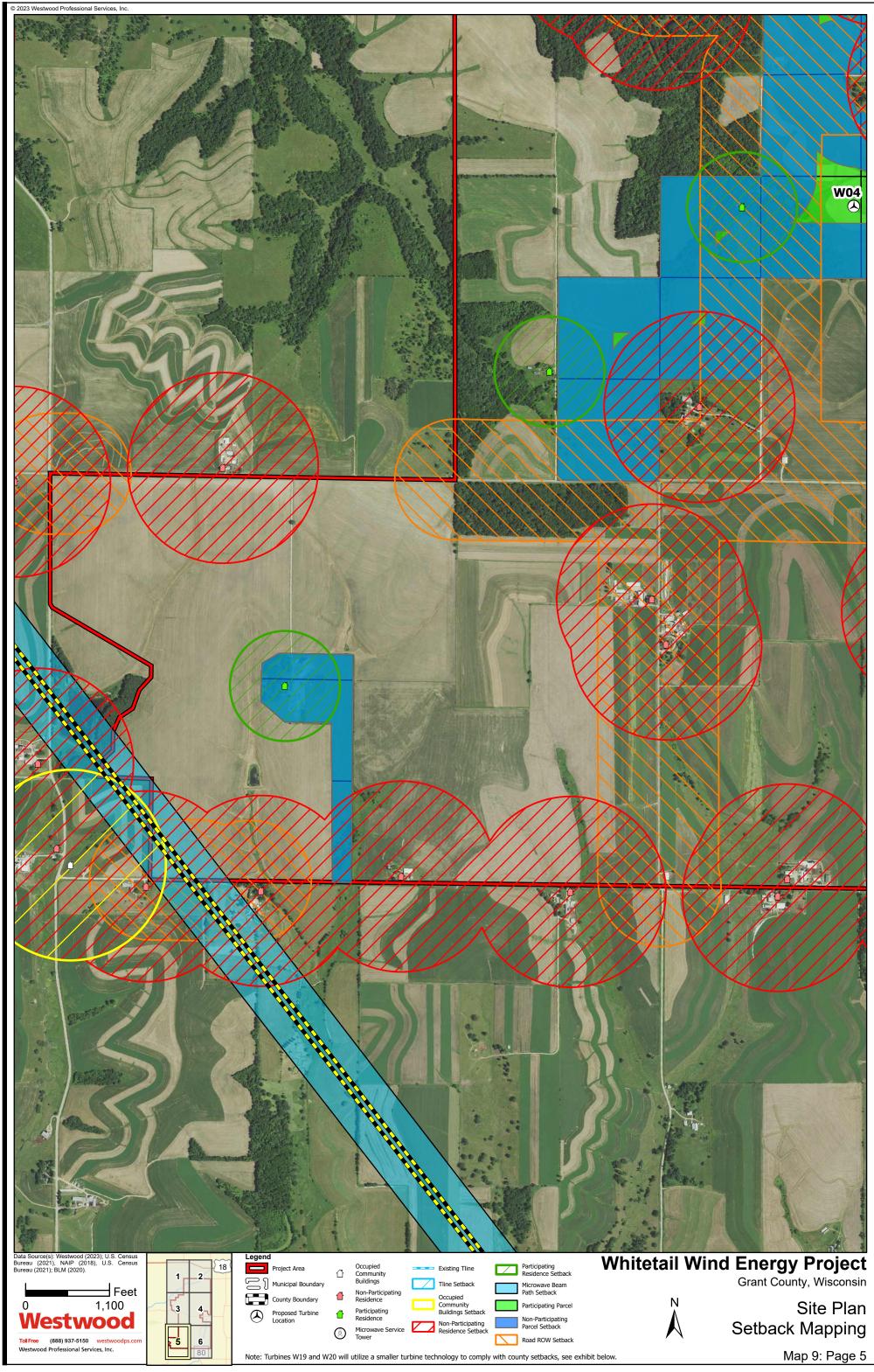


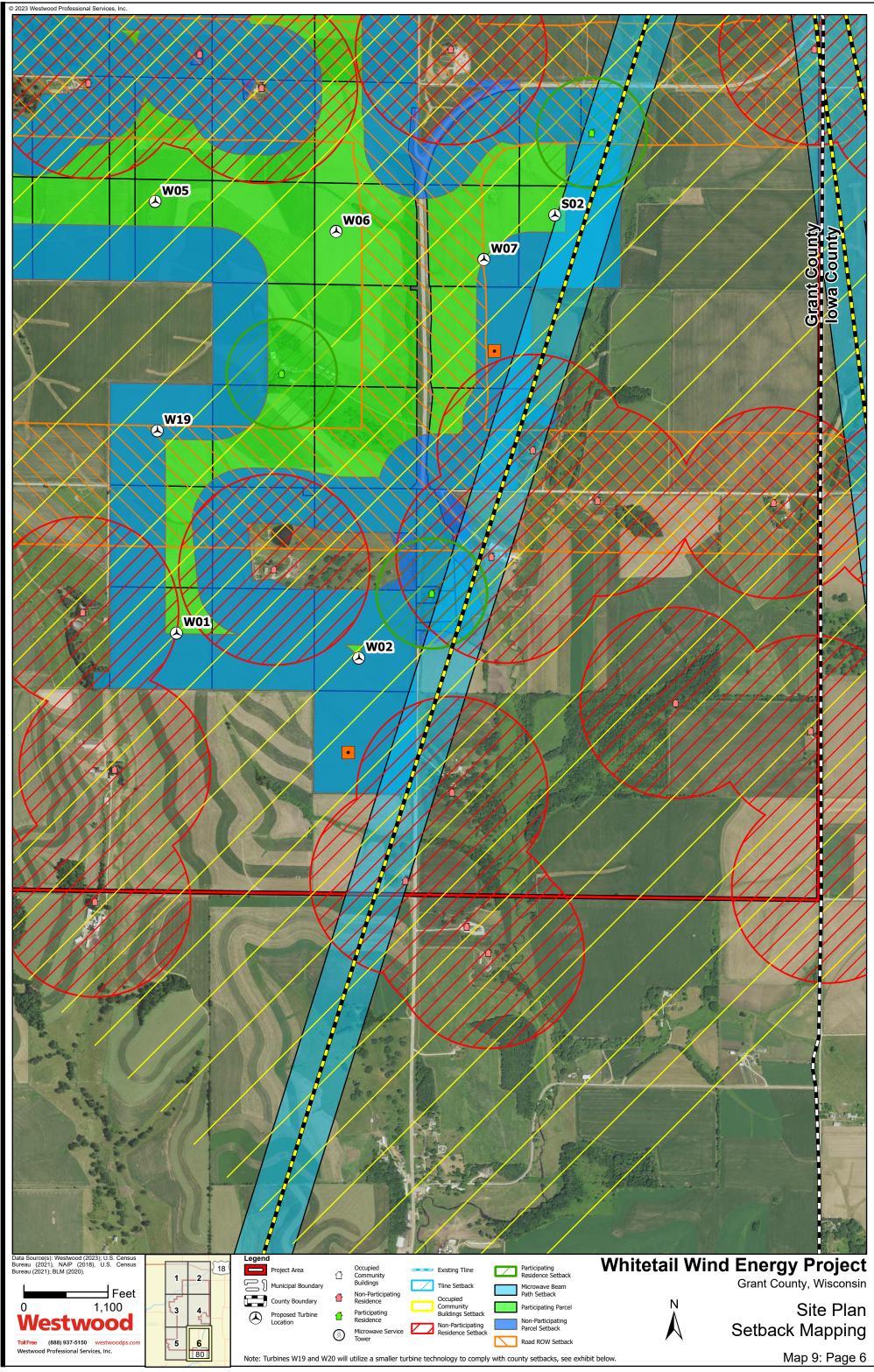


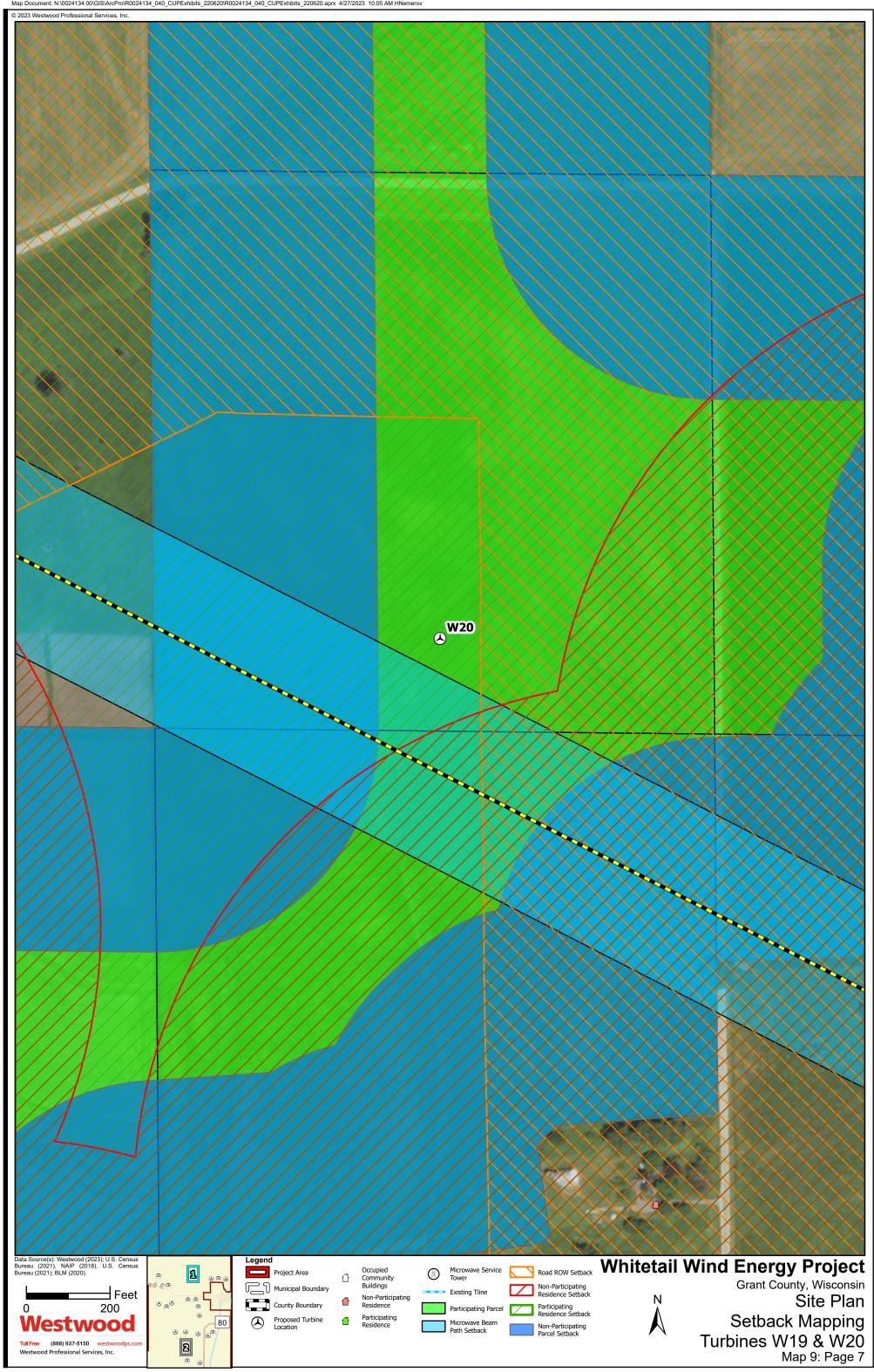




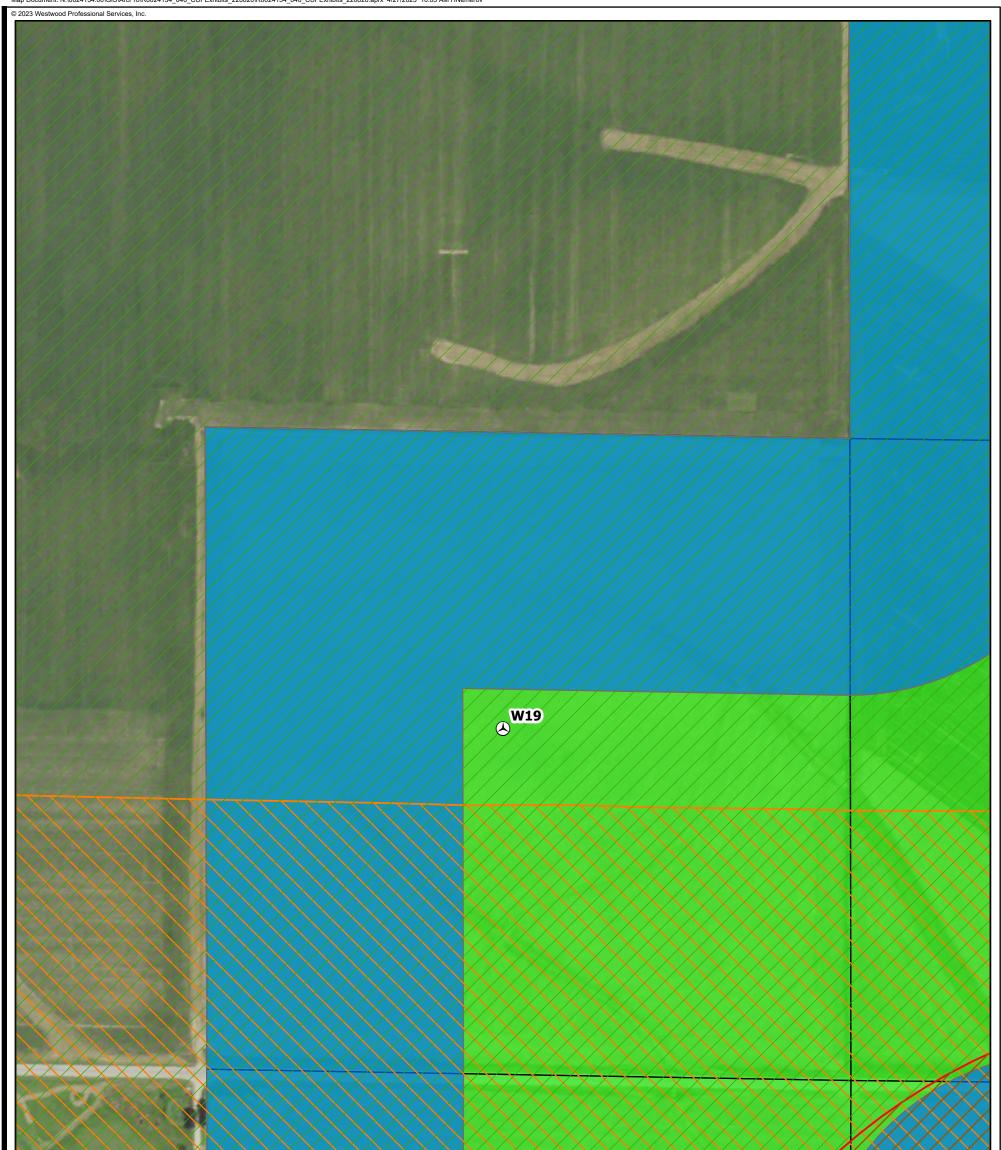


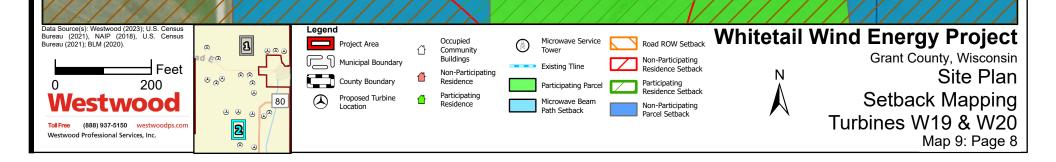






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Appendix A

Grant County Zoning Ordinance and Application Filing Requirements Completeness Checklists

Whitetail Wind Energy Project

Grant County, Wisconsin

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Whitetail Wind Energy Project Grant County Zoning Ordinance Completeness Checklist

Grant County Ordinance Chapter	Required Ordinance Information	PSC Chapter	Location in Application
270-3C	Application Requirements	PSC 128.30	N/A
270-3C(1)	For small wind energy systems: An owner shall file an application with the office that, at a minimum, includes the following information:	PSC 128.30(2)	N/A
270-3C(1)(a)	Wind energy system description and maps showing the locations of all proposed wind energy facilities.	PSC 128.30(2)(a)	Section 3
270-3C(1)(b)	Technical description of wind turbines and wind turbine sites.	PSC 128.30(2)(b)	Section 3.1
270-3C(1)(c)	Timeline and process for constructing the wind energy system.	PSC 128.30(2)(c)	Section 4
270-3C(1)(d)	Information regarding anticipated impact of the wind energy systems on local infrastructure.	PSC 128.30(2)(d)	Section 5
270-3C(1)(e)	Information regarding noise anticipated to be attributable to the wind energy system.	PSC 128.30(2)(e)	Section 6
270-3C(1)(f)	Information regarding shadow flicker anticipated to be attributable to the wind energy system.	PSC 128.30(2)(f)	Section 7
270-3C(1)(g)	Information regarding the anticipated effects of the wind energy system on existing land uses adjacent to the wind energy system.	PSC 128.30(2)(g)	Sections 12 and 20
270-3C(1)(h)	Information regarding the anticipated effects of the wind energy system on airports and airspace.	PSC 128.30(2)(h)	Section 8
270-3C(1)(i)	Information regarding the anticipated effects of the wind energy system on line-of-sight communications.	PSC 128.30(2)(i)	Section 9
270-3C(1)(j)	A list of all state and federal permits required to construct and operate the wind energy system.	PSC 128.30(2)(j)	Section 10
270-3C(1)(k)	Information regarding the planned use and modification of roads during the construction, operation, and decommissioning of the wind energy system, including a process for assessing road damage caused by wind energy system activities and for conducting road repairs at the owner's expense.	PSC 128.30(2)(k)	Section 11

Whitetail Wind Energy Project Grant County Zoning Ordinance Completeness Checklist

270-3C(1)(l)	A representative copy of all notices issued under section (5) and §§ PSC 128.105(1) and 128.42(1), Wis. Adm. Code, which are: 1) PSC 128.105(1) and 128.61: Pre-application notice. At least 60 days before an owner files an application to construct a wind energy system, an owner shall use commercially reasonable methods to provide written notice of the planned wind energy system to all of the following: (a) Adjacent landowners to the planned wind turbine host property. (b) Political subdivisions within which the wind energy system may be located.	PSC 128.30(2)(n)	Section 13, Appendix J
270-3C(2)	For large wind energy systems: An owner shall file an application with the office that, at a minimum, includes the following information:	PSC 128.30(2)	N/A
270-3C(2)(a)	All information required under 270-3C(1) (a-f) and (h-k) (for Small Wind Energy Systems) of this ordinance. <i>See rows above</i> .	N/A	N/A
270-3C(2)(b)	Information regarding the anticipated effects of the wind energy system on existing land uses within 0.5 mile of the wind energy system.	PSC 128.30(2)(g)	Section 12
270-3C(2)(c)	A representative copy of all notices issued under section (5) and §§ PSC 128.105(1) and 128.42(1), Wis. Adm. Code, which are:	PSC 128.30(2)(n)	N/A

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270-3C(2)(c)(1)	PSC 128.105(1): Pre-application notice – At least 90 days before an owner files an application to construct a wind energy system, an owner shall use commercially reasonable methods to provide written notice of the planned wind energy system to all of the following:	PSC 128.105(1)	Section 13, Appendix J
	a) Landowners within one mile of the planned wind turbine host property.		
	b) Political subdivisions within which the wind energy system may be located.		
	c) Emergency first responders and air ambulance service providers serving the political subdivisions within which the wind energy system may be located.		
	d) The Wisconsin Department of Transportation.		
	e) The Public Service Commission.		
	f) The Wisconsin Department of Natural Resources.		
	g) The Wisconsin Department of Agriculture, Trade and Consumer Protection.		
	h) The Office of the Deputy Undersecretary of the U.S. Department of Defense.		
270-3C(2)(c)(2)	PSC 128.42(1): Notice of process for making complaints – Before construction of a wind energy system begins, an owner shall provide written notice of the process for making complaints and obtaining mitigation measures to all residents and landowners within 0.5 mile of any wind energy system facility. An owner shall include in the notice the requirements under PSC 128.40(1) for submitting a complaint to the owner, a petition for review to the political subdivision, and an appeal to the commission, and shall include a contact person and telephone number for the owner for receipt of complaints or concerns during construction, operation, maintenance and decommissioning.	PSC 128.42(1)	Section 14, Appendix D
270-3C(2)(d)	A copy of all emergency plans developed in collaboration with appropriate first responders under PSC 128.18(4)(b), Wis. Adm. Code. An owner may file plans using confidential filing procedures as necessary.	PSC 128.30(2)(L)	Section 15, Appendix K
270-3C(2)(e)	A decommissioning and site restoration plan providing reasonable assurance that the owner will be able to comply with § PSC 128.19, Wis. Adm. Code.	PSC 128.30(2)(m)	Section 16, Appendix I

270-3C(3)	For all applications, the owner shall ensure that information contained in the application is accurate.	PSC 128.30(3)	Section 17
270-3C(4)	 Evidence shall be included for all applications to show that, on the same day an owner filed an application under this chapter, the owner did use commercially reasonable methods to provide written notice of the filing of the application to property owners and residents located within one mile of the proposed location of any wind energy system facility. The notice shall include all of the following: a) A complete description of the wind energy system, including the number and size of the wind turbines. b) A man showing the location of all proposed 	PSC 128.30(5)(a)	Section 18, Appendix L
	b) A map showing the location of all proposed wind energy system facilities.		
	c) The proposed timeline for construction and operation of the wind energy system.		
	a) Locations where the application is available for public review.		
	b) Owner contact information.		
270-4A	Abandonment and Decommissioning	PSC 128.19	N/A

270-4A(2)	For large wind energy systems:	PSC 128.19(3)	Section 16.2
	a) An owner with a nameplate capacity of one megawatt or larger shall provide the County with financial assurance of the owner's ability to pay the actual and necessary cost to decommission the wind energy system before commencing major civil construction activities.		
	 b) An owner shall provide the County with three estimates of the actual and necessary cost to decommission the wind energy system. The cost estimates shall be prepared by third parties agreeable to the owner and the County. The amount of financial assurance required by the County will be the average of the three estimates. 		
	c) An owner shall establish financial assurance that is acceptable to the County and that places the County in a secured position. The financial assurance must provide that the secured funds may only be used for decommissioning the wind energy system until such time as the County determines that the wind energy system has been decommissioned, as provided for in § PSC 128.19(5), Wis. Adm. Code, or the County approves the release of the funds, whichever occurs first. The financial assurance must also provide that the County may access the funds for the purpose of decommissioning the wind energy system if the owner does not decommission the system when decommissioning is required.		
	d) The County may periodically request information from the owner regarding industry costs for decommissioning the wind energy system. If the County finds that the future anticipated cost to decommission the wind energy system is at least 10% more or less than the amount of financial assurance provided under this section, the County may correspondingly increase or decrease the amount of financial assurance required.		
	e) The County may require an owner to submit a substitute financial insurance of the owner's choosing if an event occurs that raises material concern regarding the		

	 viability of the existing financial assurance. f) An owner shall, within 30 days of consulting with any federal or state agency about the construction, operation, or decommissioning of the wind energy system, provide the County with 		
	 information about the reason for the consultation. g) An owner shall, within 30 days of receiving any nonbinding recommendation for the construction, operation, or decommissioning of the wind energy system from any federal or state agency, provide the County with information about the consultation. 		
270-4B	Lighting	PSC 128.18(1)(c)	Section 19
270-4C(2)(a)	Noise. If an owner receives a complaint of a violation of the noise standards contained in § PSC 128.14, Wis. Adm. Code, and the owner has not provided the office with the results of an accurate test conducted within two years of the date of the complaint showing that the wind energy system is in compliance with the noise standard at the location relating to the complaint, the owner shall promptly conduct a noise study to evaluate compliance with the noise standards at that location using the most current version of the noise measurement protocol as described in § PSC 128.50(2), Wis. Adm. Code.	PSC 128.14(4)(b)	Section 6
270-4D(1-2)	 Ownership change. An owner shall provide the County with notice of any change in ownership of the small wind energy system on or before the effective date of the change. For large wind energy systems, a notice of change in ownership of the wind energy system shall include information showing that the financial responsibility specified under § 270-4A(2) of this chapter will be met by the new owner. 	PSC 128.32(4)	Section 1.1.1
270-4E(2)(a)	Setbacks. A large wind energy system shall comply with the setback distances shown in Table 1 in § PSC 128.13, Wis. Adm. Code.	PSC 128.13(1)-(2)	Section 20.1

270-6A-C	Modifications to an approved system.	PSC 128.35(1)-(2)	Section 21
2/0-04-0	 A. Material change. An owner may not make a material change in the approved design, location or construction of a wind energy system without the prior written approval of the office. An owner shall submit an application for a material change to an approved wind energy system to the County. The County may not reopen the merits of the earlier approval, but shall consider only those issues relevant to the proposed change. B. An application for material change is subject to § PSC 128.35, Wis. Adm. Code. C. At its discretion, the County may hold at least one public meeting to obtain comments on and to inform the public about a proposed material change to an 		Section 21
270-7	approved wind energy system. Third-Party Construction Inspector. The office may contract with a third-party inspector to monitor and report to the office regarding the owner's compliance with permit requirements during construction. The inspector monitoring compliance under this section shall also report to a state permitting authority upon the state permitting authority's request. The inspector shall make monthly written reports to the office. The owner shall reimburse the County for the actual and necessary cost of the inspector.	PSC 128.36(2)	Section 22

270-8A-B	Postconstruction filing requirement.	PSC 128.34(3)	Section 23
	 A. Within 90 days of the date a wind energy system commences operation, the owner shall file with the office and the public service commission an as-built description of the wind energy system, an accurate map of the wind energy system showing the location of all wind energy system facilities, geographic information system information showing the location of all wind energy system facilities, and current information identifying the owner of the wind energy system. 		
	 B. An owner shall label each wind turbine location described in its filing and shown on the map of the wind energy system with a unique identifier consistent with the information posted at the wind turbine location under § PSC 128.18(1), Wis. Adm. Code. 		
270-9A-C	Compliance monitoring.	PSC 128.36(1)-(2)	Section 24
	 A. This section applies to large wind energy systems only. An owner shall maintain a maintenance log for each wind turbine. The log must contain the following information: Date and time maintenance was performed. Nature of the maintenance 		
	performed.		
	 3) Reason for the maintenance. B. An owner shall, at the owner's expense, provide the office with a copy of the maintenance log for each wind turbine for each month upon the request of the County. C. The office may retain such consultants or experts as it deems necessary to assess and determine whether the wind energy system facilities are compliant or to assess whether the wind energy system facilities are being maintained in good repair and operating condition. 		

270-10A-C	Decommissioning Review. A. An owner shall file a notice of decommissioning completion with the County and any political subdivision within which its wind energy system facilities are located when a wind energy system approved by the County has been decommissioned and removed.	PSC 128.19(2)	Section 16.3
	 B. The office shall conduct a decommissioning review to determine whether the owner has decommissioned and removed the wind energy system as required by § PSC 128.19(1)(a), Wis. Adm. Code, and whether the owner has complied with its site restoration obligation under § PSC 128.19(4), Wis Adm. Code. 		
	C. The owner shall cooperate with the County by participating in the decommissioning review process.		

270-12A(1-10)	Complaint process for wind energy systems. PSC 128.40(1)	
	 1) An aggrieved person who has made a complaint to an owner in accordance with § PSC 128.40, Wis. Adm. Code, may petition the County for review of the complaint if it has not been resolved within 45 days of the day the owner received the original complaint. 	Appendix D
	2) The petition for review must be filed with the office within 90 days of the date of the original complaint and shall contain the following:	
	a) Name, address, and telephone number of the person filing the petition.	
	b) Copy of the original complaint to the owner.	
	c) Copy of the owner's original response.	
	d) Statement describing the unresolved complaint.	
	e) Statement describing the desired remedy.	
	f) Any other information the complainant deems relevant to the complaint.	
	g) Notarized signature of the person filing the petition.	
	3) The office shall forward a copy of the petition to the owner by certified mail within 10 days of the office receiving the petition.	
	4) The owner shall file an answer to the petition with the office and provide a copy of its answer to the complainant within 30 days of its receipt of the petition.	
	5) The answer must include the following:	
	a) Name, address, and telephone number of the person filing the answer.	
	b) Statement describing the actions taken by the owner in response to the complaint.	
	c) Statement of the reasons why the owner believes that the complaint has been resolved or why the complaint remains unresolved.	
	d) Statement describing any additional action the owner plans or is willing to	

	take to peoply the compleint		
	take to resolve the complaint.e) Any other information the owner deems relevant to the complaint.		
	f) Notarized signature of the person filing the answer.		
	6) The complainant and the owner may, within 30 days following the owner's filing of its answer, file such additional information with the office as each deems appropriate.		
	7) The office may request such additional information from the complainant and the owner as it deems necessary to complete its review.		
	 The office may retain such consultants or experts as it deems necessary to complete its review. 		
	9) The office shall issue a written decision and may take such enforcement action as it deems appropriate with respect to the complaint.		
	10) The decision of the office and enforcement action is subject to review under § 66.0401(5), Wis. Stats.		
270-12B(1-3)	Additional process for large wind energy systems.	PSC 128.42(1)	Section 14,
	1) An owner shall comply with the notice requirements contained in § PSC 128.42(1), Wis. Adm. Code (Complaint Process).		Appendix D
	2) An owner shall, before construction of a large wind energy system begins, provide the office with a copy of the notice issued pursuant to § PSC 128.42(1), Wis. Adm. Code, along with a list showing the name and address of each person to whom the notice was sent and a list showing the name and address of each political subdivision to which the notice was sent.		
	3) An owner shall, before construction of a large wind energy system begins, file with the office the name and telephone number of the owner's contact person for receipt of complaints or concerns during construction, operation, maintenance, and decommissioning. The owner shall keep the name and telephone number of the contact person on file with the office current.		

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
1.0	Project Overview	1.0
1.1	Project Owners	1.1
1.2	Project Description	3.0
1.3	Application Maps	3.0
1.4	Wind Turbine Description	3.1
1.4.1	Dimensions	3.1
1.4.2	Turbine capacities	3.1
1.4.3	Cut-in and Cut-out speeds	3.1
1.4.4	Fixed or variable speed – include rpm	3.1
1.4.5	Rated wind speed	3.1
1.4.6	Turbine look and finish	3.1
1.4.7	Turbine foundation dimensions, depths, types	3.1
1.4.8	Transformer type, location, pad size	3.1
1.4.9	Turbine coolant or heating systems	3.1
1.5	Overhead Collector Circuits	3.6
1.5.1	Reason overhead collector circuits	N/A
1.5.2	Overhead Inspection schedule	N/A
1.6	Substation/Interconnection Facilities	3.2
1.6.1	Location and Dimensions	3.0, 3.2
1.6.2	Electric Lines Associated with the Substation & Interconnection Facilities	3.2
1.6.3	Access Road Locations	3.5
1.6.4	Substation & Interconnection Facility Noise & Lighting	3.2, 19.2
1.6.5	Landscaping Surrounding Facility	3.2
1.7	Other Proposed Facilities	3.3, 3.4, 3.5, 3.7, 3.8
1.7.1	Parking lots	3.3
1.7.2	Sheds or Storage Buildings	3.3
1.7.3	Supplies of water, sewer, septic	3.3

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
1.8	Proposed Turbine Lighting	19.1
1.8.1	FAA Documentation	8.1, 9.4
1.8.2	Facility Lighting	19.2
1.8.3	Lighting Mitigation	19.2
1.9	Safety	25.0
1.9.1	Safety Measures to Prevent Access	25.0
1.9.2	Signage	19.3
1.9.3	Other Safety Features	25.0
1.10	Brownfields	20.3.5
1.11	Proof of Insurance	25.0
1.12	Notices	13.0
1.12.1	Pre-application notice issued 90 days prior to submitting the application	13.0
1.12.2	Public notice of application filing to political subdivision that meets Wis. Admin. Code § PSC 128.30(5).	18.0
1.12.3	Notice of complaint process	14.0
1.12.4	Notification regarding noise criteria	6.5
1.12.5	Notification regarding shadow flicker rules	7.5
1.12.6	Notification of noise criteria and shadow flicker rules to non-participating residence or occupied community building owners within 0.5 mile of a constructed wind turbine	6.5, 7.5
1.13	Siting Criteria	20.0
1.13.1	General Description of Siting Criteria	20.3
1.13.2	Compliance with Wis. Admin Code § PSC 128.13 (1)(a), Table 1	20.1
1.13.3	Additional Siting Criteria	20.4
1.13.4	Effects of Additional Siting Criteria	20.5
1.13.5	Minimization of Hardships	20.8
1.13.6	Setback Waivers (Wis. Admin. Code § PSC 128.13(1)(d))	20.2

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
1.14	State, Federal, and Local Permits, Approvals, and Correspondence	10.0, 10.1
1.14.1	Potential State, Federal, and County Permits/Approvals	10.0
1.14.2	Status of Permits & Approvals	10.0
1.14.3	Agency Correspondence	10.1
1.15	Monetary Compensation	N/A
1.16	Decommissioning	16.0
1.16.1	Decommissioning Estimates	16.2
1.16.2	Financial Assurance	16.2
1.16.3	Decommissioning & Site Restoration Plan	16.1
2.0	Project Construction Description and Impacts	4.0
2.1	Anticipated Construction Schedule	4.1
2.2	Construction Sequence	4.2
2.3	Construction Impacts	4.3
2.4	Bedrock Construction Methods	4.4
2.5	Special Construction Methods Related to Soil Conditions	4.5
2.6	Construction and Delivery Vehicle Descriptions	4.6, 11.0
2.6.1	Identification of Haul Routes	11.1
2.6.2	Construction Equipment & Delivery Vehicles	4.6
2.6.1	Gross vehicle weight (loaded and unloaded for all vehicles using local roads	N/A
2.6.2	Overall vehicle length	N/A
2.6.2.1	Turning radius	N/A
2.6.2.2	Minimum ground clearance	N/A
2.6.2.3	Minimum slope tolerance	N/A
2.7	Roads and Infrastructure Impacts	11.0
2.7.1	Local Infrastructure Impacts	5.0

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
2.7.2	Road Modifications	11.2
2.7.3	Road Impacts	11.2
2.7.3.1	Process to determine the pre-and post- construction the condition of roads	11.2
2.7.3.2	How and when road repairs would be performed on local roads and how disputes on causes of road damage would be resolved	11.2
2.7.4	Electric Distribution & Other Lines	5.4
2.7.4.1	Location of disconnections	N/A
2.7.4.2	Resident notice of disconnection	N/A
2.7.4.3	Duration of outage	N/A
2.8	Access Roads	3.5
2.8.1	Width	3.5
2.8.2	Materials	3.5
2.8.3	Site access control (gates)	3.5
2.9	Crane Paths	3.4
2.9.1	Width and depth	3.4
2.9.2	Materials	3.4
2.9.3	Site access control (gates)	3.4
2.9.4	Post-Construction of crane paths	3.4
2.10	Collector Circuits (overhead and underground)	3.6
2.10.1	Length	3.0
2.10.2	Voltage	3.6
2.10.3	Configuration	3.6
2.10.4	Construction methods	3.6
2.11	Temporary Laydown Areas	3.7
2.11.1	Location, footprint, and existing land use of all temporary laydown/staging areas and any additional temporary workspace	3.7
2.11.2	Impacts to the proposed areas	3.7

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
2.12	Hazardous Materials	25.2
2.12.1	Materials list	25.2
2.12.2	SPCC	25.2
2.13	Post-Construction Restoration	4.2
3.0	Community Impacts	12.0
3.1	Existing Land Uses	12.1
3.1.1	Description of Existing Land Uses within One-Half Mile of Project Area	12.1
3.1.2	Changes to Existing Land Uses since the Pre-Application Notice	12.1.4
3.1.3	Project Impacts on Existing Land Use	12.1.2
3.1.4	Avoidance & Minimization of Impacts on Existing Land Use	12.1.3
3.1.5	Aesthetic Impacts	3.1.1
3.1.6	Photographs	3.1.2
3.2	Agriculture	12.1.1
3.2.1	Minimization of Project Impacts	12.1.1
3.2.2	Construction Methods to Minimize Agricultural Impacts	12.1.1
3.2.3	Aerial Spraying or Seeding Ops	N/A
3.2.3.1	Aerial spraying for pest control	N/A
3.3	Airports and Airspace	8.0
3.3.1	Location of Airports or Heliports in Project Area	8.1
3.3.2	Medical Heliports	8.2
3.3.3	Setbacks from Airports & Heliports	8.3
3.4	Construction Impacts to Project Area	4.3
3.4.1	Traffic	5.1
3.4.2	Noise & Lighting	6.0, 19.0, 19.2
3.4.3.1	Drainage Systems	5.2
3.4.3.2	Utility Location & Crossing Agreements	5.3
3.5	Noise from Operating Wind Turbines	6.0

Application Filing Requirements (AFR) Section	AFR Title			
3.5.1	Minimization of Noise	6.1		
3.5.2	Noise Modeling	6.1		
3.5.3	Compliance with Noise Requirements	6.1		
3.5.4	Pre-construction Noise Levels	6.2		
3.5.5	Assessment of Post-Construction Noise Levels	6.3		
3.5.6	Noise Waivers	6.4		
3.6	Shadow Flicker from Operating Wind Turbines	7.0		
3.6.1	Minimization of Shadow Flicker	7.2		
3.6.2	Shadow Flicker Modeling	7.1		
3.6.3	Compliance with Shadow Flicker Requirements	7.2		
3.6.4	Properties of Nonparticipating Residences or Occupied Community Buildings that Would Experience 20 Hours or More of Shadow Flicker	7.1		
3.6.5	Shadow Flicker Mitigation	7.3, 7.4		
3.6.6	Shadow Flicker Waivers	7.5		
3.7	Signal Interference	9.0		
3.7.1	Line-of-Sight Communications	9.0		
3.7.2	Microwave Beampath	9.1		
3.7.3	Television Broadcast Facilities	9.2		
3.7.4	FM Facilities	9.3		
3.7.5	AM Facilities	9.3		
3.7.6	Government Radar System Analysis	9.4		
3.7.7	NTIA	9.5		
3.8	Stray Voltage	25.1		
3.9	Emergency Procedures	15.0		
3.9.1	Identify first responder's applicant has worked with	15.0		
3.9.2	Describe process for developing local emergency plans with first responders	15.0		

Application Filing Requirements (AFR) Section	AFR Title	Location in Application
3.9.3	Emergency Plan	15.0
3.9.4	Annual first responder training	15.0
3.10	Complaint Resolution	14.0
3.11	Shared Revenue and Community Benefits	26.0

Appendix B

Representative Photos

Whitetail Wind Energy Project

Grant County, Wisconsin

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Westwood



Operating turbines – Lakeswind Wind Farm, MN



Operating turbines – Lakeswind Wind Farm, MN



Operating turbines – Lakeswind Wind Farm, MN



Operating turbines – Lakeswind Wind Farm, MN



Operating turbines: Buffalo Ridge, MN

Operating turbines: Ridgewind Project, MN

Operating turbines: Ridgewind Project, MN

Appendix C

Sound Modeling Assessment

Whitetail Wind Energy Project

Grant County, Wisconsin

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Sound Modeling Assessment

PROJECT: WHITETAIL WIND (WI)

DATE: APRIL 28, 2023

REGENERATE CONSULTING 3413 NEST AVE. SHELDON, IA 51201 TEL: (712) 577-1825 E-MAIL: CHRIS®REGENERATECONSULTING.COM WEB: WWW.REGENERATECONSULTING.COM

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Revision History

	2	
Issue	Date	Revision Purpose
1	12-Feb-22	Original
2	28-Nov-22	Updated Turbine Layout/Additional Receptor/Updated Sound Power Level
3	13-Dec-22	Minor Report Revisions
4	20-Dec-22	Add Landowner Status
5	07-Feb-23	Updated Turbine Layout/Additional Receptor
6	08-Mar-23	Updated Turbine Layout
7	28-Apr-23	Updated Turbine Layout

1. Executive Summary

The Whitetail Wind Project in southwestern Wisconsin has been studied for the impact of sound on surrounding residences. Modeling and topographic reviews were completed to determine potential maximum results at receptor locations in and around the project.

The Project consists of 21 turbine locations with 3 GE 2.5-116 LNTE turbines (including 1 standard version, 1 NRO 105 and 1 NRO 104) at 90m hub-height and 18 larger turbines for which the GE 3.4-140 at 98 m, GE 5.8-158 at 114 m, Vestas V150-4.2 at 105 m and Nordex N155-4.8 at 108 m hub height are being considered. Sound was modeled assuming the turbine with the highest sound power level (GE 3.4-140 at 98 m hub height) including 4 standard versions, 5 NRO 106, 8 NRO 105 and 1 NRO 100. The Project is being developed by Project Resources Corporation (PRC).

These turbines can cause additional sound throughout the Project area and this effect was studied at sensitive locations (receptors) to quantify the impact before the proposed Project is constructed. Receptors include occupied residences (both participating and non-participating) and occupied community buildings.

ReGenerate used OpenWind to model the total sound pressure level at 315 receptors including 294 nonparticipants and 21 participating receptors. Results were modeled inclusive of all nearby wind turbines.

	Non-Participating		Partici	pating	Total		
Sound Emission [dB(A)]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	
0 to 35	102	34.69%	1	4.76%	103	32.70%	
35.1 to 40	91	30.95%	1	4.76%	92	29.21%	
40.1 to 45	95	32.31%	19	90.48%	114	36.19%	
45.1 to 49.3	6	2.04%	0	0.00%	6	1.90%	
49.4 or more	0	0.00%	0	0.00%	0	0.00%	

The effect on receptors has been quantified with the results shown in the table below.

The maximum value of sound at any receptor location was found to be 49.3 dB(A), with six receptors exceeding the 45 dB(A) limit. However, these results are primarily driven by neighboring projects with the Whitetail Wind project expected to only cause less than 0.1 dB(A) to each of these receptors. An increase of this size would be imperceptible to the human ear. [14]

All other receptors are under the 45 dB(A) nighttime limit and it was found the Whitetail Wind does not cause or contribute to potential exceedance of the standard.

Appendix I shows the spatial mapping for sound results. Appendix II shows turbine coordinates provided for Whitetail Wind. Appendix III shows the results at each receptor analyzed for this study.

2. Introduction

The Whitetail Wind Farm (Project) is being developed by Project Resources Corporation (PRC) in southwestern Wisconsin and has retained ReGenerate Consulting (ReGenerate) to carry out an independent analysis of the sound effects caused by the proposed Project.

The objective of this assessment is to predict the sound levels generated by the project at all receptors, including occupied residences (both participating and non-participating) and occupied community buildings, within or near the project area and in accordance with any applicable regulations as described in further detail later in the report. This report describes the Project site, modeling methodology and results of the analysis.

ReGenerate Consulting is an independent engineering consulting agency. The principal investigator for this report, Chris Nuckols, has 20-years' engineering and management experience and 15-years' of wind and solar resource assessment experience working for renewable energy developers, owners, and OEMs, He has provided engineering support to more than 100 renewable energy projects large and small, on five continents.

The ReGenerate team are members of the Institute of Noise Control Engineering of the USA (INCE-USA), a non-profit professional organization whose primary purpose is to promote noise control solutions through an international consortium of organizations with interests in acoustics and noise control. To become members of INCE-USA, ReGenerate staff qualifications were reviewed by the INCE-USA board to ensure a minimum of five years' experience in Noise Control Engineering, involving professional practice, research, or teaching.

3. Background

Sound is commonly expressed in A-weighted [dB(A)] levels, these are an expression of the relative loudness of sounds in the air as perceived by the human ear. Typical sound levels associated with various outdoor activities is presented in Figure 1 below. [1,2,3]

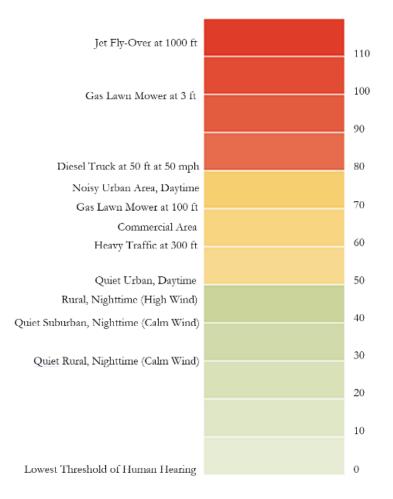


Figure 1: Sound Level of Various Outdoor Activities [dB(A)]

Sound is typically expressed using octave bands or 1/3 octave bands ranging from 32 to 16,000 Hz. Noise results are modeled for each respective octave band and then combined into a single sound emission level using the following equation [4]:

$$L_{\Sigma} = 10 \, \log_{10} \left(10^{\frac{L_1}{10}} + 10^{\frac{L_2}{10}} + \dots + 10^{\frac{L_n}{10}} \right)$$

Noise from a wind turbine is generally categorized into one of two types, these being aerodynamic noise and mechanical noise. Aerodynamic noise is caused by wind passing over the turbine blades, as the wind moves over the blades to extract energy, it interrupts the laminar air flow causing turbulence and noise as a byproduct. This would also be dependent upon the blade angle and alignment of the rotor to the wind. Aerodynamic noise is the primary source of noise produced by wind turbines.

Mechanical noise is that which originates from turbine components such as the generator, gearbox, yaw motors, tower ventilation system and transformer. Generally, the impact of these sounds is minimal in newer wind turbines such that they are a negligible fraction of the aerodynamic noise.

The sound pressure level from multiple turbines nearby a receptor can be noticeably louder than that of a lone turbine. Under steady wind conditions, noise from a wind farm as a whole is calculated assuming that the turbines have similar frequency profiles and that the noise sources are uncorrelated. This impact is captured in any ISO compliant sound modeling software.

4. Project Details

The Project is located near Livingston, Wisconsin in agricultural land consisting mostly of rolling hills. There are scattered dwellings, farm buildings and trees throughout the project area.

PRC provided ReGenerate with the coordinates of turbines and receptors for the Project. The layout consists of 21 turbine locations with 3 GE 2.5-116 LNTE turbines (including 1 standard version, 1 NRO 105 and 1 NRO 104) at 90m hub-height and 18 larger turbines for which the GE 3.4-140 at 98 m, GE 5.8-158 at 114 m, Vestas V150-4.2 at 105 m and Nordex N155-4.8 at 108 m hub height are being considered. Sound was modeled assuming the turbine with the highest sound power level (GE 3.4-140 at 98 m hub height) including 4 standard versions, 5 NRO 106, 8 NRO 105 and 1 NRO 100. Alternate turbine locations are not considered within the modeling.

Coordinates and specific model for each turbine location are provided for the Project in Appendix II. Coordinates for individual receptors can be found in Appendix III.

Neighboring projects that are currently in operation or under development were reviewed as part of this analysis based upon the U.S. Wind Turbine Database by USGS and from PRC. [5], the effects of these turbines were included in the calculation as well. The table below shows these projects and their turbine configuration.

Project	Turbine Configuration				
Montfort	18x GE 1.5s-70.5 h65				
Red Barn	4x GE 2.5-116 h90/24x GE 3.4-140 h117				
Table 1. Neighboring Wind Farms Considered in Study					

Table 1: Neighboring Wind Farms Considered in Study

5. Project Regulations

Applicable standards for the state of Wisconsin are set forth by the Wisconsin State Legislature which states [6]:

An owner shall operate the wind energy system so that the noise attributable to the wind energy system does not exceed 50 dBA during daytime hours and 45 dBA during nighttime hours.

6. Modeling Procedures

ReGenerate used the openWind software [7] to model sound for this project. This model complies with ISO 9613-2, the international standard for propagation and attenuation of industrial sound. [8]

Total sound power level and octave band specifications were provided for applicable turbine models. [9.10,11] The sound power level of the Vestas V150-4.2 turbine is shown as well, showing that this turbine has a lower sound power level than the GE 3.4-140 used in modeling. [12] These specifications are considered the mean values gathered by the manufacturer according to International Electrotechnical Commission (IEC) standard 61400-11: *Acoustic Noise Measurement Techniques*. [13] Sound power levels utilized in modeling are shown in the table below, these values represent the critical wind speed or the worst-case scenario from a noise perspective.

Turbine Model	1/1 Octave Band Levels [Hz] Sound Power Level [dB(A)]									
	31	63	125	250	500	1000	2000	4000	8000	Total
GE 1.5s-70.5	76	85.1	94	97.2	98.5	97.9	94.5	87.3	78.1	104
GE 2.5-116 Enhanced LNTE	76	88.8	95.7	98.6	99.7	99.5	96.6	88.6	68.4	105.5
GE 2.5-116 NRO 105 LNTE	75.5	88.3	95.2	98.1	99.2	99	96.1	88.1	67.9	105
GE 2.5-116 NRO 104 LNTE	74.5	87.3	94.2	97.1	98.2	98	95.1	87.1	66.9	104
GE 3.4-140 LNTE	79.7	88.3	92.2	96.1	99.2	102.2	101.5	93.7	74.9	106.8
GE 3.4-140 NRO 106 LNTE	79	87.7	91.4	95.2	98.2	101.4	100.8	93.2	74.8	106
GE 3.4-140 NRO 105 LNTE	78.8	87.5	91.3	95.1	98	100.9	100.2	92.7	74.4	105.6
GE 3.4-140 NRO 100 LNTE	73.2	81.9	85.7	89.5	92.4	95.3	94.6	87.1	68.8	100
V150-4.2 h105 Serrated Blades	73.1	83.9	91.9	97.1	99.7	99.5	96.5	90.8	82.3	104.9

Table 4: Turbine Sound Power Level Emission Summary

A safety margin of +2 dB(A) was added to account for uncertainty of sound power level values, this includes turbines at Whitetail Wind as well as all sound power level for turbines at all neighboring projects.

Modeling assumptions for the sound analysis include:

- Sound modeled in accordance with International Standard ISO 9613-2.
- Turbine is operating 100% of the time.
- Turbine sound emission used octave band sound power level provided by GE Renewable Energy.
- Sound emission was assumed at rated power.
- A safety margin of +2 dB(A) was added to the sound power level.
- Ground porosity was set to 0.5.
- Miscellaneous attenuation was set to zero.
- Vegetative dampening effects were ignored; and
- Default observer eye level is 1.75 m.

This base-case run for both models is still likely to produce estimates higher than those which will be experienced. Factors that will lower the impact, but not modeled include:

- Availability of the turbines.
- Turbines operating at lower wind speeds, therefore lower sound emission; and
- Impact of vegetation in dampening of sound.

The methodology implemented as part of these models is realistic enough to be recommended for turbine siting purposes by ReGenerate Consulting.

7. Modeling Results

The maximum value of sound at any receptor location was found to be 49.3 dB(A), with six receptors exceeding the 45 dB(A) limit. These receptors include sound from all nearby projects and the Project itself is not anticipated to cause or contribute to an exceedance of noise regulations.

	Non-Participating		Partici	pating	Total		
Sound Emission [dB(A)]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	
0 to 35	102	34.69%	1	4.76%	103	32.70%	
35.1 to 40	91	30.95%	1	4.76%	92	29.21%	
40.1 to 45	95	32.31%	19	90.48%	114	36.19%	
45.1 to 49.3	6	2.04%	0	0.00%	6	1.90%	
49.4 or more	0	0.00%	0	0.00%	0	0.00%	

A summary of the results can be seen below in Table 5; detailed results can be found in Appendix III.

Table 5: Sound Emission Results Summary

8. Conclusions

Sound has been studied for receptors in the vicinity of the Project. Six receptors were found to exceed a total sound of 45 dB(A), however all of these receptors are over this limit prior to inclusion of turbines from Whitetail Wind.

Modeling both with and without the Whitetail Wind project has determined that this project has only a very minor impact on these receptors. The Project is expected to add less than 0.1 dB(A) for each of these respective receptors. An increase of this size would be imperceptible to the human ear. [14]

All other receptors are under the 45 dB(A) nighttime limit and it was found that noise attributable to Whitetail Wind does not cause or contribute to potential exceedance of the standard.

9. References

- [1] Caltrans. (Sep 2013). Technical Noise Supplement to the Traffic Noise Analysis Protocol. Retrieved from http://www.dot.ca.gov/hq/env/noise/pub/TeNS_Sept_2013B.pdf.
- [2] Engineering ToolBox. (2003). Outdoor Ambient Sound Levels. Retrieved from https://www.engineeringtoolbox.com/outdoor-noise-d_62.html
- [3] Minnesota Pollution Control Agency. (Retrieved Jan 2019). Noise pollution. Retrieved from https://www.pca.state.mn.us/air/noise-pollution.
- [4] Sengpie Audio. (Retrieved Jun 2018). Adding acoustic levels of sound sources. Retrieved from http://www.sengpielaudio.com/calculator-spl.htm
- [5] United States Geological Survey. "The U.S. Wind Turbine Database." Retrieved from https://eerscmap.usgs.gov/uswtdb/.
- [6] Wisconsin State Legislature. (Dec 2012). Chapter PSC 128 WIND ENERGY SYSTEMS. Retrieved from https://docs.legis.wisconsin.gov/code/admin_code/psc/128/II/13.
- [7] AWS Truepower. (Feb 2017). OpenWind User Manual v1.8. Retrieved from http://ww2.awstruepower.com/openwind_user_manual.
- [8] International Organization for Standardization (ISO) standard 9613-2:1996 Acoustics Attenuation of sound during propagation outdoors.
- [9] GE Renewable Energy. (2016). Product Acoustic Specifications: Normal Operation according to IEC Incl. Octave and 1/3rd Octave Band Spectra. Noise_Emission-NO_2.5-DFIG-116-60Hz_1-2MW_LNTE_EN_r02.
- [10] GE Renewable Energy. (22-Jul-2022). Technical Documentation Wind Turbine Generator Systems Sierra 140 – 60 Hz: Product Acoustic Specifications According to IEC 61400-11. Noise_Emission_Sierra 140-60Hz_IEC_EN_r06.
- [11] GE Renewable Energy. (24-Aug-2022). Technical Documentation Wind Turbine Generator Systems 3.40-140 LNTE – 60 Hz: Calculated Power Curve and Thrust Coefficient Noise-Reduced Operation. PCD-NRO_3.40-140-60Hz_LNTE_EN_r01.
- [12] Vestas Wind Systems A/S. (03-Apr-2020). V140-4.3 MW Third octave noise emission. V150-4_3MW Third Octaves.
- [13] International Electrotechnical Commission (IEC) standard 61400-11: Acoustic Noise Measurement Techniques.

[14] Minnesota Pollution Control Agency. (Retrieved Jan 2021). A Guide to Noise Control in Minnesota Acoustical Properties, Measurement, Analysis and Regulation. Retrieved from https://www.leg.mn.gov/docs/2015/other/150681/PFEISref_2/MPCA%202008a.pdf.

Appendix I – Maps



Figure 2: Sound Propagation Map of Whitetail Wind Project

Appendix II – Project Turbine Coordinates (UTM WGS84 Zone 15)

Turbine ID	X [m]	Y [m]	Turbine Model
W01	707579	4749036	GE 3.4-140 h98 NRO 105 LNTE
W02	708309	4748962	GE 3.4-140 h98 NRO 100 LNTE
W04	706812	4750711	GE 3.4-140 h98 LNTE
W05	707432	4750753	GE 3.4-140 h98 NRO 105 LNTE
W06	708158	4750660	GE 3.4-140 h98 NRO 106 LNTE
W07	708751	4750569	GE 3.4-140 h98 NRO 105 LNTE
W08	708201	4751761	GE 3.4-140 h98 NRO 105 LNTE
W09	706248	4752166	GE 3.4-140 h98 LNTE
W10	707495	4752629	GE 3.4-140 h98 NRO 105 LNTE
W11	706306	4753431	GE 3.4-140 h98 NRO 105 LNTE
W12	705710	4753973	GE 3.4-140 h98 NRO 106 LNTE
W14	708819	4753936	GE 3.4-140 h98 LNTE
W15	709241	4753945	GE 3.4-140 h98 LNTE
W16	709663	4753943	GE 3.4-140 h98 NRO 106 LNTE
W18	707635	4755822	GE 3.4-140 h98 NRO 106 LNTE
W19	707473	4749839	GE 2.5-116 h90 LNTE
W20	707737	4754165	GE 2.5-116 h90 NRO 105 LNTE
W21	705792	4752347	GE 3.4-140 h98 NRO 106 LNTE
S01	707954	4752639	GE 3.4-140 h98 NRO 105 LNTE
S02	709027	4750757	GE 2.5-116 h90 NRO 104 LNTE
S03	708114	4752231	GE 3.4-140 h98 NRO 105 LNTE

Appendix III – Individual Receptor Results (UTM WGS84 Zone 15)

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
1	700099	4760787	38.9	Non-Participating
2	700405	4760664	42.1	Non-Participating
3	700843	4760875	42.4	Non-Participating
4	700991	4760804	43.4	Non-Participating
5	701244	4760867	44.2	Non-Participating
6	701746	4760822	45.3	Non-Participating
7	702479	4761557	44.8	Non-Participating
8	703059	4761767	43.4	Non-Participating
9	703266	4760942	44.1	Non-Participating
10	704079	4761747	37.4	Non-Participating
11	704517	4760954	40.1	Non-Participating
12	704958	4760892	42.3	Non-Participating
13	704972	4761747	39.1	Non-Participating
14	705338	4762494	33.9	Non-Participating
15	706012	4761105	40.9	Non-Participating
16	706435	4761510	36.1	Non-Participating
17	700902	4759543	43.7	Non-Participating
18	702311	4760307	42.8	Non-Participating
19	702318	4760253	42.8	Non-Participating
20	703604	4759549	44.2	Non-Participating
21	704109	4759961	45.1	Non-Participating
22	704782	4760252	42.3	Non-Participating
23	706528	4760228	40.5	Non-Participating
24	706575	4760107	40.9	Non-Participating
25	706694	4760206	39.6	Non-Participating
26	707201	4760143	38.4	Non-Participating
27	707626	4760144	38.3	Non-Participating
28	709650	4760156	36.3	Non-Participating
29	709695	4760178	36.4	Non-Participating
30	709755	4760185	36.5	Non-Participating
31	701388	4758547	41.4	Non-Participating
32	702239	4758942	41.6	Non-Participating
33	702524	4758893	42.6	Non-Participating
34	703356	4758496	39.5	Non-Participating
36	704324	4759074	42.3	Non-Participating
37	705069	4758676	40.4	Non-Participating
38	705097	4758657	40.2	Non-Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
39	705107	4758682	40.3	Non-Participating
40	705647	4758851	40.1	Non-Participating
41	705704	4759334	44.2	Non-Participating
42	705831	4759037	41.2	Non-Participating
43	708807	4759482	41.1	Non-Participating
44	709007	4759711	38.3	Non-Participating
45	709804	4759207	36.9	Non-Participating
46	703707	4757746	38.9	Non-Participating
47	704861	4757957	39.7	Non-Participating
48	705653	4758296	38.3	Non-Participating
49	705841	4758415	38.5	Non-Participating
50	706174	4758038	40.6	Non-Participating
51	706717	4758028	41.2	Non-Participating
52	706778	4758455	40.8	Non-Participating
53	706925	4758323	40.9	Non-Participating
54	706925	4758267	40.8	Non-Participating
55	706930	4758194	40.8	Non-Participating
56	707343	4758522	43.5	Non-Participating
57	707509	4758438	42.7	Participating
58	708497	4758621	41.1	Non-Participating
59	708711	4758768	40.6	Non-Participating
60	709200	4758959	37.9	Non-Participating
61	709807	4758496	36.2	Non-Participating
62	709760	4758209	36.3	Non-Participating
63	709821	4758202	36.2	Non-Participating
64	708966	4757886	39.1	Non-Participating
65	706707	4757106	44.5	Non-Participating
66	706219	4756803	41.3	Non-Participating
67	706369	4756823	41.9	Non-Participating
68	709803	4757139	38.0	Non-Participating
69	706650	4756079	41.4	Non-Participating
70	707129	4756070	42.9	Non-Participating
71	707445	4756195	45.0	Participating
72	708203	4756267	44.6	Participating
74	709842	4755830	41.8	Non-Participating
75	708433	4755760	43.1	Participating
76	708373	4755758	43.0	Non-Participating
77	708085	4755488	43.1	Non-Participating
78	708791	4754772	42.2	Non-Participating
79	700434	4761425	38.0	Non-Participating
80	700822	4761878	39.2	Non-Participating
81	700739	4762275	36.5	Non-Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
82	701195	4763227	33.3	Non-Participating
83	701604	4764032	30.3 Non-Participatir	
84	702628	4762948	37.3	Non-Participating
85	704498	4762848	32.6	Non-Participating
86	705110	4762894	32.0	Non-Participating
87	705090	4763453	30.2	Non-Participating
88	705230	4763470	30.1	Non-Participating
89	705534	4763413	30.1	Non-Participating
90	705916	4762368	33.9	Non-Participating
91	707585	4761364	33.4	Non-Participating
92	708087	4761883	31.6	Non-Participating
93	708010	4761967	31.5	Non-Participating
94	707898	4762648	30.1	Non-Participating
95	707911	4763069	29.3	Non-Participating
96	707918	4763194	29.1	Non-Participating
97	708059	4763069	29.3	Non-Participating
98	708314	4763011	29.3	Non-Participating
99	708815	4760303	36.4	Non-Participating
100	708789	4760371	36.1	Non-Participating
101	708876	4760483	35.5	Non-Participating
102	711111	4760268	46.4	Non-Participating
103	711637	4760388	45.3 Non-Partici	
104	712051	4760394	44.8 Non-Partici	
105	712981	4760326	49.3 Non-Particip	
106	713299	4760478	47.5 Non-Partici	
107	711270	4758738	38.6 Non-Particip	
108	711350	4758478	37.3 Non-Participa	
109	711476	4757844	35.2 Non-Participa	
110	710154	4757009	36.6	Non-Participating
111	711431	4756714	33.6	Non-Participating
113	706633	4754310	41.9	Participating
114	706136	4755321	44.3	Non-Participating
115	705445	4755831	41.0	Non-Participating
116	704431	4755889	34.1	Non-Participating
117	706017	4756495	40.3	Non-Participating
118	705746	4757114	39.7	Non-Participating
119	705666	4757301	39.4 Non-Participating	
120	704569	4757452	37.7	Non-Participating
121	704257	4756685	34.3	Non-Participating
122	704213	4756709	34.3	Non-Participating
123	703624	4756993	34.3	Non-Participating
124	703296	4757063	33.8	Non-Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
125	702334	4756470	31.0	Non-Participating
126	701821	4756819	31.2	Non-Participating
127	701635	4756773	30.9 Non-Participatin	
128	702264	4757505	33.8 Non-Participat	
129	702226	4757487	33.7	Non-Participating
130	701891	4757788	34.8	Non-Participating
131	701916	4757802	34.8	Non-Participating
132	702386	4758217	37.1	Non-Participating
133	700749	4757917	33.9	Non-Participating
134	700380	4758182	33.9	Non-Participating
135	699912	4758164	32.0	Non-Participating
136	699440	4758343	31.0	Non-Participating
137	700544	4759002	38.8	Non-Participating
138	699301	4758619	31.2	Non-Participating
139	699042	4759134	31.3	Non-Participating
140	698866	4759433	31.0	Non-Participating
141	699759	4759650	36.5	Non-Participating
142	699802	4759907	37.5	Non-Participating
144	699268	4759955	33.7	Non-Participating
145	699751	4760608	37.1	Non-Participating
146	699248	4760331	33.6 Non-Particip	
147	698269	4759479	28.6 Non-Particip	
148	698601	4760685	30.0 Non-Particip	
149	698309	4760780	28.8 Non-Participa	
150	698883	4761200	30.6 Non-Particip	
151	699312	4761355	32.2 Non-Participa	
152	699307	4762077	30.8 Non-Participa	
153	700492	4763550	30.2	Non-Participating
154	703392	4763595	31.5	Non-Participating
155	703867	4763680	30.6	Non-Participating
156	706104	4763436	29.7	Non-Participating
157	706411	4763384	29.6	Non-Participating
158	708192	4761037	33.8	Non-Participating
159	708470	4760990	34.0	Non-Participating
160	708562	4761130	33.4	Non-Participating
161	709624	4761532	32.9	Non-Participating
162	709741	4761567	33.0	Non-Participating
163	709845	4761913	32.3	Non-Participating
164	709796	4761123	34.2	Non-Participating
165	709787	4761050	34.3	Non-Participating
166	710092	4761030	35.1	Non-Participating
167	709994	4754184	44.9	Non-Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
168	708721	4752865	42.2	Non-Participating
169	708564	4752872	43.1 Non-Participatir	
170	708484	4752861	43.8 Non-Participat	
171	708366	4752854	45.0	Participating
172	708202	4754084	44.8	Non-Participating
173	708077	4753570	43.1	Non-Participating
174	707909	4753759	44.3	Non-Participating
175	707441	4753409	42.5	Participating
176	707117	4753933	42.1	Non-Participating
177	706824	4753823	42.3	Non-Participating
178	706016	4753028	44.3	Participating
179	705813	4753482	44.9	Participating
180	705504	4753375	42.1	Participating
181	706407	4754343	41.9	Non-Participating
182	706167	4754321	42.7	Participating
183	705797	4754376	44.3	Participating
184	705062	4753440	39.0	Non-Participating
185	706341	4755483	44.6	Non-Participating
186	705352	4755333	39.1	Non-Participating
187	704617	4754789	35.1	Non-Participating
188	704175	4755739	33.3	Non-Participating
189	700967	4756873	30.3	Non-Participating
190	700919	4756915	30.3 Non-Particip	
191	700978	4757485	32.4 Non-Particip	
192	700912	4757509	32.4 Non-Particip	
193	700979	4757571	32.8 Non-Particip	
194	704647	4763876	29.4 Non-Participa	
195	700016	4761201	36.4 Non-Participa	
196	699939	4761130	36.3	Non-Participating
197	700074	4761101	37.1	Non-Participating
198	699956	4761081	36.6	Non-Participating
199	699904	4761079	36.3	Non-Participating
200	699903	4761063	36.3	Non-Participating
201	699909	4761030	36.5	Non-Participating
202	700023	4761006	37.3	Non-Participating
203	699909	4760976	36.7 Non-Participatin	
204	699961	4760962	37.1 Non-Participating	
205	700028	4760911	37.8	Non-Participating
206	699914	4760903	37.1	Non-Participating
207	700026	4760875	37.9	Non-Participating
208	699916	4760868	37.2	Non-Participating
209	699992	4760838	37.9	Non-Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
210	699916	4760832	37.4	Non-Participating
211	700010	4760785	38.3 Non-Participating	
212	699953	4760781	37.9	Non-Participating
213	710279	4756219	37.4	Non-Participating
214	709961	4756033	39.9	Non-Participating
215	704071	4760934	41.3	Non-Participating
216	701230	4762100	40.6	Non-Participating
217	708135	4760443	36.8	Non-Participating
218	708907	4759239	40.4	Non-Participating
219	706043	4758432	38.7	Non-Participating
220	708120	4760515	36.4	Non-Participating
400	709005	4752939	41.3	Non-Participating
401	709005	4752971	41.4	Non-Participating
402	708979	4753094	42.1	Non-Participating
403	709059	4753131	42.3	Non-Participating
404	709133	4753130	42.2	Non-Participating
405	709187	4753136	42.1	Non-Participating
406	709221	4753149	42.2	Non-Participating
407	709304	4753151	42.1	Non-Participating
408	709352	4753151	42.0	Non-Participating
409	709392	4753221	42.6 Non-Particip	
410	709414	4753262	42.9 Non-Particip	
411	709535	4753302	43.1 Non-Particip	
412	709567	4753308	43.0 Non-Particip	
413	709271	4752800	40.0	Non-Participating
414	709273	4752766	39.9 Non-Participa	
415	709275	4752716	39.8 Non-Participa	
416	709240	4752658	39.8 Non-Participa	
417	709278	4752619	39.5	Non-Participating
418	709161	4752559	39.9	Non-Participating
419	709276	4752561	39.4	Non-Participating
420	709327	4752516	39.2	Non-Participating
421	709330	4752478	39.1	Non-Participating
422	709335	4752436	39.0	Non-Participating
423	709343	4752384	39.0	Non-Participating
424	709478	4752293	38.3	Non-Participating
425	709560	4752433	38.1 Non-Participating	
426	709819	4752125	36.8	Non-Participating
427	710037	4751782	36.0	Non-Participating
428	710481	4751264	34.2	Non-Participating
429	710039	4751454	36.2	Non-Participating
430	709163	4751089	45.0	Participating

Receptor ID	X [m]	Y [m]	Sound Pressure [dB(A)]	Status
431	708590	4751403	44.3	Non-Participating
432	707841	4751222	44.9	Non-Participating
433	707589	4751347	44.1 Non-Participat	
434	707261	4751795	42.8	Non-Participating
435	706885	4751817	42.7	Non-Participating
436	706711	4752081	44.8	Participating
437	706383	4752826	44.1	Non-Participating
438	705701	4752777	44.6	Participating
439	705423	4752793	42.2	Participating
440	705420	4752034	43.3	Non-Participating
441	705787	4751705	42.8	Non-Participating
442	705997	4751529	42.0	Non-Participating
444	706367	4750692	44.4	Participating
445	705621	4750008	35.4	Non-Participating
446	706225	4749888	38.4	Non-Participating
447	707961	4750084	44.8	Participating
448	708973	4749817	40.3	Non-Participating
449	709239	4749624	37.9	Non-Participating
450	709941	4749640	34.6	Non-Participating
451	710518	4749648	32.2	Non-Participating
452	710952	4749786	30.9	Non-Participating
453	710121	4748736	31.3	Non-Participating
454	710534	4748144	28.8 Non-Particip	
455	711308	4748189	27.3 Non-Participa	
458	708778	4747907	32.8 Non-Participa	
459	708868	4747805	32.1 Non-Participa	
460	708527	4748082	34.7 Non-Participa	
461	708700	4748441	36.6 Non-Participa	
462	708591	4749230	41.0	Participating
463	707959	4749303	44.3	Non-Participating
464	707203	4749105	44.8	Non-Participating
465	707352	4748483	40.3	Non-Participating
466	707292	4747954	34.8	Non-Participating
467	706644	4748015	33.2	Non-Participating
468	706608	4747947	32.8	Non-Participating
469	706126	4748935	34.7	Non-Participating
470	706063	4749113	34.9	Non-Participating
471	705779	4747934	30.3	Non-Participating
472	705101	4747971	28.8	Non-Participating
473	704543	4747894	27.5	Non-Participating
474	704609	4748715	29.1	Participating
475	707150	4751216	44.7	Non-Participating

Receptor ID	X [m]	Y [m]	Y [m] Sound Pressure [dB(A)]	
476	704330	4749577	4749577 29.9	
477	703502	4749492	27.8	Non-Participating
478	702856	4749459	26.5	Non-Participating
479	703634	4748370	26.6	Non-Participating
480	702739	4750571	27.6	Non-Participating
481	703055	4751256	28.8	Non-Participating
482	703614	4752397	31.3	Non-Participating
484	704083	4747896	26.6	Non-Participating
485	703778	4747970	26.2	Non-Participating
486	703721	4748034	26.2	Non-Participating
600	705262	4766556	23.5	Non-Participating
601	708699	4761188	33.2	Non-Participating
602	703120	4763551	32.1	Non-Participating
604	706921	4758413	41.2	Non-Participating
607	704535	4755031	34.6 Non-Partic	
609	702292	4756416	30.9 Non-Participat	
610	708824	4749386	38.9	Non-Participating
611	703797	4763334	31.8	Non-Participating
612	709063	4759759	37.8	Non-Participating
613	708994	4765993	24.4	Non-Participating
615	704745	4753449	36.8	Participating
616	704763	4766091	24.4 Non-Participatin	
618	701656	4751069	25.9 Non-Participating	
619	705041	4755380	36.9 Non-Participating	
620	706142	4751598	43.2	Non-Participating
621	706729	4753387	44.5	Non-Participating

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Appendix D

Draft Complaint Process

Whitetail Wind Energy Project

Grant County, Wisconsin

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December 21, 2022

Re: Notice of Process for Making Complaints Whitetail Wind, LLC

To Whom it May Concern:

This Notice is being provided to all residents and landowners within 0.5 mile of any wind energy system facility associated with the Whitetail Wind Energy Project (Project) and the political subdivisions with jurisdiction over the Project, as required by Wis. Admin Code § PSC 128.42.

Complaint Process:

Should you wish to make a complaint or obtain mitigation measures with respect to the Project, please be aware of the process for doing so under Wis. Admin Code § PSC 128.40 below.

1) Complaints or concerns during construction, operation, maintenance, and decommissioning of the Project should first be made to the owner, Whitetail Wind, LLC (Whitetail).

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 <u>info@prcwind.com</u>

To the extent possible, please include the following information:

- a. name, address, phone number, and email address;
- b. date of complaint;
- c. tract or parcel number; and
- d. whether the complaint relates to a permit matter or compliance issue;
- e. a description of the problem and/or mitigation requested

Whitetail Wind will use reasonable efforts to resolve the complaint and will investigate the complaint at its own expense. Within 30 days of receiving the complaint, Whitetail Wind will provide an initial response to the complaint. Whitetail Wind will make a good faith effort to resolve the complaint within 45 days of receipt and will notify all political subdivisions with jurisdiction of all complaints that have not been resolved within 45 days.



- 2) If the complaint is not resolved in 45 days, the person making the complaint may petition to the applicable political subdivision, which may address the complaint through its administrative review process.
- 3) If the person making the complaint is aggrieved by the decision of the political subdivision, the decision may be appealed to the Wisconsin Public service Commission (PSCW) using the process under Wis. Admin Code § PSC 128.51.

Please feel free to contact me with any questions you may have.

Regards,

Datal

Jeff Pritchard, Site Construction Manager Whitetail Wind, LLC ALLETE Clean Energy 30 West Superior Street Suite 200 Duluth, MN 55802 (218) 256-5593 jpritchard@mnpower.com

Appendix E

Shadow Flicker Assessment

Whitetail Wind Energy Project

Grant County, Wisconsin

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Shadow Flicker Assessment

PROJECT: WHITETAIL WIND (WI)

DATE: APRIL 28, 2023

REGENERATE CONSULTING 3413 NEST AVE. SHELDON, IA 51201 TEL: (712) 577-1825 E-MAIL: CHRIS®REGENERATECONSULTING.COM WEB: WWW.REGENERATECONSULTING.COM

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Revision History

-		
Issue	Date	Revision Purpose
1	12-Feb-22	Original
2	28-Nov-22	Updated Turbine Layout/Additional Receptor
3	13-Dec-22	Minor Report Revisions
4	20-Dec-22	Add Landowner Status
5	07-Feb-23	Updated Turbine Layout/Additional Receptor
6	08-Mar-23	Updated Turbine Layout
7	28-Apr-23	Updated Turbine Layout

1. Executive Summary

The Whitetail Wind Project in southwestern Wisconsin has been studied for the impact of shadow flicker on surrounding residences. Modeling and topographic reviews were completed to determine potential cumulative results at receptor locations in and around the project.

The Project consists of 21 turbine locations with 3 GE 2.5-116 LNTE turbines at 90m hub-height and 18 larger turbines for which the GE 3.4-140 at 98 m, GE 5.8-158 at 114 m, Vestas V150-4.2 at 105 m and Nordex N155-4.8 at 108 m hub height are being considered. Shadow flicker was modeled assuming the largest rotor diameter turbine (GE 5.8-158 at 114 m). The Project is being developed by Project Resources Corporation (PRC).

These turbines can cause shadow flicker throughout the Project area and this effect was studied at sensitive locations (receptors) to quantify the impact before the proposed Project is constructed. Receptors included occupied residences (both participating and non-participating) and occupied community buildings.

ReGenerate used WindPRO to model the impact of shadow flicker at 315 receptors including 294 nonparticipants and 21 participating receptors. Results are inclusive of the impacts due to nearby operational wind farms.

Without Curtailment						
	Non-Participating		Participating		Total	
Shadow Flicker [hr/yr]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors
0	129	43.88%	1	4.76%	130	41.27%
0.1 to 10	82	27.89%	2	9.52%	84	26.67%
10.1 to 20	52	17.69%	5	23.81%	57	18.10%
20.1 to 30	16	5.44%	2	9.52%	18	5.71%
30.1 to 89.1	15	5.10%	11	52.38%	26	8.25%
89.2 or more	0	0.00%	0	0.00%	0	0.00%

The effect on receptors has been quantified with the results shown in the table below.

With Curtailment						
	Non-Pa	articipating	Part	icipating		Fotal
Shadow Flicker [hr/yr]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors
0	129	43.88%	1	4.76%	130	41.27%
0.1 to 10	83	28.23%	3	14.29%	86	27.30%
10.1 to 20	54	18.37%	4	19.05%	58	18.41%
20.1 to 30	27	9.18%	13	61.90%	40	12.70%
30.1 to 89.1	1	0.34%	0	0.00%	1	0.32%
89.2 or more	0	0.00%	0	0.00%	0	0.00%

The maximum value of shadow flicker at any receptor location was found to be 92.7 hr/yr, with twentyeight receptors exceeding the 30 hr/yr limit. After implementation of a scheduled curtailment plan, there is one receptor over 30 hr/yr with a maximum of 30.9 hr/yr. However, this receptor experiences 100% of their shadow flicker from neighboring projects and 0% from Whitetail Wind.

After implementation of a scheduled curtailment plan, all other receptors are under 30 hr/yr and it was found that Whitetail Wind does not cause or contribute to exceedance of the standard.

Appendix I shows the spatial mapping for shadow flicker results. Appendix II shows turbine coordinates provided for Whitetail Wind. Appendix III shows the results at each receptor analyzed for this study. Appendix IV shows the schedule for turbine shutdown due to shadow flicker curtailment.

2. Introduction

The Whitetail Wind Farm (Project) is being developed by Project Resources Corporation (PRC) in southwestern Wisconsin and has retained ReGenerate Consulting (ReGenerate) to carry out an independent analysis of the shadow flicker effects caused by the proposed Project.

The objective of this assessment is to predict the total amount of shadow flicker generated by the project at all receptors within or near the project area and in accordance with any applicable regulations as described in further detail later in the report. This report describes the Project site, modeling methodology and results of the analysis.

ReGenerate Consulting is an independent engineering consulting agency. The principal investigator for this report, Chris Nuckols, has 20-years' engineering and management experience and 15-years' of wind and solar resource assessment experience working for renewable energy developers, owners, and OEMs, He has provided engineering support to more than 100 renewable energy projects large and small, on five continents.

3. Background

The cumulative effects of turbine generated shadow flicker throughout the Project area were studied to determine the impact on sensitive receptors which included occupied residences (both participating and non-participating) and occupied community buildings. This effect occurs when wind turbine blades cast a moving shadow across the ground and nearby structures; this is perceived as a flickering effect due to the constant rotation of the blades. Flicker occurs when the following conditions are met: turbine is operating, sun is shining with insignificant cloud cover, turbine blades are positioned directly between the sun and receptor, and the receptor is close enough to distinguish the shadow created.

Calculation of potential shadow impact is carried out by simulating the position of the sun relative to the turbine rotor swept area with the resulting shadow calculated in steps of 1 minute throughout a complete year. If the shadow at any time casts a shadow reflection on the window defined for the receptor, this step will be registered as 1 minute of potential shadow impact. Information required in this calculation includes position of wind turbines, turbine hub height and rotor diameter, position of receptor, terrain elevation, window information (height, size, azimuth, and tilt), time zone and daylight-saving time information and simulation model which holds information about the earth's orbit and rotation relative to the sun. A diagram of this simulation is presented in Figure 1 below.

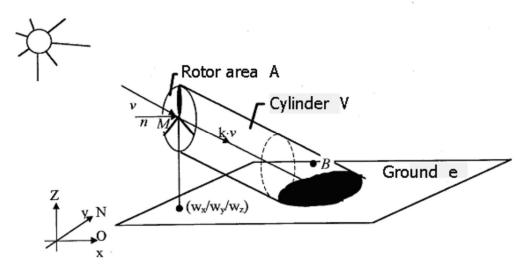


Figure 1: Diagram of Shadow Flicker Model Simulation [1]

This simulation will provide worst case results, to determine a more realistic scenario the wind direction and cloud cover may be incorporated. In the absence of wind direction data, the model will assume that the rotor swept area is always perpendicular to the sun. Wind direction data are generally gathered from on-site meteorological mast measurements or a nearby reference data set. Measured monthly sunshine data from local data sources may also be incorporated to account for cloud cover and visibility at times when the solar disk is not prominent enough perceive shadow flicker.

Available scientific evidence suggests that shadow flicker impact from wind turbines is unlikely to affect human health. [2]

4. Project Details

The Project is located near Livingston, Wisconsin in agricultural land consisting mostly of rolling hills. There are scattered dwellings, farm buildings and trees throughout the project area.

PRC provided ReGenerate with the coordinates of turbines and receptors for the Project. The layout consists of 21 turbine locations with 3 GE 2.5-116 LNTE turbines at 90m hub-height and 18 larger turbines

for which the GE 3.4-140 at 98 m, GE 5.8-158 at 114 m, Vestas V150-4.2 at 105 m and Nordex N155-4.8 at 108 m hub height are being considered. Shadow flicker was modeled assuming the largest rotor diameter turbine (GE 5.8-158 at 114 m). Alternate turbine locations are not considered within the modeling.

Coordinates and specific model for each turbine location are provided for the Project in Appendix II. Coordinates for individual receptors can be found in Appendix III.

Neighboring projects that are currently in operation or under development were reviewed as part of this analysis based upon the U.S. Wind Turbine Database by USGS and from PRC. [3], the effects of these turbines were included in the calculation as well. The table below shows these projects and their turbine configuration.

Project	Turbine Configuration			
Montfort	18x GE 1.5s-70.5 h65			
Red Barn	4x GE 2.5-116 h90/24x GE 3.4-140 h117			

Table 1: Neighboring Wind Farms Considered in Study

5. Project Regulations

Applicable standards for the state of Wisconsin are set forth by the Wisconsin State Legislature which states [4]:

An owner shall operate the wind energy system in a manner that does not cause more than 30 hours per year of shadow flicker at a nonparticipating residence or occupied community building. If a nonparticipating residence or occupied community building experiences more than 30 hours per year of shadow flicker under the wind energy system's normal operating conditions, the owner shall use operational curtailment to comply with this subsection.

6. Modeling Procedures

ReGenerate used the WindPRO software [1] to model shadow flicker for this project. Modeling assumptions for the shadow flicker analysis include:

- Turbine is operating 100% of the time.
- Flicker is modeled out to ten times the rotor diameter from each respective turbine.
- Neighboring projects within ten times the rotor diameter of a receptor were included in modeling.
- Flicker is ignored if sun is less than 3° above horizon.
- Default observer eye level is 1.75 m.
- Receptors are perpendicular to all turbines, also known as greenhouse mode.
- Monthly sunshine probability has been considered from nearest meteorological station; and

• Turbine orientation is considered.

ReGenerate studied nearby meteorological reference stations available from usclimatedata.com (USCD) historical norms and from the Global Historical Climatology Network (GHCN) for this analysis; see the table below. [5,6]

Station	State	Average Sunshine [hr/day]	Distance from Project [km]
MINNEAPOLIS-ST. PAUL	MN	7.1	320
MADISON	WI	6.6	87
CHICAGO	IL	7.2	256
DES MOINES	IA	7.4	297

Despite being the closest station, the Madison data was found to be unreasonably low when compared to other stations and was therefore discarded from this analysis. The other three stations all show similar results, with the Chicago station chosen as most representative for shadow flicker modeling due to significantly closer proximity. Monthly average sunshine hours per month for this station are shown in the table below:

	Chicago Average Sunshine [hr/month]										
Jan	Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec										
135	151	199	221	274	300	333	299	247	216	136	118

Table 3: Average Sunshine Hours per Month

The wind direction frequency was considered to account for turbine orientation of the rotor area relative to the sun. This data was taken from local meteorological data adjusted to Project hub height. The wind frequency rose is shown in the figure below.

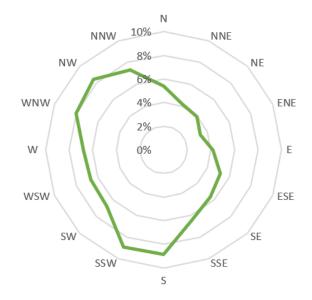


Figure 2: Wind Frequency Rose for Project

This model is still likely to produce estimates higher than those which will be experienced. Factors that will lower the impact, but not modeled include:

- Availability of the turbines.
- Turbines not operating below cut-in and above cut-out wind speeds.
- Obstacles (like trees or buildings) are not considered in the analysis; and
- Dust or aerosols in the air which reduce the impact of shadow flicker.

7. Modeling Results

The effect on receptors has been quantified using the methodology described above and the maximum value of shadow flicker at any receptor location was found to be 92.7 hr/yr, with twenty-eight receptors exceeding the 30 hr/yr limit. After implementation of a scheduled curtailment plan, there is one receptor over 30 hr/yr with a maximum of 30.9 hr/yr. The project does not increase shadow flicker at this receptor.

A summary of the results can be seen below in the table below; detailed results can be found in Appendix III.

Without Curtailment										
	Non-Participating		Participating		Total					
Shadow Flicker [hr/yr]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors				
0	129	43.88%	1	4.76%	130	41.27%				
0.1 to 10	82	27.89%	2	9.52%	84	26.67%				
10.1 to 20	52	17.69%	5	23.81%	57	18.10%				
20.1 to 30	16	5.44%	2	9.52%	18	5.71%				
30.1 to 89.1	15	5.10%	11	52.38%	26	8.25%				
89.2 or more	0	0.00%	0	0.00%	0	0.00%				

With Curtailment										
	Non-Participating		Participating		Total					
Shadow Flicker [hr/yr]	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors	Nº Receptors	% of Receptors				
0	129	43.88%	1	4.76%	130	41.27%				
0.1 to 10	83	28.23%	3	14.29%	86	27.30%				
10.1 to 20	54	18.37%	4	19.05%	58	18.41%				
20.1 to 30	27	9.18%	13	61.90%	40	12.70%				
30.1 to 89.1	1	0.34%	0	0.00%	1	0.32%				
89.2 or more	0	0.00%	0	0.00%	0	0.00%				

Table 4: Shadow Flicker Results Summary

8. Conclusions

Shadow flicker has been studied for receptors in the vicinity of the Project. One receptor was found to exceed the identified limit of 30 hr/yr however, this receptor was found to be over this limit prior to inclusion of turbines from Whitetail Wind.

Modeling both with and without the Whitetail Wind project has determined no anticipated impact of additional shadow flicker on this receptor and the Project does not increase shadow flicker at this receptor.

All other receptors are under 30 hr/yr and it was found the Whitetail Wind does not cause or contribute to potential exceedance of the standard.

9. References

[1] EMD International A/S. (Apr 2019). WindPRO 3.3 User Manual – 6 Environment. Retrieved from http://help.emd.dk/WindPRO/content/windPRO3.3/c6-UK_WindPRO3.3-Environment.pdf.

- [2] Knopper, Loren D et al. "Wind turbines and human health." Frontiers in public health vol. 2 63. 19 Jun. 2014, doi:10.3389/fpubh.2014.00063.
- [3] United States Geological Survey. "The U.S. Wind Turbine Database." Retrieved from https://eerscmap.usgs.gov/uswtdb/.
- [4] Wisconsin State Legislature. (Dec 2012). Chapter PSC 128 WIND ENERGY SYSTEMS. Retrieved from https://docs.legis.wisconsin.gov/code/admin_code/psc/128/II/13.
- [5] U.S climate data. (February 2022). Climate data for Chicago, IL 1981-2010 normals weather. Retrieved from <u>https://www.usclimatedata.com/climate/chicago/illinois/united-states/usil0225</u>
- [6] National Oceanic and Atmospheric Administration. (March 2019). Global Historical Climatology Network (GHCN). Retrieved from <u>https://www.ncdc.noaa.gov/data-access/land-based-stationdata/land-based-datasets/global-historical-climatology-network-ghcn</u>.

Appendix I – Maps

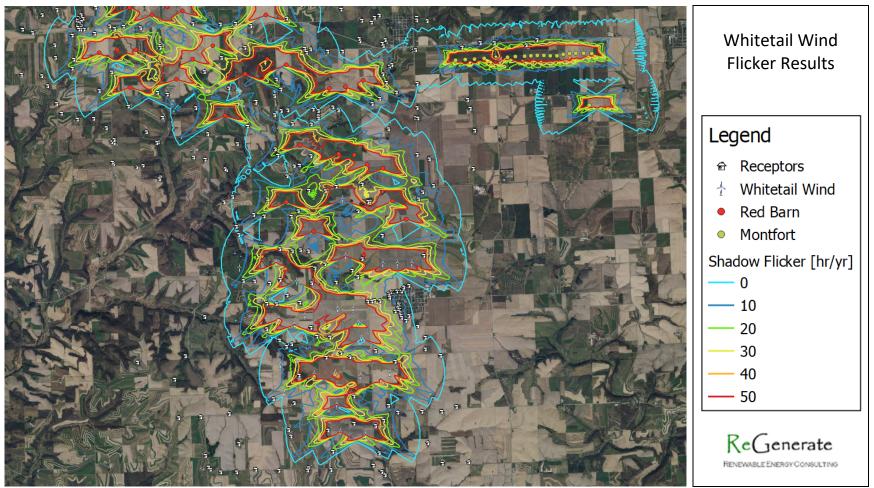


Figure 3: Shadow Flicker Map of Whitetail Wind Project

Appendix II – Project Turbine Coordinates (UTM WGS84 Zone 15)

Turbine ID	X [m]	Y [m]	Turbine Model
W01	707579	4749036	GE 5.8-158 h114
W02	708309	4748962	GE 5.8-158 h114
W04	706812	4750711	GE 5.8-158 h114
W05	707432	4750753	GE 5.8-158 h114
W06	708158	4750660	GE 5.8-158 h114
W07	708751	4750569	GE 5.8-158 h114
W08	708201	4751761	GE 5.8-158 h114
W09	706248	4752166	GE 5.8-158 h114
W10	707495	4752629	GE 5.8-158 h114
W11	706306	4753431	GE 5.8-158 h114
W12	705710	4753973	GE 5.8-158 h114
W14	708819	4753936	GE 5.8-158 h114
W15	709241	4753945	GE 5.8-158 h114
W16	709663	4753943	GE 5.8-158 h114
W18	707635	4755822	GE 5.8-158 h114
W19	707473	4749839	GE 2.5-116 h90
W20	707737	4754165	GE 2.5-116 h90
W21	705792	4752347	GE 5.8-158 h114
S01	707954	4752639	GE 5.8-158 h114
S02	709027	4750757	GE 2.5-116 h90
S03	708114	4752231	GE 5.8-158 h114

Appendix III – Individual Receptor Results (UTM WGS84 Zone 15)

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
1	700099	4760787	10.8	10.8	Non-Participating
2	700405	4760664	14.4	14.4	Non-Participating
3	700843	4760875	9.8	9.8	Non-Participating
4	700991	4760804	13.0	13.0	Non-Participating
5	701244	4760867	18.2	18.2	Non-Participating
6	701746	4760822	9.2	9.2	Non-Participating
7	702479	4761557	50.7	29.0	Non-Participating
8	703059	4761767	14.7	14.7	Non-Participating
9	703266	4760942	6.0	6.0	Non-Participating
10	704079	4761747	4.9	4.9	Non-Participating
11	704517	4760954	17.2	17.2	Non-Participating
12	704958	4760892	3.9	3.9	Non-Participating
13	704972	4761747	2.3	2.3	Non-Participating
14	705338	4762494	0.0	0.0	Non-Participating
15	706012	4761105	24.6	24.6	Non-Participating
16	706435	4761510	5.4	5.4	Non-Participating
17	700902	4759543	19.3	19.3	Non-Participating
18	702311	4760307	21.0	21.0	Non-Participating
19	702318	4760253	21.1	21.1	Non-Participating
20	703604	4759549	13.2	13.2	Non-Participating
21	704109	4759961	26.7	26.7	Non-Participating
22	704782	4760252	25.1	25.1	Non-Participating
23	706528	4760228	22.9	22.9	Non-Participating
24	706575	4760107	19.9	19.9	Non-Participating
25	706694	4760206	14.4	14.4	Non-Participating
26	707201	4760143	7.2	7.2	Non-Participating
27	707626	4760144	0.0	0.0	Non-Participating
28	709650	4760156	0.5	0.5	Non-Participating
29	709695	4760178	0.8	0.8	Non-Participating
30	709755	4760185	1.1	1.1	Non-Participating
31	701388	4758547	0.0	0.0	Non-Participating
32	702239	4758942	15.0	15.0	Non-Participating
33	702524	4758893	7.4	7.4	Non-Participating
34	703356	4758496	7.9	7.9	Non-Participating
36	704324	4759074	2.5	2.5	Non-Participating
37	705069	4758676	7.4	7.4	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
38	705097	4758657	7.1	7.1	Non-Participating
39	705107	4758682	6.9	6.9	Non-Participating
40	705647	4758851	2.5	2.5	Non-Participating
41	705704	4759334	10.3	10.3	Non-Participating
42	705831	4759037	17.3	17.3	Non-Participating
43	708807	4759482	18.6	18.6	Non-Participating
44	709007	4759711	10.1	10.1	Non-Participating
45	709804	4759207	4.0	4.0	Non-Participating
46	703707	4757746	0.0	0.0	Non-Participating
47	704861	4757957	11.2	11.2	Non-Participating
48	705653	4758296	3.1	3.1	Non-Participating
49	705841	4758415	6.1	6.1	Non-Participating
50	706174	4758038	0.0	0.0	Non-Participating
51	706717	4758028	3.7	3.7	Non-Participating
52	706778	4758455	0.0	0.0	Non-Participating
53	706925	4758323	0.0	0.0	Non-Participating
54	706925	4758267	0.0	0.0	Non-Participating
55	706930	4758194	0.0	0.0	Non-Participating
56	707343	4758522	0.0	0.0	Non-Participating
57	707509	4758438	1.4	1.4	Participating
58	708497	4758621	9.1	9.1	Non-Participating
59	708711	4758768	19.1	19.1	Non-Participating
60	709200	4758959	20.5	20.5	Non-Participating
61	709807	4758496	0.0	0.0	Non-Participating
62	709760	4758209	0.0	0.0	Non-Participating
63	709821	4758202	0.0	0.0	Non-Participating
64	708966	4757886	4.1	4.1	Non-Participating
65	706707	4757106	11.1	11.1	Non-Participating
66	706219	4756803	4.2	4.2	Non-Participating
67	706369	4756823	6.1	6.1	Non-Participating
68	709803	4757139	7.6	7.6	Non-Participating
69	706650	4756079	20.0	20.0	Non-Participating
70	707129	4756070	33.7	29.1	Non-Participating
71	707445	4756195	39.1	29.0	Participating
72	708203	4756267	29.5	29.1	Participating
74	709842	4755830	11.6	11.6	Non-Participating
75	708433	4755760	34.8	29.1	Participating
76	708373	4755758	34.7	29.0	Non-Participating
77	708085	4755488	14.0	14.0	Non-Participating
78	708791	4754772	4.4	4.4	Non-Participating
79	700434	4761425	6.3	6.3	Non-Participating
80	700822	4761878	25.6	25.6	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
81	700739	4762275	2.4	2.4	Non-Participating
82	701195	4763227	0.0	0.0	Non-Participating
83	701604	4764032	0.0	0.0	Non-Participating
84	702628	4762948	0.0	0.0	Non-Participating
85	704498	4762848	0.0	0.0	Non-Participating
86	705110	4762894	0.0	0.0	Non-Participating
87	705090	4763453	0.0	0.0	Non-Participating
88	705230	4763470	0.0	0.0	Non-Participating
89	705534	4763413	0.0	0.0	Non-Participating
90	705916	4762368	0.0	0.0	Non-Participating
91	707585	4761364	0.0	0.0	Non-Participating
92	708087	4761883	0.0	0.0	Non-Participating
93	708010	4761967	0.0	0.0	Non-Participating
94	707898	4762648	0.0	0.0	Non-Participating
95	707911	4763069	0.0	0.0	Non-Participating
96	707918	4763194	0.0	0.0	Non-Participating
97	708059	4763069	0.0	0.0	Non-Participating
98	708314	4763011	0.0	0.0	Non-Participating
99	708815	4760303	0.0	0.0	Non-Participating
100	708789	4760371	0.0	0.0	Non-Participating
101	708876	4760483	0.0	0.0	Non-Participating
102	711111	4760268	11.7	11.7	Non-Participating
103	711637	4760388	5.3	5.3	Non-Participating
104	712051	4760394	14.4	14.4	Non-Participating
105	712981	4760326	30.9	30.9	Non-Participating
106	713299	4760478	14.7	14.7	Non-Participating
107	711270	4758738	0.0	0.0	Non-Participating
108	711350	4758478	0.0	0.0	Non-Participating
109	711476	4757844	0.0	0.0	Non-Participating
110	710154	4757009	3.0	3.0	Non-Participating
111	711431	4756714	0.0	0.0	Non-Participating
113	706633	4754310	11.4	10.9	Participating
114	706136	4755321	13.0	13.0	Non-Participating
115	705445	4755831	18.6	18.6	Non-Participating
116	704431	4755889	0.0	0.0	Non-Participating
117	706017	4756495	0.0	0.0	Non-Participating
118	705746	4757114	20.7	20.7	Non-Participating
119	705666	4757301	13.7	13.7	Non-Participating
120	704569	4757452	0.0	0.0	Non-Participating
121	704257	4756685	0.0	0.0	Non-Participating
122	704213	4756709	0.0	0.0	Non-Participating
123	703624	4756993	0.0	0.0	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
124	703296	4757063	0.0	0.0	Non-Participating
125	702334	4756470	0.0	0.0	Non-Participating
126	701821	4756819	0.0	0.0	Non-Participating
127	701635	4756773	0.0	0.0	Non-Participating
128	702264	4757505	0.0	0.0	Non-Participating
129	702226	4757487	0.0	0.0	Non-Participating
130	701891	4757788	0.0	0.0	Non-Participating
131	701916	4757802	0.0	0.0	Non-Participating
132	702386	4758217	0.0	0.0	Non-Participating
133	700749	4757917	0.0	0.0	Non-Participating
134	700380	4758182	0.0	0.0	Non-Participating
135	699912	4758164	0.0	0.0	Non-Participating
136	699440	4758343	0.0	0.0	Non-Participating
137	700544	4759002	8.2	8.2	Non-Participating
138	699301	4758619	0.0	0.0	Non-Participating
139	699042	4759134	0.0	0.0	Non-Participating
140	698866	4759433	0.0	0.0	Non-Participating
141	699759	4759650	13.2	13.2	Non-Participating
142	699802	4759907	17.3	17.3	Non-Participating
144	699268	4759955	3.9	3.9	Non-Participating
145	699751	4760608	12.7	12.7	Non-Participating
146	699248	4760331	3.5	3.5	Non-Participating
147	698269	4759479	0.0	0.0	Non-Participating
148	698601	4760685	0.0	0.0	Non-Participating
149	698309	4760780	0.0	0.0	Non-Participating
150	698883	4761200	0.0	0.0	Non-Participating
151	699312	4761355	0.0	0.0	Non-Participating
152	699307	4762077	0.0	0.0	Non-Participating
153	700492	4763550	0.0	0.0	Non-Participating
154	703392	4763595	0.0	0.0	Non-Participating
155	703867	4763680	0.0	0.0	Non-Participating
156	706104	4763436	0.0	0.0	Non-Participating
157	706411	4763384	0.0	0.0	Non-Participating
158	708192	4761037	0.0	0.0	Non-Participating
159	708470	4760990	0.0	0.0	Non-Participating
160	708562	4761130	0.0	0.0	Non-Participating
161	709624	4761532	0.0	0.0	Non-Participating
162	709741	4761567	0.0	0.0	Non-Participating
163	709845	4761913	0.0	0.0	Non-Participating
164	709796	4761123	0.0	0.0	Non-Participating
165	709787	4761050	0.0	0.0	Non-Participating
166	710092	4761030	0.0	0.0	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
167	709994	4754184	62.9	29.1	Non-Participating
168	708721	4752865	23.3	21.2	Non-Participating
169	708564	4752872	23.0	13.1	Non-Participating
170	708484	4752861	29.5	14.7	Non-Participating
171	708366	4752854	44.3	29.0	Participating
172	708202	4754084	57.5	29.1	Non-Participating
173	708077	4753570	29.3	29.0	Non-Participating
174	707909	4753759	13.4	13.4	Non-Participating
175	707441	4753409	11.4	9.3	Participating
176	707117	4753933	37.6	26.1	Non-Participating
177	706824	4753823	40.4	28.9	Non-Participating
178	706016	4753028	3.2	3.2	Participating
179	705813	4753482	32.3	28.8	Participating
180	705504	4753375	13.1	12.7	Participating
181	706407	4754343	15.7	15.0	Non-Participating
182	706167	4754321	31.5	29.0	Participating
183	705797	4754376	35.6	29.3	Participating
184	705062	4753440	4.7	4.7	Non-Participating
185	706341	4755483	10.0	10.0	Non-Participating
186	705352	4755333	5.8	5.8	Non-Participating
187	704617	4754789	8.7	8.7	Non-Participating
188	704175	4755739	0.0	0.0	Non-Participating
189	700967	4756873	0.0	0.0	Non-Participating
190	700919	4756915	0.0	0.0	Non-Participating
191	700978	4757485	0.0	0.0	Non-Participating
192	700912	4757509	0.0	0.0	Non-Participating
193	700979	4757571	0.0	0.0	Non-Participating
194	704647	4763876	0.0	0.0	Non-Participating
195	700016	4761201	2.8	2.8	Non-Participating
196	699939	4761130	2.5	2.5	Non-Participating
197	700074	4761101	3.3	3.3	Non-Participating
198	699956	4761081	2.7	2.7	Non-Participating
199	699904	4761079	4.0	4.0	Non-Participating
200	699903	4761063	4.6	4.6	Non-Participating
201	699909	4761030	5.5	5.5	Non-Participating
202	700023	4761006	5.0	5.0	Non-Participating
203	699909	4760976	3.5	3.5	Non-Participating
204	699961	4760962	6.6	6.6	Non-Participating
205	700028	4760911	7.8	7.8	Non-Participating
206	699914	4760903	2.7	2.7	Non-Participating
207	700026	4760875	7.9	7.9	Non-Participating
208	699916	4760868	2.5	2.5	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
209	699992	4760838	6.6	6.6	Non-Participating
210	699916	4760832	2.3	2.3	Non-Participating
211	700010	4760785	7.2	7.2	Non-Participating
212	699953	4760781	2.4	2.4	Non-Participating
213	710279	4756219	8.4	8.4	Non-Participating
214	709961	4756033	7.6	7.6	Non-Participating
215	704071	4760934	7.8	7.8	Non-Participating
216	701230	4762100	8.9	8.9	Non-Participating
217	708135	4760443	0.0	0.0	Non-Participating
218	708907	4759239	21.5	21.5	Non-Participating
219	706043	4758432	10.2	10.2	Non-Participating
220	708120	4760515	0.0	0.0	Non-Participating
400	709005	4752939	16.4	16.0	Non-Participating
401	709005	4752971	16.1	15.2	Non-Participating
402	708979	4753094	10.8	8.5	Non-Participating
403	709059	4753131	8.2	6.8	Non-Participating
404	709133	4753130	9.2	8.3	Non-Participating
405	709187	4753136	9.2	8.6	Non-Participating
406	709221	4753149	8.9	8.4	Non-Participating
407	709304	4753151	8.3	8.1	Non-Participating
408	709352	4753151	7.6	7.5	Non-Participating
409	709392	4753221	2.5	2.3	Non-Participating
410	709414	4753262	0.0	0.0	Non-Participating
411	709535	4753302	0.0	0.0	Non-Participating
412	709567	4753308	0.0	0.0	Non-Participating
413	709271	4752800	9.2	9.2	Non-Participating
414	709273	4752766	10.7	10.7	Non-Participating
415	709275	4752716	13.1	13.1	Non-Participating
416	709240	4752658	15.3	15.3	Non-Participating
417	709278	4752619	15.7	15.7	Non-Participating
418	709161	4752559	19.3	19.3	Non-Participating
419	709276	4752561	16.0	16.0	Non-Participating
420	709327	4752516	13.5	13.5	Non-Participating
421	709330	4752478	13.4	13.4	Non-Participating
422	709335	4752436	13.7	13.7	Non-Participating
423	709343	4752384	13.8	13.8	Non-Participating
424	709478	4752293	11.4	11.4	Non-Participating
425	709560	4752433	5.8	5.8	Non-Participating
426	709819	4752125	0.0	0.0	Non-Participating
427	710037	4751782	0.0	0.0	Non-Participating
428	710481	4751264	0.9	0.9	Non-Participating
429	710039	4751454	3.5	3.5	Non-Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
430	709163	4751089	32.3	29.1	Participating
431	708590	4751403	4.5	4.5	Non-Participating
432	707841	4751222	38.2	29.1	Non-Participating
433	707589	4751347	19.9	17.4	Non-Participating
434	707261	4751795	45.6	29.0	Non-Participating
435	706885	4751817	21.7	21.5	Non-Participating
436	706711	4752081	89.1	29.1	Participating
437	706383	4752826	25.1	25.1	Non-Participating
438	705701	4752777	16.3	16.3	Participating
439	705423	4752793	34.5	29.2	Participating
440	705420	4752034	13.7	13.7	Non-Participating
441	705787	4751705	0.0	0.0	Non-Participating
442	705997	4751529	2.1	2.1	Non-Participating
444	706367	4750692	52.0	29.1	Participating
445	705621	4750008	6.0	6.0	Non-Participating
446	706225	4749888	2.0	2.0	Non-Participating
447	707961	4750084	24.5	24.5	Participating
448	708973	4749817	1.8	1.8	Non-Participating
449	709239	4749624	8.5	7.8	Non-Participating
450	709941	4749640	0.0	0.0	Non-Participating
451	710518	4749648	0.0	0.0	Non-Participating
452	710952	4749786	0.0	0.0	Non-Participating
453	710121	4748736	0.0	0.0	Non-Participating
454	710534	4748144	0.0	0.0	Non-Participating
455	711308	4748189	0.0	0.0	Non-Participating
458	708778	4747907	0.0	0.0	Non-Participating
459	708868	4747805	0.0	0.0	Non-Participating
460	708527	4748082	0.0	0.0	Non-Participating
461	708700	4748441	4.6	4.6	Non-Participating
462	708591	4749230	67.6	28.9	Participating
463	707959	4749303	77.6	29.2	Non-Participating
464	707203	4749105	55.8	29.2	Non-Participating
465	707352	4748483	16.5	16.5	Non-Participating
466	707292	4747954	0.0	0.0	Non-Participating
467	706644	4748015	0.0	0.0	Non-Participating
468	706608	4747947	0.0	0.0	Non-Participating
469	706126	4748935	3.4	3.4	Non-Participating
470	706063	4749113	2.7	2.7	Non-Participating
471	705779	4747934	0.0	0.0	Non-Participating
472	705101	4747971	0.0	0.0	Non-Participating
473	704543	4747894	0.0	0.0	Non-Participating
474	704609	4748715	0.0	0.0	Participating

Receptor ID	X [m]	Y [m]	Shadow Flicker w/o Curtailment [hr/yr]	Shadow Flicker w/ Curtailment [hr/yr]	Status
475	707150	4751216	47.6	29.0	Non-Participating
476	704330	4749577	0.0	0.0	Non-Participating
477	703502	4749492	0.0	0.0	Non-Participating
478	702856	4749459	0.0	0.0	Non-Participating
479	703634	4748370	0.0	0.0	Non-Participating
480	702739	4750571	0.0	0.0	Non-Participating
481	703055	4751256	0.0	0.0	Non-Participating
482	703614	4752397	0.0	0.0	Non-Participating
484	704083	4747896	0.0	0.0	Non-Participating
485	703778	4747970	0.0	0.0	Non-Participating
486	703721	4748034	0.0	0.0	Non-Participating
600	705262	4766556	0.0	0.0	Non-Participating
601	708699	4761188	0.0	0.0	Non-Participating
602	703120	4763551	0.0	0.0	Non-Participating
604	706921	4758413	0.0	0.0	Non-Participating
607	704535	4755031	0.0	0.0	Non-Participating
609	702292	4756416	0.0	0.0	Non-Participating
610	708824	4749386	33.0	12.7	Non-Participating
611	703797	4763334	0.0	0.0	Non-Participating
612	709063	4759759	8.8	8.8	Non-Participating
613	708994	4765993	0.0	0.0	Non-Participating
615	704745	4753449	15.1	15.1	Participating
616	704763	4766091	0.0	0.0	Non-Participating
618	701656	4751069	0.0	0.0	Non-Participating
619	705041	4755380	11.7	11.7	Non-Participating
620	706142	4751598	6.4	6.4	Non-Participating
621	706729	4753387	82.2	29.1	Non-Participating

	Date	Local Daylight Time		
Turbine ID		Start Time	End Time	Total [hr]
W01	1-Feb	15:24	16:28	1.1
W01	2-Feb	15:23	16:29	1.1
W01	3-Feb	15:22	16:29	1.1
W01	4-Feb	15:21	16:30	1.2
W01	5-Feb	15:21	16:31	1.2
W01	6-Feb	15:21	16:32	1.2
W01	7-Feb	15:21	16:33	1.2
W01	8-Feb	15:20	16:15	0.9
W01	1-Mar	15:23	16:30	1.1
W01	2-Mar	15:25	16:30	1.1
W01	3-Mar	15:26	16:28	1.0
W01	4-Mar	15:26	16:27	1.0
W01	5-Mar	15:27	16:25	1.0
W01	6-Mar	15:29	16:24	0.9
W01	7-Mar	15:30	16:22	0.9
W01	7-Mar	17:19	17:32	0.2
W01	8-Mar	15:32	16:20	0.8
W01	8-Mar	17:16	17:35	0.3
W01	9-Mar	15:34	16:19	0.8
W01	9-Mar	17:14	17:37	0.4
W01	10-Mar	15:36	16:17	0.7
W01	10-Mar	17:12	17:38	0.4
W01	11-Mar	15:39	16:14	0.6
W01	11-Mar	17:10	17:39	0.5
W01	12-Mar	15:41	16:10	0.5
W01	12-Mar	17:09	17:40	0.5
W01	13-Mar	16:46	17:07	0.4
W01	13-Mar	18:08	18:41	0.6
W01	14-Mar	18:07	18:41	0.6
W01	15-Mar	18:06	18:41	0.6
W01	16-Mar	18:06	18:24	0.3
W01	15-Aug	8:20	8:30	0.2
W01	16-Aug	8:14	8:36	0.4
W01	17-Aug	8:10	8:39	0.5

Appendix IV – Shadow Flicker Curtailment Schedule

Turk in the	Date	Local Daylight Time		
Turbine ID		Start Time	End Time	Total [hr]
W01	18-Aug	8:07	8:42	0.6
W01	19-Aug	8:05	8:45	0.7
W01	20-Aug	8:02	8:47	0.8
W01	21-Aug	8:00	8:48	0.8
W01	22-Aug	7:58	8:50	0.9
W01	23-Aug	7:56	8:51	0.9
W01	24-Aug	7:55	8:53	1.0
W01	25-Aug	7:53	8:54	1.0
W01	26-Aug	7:52	8:55	1.1
W01	27-Aug	7:50	8:56	1.1
W01	28-Aug	7:50	8:58	1.1
W01	29-Aug	7:49	8:59	1.2
W01	30-Aug	7:47	9:00	1.2
W01	31-Aug	7:46	9:01	1.3
W01	1-Sep	7:45	9:01	1.3
W01	2-Sep	7:44	9:02	1.3
W01	3-Sep	7:43	9:02	1.3
W01	4-Sep	7:42	9:03	1.4
W01	5-Sep	7:41	9:03	1.4
W01	6-Sep	7:40	9:04	1.4
W01	7-Sep	7:40	9:04	1.4
W01	8-Sep	7:39	9:04	1.4
W01	9-Sep	7:38	9:04	1.4
W01	10-Sep	7:37	9:05	1.5
W01	11-Sep	7:37	9:05	1.5
W01	12-Sep	7:36	9:05	1.5
W01	13-Sep	7:36	9:05	1.5
W01	14-Sep	7:35	9:04	1.5
W01	15-Sep	7:35	9:04	1.5
W01	16-Sep	7:34	9:04	1.5
W01	16-Sep	18:06	18:13	0.1
W01	17-Sep	7:34	9:04	1.5
W01	17-Sep	18:01	18:17	0.3
W01	18-Sep	7:34	9:03	1.5
W01	18-Sep	17:58	18:19	0.3
W01	19-Sep	7:34	9:03	1.5
W01	19-Sep	17:56	18:20	0.4
W01	20-Sep	7:33	9:02	1.5

	Date	Local Daylight Time		
Turbine ID		Start Time	End Time	Total [hr]
W01	20-Sep	17:54	18:21	0.4
W01	21-Sep	7:41	9:02	1.4
W01	21-Sep	17:52	18:22	0.5
W01	22-Sep	7:44	9:02	1.3
W01	22-Sep	17:51	18:22	0.5
W01	23-Sep	7:46	9:01	1.3
W01	23-Sep	17:51	18:23	0.5
W01	24-Sep	7:47	9:01	1.2
W01	24-Sep	17:50	18:23	0.6
W01	25-Sep	7:48	9:00	1.2
W01	25-Sep	17:49	18:23	0.6
W01	26-Sep	7:48	8:59	1.2
W01	26-Sep	17:48	18:23	0.6
W01	27-Sep	7:48	8:58	1.2
W01	27-Sep	17:48	18:23	0.6
W01	28-Sep	7:49	8:57	1.1
W01	28-Sep	17:47	18:22	0.6
W01	29-Sep	7:48	8:55	1.1
W01	29-Sep	17:47	18:21	0.6
W01	30-Sep	7:48	8:54	1.1
W01	30-Sep	17:47	18:21	0.6
W01	1-Oct	7:48	8:53	1.1
W01	1-Oct	16:28	16:43	0.2
W01	1-Oct	17:47	18:20	0.5
W01	2-Oct	7:48	8:52	1.1
W01	2-Oct	16:23	16:48	0.4
W01	2-Oct	17:48	18:20	0.5
W01	3-Oct	7:47	8:51	1.1
W01	3-Oct	16:19	16:51	0.5
W01	3-Oct	17:48	18:18	0.5
W01	4-Oct	7:47	8:49	1.0
W01	4-Oct	16:15	16:53	0.6
W01	4-Oct	17:49	18:17	0.5
W01	5-Oct	7:45	7:48	0.1
W01	5-Oct	16:12	16:55	0.7
W01	5-Oct	17:50	18:15	0.4
W01	6-Oct	16:10	16:56	0.8
W01	6-Oct	17:51	18:13	0.4

		Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W01	7-Oct	16:07	16:57	0.8
W01	7-Oct	17:53	18:10	0.3
W01	8-Oct	16:05	16:58	0.9
W01	8-Oct	17:57	18:05	0.1
W01	9-Oct	16:04	17:00	0.9
W01	10-Oct	16:02	17:01	1.0
W01	11-Oct	16:00	17:01	1.0
W01	12-Oct	15:58	17:02	1.1
W01	13-Oct	15:57	17:02	1.1
W01	14-Oct	15:56	17:04	1.1
W01	15-Oct	15:55	17:04	1.2
W01	16-Oct	15:54	17:04	1.2
W01	17-Oct	15:53	17:04	1.2
W01	18-Oct	15:52	17:05	1.2
W01	19-Oct	15:51	17:05	1.2
W01	20-Oct	15:50	17:05	1.3
W01	21-Oct	15:50	17:05	1.3
W01	22-Oct	15:50	17:05	1.3
W01	23-Oct	15:49	17:05	1.3
W01	24-Oct	15:48	17:05	1.3
W01	25-Oct	15:49	17:05	1.3
W01	26-Oct	15:48	17:05	1.3
W01	27-Oct	15:48	17:04	1.3
W01	28-Oct	15:48	17:05	1.3
W01	29-Oct	15:48	17:04	1.3
W01	30-Oct	15:48	17:04	1.3
W01	31-Oct	15:49	17:04	1.3
W02	1-Jan	8:21	9:37	1.3
W02	1-Jan	15:26	15:44	0.3
W02	2-Jan	8:22	9:38	1.3
W02	2-Jan	15:26	15:45	0.3
W02	3-Jan	8:22	9:38	1.3
W02	3-Jan	15:26	15:46	0.3
W02	4-Jan	8:23	9:39	1.3
W02	4-Jan	15:26	15:47	0.3
W02	5-Jan	8:23	9:39	1.3
W02	5-Jan	15:26	15:48	0.4
W02	6-Jan	8:23	9:40	1.3

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	6-Jan	15:26	15:49	0.4
W02	7-Jan	8:24	9:41	1.3
W02	7-Jan	15:25	15:49	0.4
W02	8-Jan	8:24	9:40	1.3
W02	8-Jan	15:25	15:50	0.4
W02	9-Jan	8:24	9:41	1.3
W02	9-Jan	15:25	15:51	0.4
W02	10-Jan	8:25	9:42	1.3
W02	10-Jan	15:25	15:52	0.5
W02	11-Jan	8:24	9:42	1.3
W02	11-Jan	15:24	15:53	0.5
W02	12-Jan	8:25	9:42	1.3
W02	12-Jan	15:24	15:54	0.5
W02	13-Jan	8:26	9:43	1.3
W02	13-Jan	15:24	15:55	0.5
W02	14-Jan	8:26	9:43	1.3
W02	14-Jan	15:24	15:56	0.5
W02	15-Jan	8:27	9:44	1.3
W02	15-Jan	15:24	15:57	0.6
W02	16-Jan	8:26	9:44	1.3
W02	16-Jan	15:23	15:57	0.6
W02	17-Jan	8:26	9:44	1.3
W02	17-Jan	15:23	15:58	0.6
W02	18-Jan	8:27	9:45	1.3
W02	18-Jan	15:23	15:59	0.6
W02	19-Jan	8:27	9:45	1.3
W02	19-Jan	15:23	16:00	0.6
W02	20-Jan	8:28	9:45	1.3
W02	20-Jan	15:22	16:00	0.6
W02	21-Jan	8:28	9:45	1.3
W02	21-Jan	15:23	16:02	0.7
W02	22-Jan	8:29	9:45	1.3
W02	22-Jan	15:23	16:02	0.7
W02	23-Jan	8:29	9:45	1.3
W02	23-Jan	15:22	16:03	0.7
W02	24-Jan	8:29	9:45	1.3
W02	24-Jan	15:22	16:03	0.7
W02	25-Jan	8:30	9:46	1.3

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	25-Jan	15:23	16:05	0.7
W02	26-Jan	8:31	9:46	1.3
W02	26-Jan	15:23	16:06	0.7
W02	27-Jan	8:31	9:45	1.2
W02	27-Jan	15:23	16:06	0.7
W02	28-Jan	8:32	9:45	1.2
W02	28-Jan	15:23	16:07	0.7
W02	29-Jan	8:32	9:45	1.2
W02	29-Jan	15:23	16:07	0.7
W02	30-Jan	8:33	9:45	1.2
W02	30-Jan	15:23	16:08	0.8
W02	31-Jan	8:33	9:44	1.2
W02	31-Jan	15:23	16:08	0.8
W02	1-Feb	8:34	9:44	1.2
W02	1-Feb	15:24	16:09	0.8
W02	2-Feb	8:35	9:44	1.2
W02	2-Feb	15:23	16:08	0.8
W02	3-Feb	8:35	9:42	1.1
W02	3-Feb	15:24	16:09	0.8
W02	4-Feb	8:36	9:41	1.1
W02	4-Feb	15:24	16:09	0.8
W02	5-Feb	8:37	9:41	1.1
W02	5-Feb	15:25	16:10	0.8
W02	6-Feb	8:38	9:40	1.0
W02	6-Feb	15:25	16:10	0.8
W02	7-Feb	8:39	9:39	1.0
W02	7-Feb	15:26	16:10	0.7
W02	8-Feb	8:39	9:38	1.0
W02	8-Feb	15:26	16:10	0.7
W02	9-Feb	8:41	9:37	0.9
W02	9-Feb	15:27	16:10	0.7
W02	10-Feb	8:42	9:35	0.9
W02	10-Feb	15:28	16:11	0.7
W02	11-Feb	8:43	9:33	0.8
W02	11-Feb	15:28	16:10	0.7
W02	12-Feb	8:45	9:32	0.8
W02	12-Feb	15:29	16:10	0.7
W02	13-Feb	8:47	9:30	0.7

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	13-Feb	15:31	16:10	0.7
W02	14-Feb	8:49	9:27	0.6
W02	14-Feb	15:31	16:10	0.7
W02	15-Feb	8:51	9:25	0.6
W02	15-Feb	15:33	16:10	0.6
W02	16-Feb	8:54	9:21	0.4
W02	16-Feb	15:34	16:09	0.6
W02	17-Feb	8:59	9:16	0.3
W02	17-Feb	15:36	16:09	0.6
W02	18-Feb	15:38	16:08	0.5
W02	19-Feb	15:41	16:06	0.4
W02	20-Feb	15:44	16:02	0.3
W02	21-Feb	15:51	15:56	0.1
W02	1-Mar	14:53	15:59	1.1
W02	2-Mar	14:55	15:57	1.0
W02	3-Mar	14:57	15:56	1.0
W02	4-Mar	14:59	15:54	0.9
W02	5-Mar	15:01	15:52	0.9
W02	6-Mar	15:04	15:50	0.8
W02	7-Mar	15:06	15:47	0.7
W02	8-Mar	15:09	15:44	0.6
W02	9-Mar	15:14	15:41	0.4
W02	10-Mar	15:20	15:34	0.2
W02	21-Sep	7:29	7:33	0.1
W02	22-Sep	7:26	7:34	0.1
W02	23-Sep	7:24	7:34	0.2
W02	24-Sep	7:22	7:34	0.2
W02	25-Sep	7:20	7:34	0.2
W02	26-Sep	7:19	7:34	0.2
W02	27-Sep	7:18	7:35	0.3
W02	28-Sep	7:17	7:35	0.3
W02	29-Sep	7:16	7:35	0.3
W02	30-Sep	7:17	7:36	0.3
W02	1-Oct	7:18	7:36	0.3
W02	2-Oct	7:20	7:38	0.3
W02	3-Oct	7:21	7:38	0.3
W02	4-Oct	7:22	7:39	0.3
W02	5-Oct	7:23	7:40	0.3

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	5-Oct	15:53	16:15	0.4
W02	6-Oct	7:24	7:41	0.3
W02	6-Oct	15:48	16:19	0.5
W02	7-Oct	7:25	7:42	0.3
W02	7-Oct	15:44	16:22	0.6
W02	8-Oct	7:27	7:42	0.2
W02	8-Oct	15:40	16:24	0.7
W02	9-Oct	7:28	7:40	0.2
W02	9-Oct	15:38	16:26	0.8
W02	10-Oct	7:29	7:37	0.1
W02	10-Oct	15:35	16:28	0.9
W02	11-Oct	7:30	7:32	0.0
W02	11-Oct	15:32	16:29	1.0
W02	12-Oct	15:30	16:30	1.0
W02	13-Oct	15:27	16:31	1.1
W02	14-Oct	15:26	16:33	1.1
W02	15-Oct	15:24	16:33	1.2
W02	16-Oct	15:22	16:34	1.2
W02	17-Oct	15:20	16:34	1.2
W02	18-Oct	15:20	16:36	1.3
W02	19-Oct	15:18	16:36	1.3
W02	20-Oct	15:17	16:36	1.3
W02	21-Oct	15:15	16:37	1.4
W02	22-Oct	15:15	16:38	1.4
W02	23-Oct	15:14	16:38	1.4
W02	24-Oct	15:12	16:38	1.4
W02	25-Oct	15:12	16:39	1.5
W02	26-Oct	9:27	9:47	0.3
W02	26-Oct	15:11	16:39	1.5
W02	27-Oct	9:23	9:51	0.5
W02	27-Oct	15:10	16:39	1.5
W02	28-Oct	9:21	9:55	0.6
W02	28-Oct	15:10	16:40	1.5
W02	29-Oct	9:18	9:57	0.7
W02	29-Oct	15:10	16:39	1.5
W02	30-Oct	9:16	9:59	0.7
W02	30-Oct	15:09	16:39	1.5
W02	31-Oct	9:15	10:02	0.8

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	31-Oct	15:09	16:40	1.5
W02	1-Nov	9:13	10:03	0.8
W02	1-Nov	15:58	16:40	0.7
W02	2-Nov	9:11	10:04	0.9
W02	2-Nov	15:57	16:39	0.7
W02	3-Nov	9:11	10:07	0.9
W02	3-Nov	15:57	16:40	0.7
W02	4-Nov	9:09	10:08	1.0
W02	4-Nov	15:56	16:40	0.7
W02	5-Nov	9:08	10:08	1.0
W02	5-Nov	15:55	16:39	0.7
W02	6-Nov	8:08	9:10	1.0
W02	6-Nov	14:55	15:40	0.8
W02	7-Nov	8:07	9:11	1.1
W02	7-Nov	14:54	15:39	0.8
W02	8-Nov	8:07	9:12	1.1
W02	8-Nov	14:55	15:40	0.8
W02	9-Nov	8:06	9:13	1.1
W02	9-Nov	14:54	15:40	0.8
W02	10-Nov	8:05	9:14	1.2
W02	10-Nov	14:54	15:39	0.8
W02	11-Nov	8:05	9:15	1.2
W02	11-Nov	14:55	15:40	0.8
W02	12-Nov	8:04	9:15	1.2
W02	12-Nov	14:54	15:39	0.8
W02	13-Nov	8:04	9:16	1.2
W02	13-Nov	14:54	15:39	0.8
W02	14-Nov	8:04	9:17	1.2
W02	14-Nov	14:55	15:39	0.7
W02	15-Nov	8:04	9:17	1.2
W02	15-Nov	14:55	15:39	0.7
W02	16-Nov	8:04	9:18	1.2
W02	16-Nov	14:55	15:38	0.7
W02	17-Nov	8:04	9:19	1.3
W02	17-Nov	14:56	15:39	0.7
W02	18-Nov	8:03	9:19	1.3
W02	18-Nov	14:56	15:38	0.7
W02	19-Nov	8:04	9:20	1.3

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	19-Nov	14:57	15:38	0.7
W02	20-Nov	8:04	9:20	1.3
W02	20-Nov	14:57	15:38	0.7
W02	21-Nov	8:04	9:20	1.3
W02	21-Nov	14:58	15:37	0.7
W02	22-Nov	8:04	9:20	1.3
W02	22-Nov	14:58	15:37	0.7
W02	23-Nov	8:04	9:22	1.3
W02	23-Nov	14:59	15:37	0.6
W02	24-Nov	8:04	9:22	1.3
W02	24-Nov	15:00	15:37	0.6
W02	25-Nov	8:04	9:22	1.3
W02	25-Nov	15:00	15:36	0.6
W02	26-Nov	8:05	9:23	1.3
W02	26-Nov	15:02	15:37	0.6
W02	27-Nov	8:05	9:23	1.3
W02	27-Nov	15:02	15:37	0.6
W02	28-Nov	8:06	9:23	1.3
W02	28-Nov	15:03	15:36	0.5
W02	29-Nov	8:06	9:23	1.3
W02	29-Nov	15:04	15:36	0.5
W02	30-Nov	8:06	9:23	1.3
W02	30-Nov	15:04	15:35	0.5
W02	1-Dec	15:06	15:36	0.5
W02	2-Dec	15:07	15:36	0.5
W02	3-Dec	15:08	15:36	0.5
W02	4-Dec	15:09	15:35	0.4
W02	5-Dec	15:10	15:35	0.4
W02	6-Dec	15:11	15:35	0.4
W02	7-Dec	15:12	15:35	0.4
W02	8-Dec	15:13	15:35	0.4
W02	9-Dec	15:14	15:35	0.3
W02	10-Dec	15:15	15:35	0.3
W02	11-Dec	15:16	15:35	0.3
W02	12-Dec	15:17	15:35	0.3
W02	13-Dec	15:18	15:34	0.3
W02	14-Dec	15:19	15:35	0.3
W02	15-Dec	15:20	15:35	0.2

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W02	16-Dec	15:21	15:36	0.2
W02	17-Dec	15:21	15:35	0.2
W02	18-Dec	15:22	15:36	0.2
W02	19-Dec	15:24	15:36	0.2
W02	20-Dec	15:24	15:36	0.2
W02	21-Dec	15:25	15:37	0.2
W02	22-Dec	15:25	15:37	0.2
W02	23-Dec	15:26	15:38	0.2
W02	24-Dec	15:26	15:38	0.2
W02	25-Dec	15:26	15:38	0.2
W02	26-Dec	15:26	15:40	0.2
W02	27-Dec	15:26	15:40	0.2
W02	28-Dec	15:26	15:40	0.2
W02	29-Dec	15:27	15:42	0.3
W02	30-Dec	15:27	15:43	0.3
W02	31-Dec	15:27	15:43	0.3
W04	1-Feb	16:41	16:49	0.1
W04	2-Feb	16:40	16:51	0.2
W04	3-Feb	16:38	16:51	0.2
W04	4-Feb	16:37	16:53	0.3
W04	5-Feb	16:36	16:54	0.3
W04	6-Feb	16:36	16:56	0.3
W04	7-Feb	16:36	16:58	0.4
W04	8-Feb	16:34	16:58	0.4
W04	9-Feb	16:34	17:00	0.4
W04	10-Feb	16:35	17:02	0.5
W04	11-Feb	16:34	17:03	0.5
W04	12-Feb	16:34	17:04	0.5
W04	13-Feb	16:35	17:06	0.5
W04	14-Feb	16:34	17:06	0.5
W04	15-Feb	16:35	17:06	0.5
W04	16-Feb	16:35	17:05	0.5
W04	17-Feb	16:36	17:05	0.5
W04	18-Feb	16:38	17:05	0.5
W04	19-Feb	16:38	17:03	0.4
W04	20-Feb	16:40	17:02	0.4
W04	21-Feb	16:41	17:00	0.3
W04	22-Feb	16:43	16:57	0.2

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W04	23-Feb	16:49	16:52	0.0
W04	22-Jul	7:42	7:53	0.2
W04	23-Jul	7:38	7:57	0.3
W04	24-Jul	7:36	8:00	0.4
W04	25-Jul	7:33	8:02	0.5
W04	26-Jul	7:32	8:04	0.5
W04	27-Jul	7:30	8:06	0.6
W04	28-Jul	7:29	8:08	0.7
W04	29-Jul	7:27	8:09	0.7
W04	30-Jul	7:26	8:11	0.8
W04	31-Jul	7:25	8:12	0.8
W04	1-Aug	7:24	8:13	0.8
W04	2-Aug	7:23	8:15	0.9
W04	3-Aug	7:21	8:16	0.9
W04	4-Aug	7:20	8:17	0.9
W04	5-Aug	7:19	8:18	1.0
W04	6-Aug	7:18	8:19	1.0
W04	7-Aug	7:18	8:19	1.0
W04	8-Aug	7:17	8:20	1.1
W04	9-Aug	7:16	8:21	1.1
W04	10-Aug	7:15	8:22	1.1
W04	11-Aug	7:14	8:22	1.1
W04	12-Aug	7:13	8:23	1.2
W04	13-Aug	7:13	8:23	1.2
W04	14-Aug	7:12	8:24	1.2
W04	15-Aug	7:11	8:24	1.2
W04	16-Aug	7:11	8:25	1.2
W04	17-Aug	7:10	8:25	1.3
W04	18-Aug	7:10	8:25	1.3
W04	19-Aug	7:09	8:25	1.3
W04	20-Aug	7:08	8:26	1.3
W04	21-Aug	7:08	8:26	1.3
W04	22-Aug	7:08	8:26	1.3
W04	23-Aug	7:07	8:26	1.3
W04	24-Aug	7:07	8:26	1.3
W04	25-Aug	7:06	8:25	1.3
W04	26-Aug	7:06	8:25	1.3
W04	27-Aug	7:06	8:25	1.3

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W04	28-Aug	7:07	7:15	0.1
W04	28-Aug	7:24	8:26	1.0
W04	29-Aug	7:07	7:11	0.1
W04	29-Aug	7:27	8:25	1.0
W04	30-Aug	7:06	7:08	0.0
W04	30-Aug	7:29	8:25	0.9
W04	31-Aug	7:30	8:24	0.9
W04	1-Sep	7:31	8:24	0.9
W04	2-Sep	7:32	8:23	0.9
W04	3-Sep	7:32	8:22	0.8
W04	4-Sep	7:33	8:21	0.8
W04	5-Sep	7:33	8:21	0.8
W04	6-Sep	7:33	8:20	0.8
W04	7-Sep	7:33	8:19	0.8
W04	8-Sep	7:32	8:17	0.8
W04	9-Sep	7:32	8:16	0.7
W04	10-Sep	7:31	8:15	0.7
W04	11-Sep	7:31	8:13	0.7
W04	12-Sep	7:30	8:12	0.7
W04	13-Sep	7:29	8:10	0.7
W04	14-Sep	7:28	8:08	0.7
W04	15-Sep	7:26	7:40	0.2
W04	20-Oct	17:17	17:25	0.1
W04	21-Oct	17:13	17:28	0.2
W04	22-Oct	17:11	17:31	0.3
W04	23-Oct	17:09	17:32	0.4
W04	24-Oct	17:07	17:33	0.4
W04	25-Oct	17:07	17:35	0.5
W04	26-Oct	17:06	17:35	0.5
W04	27-Oct	17:05	17:35	0.5
W04	28-Oct	17:05	17:36	0.5
W04	29-Oct	17:04	17:36	0.5
W04	30-Oct	17:03	17:35	0.5
W04	31-Oct	17:04	17:34	0.5
W05	1-Jan	9:22	10:20	1.0
W05	2-Jan	9:23	10:20	0.9
W05	3-Jan	9:24	10:20	0.9
W05	4-Jan	9:25	10:20	0.9

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W05	5-Jan	9:26	10:20	0.9
W05	6-Jan	9:27	10:20	0.9
W05	7-Jan	9:28	10:20	0.9
W05	8-Jan	9:28	10:19	0.9
W05	9-Jan	9:29	10:19	0.8
W05	10-Jan	9:31	10:19	0.8
W05	11-Jan	9:31	9:59	0.5
W05	1-Feb	15:13	15:35	0.4
W05	2-Feb	15:18	15:31	0.2
W05	1-Sep	7:05	7:06	0.0
W05	2-Sep	7:03	7:06	0.0
W05	3-Sep	7:02	7:07	0.1
W05	4-Sep	7:01	7:07	0.1
W05	5-Sep	7:00	7:07	0.1
W05	6-Sep	6:59	7:07	0.1
W05	7-Sep	6:59	7:08	0.1
W05	8-Sep	6:58	7:08	0.2
W05	9-Sep	6:58	7:09	0.2
W05	10-Sep	6:58	7:09	0.2
W05	11-Sep	6:58	7:10	0.2
W05	12-Sep	6:58	7:11	0.2
W05	13-Sep	6:59	7:12	0.2
W05	14-Sep	7:00	7:13	0.2
W05	15-Sep	7:01	7:14	0.2
W05	16-Sep	7:02	7:16	0.2
W05	17-Sep	7:03	7:18	0.3
W05	18-Sep	7:04	7:19	0.3
W05	19-Sep	7:07	7:15	0.1
W06	1-Feb	7:42	8:15	0.6
W06	2-Feb	7:42	8:15	0.6
W06	3-Feb	7:42	8:14	0.5
W06	4-Feb	7:43	8:14	0.5
W06	5-Feb	7:44	8:13	0.5
W06	6-Feb	7:45	8:13	0.5
W06	7-Feb	7:46	8:12	0.4
W06	8-Feb	7:46	8:11	0.4
W06	9-Feb	7:48	8:10	0.4
W06	10-Feb	7:50	8:08	0.3

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W06	11-Feb	7:52	8:05	0.2
W06	12-Feb	7:57	8:00	0.0
W06	12-Oct	17:26	17:35	0.1
W06	13-Oct	17:22	17:38	0.3
W06	14-Oct	17:20	17:41	0.4
W06	15-Oct	17:18	17:42	0.4
W06	16-Oct	17:16	17:43	0.5
W06	17-Oct	17:15	17:43	0.5
W06	18-Oct	17:14	17:45	0.5
W06	19-Oct	17:13	17:45	0.5
W06	20-Oct	17:12	17:45	0.6
W06	21-Oct	17:12	17:45	0.6
W06	22-Oct	17:12	17:46	0.6
W06	23-Oct	17:11	17:45	0.6
W06	24-Oct	17:11	17:44	0.6
W06	25-Oct	17:12	17:43	0.5
W06	26-Oct	17:12	17:41	0.5
W06	27-Oct	17:12	17:39	0.5
W06	28-Oct	17:13	17:38	0.4
W06	29-Oct	17:13	17:37	0.4
W06	30-Oct	17:14	17:21	0.1
W06	31-Oct	8:26	8:32	0.1
W07	1-Jan	7:57	8:26	0.5
W07	2-Jan	7:57	8:27	0.5
W07	3-Jan	7:57	8:27	0.5
W07	4-Jan	7:57	8:28	0.5
W07	5-Jan	7:57	8:28	0.5
W07	6-Jan	7:57	8:29	0.5
W07	7-Jan	7:57	8:29	0.5
W07	8-Jan	7:56	8:29	0.6
W07	9-Jan	7:56	8:30	0.6
W07	10-Jan	7:56	8:30	0.6
W07	11-Jan	7:55	8:30	0.6
W07	12-Jan	7:56	8:31	0.6
W07	13-Jan	7:57	8:31	0.6
W07	14-Jan	7:57	8:31	0.6
W07	15-Jan	7:58	8:31	0.6
W07	16-Jan	7:58	8:31	0.6

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W07	17-Jan	8:00	8:32	0.5
W07	18-Jan	8:00	8:11	0.2
W08	16-May	6:01	6:05	0.1
W08	17-May	6:00	6:09	0.1
W08	18-May	5:59	6:11	0.2
W08	19-May	5:58	6:12	0.2
W08	20-May	5:57	6:13	0.3
W08	21-May	5:57	6:15	0.3
W08	22-May	5:56	6:16	0.3
W08	23-May	5:55	6:16	0.4
W08	24-May	5:54	6:17	0.4
W08	25-May	5:54	6:18	0.4
W08	26-May	5:53	6:18	0.4
W08	27-May	5:52	6:18	0.4
W08	28-May	5:52	6:20	0.5
W08	29-May	5:51	6:19	0.5
W08	30-May	5:50	6:19	0.5
W08	31-May	5:50	6:20	0.5
W08	1-Jun	5:49	6:20	0.5
W08	2-Jun	5:49	6:21	0.5
W08	3-Jun	5:49	6:21	0.5
W08	4-Jun	5:48	6:21	0.6
W08	5-Jun	5:48	6:22	0.6
W08	6-Jun	5:49	6:22	0.6
W08	7-Jun	5:48	6:22	0.6
W08	8-Jun	5:49	6:22	0.6
W08	9-Jun	5:49	6:22	0.6
W08	10-Jun	5:50	6:23	0.6
W08	11-Jun	5:49	6:22	0.6
W08	12-Jun	5:49	6:22	0.6
W08	13-Jun	5:50	6:23	0.6
W08	14-Jun	5:50	6:23	0.6
W08	15-Jun	5:50	6:23	0.6
W08	16-Jun	5:50	6:23	0.6
W08	17-Jun	5:50	6:23	0.6
W08	18-Jun	5:51	6:23	0.5
W08	19-Jun	5:52	6:25	0.6
W08	20-Jun	5:52	6:25	0.6

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W08	21-Jun	5:52	6:25	0.6
W08	22-Jun	5:52	6:25	0.6
W08	23-Jun	5:52	6:25	0.6
W08	24-Jun	5:53	6:26	0.6
W08	25-Jun	5:53	6:25	0.5
W08	26-Jun	5:53	6:25	0.5
W08	27-Jun	5:53	6:26	0.6
W08	28-Jun	5:53	6:26	0.6
W08	29-Jun	5:53	6:26	0.6
W08	30-Jun	5:54	6:27	0.6
W08	1-Jul	5:53	6:26	0.6
W08	2-Jul	5:54	6:27	0.6
W08	3-Jul	5:54	6:27	0.6
W08	4-Jul	5:54	6:28	0.6
W08	5-Jul	5:54	6:27	0.6
W08	6-Jul	5:55	6:28	0.6
W08	7-Jul	5:55	6:28	0.6
W08	8-Jul	5:55	6:28	0.6
W08	9-Jul	5:55	6:28	0.6
W08	10-Jul	5:56	6:29	0.6
W08	11-Jul	5:56	6:28	0.5
W08	12-Jul	5:57	6:28	0.5
W08	13-Jul	5:58	6:29	0.5
W08	14-Jul	5:59	6:29	0.5
W08	15-Jul	5:59	6:28	0.5
W08	16-Jul	6:00	6:28	0.5
W08	17-Jul	6:01	6:28	0.5
W08	18-Jul	6:02	6:28	0.4
W08	19-Jul	6:03	6:28	0.4
W08	20-Jul	6:04	6:28	0.4
W08	21-Jul	6:04	6:26	0.4
W08	22-Jul	6:05	6:26	0.4
W08	23-Jul	6:06	6:25	0.3
W08	24-Jul	6:07	6:24	0.3
W08	25-Jul	6:08	6:23	0.3
W08	26-Jul	6:09	6:22	0.2
W08	27-Jul	6:10	6:21	0.2
W08	28-Jul	6:11	6:18	0.1

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W08	4-Oct	7:36	7:47	0.2
W08	5-Oct	7:34	7:49	0.3
W08	6-Oct	7:32	7:50	0.3
W08	7-Oct	7:30	7:51	0.4
W08	8-Oct	7:30	7:52	0.4
W08	9-Oct	7:29	7:52	0.4
W08	10-Oct	7:29	7:52	0.4
W08	11-Oct	7:30	7:52	0.4
W08	12-Oct	7:31	7:51	0.3
W08	13-Oct	7:33	7:51	0.3
W08	14-Oct	7:34	7:50	0.3
W08	15-Oct	7:35	7:49	0.2
W08	16-Oct	7:36	7:48	0.2
W08	17-Oct	7:37	7:46	0.2
W08	18-Oct	7:39	7:44	0.1
W09	1-May	18:13	19:11	1.0
W09	2-May	18:12	19:11	1.0
W09	3-May	18:12	19:10	1.0
W09	4-May	18:11	19:09	1.0
W09	5-May	18:11	19:09	1.0
W09	6-May	18:11	18:39	0.5
W09	1-Jun	18:16	19:22	1.1
W09	1-Jun	19:25	19:57	0.5
W09	2-Jun	18:16	19:25	1.2
W09	2-Jun	19:26	19:58	0.5
W09	3-Jun	18:17	19:58	1.7
W09	4-Jun	18:17	19:26	1.2
W09	4-Jun	19:27	19:57	0.5
W09	5-Jun	18:18	19:27	1.2
W09	5-Jun	19:28	19:57	0.5
W09	6-Jun	18:19	19:27	1.1
W09	6-Jun	19:29	19:57	0.5
W09	7-Jun	18:18	19:26	1.1
W09	7-Jun	19:28	19:56	0.5
W09	8-Jun	18:19	19:26	1.1
W09	8-Jun	19:29	19:57	0.5
W09	9-Jun	18:20	19:27	1.1
W09	9-Jun	19:30	19:57	0.5

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W09	10-Jun	18:20	19:27	1.1
W09	10-Jun	19:31	19:57	0.4
W09	11-Jun	18:20	19:26	1.1
W09	11-Jun	19:30	19:56	0.4
W09	12-Jun	18:20	19:26	1.1
W09	12-Jun	19:31	19:56	0.4
W09	13-Jun	18:21	19:26	1.1
W09	13-Jun	19:32	19:56	0.4
W09	14-Jun	18:21	19:26	1.1
W09	14-Jun	19:32	19:47	0.2
W09	15-Jun	18:22	19:26	1.1
W09	16-Jun	18:22	19:27	1.1
W09	17-Jun	18:22	19:27	1.1
W09	18-Jun	18:23	19:27	1.1
W09	19-Jun	18:24	19:28	1.1
W09	20-Jun	18:24	19:28	1.1
W09	21-Jun	18:24	19:28	1.1
W09	22-Jun	18:24	19:28	1.1
W09	23-Jun	18:24	19:28	1.1
W09	24-Jun	18:25	19:29	1.1
W09	25-Jun	18:25	19:29	1.1
W09	26-Jun	18:24	19:29	1.1
W09	27-Jun	18:25	19:30	1.1
W09	28-Jun	18:25	19:30	1.1
W09	29-Jun	18:24	19:29	1.1
W09	30-Jun	18:25	19:30	1.1
W09	1-Jul	18:25	19:30	1.1
W09	1-Jul	19:35	20:00	0.4
W09	2-Jul	18:25	19:31	1.1
W09	2-Jul	19:36	20:01	0.4
W09	3-Jul	18:25	19:31	1.1
W09	3-Jul	19:35	20:01	0.4
W09	4-Jul	18:25	19:32	1.1
W09	4-Jul	19:35	20:02	0.5
W09	5-Jul	18:24	19:32	1.1
W09	5-Jul	19:35	20:02	0.5
W09	6-Jul	18:25	19:32	1.1
W09	6-Jul	19:35	20:02	0.5

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W09	7-Jul	18:25	19:33	1.1
W09	7-Jul	19:35	20:03	0.5
W09	8-Jul	18:24	19:33	1.2
W09	8-Jul	19:34	20:03	0.5
W09	9-Jul	18:24	20:04	1.7
W09	10-Jul	18:25	20:05	1.7
W09	11-Jul	18:24	20:05	1.7
W09	12-Jul	18:24	19:32	1.1
W09	12-Jul	19:34	20:05	0.5
W09	13-Jul	18:24	19:30	1.1
W09	13-Jul	19:34	20:06	0.5
W09	14-Jul	18:24	19:29	1.1
W09	14-Jul	19:34	19:56	0.4
W09	14-Jul	20:01	20:07	0.1
W09	15-Jul	18:23	19:27	1.1
W09	15-Jul	19:33	19:53	0.3
W09	15-Jul	20:02	20:06	0.1
W09	16-Jul	18:23	19:26	1.1
W09	16-Jul	19:33	19:52	0.3
W09	16-Jul	20:04	20:07	0.0
W09	17-Jul	18:23	19:26	1.1
W09	17-Jul	19:33	19:51	0.3
W09	17-Jul	20:05	20:07	0.0
W09	18-Jul	18:23	19:25	1.0
W09	18-Jul	19:33	19:50	0.3
W09	18-Jul	20:06	20:08	0.0
W09	19-Jul	18:23	19:24	1.0
W09	19-Jul	19:33	19:51	0.3
W09	19-Jul	20:07	20:08	0.0
W09	20-Jul	18:23	19:24	1.0
W09	20-Jul	19:33	19:52	0.3
W09	20-Jul	20:08	20:09	0.0
W09	21-Jul	18:22	19:22	1.0
W09	21-Jul	19:32	19:52	0.3
W09	22-Jul	18:22	19:22	1.0
W09	22-Jul	19:32	19:53	0.3
W09	23-Jul	18:22	19:21	1.0
W09	23-Jul	19:33	19:54	0.4

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W09	24-Jul	18:22	19:21	1.0
W09	24-Jul	19:33	19:55	0.4
W09	25-Jul	18:22	19:21	1.0
W09	25-Jul	19:33	19:55	0.4
W09	26-Jul	18:21	19:20	1.0
W09	26-Jul	19:33	19:56	0.4
W09	27-Jul	18:21	19:20	1.0
W09	27-Jul	19:33	19:56	0.4
W09	28-Jul	18:21	19:19	1.0
W09	28-Jul	19:33	19:57	0.4
W09	29-Jul	18:21	19:19	1.0
W09	29-Jul	19:34	19:57	0.4
W09	30-Jul	18:21	19:19	1.0
W09	30-Jul	19:34	19:57	0.4
W09	31-Jul	18:21	19:19	1.0
W09	31-Jul	19:35	19:57	0.4
W09	1-Aug	18:21	19:18	0.9
W09	1-Aug	19:35	19:58	0.4
W09	2-Aug	18:21	19:18	0.9
W09	2-Aug	19:36	19:58	0.4
W09	3-Aug	18:21	19:18	0.9
W09	3-Aug	19:36	19:58	0.4
W09	4-Aug	18:21	19:18	0.9
W09	4-Aug	19:37	19:57	0.3
W09	5-Aug	18:21	19:18	0.9
W09	5-Aug	19:38	19:56	0.3
W09	6-Aug	18:21	19:18	0.9
W09	6-Aug	19:39	19:55	0.3
W09	7-Aug	18:21	19:18	0.9
W09	7-Aug	19:41	19:54	0.2
W09	8-Aug	18:21	19:18	0.9
W09	8-Aug	19:43	19:52	0.1
W09	9-Aug	18:21	19:18	0.9
W09	9-Aug	19:46	19:51	0.1
W09	10-Aug	18:21	19:19	1.0
W09	11-Aug	18:21	19:19	1.0
W09	12-Aug	18:21	19:20	1.0
W09	13-Aug	18:21	19:20	1.0

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W09	14-Aug	18:22	19:21	1.0
W09	15-Aug	18:22	19:22	1.0
W09	16-Aug	18:22	19:23	1.0
W09	17-Aug	18:23	19:24	1.0
W09	18-Aug	18:23	19:26	1.1
W09	19-Aug	18:24	19:29	1.1
W09	20-Aug	18:25	19:27	1.0
W09	21-Aug	18:26	19:26	1.0
W09	22-Aug	18:26	19:24	1.0
W09	23-Aug	18:28	19:23	0.9
W09	24-Aug	18:29	19:21	0.9
W09	25-Aug	18:30	19:19	0.8
W09	26-Aug	18:32	19:17	0.8
W09	27-Aug	18:33	19:14	0.7
W09	28-Aug	18:36	19:12	0.6
W09	29-Aug	18:40	19:09	0.5
W09	30-Aug	18:44	19:04	0.3
W10	23-Sep	17:58	18:08	0.2
W10	24-Sep	17:55	18:10	0.2
W10	25-Sep	17:52	18:11	0.3
W10	26-Sep	17:50	18:12	0.4
W10	27-Sep	17:48	18:13	0.4
W10	28-Sep	17:47	18:13	0.4
W10	29-Sep	17:46	18:14	0.5
W10	30-Sep	17:44	18:14	0.5
W10	1-Oct	17:43	18:14	0.5
W10	2-Oct	17:44	18:15	0.5
W10	3-Oct	17:43	18:15	0.5
W10	4-Oct	17:42	18:14	0.5
W10	5-Oct	17:42	18:14	0.5
W10	6-Oct	17:42	18:13	0.5
W10	7-Oct	17:42	18:12	0.5
W10	8-Oct	17:42	18:10	0.5
W10	9-Oct	17:43	18:09	0.4
W10	10-Oct	17:43	18:07	0.4
W10	11-Oct	17:44	18:05	0.3
W10	12-Oct	17:45	18:03	0.3
W10	13-Oct	17:46	18:01	0.2

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W10	14-Oct	17:49	18:00	0.2
W10	15-Oct	17:52	17:58	0.1
W11	18-Jan	16:20	16:23	0.0
W11	19-Jan	16:17	16:23	0.1
W11	20-Jan	16:16	16:25	0.2
W11	21-Jan	16:14	16:25	0.2
W11	22-Jan	16:13	16:26	0.2
W11	23-Jan	16:12	16:26	0.2
W11	24-Jan	16:12	16:28	0.3
W11	25-Jan	16:11	16:28	0.3
W11	26-Jan	16:11	16:29	0.3
W11	27-Jan	16:10	16:29	0.3
W11	28-Jan	16:10	16:29	0.3
W11	29-Jan	16:09	16:30	0.3
W11	30-Jan	16:09	16:30	0.3
W11	31-Jan	16:09	16:30	0.3
W11	1-Feb	16:09	16:31	0.4
W11	2-Feb	16:09	16:31	0.4
W11	3-Feb	16:09	16:31	0.4
W11	4-Feb	16:08	16:31	0.4
W11	5-Feb	16:08	16:31	0.4
W11	6-Feb	16:09	16:31	0.4
W11	7-Feb	16:09	16:31	0.4
W11	8-Feb	16:09	16:30	0.3
W11	9-Feb	16:10	16:30	0.3
W11	10-Feb	16:10	16:30	0.3
W11	11-Feb	16:11	16:30	0.3
W11	12-Feb	16:11	16:28	0.3
W11	13-Feb	16:13	16:28	0.2
W11	14-Feb	16:13	16:27	0.2
W11	15-Feb	16:15	16:26	0.2
W11	16-Feb	16:17	16:25	0.1
W11	17-Feb	16:18	16:24	0.1
W11	18-Feb	16:21	16:22	0.0
W11	1-May	17:55	19:19	1.4
W11	2-May	17:55	19:20	1.4
W11	3-May	17:55	19:20	1.4
W11	4-May	17:54	19:19	1.4

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W11	5-May	17:55	19:19	1.4
W11	6-May	17:55	19:19	1.4
W11	7-May	17:56	19:19	1.4
W11	8-May	17:56	19:01	1.1
W11	1-Jun	18:08	19:10	1.0
W11	2-Jun	18:09	19:11	1.0
W11	3-Jun	18:10	19:11	1.0
W11	4-Jun	18:10	19:10	1.0
W11	5-Jun	18:11	19:10	1.0
W11	6-Jun	18:12	19:10	1.0
W11	7-Jun	18:12	19:09	1.0
W11	8-Jun	18:13	19:09	0.9
W11	9-Jun	18:14	19:09	0.9
W11	10-Jun	18:15	19:09	0.9
W11	11-Jun	18:14	19:08	0.9
W11	12-Jun	18:15	19:08	0.9
W11	13-Jun	18:16	19:08	0.9
W11	14-Jun	18:16	19:08	0.9
W11	15-Jun	18:17	19:08	0.9
W11	16-Jun	18:17	19:08	0.9
W11	17-Jun	18:18	19:08	0.8
W11	18-Jun	18:18	19:08	0.8
W11	19-Jun	18:18	19:08	0.8
W11	20-Jun	18:19	19:09	0.8
W11	21-Jun	18:19	19:09	0.8
W11	22-Jun	18:19	19:09	0.8
W11	23-Jun	18:19	19:09	0.8
W11	24-Jun	18:20	19:10	0.8
W11	25-Jun	18:20	19:10	0.8
W11	26-Jun	18:20	19:10	0.8
W11	27-Jun	18:20	19:11	0.9
W11	28-Jun	18:20	19:11	0.9
W11	29-Jun	18:20	19:11	0.9
W11	30-Jun	18:20	19:12	0.9
W11	1-Jul	18:19	19:12	0.9
W11	2-Jul	18:20	19:13	0.9
W11	3-Jul	18:19	19:13	0.9
W11	4-Jul	18:19	19:14	0.9

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Turbine ID	Date	Start Time	End Time	Total [hr]
W11	5-Jul	18:18	19:14	0.9
W11	6-Jul	18:19	19:15	0.9
W11	7-Jul	18:19	19:16	0.9
W11	8-Jul	18:18	19:16	1.0
W11	9-Jul	18:18	19:17	1.0
W11	10-Jul	18:18	19:18	1.0
W11	11-Jul	18:17	19:18	1.0
W11	12-Jul	18:17	19:18	1.0
W11	13-Jul	18:16	19:19	1.1
W11	14-Jul	18:16	19:20	1.1
W11	15-Jul	18:15	19:20	1.1
W11	16-Jul	18:15	19:21	1.1
W11	17-Jul	18:14	19:22	1.1
W11	18-Jul	18:14	19:22	1.1
W11	19-Jul	18:14	19:23	1.2
W11	20-Jul	18:13	19:24	1.2
W11	21-Jul	18:12	19:23	1.2
W11	22-Jul	18:12	19:24	1.2
W11	23-Jul	18:11	19:25	1.2
W11	24-Jul	18:11	19:25	1.2
W11	25-Jul	18:11	19:26	1.3
W11	26-Jul	18:10	19:26	1.3
W11	27-Jul	18:10	19:27	1.3
W11	28-Jul	18:09	19:27	1.3
W11	29-Jul	18:09	19:27	1.3
W11	30-Jul	18:08	19:28	1.3
W11	31-Jul	18:08	19:28	1.3
W11	1-Aug	18:08	19:28	1.3
W11	2-Aug	18:07	19:28	1.4
W11	3-Aug	18:07	19:29	1.4
W11	4-Aug	18:06	19:29	1.4
W11	5-Aug	18:06	19:29	1.4
W11	6-Aug	18:05	19:29	1.4
W11	7-Aug	18:05	19:29	1.4
W11	8-Aug	18:05	19:29	1.4
W11	9-Aug	18:04	19:29	1.4
W11	10-Aug	18:04	19:29	1.4
W11	11-Aug	18:04	19:29	1.4

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W11	12-Aug	18:03	19:28	1.4
W11	13-Aug	18:03	19:28	1.4
W11	14-Aug	18:03	19:28	1.4
W11	15-Aug	18:03	19:28	1.4
W11	16-Aug	18:03	19:27	1.4
W11	17-Aug	18:03	19:27	1.4
W11	18-Aug	18:02	19:26	1.4
W11	19-Aug	18:02	19:26	1.4
W11	20-Aug	18:02	19:25	1.4
W11	21-Aug	18:02	19:24	1.4
W11	22-Aug	7:53	8:07	0.2
W11	22-Aug	18:02	19:24	1.4
W11	23-Aug	7:49	8:12	0.4
W11	23-Aug	18:03	19:23	1.3
W11	24-Aug	7:45	8:15	0.5
W11	24-Aug	18:03	19:22	1.3
W11	25-Aug	7:42	8:17	0.6
W11	25-Aug	18:03	19:21	1.3
W11	26-Aug	7:40	8:19	0.7
W11	26-Aug	18:03	19:20	1.3
W11	27-Aug	7:38	8:20	0.7
W11	27-Aug	18:04	19:19	1.3
W11	28-Aug	7:37	8:23	0.8
W11	28-Aug	18:04	19:18	1.2
W11	29-Aug	7:35	8:24	0.8
W11	29-Aug	18:06	19:17	1.2
W11	30-Aug	7:34	8:25	0.9
W11	30-Aug	18:06	19:16	1.2
W11	31-Aug	7:32	8:26	0.9
W11	31-Aug	18:07	19:15	1.1
W11	1-Sep	7:31	8:27	0.9
W11	1-Sep	18:08	19:13	1.1
W11	2-Sep	7:29	8:22	0.9
W11	2-Sep	18:09	19:11	1.0
W11	3-Sep	18:10	19:09	1.0
W11	4-Sep	18:11	19:07	0.9
W11	5-Sep	18:13	19:05	0.9
W11	6-Sep	18:14	19:03	0.8

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W11	7-Sep	18:16	19:00	0.7
W11	8-Sep	18:19	18:57	0.6
W11	9-Sep	18:22	18:53	0.5
W11	10-Sep	18:26	18:48	0.4
W11	25-Oct	16:50	16:53	0.1
W11	26-Oct	16:47	16:53	0.1
W11	27-Oct	16:45	16:54	0.2
W11	28-Oct	16:44	16:56	0.2
W11	29-Oct	16:43	16:57	0.2
W11	30-Oct	16:41	16:57	0.3
W11	31-Oct	16:41	16:58	0.3
W11	1-Nov	16:40	16:59	0.3
W11	2-Nov	16:40	17:00	0.3
W11	3-Nov	16:39	17:00	0.3
W11	4-Nov	16:39	17:00	0.3
W11	5-Nov	16:39	17:01	0.4
W11	6-Nov	15:39	16:01	0.4
W11	7-Nov	15:38	16:01	0.4
W11	8-Nov	15:39	16:01	0.4
W11	9-Nov	15:39	16:01	0.4
W11	10-Nov	15:39	16:01	0.4
W11	11-Nov	15:40	16:02	0.4
W11	12-Nov	15:40	16:01	0.3
W11	13-Nov	15:41	15:53	0.2
W12	8-Apr	19:08	19:11	0.0
W12	9-Apr	19:03	19:09	0.1
W12	10-Apr	19:01	19:09	0.1
W12	11-Apr	18:59	19:07	0.1
W12	12-Apr	18:57	19:04	0.1
W12	13-Apr	18:56	19:01	0.1
W12	6-Jun	20:10	20:12	0.0
W12	7-Jun	20:08	20:12	0.1
W12	8-Jun	20:08	20:12	0.1
W12	9-Jun	20:08	20:13	0.1
W12	10-Jun	20:07	20:14	0.1
W12	11-Jun	20:06	20:14	0.1
W12	12-Jun	20:06	20:14	0.1
W12	13-Jun	20:06	20:15	0.1

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W12	14-Jun	20:06	20:15	0.1
W12	15-Jun	20:06	20:16	0.2
W12	16-Jun	20:06	20:16	0.2
W12	17-Jun	20:06	20:17	0.2
W12	18-Jun	20:06	20:17	0.2
W12	19-Jun	20:06	20:17	0.2
W12	20-Jun	20:07	20:18	0.2
W12	21-Jun	20:07	20:18	0.2
W12	22-Jun	20:07	20:18	0.2
W12	23-Jun	20:07	20:18	0.2
W12	24-Jun	20:08	20:19	0.2
W12	25-Jun	20:08	20:19	0.2
W12	26-Jun	20:08	20:19	0.2
W12	27-Jun	20:09	20:19	0.2
W12	28-Jun	20:09	20:19	0.2
W12	29-Jun	20:09	20:19	0.2
W12	30-Jun	20:10	20:19	0.1
W12	1-Jul	20:10	20:19	0.1
W12	2-Jul	20:11	20:19	0.1
W12	3-Jul	20:11	20:18	0.1
W12	4-Jul	20:13	20:19	0.1
W12	5-Jul	20:13	20:18	0.1
W12	6-Jul	20:14	20:18	0.1
W12	7-Jul	20:16	20:18	0.0
W12	31-Aug	18:56	19:01	0.1
W12	1-Sep	18:57	19:04	0.1
W12	2-Sep	18:58	19:06	0.1
W12	3-Sep	18:59	19:07	0.1
W12	4-Sep	19:01	19:07	0.1
W12	5-Sep	19:04	19:08	0.1
W12	15-Oct	16:30	16:35	0.1
W12	16-Oct	16:22	16:41	0.3
W12	17-Oct	16:19	16:45	0.4
W12	18-Oct	16:15	16:48	0.6
W12	19-Oct	16:12	16:49	0.6
W12	20-Oct	16:10	16:50	0.7
W12	21-Oct	16:09	16:53	0.7
W12	22-Oct	16:07	16:53	0.8

Turking ID	Data	Local Dayl	Total float	
Turbine ID	Date	Start Time	End Time	Total [hr]
W12	23-Oct	16:05	16:34	0.5
W14	3-Mar	17:29	17:30	0.0
W14	4-Mar	17:28	17:31	0.0
W14	5-Mar	17:28	17:32	0.1
W14	6-Mar	17:29	17:34	0.1
W14	7-Mar	17:28	17:35	0.1
W14	8-Mar	17:27	17:36	0.2
W14	9-Mar	17:28	17:38	0.2
W14	10-Mar	17:27	17:39	0.2
W14	11-Mar	17:26	17:40	0.2
W14	12-Mar	17:25	17:41	0.3
W14	13-Mar	18:25	18:43	0.3
W14	14-Mar	18:23	18:43	0.3
W14	15-Mar	18:22	18:42	0.3
W14	16-Mar	18:20	18:40	0.3
W14	17-Mar	18:19	18:40	0.4
W14	18-Mar	18:16	18:38	0.4
W14	19-Mar	18:18	18:36	0.3
W14	20-Mar	18:20	18:33	0.2
W14	15-Sep	8:01	8:16	0.2
W14	16-Sep	7:57	8:20	0.4
W14	17-Sep	7:54	8:22	0.5
W14	18-Sep	7:51	8:24	0.5
W14	19-Sep	7:49	8:26	0.6
W14	20-Sep	7:50	8:27	0.6
W14	21-Sep	7:52	8:28	0.6
W14	22-Sep	7:54	8:30	0.6
W14	23-Sep	7:54	8:30	0.6
W14	24-Sep	7:55	8:31	0.6
W14	24-Sep	18:05	18:16	0.2
W14	25-Sep	7:55	8:31	0.6
W14	25-Sep	18:02	18:18	0.3
W14	26-Sep	7:55	8:31	0.6
W14	26-Sep	17:59	18:20	0.3
W14	27-Sep	7:55	8:32	0.6
W14	27-Sep	18:00	18:21	0.4
W14	28-Sep	7:55	8:32	0.6
W14	28-Sep	18:01	18:22	0.4

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W14	29-Sep	7:54	8:32	0.6
W14	29-Sep	18:02	18:22	0.3
W14	30-Sep	7:54	8:32	0.6
W14	30-Sep	18:02	18:22	0.3
W14	1-Oct	7:53	8:31	0.6
W14	1-Oct	18:03	18:22	0.3
W14	2-Oct	7:53	8:32	0.6
W14	2-Oct	18:03	18:21	0.3
W14	3-Oct	7:52	8:32	0.7
W14	3-Oct	18:04	18:20	0.3
W14	4-Oct	7:51	8:31	0.7
W14	4-Oct	18:04	18:18	0.2
W14	5-Oct	7:50	8:31	0.7
W14	5-Oct	18:04	18:16	0.2
W14	6-Oct	7:48	8:30	0.7
W14	6-Oct	18:04	18:14	0.2
W14	7-Oct	7:46	8:29	0.7
W14	7-Oct	18:04	18:12	0.1
W14	8-Oct	7:44	8:28	0.7
W14	8-Oct	18:03	18:10	0.1
W14	9-Oct	7:41	8:28	0.8
W14	9-Oct	18:04	18:09	0.1
W14	10-Oct	7:36	8:27	0.9
W14	10-Oct	18:03	18:07	0.1
W14	11-Oct	7:36	8:26	0.8
W14	11-Oct	18:03	18:05	0.0
W14	12-Oct	7:36	8:25	0.8
W14	12-Oct	18:02	18:03	0.0
W14	13-Oct	7:37	8:23	0.8
W14	14-Oct	7:39	8:23	0.7
W14	15-Oct	7:40	8:21	0.7
W14	16-Oct	7:41	7:52	0.2
W15	1-Mar	16:45	17:28	0.7
W15	2-Mar	16:44	17:26	0.7
W15	3-Mar	16:44	17:23	0.6
W15	4-Mar	16:43	17:20	0.6
W15	5-Mar	16:42	17:18	0.6
W15	6-Mar	16:43	17:18	0.6

		Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W15	7-Mar	16:42	17:16	0.6
W15	8-Mar	16:42	17:15	0.6
W15	9-Mar	16:43	17:15	0.5
W15	10-Mar	16:43	17:14	0.5
W15	11-Mar	16:43	17:14	0.5
W15	12-Mar	16:43	17:13	0.5
W15	13-Mar	17:44	18:14	0.5
W15	14-Mar	17:45	18:14	0.5
W15	15-Mar	17:45	18:14	0.5
W15	16-Mar	17:46	18:14	0.5
W15	17-Mar	17:48	18:16	0.5
W15	18-Mar	17:50	18:16	0.4
W15	19-Mar	17:52	18:13	0.4
W15	20-Mar	17:55	18:10	0.2
W15	26-Jul	6:40	6:43	0.0
W15	27-Jul	6:39	6:47	0.1
W15	28-Jul	6:38	6:49	0.2
W15	29-Jul	6:36	6:49	0.2
W15	18-Sep	7:37	7:45	0.1
W15	19-Sep	7:32	7:48	0.3
W15	20-Sep	7:30	7:47	0.3
W15	21-Sep	7:34	7:45	0.2
W15	22-Sep	7:37	7:44	0.1
W15	23-Sep	7:38	7:43	0.1
W15	24-Sep	7:39	7:42	0.0
W15	24-Sep	17:41	17:52	0.2
W15	25-Sep	7:39	7:40	0.0
W15	25-Sep	17:36	17:56	0.3
W15	26-Sep	17:33	17:58	0.4
W15	27-Sep	17:30	17:58	0.5
W15	28-Sep	17:28	17:56	0.5
W15	29-Sep	17:26	17:55	0.5
W15	30-Sep	17:25	17:53	0.5
W15	1-Oct	17:23	17:53	0.5
W15	2-Oct	17:22	17:52	0.5
W15	3-Oct	17:22	17:52	0.5
W15	4-Oct	17:21	17:52	0.5
W15	5-Oct	17:20	17:52	0.5

		Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W15	6-Oct	17:19	17:51	0.5
W15	7-Oct	17:18	17:52	0.6
W15	8-Oct	17:18	17:52	0.6
W15	9-Oct	17:18	17:53	0.6
W15	10-Oct	17:18	17:54	0.6
W15	11-Oct	17:18	17:55	0.6
W15	12-Oct	17:17	17:57	0.7
W15	13-Oct	17:17	18:01	0.7
W15	14-Oct	17:19	18:00	0.7
W15	15-Oct	17:19	17:58	0.7
W15	16-Oct	17:19	17:57	0.6
W15	17-Oct	17:20	17:55	0.6
W15	18-Oct	17:21	17:54	0.6
W15	19-Oct	17:22	17:52	0.5
W15	20-Oct	17:23	17:50	0.5
W15	21-Oct	17:25	17:48	0.4
W15	22-Oct	17:28	17:47	0.3
W15	23-Oct	17:31	17:44	0.2
W16	1-Feb	15:13	16:30	1.3
W16	2-Feb	15:13	16:31	1.3
W16	3-Feb	15:11	16:30	1.3
W16	4-Feb	15:11	16:31	1.3
W16	5-Feb	15:11	16:02	0.9
W16	1-Mar	15:14	16:31	1.3
W16	2-Mar	15:14	16:30	1.3
W16	3-Mar	15:16	16:30	1.2
W16	4-Mar	15:16	16:28	1.2
W16	5-Mar	15:17	16:27	1.2
W16	6-Mar	15:19	16:26	1.1
W16	7-Mar	15:20	16:25	1.1
W16	8-Mar	15:21	16:23	1.0
W16	9-Mar	15:23	16:22	1.0
W16	10-Mar	15:25	16:20	0.9
W16	11-Mar	15:26	16:18	0.9
W16	12-Mar	15:28	16:15	0.8
W16	13-Mar	16:31	17:14	0.7
W16	14-Mar	16:34	17:11	0.6
W16	15-Mar	16:37	17:07	0.5

	-	Local Daylight Time		Takal Davi
Turbine ID	Date	Start Time	End Time	Total [hr]
W16	16-Mar	16:42	17:02	0.3
W16	21-Sep	7:23	7:27	0.1
W16	22-Sep	7:21	7:27	0.1
W16	23-Sep	7:19	7:25	0.1
W16	24-Sep	7:18	7:24	0.1
W16	25-Sep	7:16	7:23	0.1
W16	26-Sep	7:15	7:22	0.1
W16	27-Sep	7:15	7:21	0.1
W16	28-Sep	7:15	7:20	0.1
W16	28-Sep	16:26	16:41	0.3
W16	29-Sep	7:16	7:20	0.1
W16	29-Sep	16:19	16:46	0.4
W16	30-Sep	7:17	7:19	0.0
W16	30-Sep	16:15	16:49	0.6
W16	1-Oct	16:11	16:51	0.7
W16	2-Oct	16:08	16:53	0.8
W16	3-Oct	16:06	16:56	0.8
W16	4-Oct	16:03	16:57	0.9
W16	5-Oct	16:01	16:58	1.0
W16	6-Oct	15:59	16:59	1.0
W16	7-Oct	15:57	17:00	1.1
W16	8-Oct	15:55	17:00	1.1
W16	9-Oct	15:54	17:02	1.1
W16	10-Oct	15:52	17:02	1.2
W16	11-Oct	15:50	17:03	1.2
W16	12-Oct	15:49	17:03	1.2
W16	13-Oct	15:47	17:03	1.3
W16	14-Oct	15:47	17:05	1.3
W16	15-Oct	15:46	17:05	1.3
W16	16-Oct	15:44	17:05	1.4
W16	17-Oct	15:43	17:05	1.4
W16	18-Oct	15:43	17:06	1.4
W16	19-Oct	15:42	17:06	1.4
W16	20-Oct	15:41	17:06	1.4
W16	21-Oct	15:40	17:05	1.4
W16	22-Oct	15:40	17:06	1.4
W16	23-Oct	15:40	17:06	1.4
W16	24-Oct	15:39	17:05	1.4

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W16	25-Oct	15:39	17:06	1.5
W16	26-Oct	15:39	17:06	1.5
W16	27-Oct	15:38	17:05	1.5
W16	28-Oct	15:39	17:06	1.5
W16	29-Oct	15:39	17:05	1.4
W16	30-Oct	15:38	17:05	1.5
W16	31-Oct	15:39	17:05	1.4
W18	1-Jan	9:31	10:58	1.5
W18	2-Jan	9:32	10:58	1.4
W18	3-Jan	9:32	10:58	1.4
W18	4-Jan	9:33	10:59	1.4
W18	5-Jan	9:34	10:59	1.4
W18	6-Jan	9:34	9:39	0.1
W18	1-Feb	10:06	10:37	0.5
W18	2-Feb	10:10	10:33	0.4
W18	3-Feb	10:17	10:26	0.2
W18	10-Aug	18:58	19:02	0.1
W18	11-Aug	18:53	19:08	0.3
W18	12-Aug	18:50	19:10	0.3
W18	13-Aug	18:47	19:12	0.4
W18	14-Aug	18:45	19:13	0.5
W18	15-Aug	18:44	19:15	0.5
W18	16-Aug	18:42	19:16	0.6
W18	17-Aug	18:41	19:16	0.6
W18	18-Aug	18:40	19:17	0.6
W18	19-Aug	18:38	19:18	0.7
W18	20-Aug	18:37	19:18	0.7
W18	21-Aug	18:36	19:18	0.7
W18	22-Aug	18:36	19:19	0.7
W18	23-Aug	18:35	19:19	0.7
W18	24-Aug	18:34	19:19	0.8
W18	25-Aug	18:34	19:19	0.8
W18	26-Aug	18:33	19:19	0.8
W18	27-Aug	18:33	19:18	0.8
W18	28-Aug	18:32	19:18	0.8
W18	29-Aug	18:32	19:17	0.8
W18	30-Aug	18:32	19:17	0.8
W18	31-Aug	18:32	19:16	0.7

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W18	2-Oct	8:35	8:50	0.3
W18	3-Oct	8:30	8:54	0.4
W18	4-Oct	8:27	8:57	0.5
W18	5-Oct	8:24	8:59	0.6
W18	6-Oct	8:22	9:01	0.7
W18	7-Oct	8:19	9:02	0.7
W18	8-Oct	8:19	9:04	0.8
W18	9-Oct	8:17	9:05	0.8
W18	10-Oct	8:15	8:41	0.4
W21	1-Jan	8:45	9:50	1.1
W21	2-Jan	8:46	9:50	1.1
W21	3-Jan	8:46	9:50	1.1
W21	4-Jan	8:47	9:51	1.1
W21	5-Jan	8:48	9:51	1.1
W21	6-Jan	8:49	9:51	1.0
W21	7-Jan	8:49	9:52	1.1
W21	8-Jan	8:50	9:52	1.0
W21	9-Jan	8:50	9:51	1.0
W21	10-Jan	8:51	9:52	1.0
W21	11-Jan	8:52	9:52	1.0
W21	12-Jan	8:52	9:52	1.0
W21	13-Jan	8:53	9:52	1.0
W21	14-Jan	8:54	9:51	0.9
W21	15-Jan	8:55	9:52	0.9
W21	16-Jan	8:55	9:51	0.9
W21	17-Jan	8:57	9:36	0.6
W21	1-May	19:26	19:37	0.2
W21	2-May	19:27	19:39	0.2
W21	3-May	19:27	19:40	0.2
W21	4-May	19:27	19:41	0.2
W21	5-May	19:27	19:42	0.2
W21	6-May	19:28	19:43	0.2
W21	7-May	19:28	19:44	0.3
W21	8-May	19:28	19:46	0.3
W21	9-May	19:28	19:46	0.3
W21	10-May	19:28	19:47	0.3
W21	11-May	19:28	19:47	0.3
W21	12-May	19:28	19:47	0.3

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W21	13-May	19:28	19:47	0.3
W21	14-May	19:28	19:47	0.3
W21	15-May	19:28	19:47	0.3
W21	16-May	19:28	19:46	0.3
W21	17-May	19:28	19:46	0.3
W21	18-May	19:28	19:45	0.3
W21	19-May	19:28	19:45	0.3
W21	20-May	19:28	19:44	0.3
W21	21-May	19:28	19:45	0.3
W21	22-May	19:28	19:44	0.3
W21	23-May	19:28	19:43	0.2
W21	24-May	19:27	19:42	0.2
W21	25-May	19:28	19:42	0.2
W21	26-May	19:28	19:41	0.2
W21	27-May	19:27	19:40	0.2
W21	28-May	19:28	19:40	0.2
W21	29-May	19:27	19:39	0.2
W21	30-May	19:27	19:37	0.2
W21	31-May	19:27	19:37	0.2
W21	1-Jun	19:26	19:35	0.1
W21	2-Jun	19:27	19:33	0.1
W21	11-Jul	19:34	19:39	0.1
W21	12-Jul	19:35	19:42	0.1
W21	13-Jul	19:35	19:44	0.2
W21	14-Jul	19:36	19:46	0.2
W21	15-Jul	19:35	19:47	0.2
W21	16-Jul	19:36	19:48	0.2
W21	17-Jul	19:36	19:49	0.2
W21	18-Jul	19:37	19:50	0.2
W21	19-Jul	19:37	19:51	0.2
W21	20-Jul	19:38	19:52	0.2
W21	21-Jul	19:37	19:52	0.2
W21	22-Jul	19:37	19:53	0.3
W21	22-Jul	20:08	20:09	0.0
W21	23-Jul	19:38	19:54	0.3
W21	23-Jul	20:08	20:09	0.0
W21	24-Jul	19:38	19:55	0.3
W21	25-Jul	19:38	19:55	0.3

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W21	26-Jul	19:38	19:56	0.3
W21	27-Jul	19:39	19:56	0.3
W21	28-Jul	19:39	19:57	0.3
W21	29-Jul	19:39	19:57	0.3
W21	30-Jul	19:39	19:57	0.3
W21	31-Jul	19:39	19:57	0.3
W21	1-Aug	19:39	19:58	0.3
W21	2-Aug	19:39	19:58	0.3
W21	3-Aug	19:39	19:58	0.3
W21	4-Aug	19:38	19:57	0.3
W21	5-Aug	19:38	19:56	0.3
W21	6-Aug	19:38	19:55	0.3
W21	7-Aug	19:38	19:54	0.3
W21	8-Aug	19:37	19:52	0.2
W21	9-Aug	19:37	19:51	0.2
W21	10-Aug	19:36	19:50	0.2
W21	11-Aug	19:36	19:49	0.2
W21	12-Aug	19:35	19:47	0.2
W21	13-Aug	19:34	19:46	0.2
W21	14-Aug	19:34	19:44	0.2
W21	15-Aug	19:33	19:43	0.2
W21	16-Aug	19:32	19:41	0.1
W21	17-Aug	19:31	19:40	0.2
W21	18-Aug	19:30	19:39	0.2
W21	19-Aug	19:29	19:37	0.1
S01	1-Mar	16:12	17:00	0.8
S01	2-Mar	16:13	17:01	0.8
S01	3-Mar	16:12	17:00	0.8
S01	4-Mar	16:12	16:59	0.8
S01	5-Mar	16:12	16:58	0.8
S01	6-Mar	16:12	16:58	0.8
S01	7-Mar	16:12	16:57	0.8
S01	8-Mar	16:12	16:56	0.7
S01	9-Mar	16:13	16:56	0.7
S01	10-Mar	16:14	16:55	0.7
S01	11-Mar	16:14	16:19	0.1
S01	1-Jun	6:00	6:23	0.4
S01	2-Jun	6:01	6:23	0.4

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
S01	3-Jun	6:02	6:23	0.4
S01	4-Jun	6:02	6:22	0.3
S01	5-Jun	6:03	6:22	0.3
S01	6-Jun	6:04	6:22	0.3
S01	7-Jun	6:04	6:21	0.3
S01	8-Jun	6:05	6:21	0.3
S01	9-Jun	6:06	6:21	0.3
S01	10-Jun	6:07	6:21	0.2
S01	11-Jun	6:07	6:19	0.2
S01	12-Jun	6:08	6:19	0.2
S01	13-Jun	6:09	6:19	0.2
S01	14-Jun	6:10	6:18	0.1
S01	15-Jun	6:11	6:17	0.1
S01	16-Jun	6:12	6:17	0.1
S01	27-Jun	6:16	6:19	0.0
S01	28-Jun	6:15	6:20	0.1
S01	29-Jun	6:14	6:21	0.1
S01	30-Jun	6:14	6:22	0.1
S01	1-Jul	6:13	6:23	0.2
S01	2-Jul	6:13	6:24	0.2
S01	3-Jul	6:12	6:24	0.2
S01	4-Jul	6:12	6:26	0.2
S01	5-Jul	6:11	6:26	0.3
S01	6-Jul	6:11	6:27	0.3
S01	7-Jul	6:11	6:28	0.3
S01	8-Jul	6:10	6:28	0.3
S01	9-Jul	6:10	6:29	0.3
S01	10-Jul	6:10	6:30	0.3
S01	11-Jul	6:09	6:30	0.4
S01	12-Jul	6:09	6:31	0.4
S01	13-Jul	6:09	6:32	0.4
S01	14-Jul	6:08	6:33	0.4
S01	15-Jul	6:07	6:32	0.4
S01	16-Jul	6:07	6:33	0.4
S01	17-Jul	6:07	6:34	0.5
S01	18-Jul	6:07	6:34	0.5
S01	19-Jul	6:07	6:35	0.5
S01	20-Jul	6:07	6:35	0.5

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
S01	21-Jul	6:07	6:35	0.5
S01	22-Jul	6:07	6:35	0.5
S01	23-Jul	6:07	6:35	0.5
S01	24-Jul	6:07	6:35	0.5
S01	25-Jul	6:08	6:35	0.5
S01	26-Jul	6:09	6:35	0.4
S01	27-Jul	6:10	6:35	0.4
S01	28-Jul	6:11	6:35	0.4
S01	29-Jul	6:12	6:35	0.4
S01	30-Jul	6:13	6:34	0.4
S01	31-Jul	6:14	6:34	0.3
S01	1-Aug	6:15	6:33	0.3
S01	2-Aug	6:16	6:32	0.3
S01	3-Aug	6:17	6:31	0.2
S01	4-Aug	6:18	6:30	0.2
S01	5-Aug	6:19	6:28	0.1
S01	6-Aug	6:20	6:25	0.1
S01	23-Sep	17:15	17:20	0.1
S01	24-Sep	17:11	17:22	0.2
S01	25-Sep	17:08	17:24	0.3
S01	26-Sep	17:05	17:25	0.3
S01	27-Sep	17:03	17:27	0.4
S01	28-Sep	17:00	17:28	0.5
S01	29-Sep	16:58	17:29	0.5
S01	30-Sep	16:57	17:30	0.6
S01	1-Oct	16:55	17:30	0.6
S01	2-Oct	16:54	17:32	0.6
S01	3-Oct	16:53	17:32	0.7
S01	4-Oct	16:52	17:32	0.7
S01	5-Oct	16:50	17:33	0.7
S01	6-Oct	16:49	17:33	0.7
S01	7-Oct	16:48	17:33	0.8
S01	8-Oct	16:47	17:33	0.8
S01	9-Oct	16:48	17:34	0.8
S01	10-Oct	16:47	17:34	0.8
S01	11-Oct	16:46	17:34	0.8
S01	12-Oct	16:46	17:33	0.8
S01	13-Oct	16:45	17:33	0.8

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
S01	14-Oct	16:46	17:34	0.8
S01	15-Oct	16:45	17:33	0.8
S01	16-Oct	16:45	17:33	0.8
S01	17-Oct	16:45	17:32	0.8
S01	18-Oct	16:46	17:33	0.8
S01	19-Oct	16:46	17:32	0.8
S01	20-Oct	16:46	17:31	0.8
S01	21-Oct	16:46	17:31	0.8
S01	22-Oct	16:47	17:31	0.7
S01	23-Oct	16:48	17:30	0.7
S01	24-Oct	16:48	17:29	0.7
S01	25-Oct	16:50	17:29	0.7
S01	26-Oct	16:51	17:28	0.6
S01	27-Oct	16:51	17:27	0.6
S01	28-Oct	16:53	17:27	0.6
S01	29-Oct	16:55	17:26	0.5
S01	30-Oct	16:56	17:25	0.5
S01	31-Oct	16:59	17:24	0.4
S03	1-Jul	5:55	6:36	0.7
S03	2-Jul	5:56	6:36	0.7
S03	3-Jul	5:55	6:36	0.7
S03	4-Jul	5:56	6:37	0.7
S03	5-Jul	5:56	6:36	0.7
S03	6-Jul	5:56	6:37	0.7
S03	7-Jul	5:57	6:37	0.7
S03	8-Jul	5:57	6:37	0.7
S03	9-Jul	5:57	6:37	0.7
S03	10-Jul	5:58	6:37	0.7
S03	11-Jul	5:57	6:37	0.7
S03	12-Jul	5:58	6:37	0.7
S03	13-Jul	5:59	6:37	0.6
S03	14-Jul	5:59	6:37	0.6
S03	15-Jul	5:59	6:36	0.6
S03	16-Jul	6:00	6:36	0.6
S03	17-Jul	6:01	6:36	0.6
S03	18-Jul	6:02	6:36	0.6
S03	19-Jul	6:03	6:36	0.6
S03	20-Jul	6:04	6:36	0.5

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
S03	21-Jul	6:04	6:34	0.5
S03	22-Jul	6:05	6:34	0.5
S03	23-Jul	6:06	6:33	0.5
S03	24-Jul	6:07	6:32	0.4
S03	25-Jul	6:08	6:31	0.4
S03	26-Jul	6:09	6:30	0.4
S03	27-Jul	6:10	6:29	0.3
S03	28-Jul	6:11	6:27	0.3
S03	29-Jul	6:14	6:24	0.2
S03	29-Aug	7:01	7:12	0.2
S03	30-Aug	6:58	7:14	0.3
S03	31-Aug	6:56	7:15	0.3
S03	1-Sep	6:54	7:16	0.4
S03	2-Sep	6:53	7:16	0.4
S03	3-Sep	6:52	7:17	0.4
S03	4-Sep	6:51	7:17	0.4
S03	5-Sep	6:51	7:17	0.4
S03	6-Sep	6:52	7:16	0.4
S03	7-Sep	6:53	7:16	0.4
S03	8-Sep	6:54	7:15	0.4
S03	9-Sep	6:55	7:14	0.3
S03	10-Sep	6:56	7:13	0.3
S03	11-Sep	6:57	7:12	0.3
S03	12-Sep	6:58	7:10	0.2
S03	13-Sep	6:59	7:08	0.1
S03	14-Sep	7:00	7:04	0.1
W19	8-Jun	20:11	20:12	0.0
W19	9-Jun	20:09	20:13	0.1
W19	10-Jun	20:08	20:14	0.1
W19	11-Jun	20:06	20:13	0.1
W19	12-Jun	20:06	20:14	0.1
W19	13-Jun	20:06	20:15	0.1
W19	14-Jun	20:06	20:15	0.1
W19	15-Jun	20:06	20:16	0.2
W19	16-Jun	20:06	20:16	0.2
W19	17-Jun	20:06	20:16	0.2
W19	18-Jun	20:06	20:17	0.2
W19	19-Jun	20:07	20:18	0.2

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W19	20-Jun	20:07	20:18	0.2
W19	21-Jun	20:07	20:18	0.2
W19	22-Jun	20:07	20:18	0.2
W19	23-Jun	20:07	20:18	0.2
W19	24-Jun	20:08	20:19	0.2
W19	25-Jun	20:08	20:19	0.2
W19	26-Jun	20:08	20:18	0.2
W19	27-Jun	20:09	20:19	0.2
W19	28-Jun	20:09	20:19	0.2
W19	29-Jun	20:09	20:18	0.1
W19	30-Jun	20:10	20:19	0.1
W19	1-Jul	20:10	20:18	0.1
W19	2-Jul	20:11	20:19	0.1
W19	3-Jul	20:12	20:18	0.1
W19	4-Jul	20:13	20:18	0.1
W19	5-Jul	20:14	20:18	0.1
W20	2-May	6:29	6:33	0.1
W20	3-May	6:26	6:35	0.2
W20	4-May	6:22	6:35	0.2
W20	5-May	6:21	6:36	0.3
W20	6-May	6:20	6:37	0.3
W20	7-May	6:18	6:38	0.3
W20	8-May	6:18	6:38	0.3
W20	9-May	6:16	6:38	0.4
W20	10-May	6:15	6:38	0.4
W20	11-May	6:15	6:38	0.4
W20	12-May	6:14	6:38	0.4
W20	13-May	6:14	6:38	0.4
W20	14-May	6:13	6:38	0.4
W20	15-May	6:13	6:38	0.4
W20	16-May	6:13	6:38	0.4
W20	17-May	6:12	6:37	0.4
W20	18-May	6:12	6:37	0.4
W20	19-May	6:12	6:36	0.4
W20	20-May	6:12	6:36	0.4
W20	21-May	6:12	6:35	0.4
W20	22-May	6:14	6:35	0.4
W20	23-May	6:14	6:34	0.3

	-	Local Dayl	Total [by]	
Turbine ID	Date	Start Time	End Time	Total [hr]
W20	24-May	6:15	6:33	0.3
W20	25-May	6:16	6:32	0.3
W20	26-May	6:18	6:31	0.2
W20	27-May	6:19	6:29	0.2
W20	28-May	6:23	6:28	0.1
W20	1-Jun	18:43	19:13	0.5
W20	2-Jun	18:44	19:12	0.5
W20	3-Jun	18:45	19:11	0.4
W20	4-Jun	18:46	19:11	0.4
W20	5-Jun	18:48	19:10	0.4
W20	6-Jun	18:48	19:08	0.3
W20	7-Jun	18:50	19:08	0.3
W20	8-Jun	18:52	19:07	0.2
W20	9-Jun	18:54	19:06	0.2
W20	10-Jun	18:56	19:04	0.1
W20	3-Jul	19:01	19:07	0.1
W20	4-Jul	19:00	19:10	0.2
W20	5-Jul	18:58	19:11	0.2
W20	6-Jul	18:57	19:13	0.3
W20	7-Jul	18:56	19:15	0.3
W20	8-Jul	18:55	19:16	0.3
W20	9-Jul	18:54	19:17	0.4
W20	10-Jul	18:53	19:19	0.4
W20	11-Jul	18:52	19:19	0.4
W20	12-Jul	18:51	19:21	0.5
W20	13-Jul	18:51	19:22	0.5
W20	14-Jul	18:50	19:23	0.6
W20	15-Jul	18:49	19:23	0.6
W20	16-Jul	18:48	19:24	0.6
W20	17-Jul	6:30	6:38	0.1
W20	17-Jul	18:48	19:25	0.6
W20	18-Jul	6:28	6:40	0.2
W20	18-Jul	18:47	19:26	0.6
W20	19-Jul	6:27	6:42	0.3
W20	19-Jul	18:47	19:27	0.7
W20	20-Jul	6:26	6:43	0.3
W20	20-Jul	18:45	19:27	0.7
W20	21-Jul	6:24	6:43	0.3

	-	Local Dayl		
Turbine ID	Date	Start Time	End Time	Total [hr]
W20	21-Jul	18:45	19:28	0.7
W20	22-Jul	6:24	6:44	0.3
W20	22-Jul	18:44	19:29	0.8
W20	23-Jul	6:23	6:45	0.4
W20	23-Jul	18:43	19:30	0.8
W20	24-Jul	6:23	6:46	0.4
W20	24-Jul	18:43	19:30	0.8
W20	25-Jul	6:22	6:47	0.4
W20	25-Jul	18:42	19:31	0.8
W20	26-Jul	6:23	6:47	0.4
W20	26-Jul	18:42	19:32	0.8
W20	27-Jul	6:23	6:48	0.4
W20	27-Jul	18:42	19:32	0.8
W20	28-Jul	6:23	6:48	0.4
W20	28-Jul	18:41	19:33	0.9
W20	29-Jul	6:23	6:49	0.4
W20	29-Jul	18:41	19:33	0.9
W20	30-Jul	6:24	6:49	0.4
W20	30-Jul	18:40	19:34	0.9
W20	31-Jul	6:24	6:49	0.4
W20	31-Jul	18:40	19:34	0.9
W20	1-Aug	6:24	6:49	0.4
W20	1-Aug	18:39	19:34	0.9
W20	2-Aug	6:25	6:49	0.4
W20	2-Aug	18:39	19:34	0.9
W20	3-Aug	6:25	6:49	0.4
W20	3-Aug	18:39	19:35	0.9
W20	4-Aug	6:26	6:49	0.4
W20	4-Aug	18:38	19:35	0.9
W20	5-Aug	6:27	6:48	0.4
W20	5-Aug	18:38	19:35	0.9
W20	6-Aug	6:28	6:48	0.3
W20	6-Aug	18:38	19:35	0.9
W20	7-Aug	6:28	6:47	0.3
W20	7-Aug	18:37	19:35	1.0
W20	8-Aug	6:30	6:47	0.3
W20	8-Aug	18:37	19:35	1.0
W20	9-Aug	6:31	6:46	0.2

	-	Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]
W20	9-Aug	18:37	19:35	1.0
W20	10-Aug	6:33	6:44	0.2
W20	10-Aug	18:37	19:34	0.9
W20	11-Aug	6:35	6:43	0.1
W20	11-Aug	18:37	19:34	0.9
W20	12-Aug	6:39	6:41	0.0
W20	12-Aug	18:37	19:34	0.9
W20	13-Aug	18:37	19:33	0.9
W20	14-Aug	18:37	19:33	0.9
W20	15-Aug	18:37	19:32	0.9
W20	16-Aug	18:37	19:32	0.9
W20	17-Aug	18:37	19:31	0.9
W20	18-Aug	18:37	19:30	0.9
W20	19-Aug	18:38	19:29	0.9
W20	20-Aug	18:38	19:28	0.8
W20	21-Aug	18:39	19:27	0.8
W20	22-Aug	18:40	19:26	0.8
W20	23-Aug	18:40	19:24	0.7
W20	24-Aug	18:41	19:23	0.7
W20	25-Aug	18:43	19:21	0.6
W20	26-Aug	18:44	19:19	0.6
W20	27-Aug	18:46	19:16	0.5
W20	28-Aug	18:48	19:13	0.4
W20	29-Aug	18:51	19:10	0.3
W20	30-Aug	18:57	19:03	0.1
W20	25-Sep	7:22	7:29	0.1
W20	26-Sep	7:19	7:31	0.2
W20	27-Sep	7:17	7:31	0.2
W20	28-Sep	7:16	7:32	0.3
W20	29-Sep	7:16	7:32	0.3
W20	30-Sep	7:17	7:32	0.2
W20	1-Oct	7:19	7:32	0.2
W20	2-Oct	7:20	7:31	0.2
W20	3-Oct	7:21	7:30	0.1
W20	4-Oct	7:22	7:28	0.1
W20	5-Oct	7:23	7:25	0.0
S02	5-Feb	7:35	7:38	0.0
S02	6-Feb	7:34	7:39	0.1

Turking ID	Turbine ID Date		Local Daylight Time		
Turbine ID	Date	Start Time	End Time	Total [hr]	
S02	7-Feb	7:33	7:40	0.1	
S02	8-Feb	7:31	7:40	0.1	
S02	9-Feb	7:30	7:41	0.2	
S02	10-Feb	7:29	7:41	0.2	
S02	11-Feb	7:27	7:41	0.2	
S02	12-Feb	7:26	7:41	0.2	
S02	13-Feb	7:25	7:41	0.3	
S02	14-Feb	7:23	7:40	0.3	
S02	15-Feb	7:22	7:39	0.3	
S02	16-Feb	7:22	7:37	0.2	
S02	17-Feb	7:24	7:36	0.2	
S02	18-Feb	7:27	7:34	0.1	
S02	25-Oct	7:56	8:04	0.1	
S02	26-Oct	7:53	8:06	0.2	
S02	27-Oct	7:51	8:07	0.3	
S02	28-Oct	7:52	8:09	0.3	
S02	29-Oct	7:53	8:10	0.3	
S02	30-Oct	7:54	8:10	0.3	
S02	31-Oct	7:56	8:11	0.3	

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Appendix F

FAA Form 7460-1 Submission Excerpt

and

Obstruction Evaluation & Airspace Analysis

Whitetail Wind Energy Project

Grant County, Wisconsin

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Federal Aviation Administration

Notice of Proposed Construction or Alteration - Off Airport

Add a New Case (Off Airport) - Desk Reference Guide V_2018.2.1

Add a New Case (Off Airport) for Wind Turbines - Met Towers (with WT Farm) - WT-Barge Crane - Desk Reference Guide V_2018.2.1

Project Name: WHITE-000730297-22

Project Summary : WHITE-000730297-22

Structure	City, State	Lat/Long	Мар	Actions	7460-2 Received	Latest Letter
W01 Accepted 2022-WTE-3036-OE	Livington, WI	42° 51' 56.08" N 90° 27' 31.98" W	Show Map	Clone Upload a PDF Add 7460-2		None
W02 Accepted 2022-WTE-3037-OE	Livington, WI	42° 51' 51.99" N 90° 26' 59.39" W	Show Map	Clone Upload a PDF Add 7460-2		None
W03 Accepted 2022-WTE-3038-OE	Livington, WI	42° 52' 34.79" N 90° 28' 42.29" W	Show Map	Clone Upload a PDF Add 7460-2		None
W04 Accepted 2022-WTE-3039-OE	Livington, WI	42° 52' 49.69" N 90° 27' 59.57" W	Show Map	Clone Upload a PDF Add 7460-2		None
W05 Accepted 2022-WTE-3040-OE	Livington, WI	42° 52' 50.13" N 90° 27' 38.24" W	Show Map	Clone Upload a PDF Add 7460-2		None
W06 Accepted 2022-WTE-3041-OE	Livington, WI	42° 52' 49.01" N 90° 27' 16.02" W	Show Map	Clone Upload a PDF Add 7460-2		None
W07 Accepted 2022-WTE-3042-OE	Livington, WI	42° 52' 46.85" N 90° 26' 39.32" W	Show Map	Clone Upload a PDF Add 7460-2		None
W08 Accepted 2022-WTE-3043-OE	Livington, WI	42° 53' 24.23" N 90° 26' 59.90" W	Show Map	Clone Upload a PDF Add 7460-2		None
W09 Accepted 2022-WTE-3044-OE	Livington, WI	42° 53' 30.98" N 90° 28' 28.60" W	Show Map	Clone Upload a PDF Add 7460-2		None
W10 Accepted 2022-WTE-3045-OE	Livington, WI	42° 53' 53.49" N 90° 27' 30.70" W	Show Map	Clone Upload a PDF Add 7460-2		None
W11 Accepted 2022-WTE-3046-OE	Livington, WI	42° 54' 15.95" N 90° 28' 15.55" W	Show Map	Clone Upload a PDF Add 7460-2		None
W12 Accepted 2022-WTE-3047-OE	Livington, WI	42° 54' 37.02" N 90° 28' 47.38" W	Show Map	Clone Upload a PDF Add 7460-2		None
W13 Accepted 2022-WTE-3048-OE	Livington, WI	42° 54' 34.50" N 90° 29' 34.54" W	Show Map	Clone Upload a PDF Add 7460-2		None
W14 Accepted 2022-WTE-3049-OE	Livington, WI	42° 54' 33.59" N 90° 26' 25.90" W	Show Map	Clone Upload a PDF Add 7460-2		None
W15 Accepted 2022-WTE-3050-OE	Livington, WI	42° 54' 33.51" N 90° 26' 8.58" W	Show Map	Clone Upload a PDF Add 7460-2		None
W16 Accepted 2022-WTE-3051-OE	Livington, WI	42° 54' 26.34" N 90° 25' 49.20" W	Show Map	Clone Upload a PDF Add 7460-2		None
W17 Accepted 2022-WTE-3052-OE	Livington, WI	42° 55' 14.54" N 90° 26' 40.75" W	Show Map	Clone Upload a PDF Add 7460-2		None
W18 Accepted 2022-WTE-3053-OE	Livington, WI	42° 55' 35.59" N 90° 27' 22.71" W	Show Map	Clone Upload a PDF Add 7460-2		None
W19 Accepted 2022-WTE-3054-OE	Livington, WI	42° 52' 23.47" N 90° 27' 36.53" W	Show Map	Clone Upload a PDF Add 7460-2		None
W20 Accepted	Livington, WI	42° 54' 47.68" N 90° 27' 17.09" W	Show Map	Clone Upload a PDF		None

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6/23/22, 4:16 PM

Notice of Proposed Construction or Alteration - Off Airport

2022-WTE-3055-OE				Add 7460-2	
W21 Accepted 2022-WTE-3056-OE	Livington, WI	42° 53' 42.91" N 90° 28' 47.92" W	🍼 Show Map	Clone Upload a PDF Add 7460-2	None
S01 Accepted 2022-WTE-3057-OE	Livington, WI	42° 53' 53.50" N 90° 27' 15.06" W	Show Map	Clone Upload a PDF Add 7460-2	None
S02 Accepted 2022-WTE-3058-OE	Livington, WI	42° 52' 48.54" N 90° 26' 26.91" W	Show Map	Clone Upload a PDF Add 7460-2	None
S03 Accepted 2022-WTE-3059-OE	Livington, WI	42° 53' 39.54" N 90° 27' 4.11" W	Show Map	Clone Upload a PDF Add 7460-2	None
S04 Accepted 2022-WTE-3060-OE	Livington, WI	42° 53' 47.53" N 90° 28' 12.30" W	Show Map	Clone Upload a PDF Add 7460-2	None
S05 Accepted 2022-WTE-3061-OE	Livington, WI	42° 53' 1.52" N 90° 28' 51.64" W	Show Map	Clone Upload a PDF Add 7460-2	None
S07 Accepted 2022-WTE-3062-OE	Livington, WI	42° 54' 59.09" N 90° 29' 58.96" W	🍼 Show Map	Clone Upload a PDF Add 7460-2	None

Mapping - Desk Reference Guide V_2018.2.0 Attaching Documents - Desk Reference Guide V_2018.2.0

Upload a PDF to the Project

Draft: Cases that have been saved by the user but have not been submitted to the FAA.

Waiting: Wind Turbine/Met Tower (w/WT Farm) cases that have not been submitted to the FAA and are waiting for an action from the user, either to verify the map or attach specific documents

Accepted: Cases that have been submitted to the FAA.

Add Letter: Cases that have been reviewed by the FAA and require additional information from the user.

Work in Progress: Cases that are being evaluated by the FAA.

Interim: Cases that have been reviewed by the FAA and require resolution from the user.

Determined: Cases that have a completed aeronautical study and an FAA determination.

Terminated: Cases that are no longer valid.

Please allow the FAA a minimum of 45 days to complete a study.

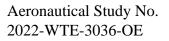
Case Transfer:

• Use the check box(es) to select the case(s) you want to transfer.

• Select the "Transfer Cases button" to open the "Manage Transfer Cases" screen.

Note: Drafts and cases in Add and Terminated status can not be transferred.

Click here to contact the appropriate representative.





Mail Processing Center Federal Aviation Administration Southwest Regional Office Obstruction Evaluation Group 10101 Hillwood Parkway Fort Worth, TX 76177

Issued Date: 11/23/2022

Jay Regnier Whitetail Wind, LLC 618 2nd Avenue SE Minneapolis, MN 55406

**** DETERMINATION OF NO HAZARD TO AIR NAVIGATION ** (CORRECTION)**

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure:	Wind Turbine W01
Location:	Livington, WI
Latitude:	42-51-56.08N NAD 83
Longitude:	90-27-31.98W
Heights:	1148 feet site elevation (SE)
	698 feet above ground level (AGL)
	1846 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

As a condition to this Determination, the structure is to be marked/lighted in accordance with FAA Advisory circular 70/7460-1 M, Obstruction Marking and Lighting, white paint/synchronized red lights-Chapters 4,13(Turbines),&15.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (877) 487-6867 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

__X__ At least 10 days prior to start of construction (7460-2, Part 1)
 __X__ Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

See attachment for additional condition(s) or information.

This determination expires on 05/23/2024 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is subject to review if an interested party files a petition that is received by the FAA on or before December 23, 2022. In the event an interested party files a petition for review, it must contain a full statement of the basis upon which the petition is made. Petitions can be submitted to the Manager of the Rules and Regulations Group via e-mail at OEPetitions@faa.gov, via mail to Federal Aviation Administration, Air Traffic Organization, Rules and Regulations Group, Room 425, 800 Independence Ave, SW, Washington, DC 20591, or via facsimile (202) 267-9328. FAA encourages the use of email to ensure timely processing.

This determination becomes final on January 02, 2023 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Rules and Regulations Group via telephone - 202-267-8783.

This determination is based, in part, on the foregoing description which includes specific coordinates and heights. This determination is valid for coordinates within one (1) second latitude/longitude and up to the approved AMSL height listed above. If a certified 1A or 2C accuracy survey was required to mitigate an adverse effect, any change in coordinates or increase in height will require a new certified accuracy survey and may require a new aeronautical study.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

Additional wind turbines or met towers proposed in the future may cause a cumulative effect on the national airspace system. All information from submission of Supplemental Notice (7460-2 Part 2) will be considered the final data (including heights) for this structure. Any future construction or alteration, including but not limited to changes in heights, requires separate notice to the FAA.

Obstruction marking and lighting recommendations for wind turbine farms are based on the scheme for the entire project. ANY change to the height, location or number of turbines within this project will require a reanalysis of the marking and lighting recommendation for the entire project. In particular, the removal of previously planned or built turbines/turbine locations from the project will often result in a change in the marking/lighting recommendation for other turbines within the project. It is the proponent's responsibility to contact the FAA to discuss the process for developing a revised obstruction marking and lighting plan should this occur.

In order to ensure proper conspicuity of turbines at night during construction, all turbines should be lit with temporary lighting once they reach a height of 200 feet or greater until such time the permanent lighting configuration is turned on. As the height of the structure continues to increase, the temporary lighting should be relocated to the uppermost part of the structure. The temporary lighting may be turned off for periods when they would interfere with construction personnel. If practical, permanent obstruction lights should be installed

and operated at each level as construction progresses. An FAA Type L-810 steady red light fixture shall be used to light the structure during the construction phase. If power is not available, turbines shall be lit with self-contained, solar powered LED steady red light fixture that meets the photometric requirements of an FAA Type L-810 lighting system. The lights should be positioned to ensure that a pilot has an unobstructed view of at least one light at each level. The use of a NOTAM (D) to not light turbines within a project until the entire project has been completed is prohibited.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

If we can be of further assistance, please contact Paul Holmquist, at (206) 231-2990, or paul.holmquist@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2022-WTE-3036-OE.

Signature Control No: 538985318-562469396 Mike Helvey Manager, Obstruction Evaluation Group (DNH-WT)

Attachment(s) Additional Information Map(s)

Additional information for ASN 2022-WTE-3036-OE

All FAA determinations and circularized cases are public record and available at the FAA's public website; https://oeaaa.faa.gov. The distribution for proposals circularized for public comments includes all "known" aviation interested persons and those who do not have an aeronautical interest but may become involved with specific aeronautical studies. Notification includes both postcard mailers and email notifications to those with registered FAA accounts. The FAA does not have a database for all persons with an aeronautical and non-aeronautical interest. Therefore, the public is encouraged to re-distribute and forward notices of circularized cases to the maximum extent possible. Additionally, it is incumbent upon local state, county and city officials to share notice of circularized cases with their concerned citizens.

A list of commonly used acronyms and abbreviations is available at the end of this document. A full list is available at the FAA's public website at https://oeaaa.faa.gov/oeaaa/downloads/external/content/ FAA_Acronyms.pdf .

The proposed Whitetail wind turbine project near Livingston, WI consists of 27 wind turbines.

The proposed wind turbine project lies approximately between 1.9 NM north northwest to 3.1 NM west northwest to 2.3 NM south southwest from the town of Livingston, WI.

For the sake of efficiency, the 27 turbines in this project that have similar impacts to 14 CFR Part 77 standards are included in this narrative.

LAT/LONG

1. LOCATION OF PROPOSED CONSTRUCTION

Structure Name AGL/AMSL

ASN

The wind turbines' described heights and locations are expressed in AGL/AMSL and latitude/longitude.

	Structure Maine ROL/RIVISE	
2022-WTE-303	36-OE / W01 / 698 / 1846 / 42-51-50	6.08N / 90-27-31.98W
2022-WTE-303	37-OE / W02 / 698 / 1803 / 42-51-5	1.99N / 90-26-59.39W
2022-WTE-303	38-OE / W03 / 698 / 1862 / 42-52-34	4.79N / 90-28-42.29W
2022-WTE-303	39-OE / W04 / 698 / 1818 / 42-52-49	9.69N / 90-27-59.57W
2022-WTE-304	40-OE / W05 / 698 / 1849 / 42-52-50	0.13N / 90-27-38.24W
2022-WTE-304	41-OE / W06 / 698 / 1830 / 42-52-49	9.01N / 90-27-16.02W
2022-WTE-304	42-OE / W07 / 698 / 1805 / 42-52-40	6.85N / 90-26-39.32W
2022-WTE-304	43-OE / W08 / 698 / 1841 / 42-53-24	4.23N / 90-26-59.90W
2022-WTE-304	44-OE / W09 / 698 / 1810 / 42-53-30	0.98N / 90-28-28.60W
2022-WTE-304	45-OE / W10 / 698 / 1841 / 42-53-53	
2022-WTE-304	46-OE / W11 / 698 / 1829 / 42-54-1	5.95N / 90-28-15.55W
	47-OE / W12 / 698 / 1786 / 42-54-3'	
2022-WTE-304	48-OE / W13 / 698 / 1751 / 42-54-34	4.50N / 90-29-34.54W
	49-OE / W14 / 698 / 1849 / 42-54-3	
	50-OE / W15 / 698 / 1865 / 42-54-3	
	51-OE / W16 / 698 / 1850 / 42-54-20	
	52-OE / W17 / 698 / 1850 / 42-55-14	
	53-OE / W18 / 698 / 1831 / 42-55-3	
	54-OE / W19 / 499 / 1652 / 42-52-2.	
2022-WTE-305	55-OE / W20 / 499 / 1623 / 42-54-4'	7.68N / 90-27-17.09W

2022-WTE-3056-OE / W21 / 499 / 1570 / 42-53-42.91N / 90-28-47.92W 2022-WTE-3057-OE / S01 / 698 / 1852 / 42-53-53.50N / 90-27-15.06W 2022-WTE-3058-OE / S02 / 698 / 1799 / 42-52-48.54N / 90-26-26.91W 2022-WTE-3059-OE / S03 / 698 / 1838 / 42-53-39.54N / 90-27-04.11W 2022-WTE-3060-OE / S04 / 698 / 1809 / 42-53-47.53N / 90-28-12.30W 2022-WTE-3061-OE / S05 / 698 / 1842 / 42-53-01.52N / 90-28-51.64W 2022-WTE-3062-OE / S07 / 499 / 1575 / 42-54-59.09N / 90-29-58.96W

2. 14 CFR PART 77 OBSTRUCTION STANDARDS EXCEEDED

The following proposed turbines would exceed 14 CFR Part 77 standards as described below.

a. Section 77.17(a)(1): The surface above 499 feet AGL, in which an object would be an obstruction to aircraft operating under VFR conditions in the en route phase of flight established under 77.17, 77.19, or 77.23.

23 of the 27 proposed wind turbines listed in Section 1 of this narrative would exceed the surface by 199 feet.

b. Section 77.17 (a)(3): A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

The following 20 proposed structures would have the following effect: Boscobel Airport (OVS) Boscobel WI, RWY 25 RNAV (GPS), increase Minimum Safe Altitude (MSA) from 2800 to 2900 AMSL.

2022-WTE-3036-OE 2022-WTE-3037-OE 2022-WTE-3038-OE 2022-WTE-3039-OE 2022-WTE-3040-OE 2022-WTE-3041-OE 2022-WTE-3042-OE 2022-WTE-3043-OE 2022-WTE-3044-OE 2022-WTE-3045-OE 2022-WTE-3046-OE 2022-WTE-3049-OE 2022-WTE-3050-OE 2022-WTE-3051-OE 2022-WTE-3052-OE 2022-WTE-3053-OE 2022-WTE-3057-OE 2022-WTE-3059-OE 2022-WTE-3060-OE 2022-WTE-3061-OE

3. EFFECT ON AERONAUTICAL OPERATIONS

a. Section 77.29 (a)(1): the impact on arrival, departure, and en route procedures for aircraft operating under visual flight rules.

At 656 feet AGL, all of the proposed wind turbine would extend into airspace normally utilized for VFR en route flight by 199 feet. The structures would be located within 2 statute miles of a VFR Route as defined by FAA Order 7400.2, Section 6-3-8 and would have an adverse effect upon VFR air navigation.

b. Section 77.29(a)(6): effect on ATC radar, direction finders, ATC tower line-of-sight visibility, and physical or electromagnetic effects on air navigation, communication facilities, and other surveillance systems.

The FAA's Technical Operations office indicated that 20 proposed turbines in this project would have a physical and/or electromagnetic radiation effect upon the Arlington-IA (QJO) Common Air Route Surveillance Radar (CARSR).

4. CIRCULATION AND COMMENTS RECEIVED

The proposed wind turbine project was originally circulated for public comment under ASN 2020-WTE-7648-OE, on 3 February 2021 and the public comment period closed on 12 March 2021. No comments were received by 12 March 2021. This proposal is relatively the same project with a few minor changes in location and an additional eight proposed wind turbines generally within 1.4 NM of the original project area. The studies described in this narrative did not cause any additional adverse effects as described in the original public notice, therefore, public notice for comment was deemed unnecessary. MSA adverse effects were not circularized to the public for comments because MSA altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control (ATC). Consequently, MSAs are not circulated for public comment as they are not considered a factor in determining the extent of adverse effect.

5. BASIS FOR DECISION

a. IFR EFFECTS

The aeronautical study identified an MSA increase to the Boscobel Airport (OVS) Boscobel WI, RWY 25 RNAV (GPS) terminal approach procedure. MSA altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control (ATC). Consequently, MSAs are not circulated for public comment as they are not considered a factor in determining the extent of adverse effect.

b. VFR EFFECTS

Study for possible VFR effect disclosed that the proposed structures would have no effect on any existing or proposed arrival or departure VFR operations or procedures. 23 of the 27 proposed wind turbines in this project exceed the Part 77 Section 77.17(a)(1) surface by 199 feet, however, no substantial adverse effect was found and no issues were raised during the original public comment period. At 698 feet AGL, the structures would be within the altitudes commonly used for en route VFR flight. In coordination with ATC, an analysis of potential VFR Routes and available traffic data indicated that an average of less than one VFR aircraft per day may be affected by the proposed wind farm. In accordance with FAA Order 7400.2, the proposed wind farm would not affect a significant volume of aircraft and therefore it is determined it will not have a substantial adverse effect on en route VFR flight operations.

c. RADAR EFFECTS

The aeronautical study identified 20 of the proposed turbines as being within the RLOS for the Arlington-IA (QJO) Common Air Route Surveillance Radar (CARSR). Impacts to radar only require a review by the responsible ATC facility and military services. Further study determined the structures would have no substantial adverse effect on military or air traffic operations at this time.

d. CHARTING AND CUMULATIVE EFFECT

The proposed structures would be charted on VFR sectional aeronautical charts and appropriately obstruction marked/lighted to make them more conspicuous to airmen should circumnavigation be necessary.

The cumulative impact of the proposed structures, when combined with other proposed and existing structures, is not considered to be significant. Study did not disclose any substantial adverse effect on existing or proposed public-use or military airports or navigational facilities, nor would the proposals affect the capacity of any known existing or planned public-use or military airport.

6. DETERMINATION - NO HAZARD TO AIR NAVIGATION

It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on any air navigation facility and would not be a hazard to air navigation provided the conditions set forth in this determination are met.

7. CONDITIONS

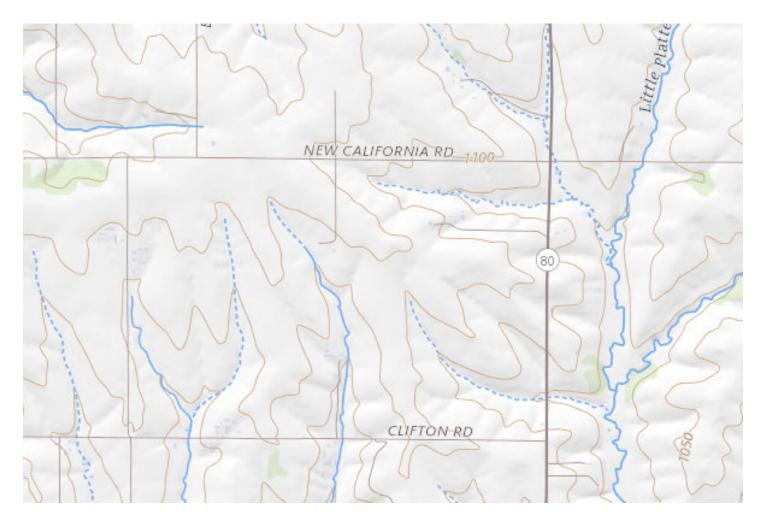
For the following studies as identified by their ASN, at least ten (10) days before the start of construction the proponent is required to file a FAA form 7460-2, Part 1, Actual Construction notification, at the OE/AAA website (http://oeaaa.faa.gov). This actual construction notification will be used to update published instrument flight procedures.

2022-WTE-3036-OE 2022-WTE-3037-OE 2022-WTE-3038-OE 2022-WTE-3039-OE 2022-WTE-3040-OE 2022-WTE-3041-OE 2022-WTE-3042-OE 2022-WTE-3043-OE 2022-WTE-3044-OE 2022-WTE-3045-OE 2022-WTE-3046-OE 2022-WTE-3049-OE 2022-WTE-3050-OE 2022-WTE-3051-OE 2022-WTE-3052-OE 2022-WTE-3053-OE 2022-WTE-3057-OE 2022-WTE-3059-OE 2022-WTE-3060-OE 2022-WTE-3061-OE

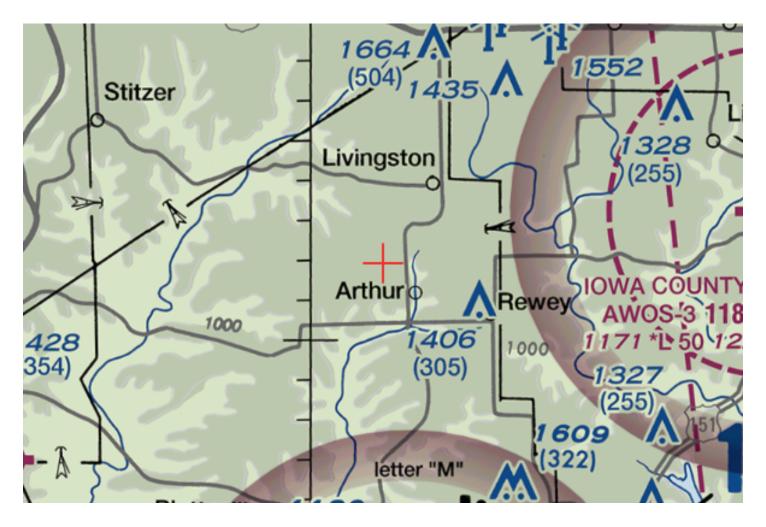
Additionally, within five days after each of the 27 structures reaches its greatest height, proponent is required to file a FAA form 7460-2, Actual Construction notification, at the OE/AAA website (http://oeaaa.faa.gov). This actual construction notification will be the source document detailing the site location, site elevation, structure height, and date structure was built for the FAA to map the structure on aeronautical charts and update the national obstruction database.

ACRONYMS & ABBREVIATIONS AGL, Above Ground Level AMSL, Above Mean Sea Level ARP, Airport Reference Point ARSR. Air Route Surveillance Radar ARTCC, Air Route Traffic Control Center ASN, Aeronautical Study Number ASR, Airport Surveillance Radar ATC, Air Traffic Control ATCT. Air Traffic Control Tower CARSR, Common Air Route Surveillance Radar CFR, Code of Federal Regulations DME, Distance Measuring Equipment FAA, Federal Aviation Administration FUS, Fusion GPS, Global Positioning System IFR, Instrument Flight Rules LAT. Latitude LONG, Longitude Min, Minimum MSL, Mean Sea Level MVA, Minimum Vectoring Altitude NA, Not Authorized NAS, National Airspace System NEH, No Effect Height NM, Nautical Mile NOTAM, Notice to Airmen NPF, Notice of Preliminary Findings OE, Obstruction Evaluation Part 77 - Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace. RLOS, Radar Line of Sight SE, Site Elevation SM, Statute Miles **TERPS**, Terminal Instrument Procedures V, Victor Airway VFR, Visual Flight Rules WTE, Wind Turbine East WTW, Wind Turbine West

TOPO Map for ASN 2022-WTE-3036-OE



Sectional Map for ASN 2022-WTE-3036-OE



Whitetail Wind Project

Whitetail Wind, LLC Grant and Iowa Counties, Wisconsin

Obstruction Evaluation & Airspace Analysis

December 9, 2020



Capitol Airspace Group capitolairspace.com (703) 256 - 2485



Summary

Capitol Airspace conducted an obstruction evaluation and airspace analysis for the Whitetail wind project in Grant and Iowa Counties, Wisconsin. The purpose for this analysis was to identify obstacle clearance surfaces established by the Federal Aviation Administration (FAA) that could limit the placement of 624 and 693-foot above ground level (AGL) wind turbines, as well as a 394 or 427-foot AGL MET tower. At the time of this analysis, 19 wind turbine locations (black points, *Figure 1*) and one MET tower location (gray triangle, *Figure 1*) had been identified. This analysis assessed height constraints overlying each location as well as an approximately 38-square-mile study area (black outline, *Figure 1*) to aid in identifying optimal wind turbine locations.

14 CFR Part 77.9 requires that that all structures exceeding 200 feet AGL be submitted to the FAA so that an aeronautical study can be conducted. The FAA's objective in conducting aeronautical studies is to ensure that proposed structures do not affect the safety of air navigation or the efficient utilization of navigable airspace by aircraft. The result of an aeronautical study is the issuance of a determination of 'hazard' or 'no hazard' that can be used by the proponent to obtain necessary local construction permits. It should be noted that the FAA has no control over land use in the United States and cannot enforce the findings of its studies.

The lowest obstacle clearance surfaces overlying the Whitetail wind project range from 1,921 to 2,000 feet above mean sea level (AMSL) and are associated with instrument departure procedures and instrument approach procedures. Proposed structures that exceed these surfaces would require an increase to instrument departure procedure minimum climb gradients and instrument approach procedure minimum altitudes. If the FAA determines that any of these impacts would affect as few as one operation per week, it could result in determinations of hazard. However, United States Geological Survey (USGS) elevation data indicates that these surfaces should not limit 624 or 693-foot AGL wind turbines, or a 394 or 427-foot AGL MET tower within the defined study area.

This study did not consider electromagnetic interference on FAA communication or surveillance radar systems. However, the study area is located in an area designated as 'Yellow' by the FAA/DoD Long Range Radar Screening Tool. Impact on surveillance radar systems can result in determinations of hazard regardless of the lack of impact on the physical airspace surfaces described in this report.

Capitol Airspace applies FAA defined rules and regulations applicable to obstacle evaluation, instrument procedures assessment and visual flight rules (VFR) operations to the best of its ability and with the intent to provide the most accurate representation of limiting airspace surfaces as possible. Capitol Airspace maintains datasets obtained from the FAA which are updated on a 28-day cycle. The results of this analysis are based on the most recent data available as of the date of this report. Limiting airspace surfaces depicted in this report are subject to change due to FAA rule changes and regular procedure amendments. Therefore, it is of the utmost importance to obtain FAA determinations of no hazard prior to making substantial financial investments in this project.

1



Methodology

Capitol Airspace studied the proposed project based on location information provided by Whitetail Wind, LLC. Using this information, Capitol Airspace generated graphical overlays to determine proximity to airports (*Figure 1*), published instrument procedures, enroute airways, FAA minimum vectoring altitude and minimum instrument flight rules (IFR) altitude charts, as well as military airspace and training routes.

Capitol Airspace evaluated all 14 CFR Part 77 imaginary surfaces, published instrument approach and departure procedures, visual flight rules operations, FAA minimum vectoring altitudes, minimum IFR altitudes, and enroute operations. All formulas, headings, altitudes, bearings and coordinates used during this study were derived from the following documents and data sources:

- 14 CFR Part 77 Safe, Efficient Use, and Preservation of the Navigable Airspace
- FAA Order 7400.2M Procedures for Handling Airspace Matters
- FAA Order 8260.3E United States Standard for Terminal Instrument Procedures
- FAA Order 8260.58B United States Standard for Performance Based Navigational (PBN) Instrument Procedure Design
- Technical Operations Evaluation Desk Guide for Obstruction Evaluation/Airport Airspace Analysis (1.5.1)
- United States Government Flight Information Publication, US Terminal Procedures
- National Airspace System Resource Aeronautical Data

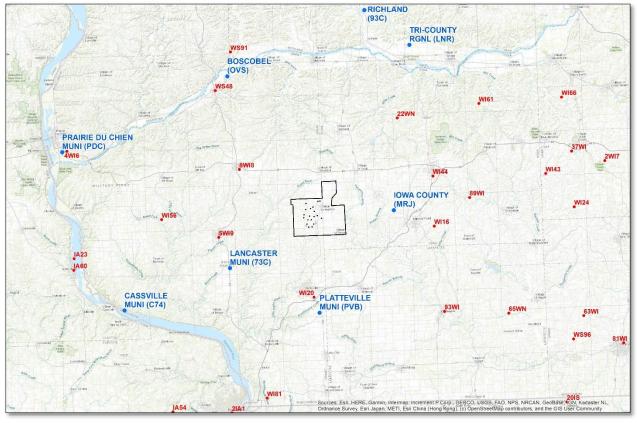


Figure 1: Public-use (blue) and private-use (red) airports in proximity to the Whitetail wind project



Study Findings

14 CFR Part 77.17(a)(2) Obstruction Standard and 77.19/21/23 Imaginary Surfaces

The FAA uses level and sloping imaginary surfaces to determine if a proposed structure is an obstruction to air navigation. Structures that are identified as obstructions are then subject to a full aeronautical study and increased scrutiny. However, exceeding a Part 77 imaginary surface does not automatically result in the issuance of a determination of hazard. Proposed structures must have airspace impacts that constitute a substantial adverse effect in order to warrant the issuance of determinations of hazard.

14 CFR Part 77.17(a)(2) obstruction standards (dashed blue, *Figure 2*) overlying the Whitetail wind project:

Iowa County (MRJ)

77.17(a)(2): 1,652 to 1,669 feet AMSL

At 624 and 693 feet AGL, wind turbines in the eastern section of the study area (orange and yellow areas, *Figure 2*) would exceed this surface and will be identified as obstructions. However, none of the proposed locations are located in this area. Additionally, USGS elevation data indicates that this surface should not limit a 394 or 427-foot AGL MET tower within the defined study area.

At 624 and 693 feet AMSL, proposed wind turbines will exceed 77.17(a)(1) - a height of 499 feet AGL at the site of the object – and will be identified as obstructions regardless of location.

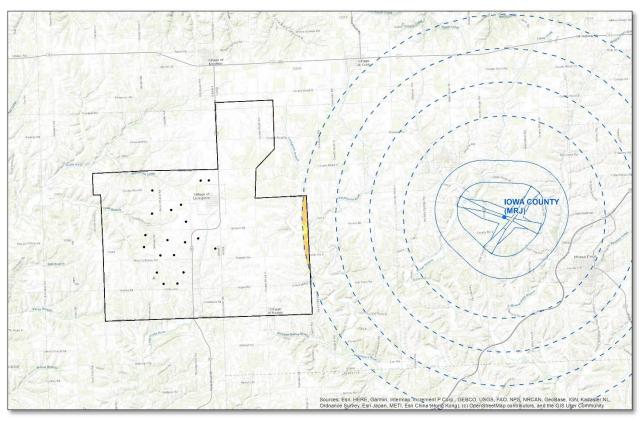


Figure 2: Iowa County (MRJ) 77.17(a)(2) obstruction standard (dashed blue) and 77.19 (solid blue) imaginary surfaces



Visual Flight Rules (VFR) Traffic Pattern Airspace

VFR traffic pattern airspace is used by pilots operating during visual meteorological conditions (VMC). The airspace dimensions are based upon the category of aircraft which, in turn, is based upon the approach speed of the aircraft. 14 CFR Part 77.17(a)(2) and 77.19 (as applied to a *visual* runway) imaginary surfaces establish the obstacle clearance surface heights within VFR traffic pattern airspace.

VFR traffic pattern airspace does not overlie the Whitetail wind project and should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (*Figure 3*).

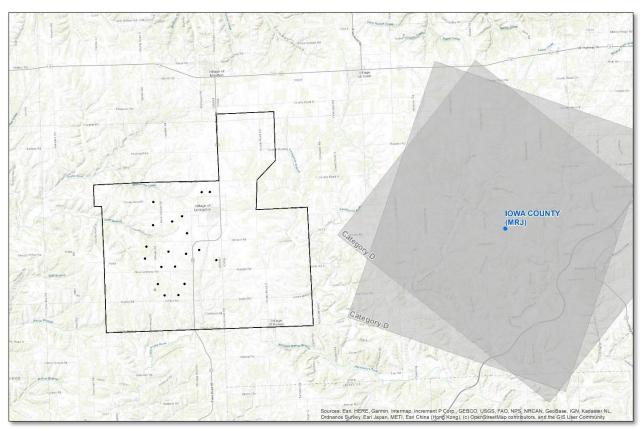


Figure 3: VFR traffic pattern airspace in proximity to the Whitetail wind project



Visual Flight Rules (VFR) Routes

During periods of marginal VMC – low cloud ceilings and one statute mile visibility – pilots often operate below the floor of controlled airspace. Operating under these weather conditions requires pilots to remain within one statute mile of recognizable landmarks such as roads, rivers, and railroad tracks. The FAA protects for known and regularly used VFR routes by limiting structure heights within two statute miles of these routes to no greater than 14 CFR Part 77.17(a)(1) – a height of 499 feet AGL at the site of the object.

The Whitetail wind project is located in proximity to highways and transmission lines that may be used as VFR routes (*Figure 4*). There is no dataset that identifies VFR routes or their utilization. However, a traffic flow analysis can be conducted to assess historical radar flight track data and identify regularly used low-level routes.¹ If the FAA determines that VFR routes are flown regularly (as few as once per day), they could limit wind development in excess of 499 feet AGL and within two statute miles of these landmarks (hatched orange, *Figure 4*).

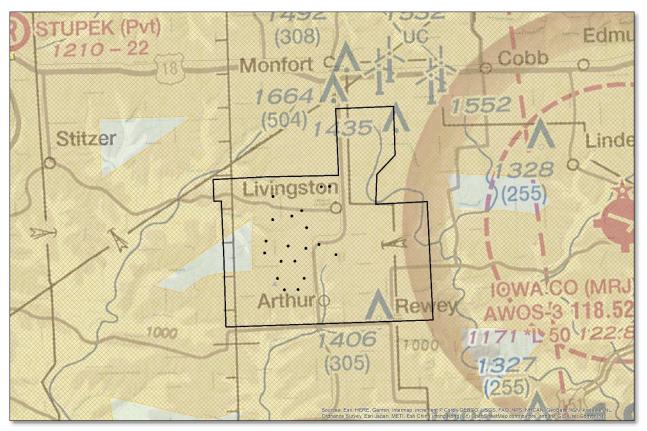


Figure 4: Potential VFR routes in proximity to the Whitetail wind project

¹ Radar coverage must be adequate to detect low level VFR flights.



Instrument Departures

In order to ensure that aircraft departing during marginal weather conditions do not fly into terrain or obstacles, the FAA publishes instrument departure procedures that provide obstacle clearance to pilots as they transition between the terminal and enroute environments. These procedures contain specific routing and minimum climb gradients to ensure clearance from terrain and obstacles.

Proposed structures that exceed instrument departure procedure obstacle clearance surfaces would require an increase to instrument departure procedure minimum climb gradients. If the FAA determines that this impact would affect as few as one instrument departure per week, it could be used as the basis for determinations of hazard.

Iowa County (MRJ)

Obstacle Departure Procedure

Obstacle clearance surfaces (purple contours, *Figure 5*) range from 1,921 to 2,920 feet AMSL and are the lowest height constraints overlying the eastern section of the study area. However, USGS elevation data indicates that these surfaces should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure 5*).

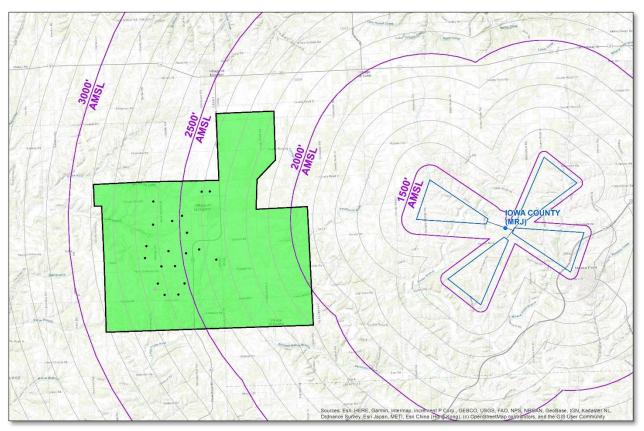


Figure 5: Iowa County (MRJ) obstacle departure procedure assessment



Instrument Approaches

Pilots operating during periods of reduced visibility and low cloud ceilings rely on terrestrial and satellite based navigational aids (NAVAIDS) in order to navigate from one point to another and to locate runways. The FAA publishes instrument approach procedures that provide course guidance to on-board avionics that aid the pilot in locating the runway. Capitol Airspace assessed a total of 28 published instrument approach procedures at seven public-use airports in proximity to the Whitetail wind project: ^{2, 3}

Richland (93C)

RNAV (GPS)-A Circling Approach

Dubuque Regional (DBQ)

ILS or Localizer Approach to Runway 36 RNAV (GPS) Approach to Runway 13 RNAV (GPS) Approach to Runway 18 RNAV (GPS) Approach to Runway 31 RNAV (GPS) Approach to Runway 36 Localizer/DME BC Approach to Runway 13 Localizer Approach to Runway 31 VOR Approach to Runway 31 VOR Approach to Runway 31

Tri-County Regional (LNR)

RNAV (GPS) Approach to Runway 09 RNAV (GPS) Approach to Runway 27 Localizer Approach to Runway 27 VOR-A Circling Approach

Iowa County (MRJ)

RNAV (GPS) Approach to Runway 04 RNAV (GPS) Approach to Runway 11 RNAV (GPS) Approach to Runway 22 RNAV (GPS) Approach to Runway 29

Boscobel (OVS)

RNAV (GPS) Approach to Runway 07 RNAV (GPS) Approach to Runway 25

Prairie Du Chien Municipal (PDC)

RNAV (GPS) Approach to Runway 14 RNAV (GPS) Approach to Runway 29 RNAV (GPS) Approach to Runway 32

Platteville Municipal (PVB)

RNAV (GPS) Approach to Runway 07 RNAV (GPS) Approach to Runway 15 RNAV (GPS) Approach to Runway 25 RNAV (GPS) Approach to Runway 33

Proposed wind turbines that exceed instrument approach procedure obstacle clearance surfaces would require an increase to their minimum altitudes. Increases to these altitudes, especially critical *decision altitudes (DA)* and *minimum descent altitudes (MDA)*, can directly impact the efficiency of instrument approach procedures. If the FAA determines this impact would affect as few as one operation per week, it could be used as the basis for determinations of hazard.

² Capitol Airspace assessed instrument approach procedures within 30 nautical miles (NM) of the study area. Although approach surfaces – including Terminal Arrival Areas (TAA), feeder segments, and initial segments – from airports further than 30 NM may overlie the study area, the obstacle clearance surfaces present a lower risk to projects than the surfaces identified in this report. Therefore, height constraints associated with instrument approach surfaces for airports beyond 30 NM were not considered and are not included in the **Composite Map**.

³ Multiple minimum safe altitudes (MSA) overlie the study area. However, MSAs are for emergency use only and cannot be used as the basis for determinations of hazard in accordance with FAA Order 7400.2M Paragraph 6-3-9(e)(5). Therefore, height constraints associated with MSAs were not considered and are not included in the *Composite Map*.



Prairie Du Chien Municipal (PDC)

RNAV (GPS) Approach to Runway 29

The *30 NM to UWEVY* straight-in terminal arrival area (TAA) minimum altitude is 3,000 feet AMSL. The obstacle clearance surface is 2,000 feet AMSL and is one of the lowest height constraints overlying most of the study area. However, USGS elevation data indicates that this surface should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure 6*).

RNAV (GPS) Approach to Runway 32

The *30 NM to TEVEE* straight-in TAA minimum altitude is 3,000 feet AMSL. The obstacle clearance surface is 2,000 feet AMSL and is one of the lowest height constraints overlying most of the study area. However, USGS elevation data indicates that this surface should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area.

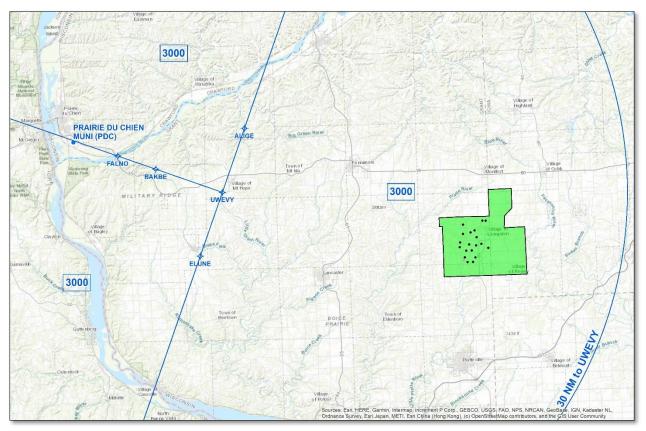


Figure 6: Prairie Du Chien Municipal (PDC) RNAV (GPS) Approach to Runway 29 TAAs (blue outline)



Platteville Municipal (PVB)⁴

RNAV (GPS) Approach to Runway 15

The *BAULK* to *KAVLY* feeder segment and the *KAVLY* to *CEWUF* initial approach segment minimum altitudes are 3,000 feet AMSL. The primary area obstacle clearance surfaces (purple outline, *Figure* 7) are 2,000 feet AMSL and are some of the lowest height constraints overlying most of the study area. However, USGS elevation data indicates that these surfaces should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure* 7).

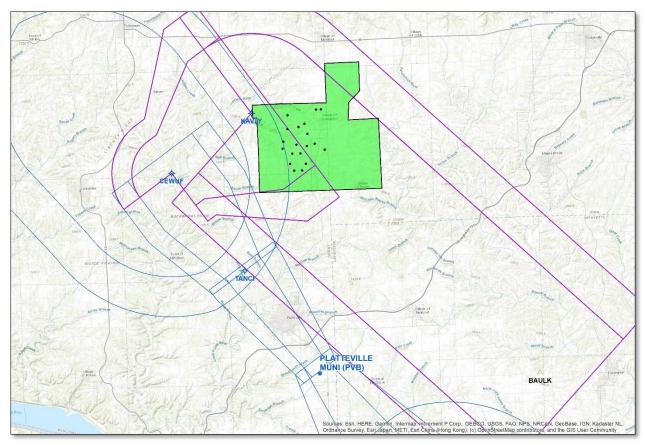


Figure 7: Platteville Municipal (PVB) RNAV (GPS) Approach to Runway 15 with LNAV final and missed approach segments

⁴ Platteville (PVB) RNAV (GPS) instrument approach procedures original publication dates indicate that they were designed with legacy FAA Order 8260.38/48 instrument approach procedure design criteria. As a result, it is likely that the FAA will use legacy criteria to assess for impact on these approach procedures.



Platteville Municipal (PVB) – continued

RNAV (GPS) Approach to Runway 25

The *ISINY* to *IDUBE* feeder segment minimum altitude is 3,000 feet AMSL. The primary area obstacle clearance surface (purple outline, *Figure 8*) is 2,000 feet AMSL and is one of the lowest height constraints overlying the most of the study area. However, USGS elevation data indicates that these surfaces should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure 8*).

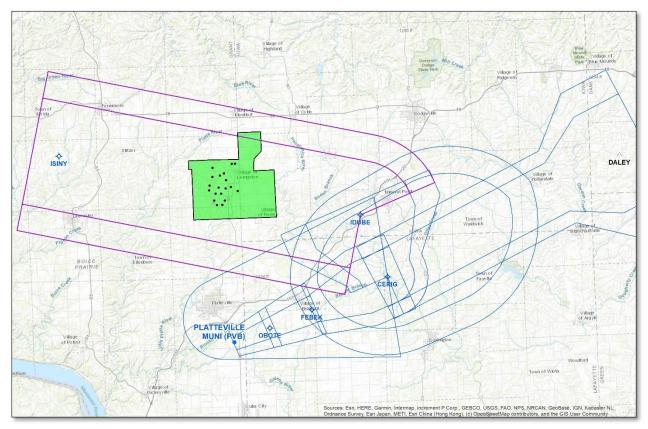


Figure 8: Platteville Municipal (PVB) RNAV (GPS) Approach to Runway 25 with LNAV final and missed approach segments



Enroute Airways

Enroute airways provide pilots a means of navigation when flying from airport to airport and are defined by radials between VHF omni-directional ranges (VORs). The FAA publishes minimum altitudes for airways to ensure clearance from obstacles and terrain. The FAA requires that each airway have a minimum obstacle clearance of 1,000 feet in non-mountainous areas and normally 2,000 feet in mountainous areas.

Proposed structures that exceed enroute airway obstacle clearance surfaces would require an increase to their minimum obstruction clearance altitudes (MOCA) and/or minimum enroute altitudes (MEA). If the FAA determines that this impact would affect as few as one enroute airway operation per week, it could be used as the basis for determinations of hazard.

Low altitude enroute airway obstacle clearance surfaces do not overlie Whitetail wind project and should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (*Figure 9*).

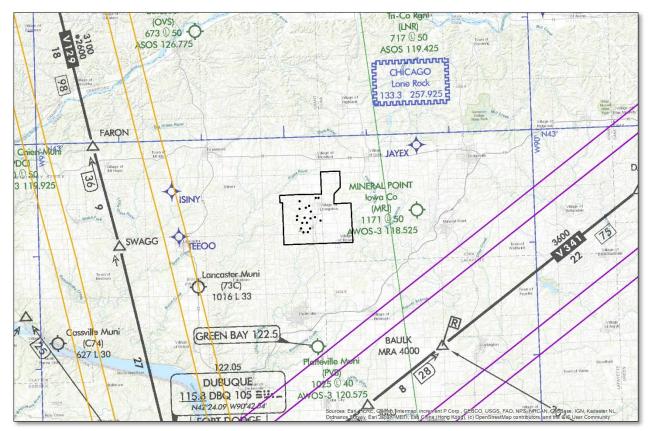


Figure 9: Low altitude enroute chart L-28 with V129 (yellow) and V341 (purple) obstacle evaluation areas



Minimum Vectoring/IFR Altitudes

The FAA publishes minimum vectoring altitude (MVA) and minimum instrument flight rules (IFR) altitude (MIA) charts that define sectors with the lowest altitudes at which air traffic controllers can issue radar vectors to aircraft based on obstacle clearance. The FAA requires that sectors have a minimum obstacle clearance of 1,000 feet in non-mountainous areas and normally 2,000 feet in mountainous areas.

Proposed structures that exceed MVA/MIA sector obstacle clearance surfaces would require an increase to the altitudes usable by air traffic control for vectoring aircraft. If the FAA determines that this impact would affect as few as one radar vectoring operation per week, it could result in determinations of hazard.

MVA and MIA obstacle clearance surfaces (e.g., *Figure 10*) are in excess of other, lower surfaces and should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure 10*).

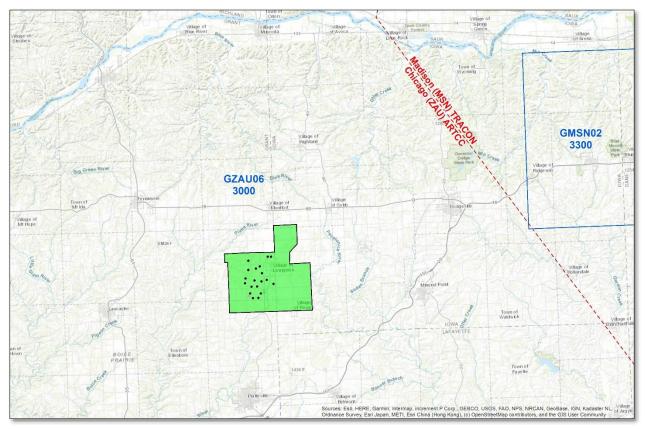


Figure 10: Chicago (ZAU) ARTCC MIA sectors (blue)



Terminal and Enroute Navigational Aids

The FAA has established protection areas in order to identify proposed structures that may have a physical and/or electromagnetic effect on navigational aids (NAVAIDs). The protection area dimensions vary based on the proposed structure type as well as the NAVAID type. Proposed structures within these areas may interfere with NAVAID services and will require further review by FAA Technical Operations. If further review determines that proposed structures would have a significant physical and/or electromagnetic effect on NAVAIDs, it could result in determinations of hazard.

NAVAID protection areas do not overlie the Whitetail wind project (*Figure 11*). As a result, it is unlikely that proposed wind turbines would have a physical or electromagnetic effect on terminal or enroute NAVAIDs.

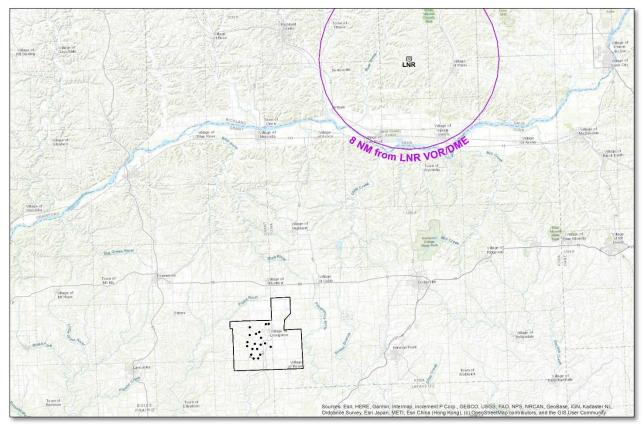


Figure 11: Lone Rock (LNR) VOR/DME protection area and the Whitetail wind project



Military Airspace and Training Routes

Although the FAA does not consider impact on military airspace or training routes, they will notify the military of proposed structures within these segments of airspace. Impact on these segments of airspace can result in military objections to the proposed development. If the planned development area is on federal land, impact on military airspace or training routes may result in the denial of permits by the Bureau of Land Management.

Military airspace and training routes do not overlie the Whitetail wind project (*Figure 12*). Therefore, these segments of airspace should not result in military objections to proposed wind development.

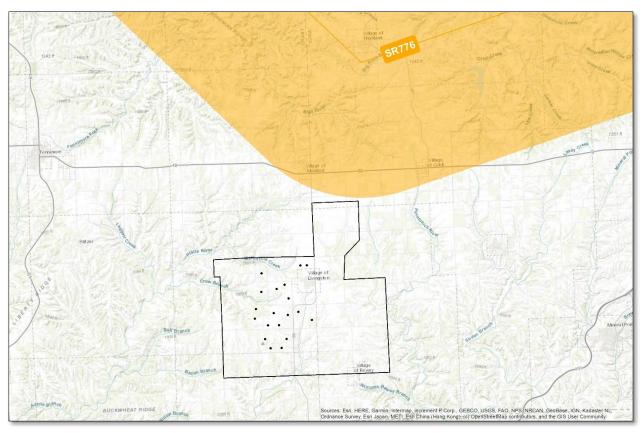


Figure 12: Military slow route SR-776 overlying the Whitetail wind project



Long Range and NEXRAD Radar

While Capitol Airspace did not assess for electromagnetic interference on communications or surveillance systems, the FAA/DOD preliminary screening tool was utilized to determine likely electromagnetic interference on long range and NEXRAD radars.⁵ According to the Long Range Radar tool, the Whitetail wind project is located in areas designated as 'Green' and 'Yellow' (left, *Figure 13*). The FAA defines these areas as follows:

Green: No anticipated impact to Air Defense and Homeland Security radars. Aeronautical study required.

Yellow: Impact likely to Air Defense and Homeland Security radars. Aeronautical study required.

Further, according to the NEXRAD tool, the Whitetail wind project is located in an area designated as 'Green: No Impact Zone' (right, *Figure 13*). The FAA defines these areas as follows:

Green: No Impact Zone. Impacts not likely. NOAA will not perform a detailed analysis, but would still like to know about the project.

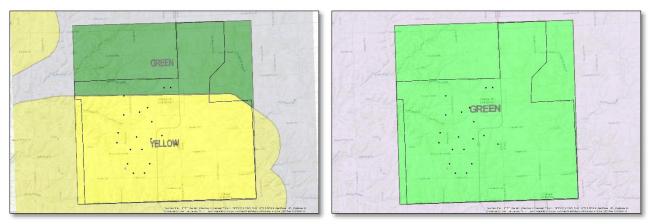


Figure 13: Long range (left) and NEXRAD (right) radar screening tool results

⁵ The preliminary screening tool does not consider turbine height nor does it consider the cumulative impact of existing turbines in proximity to the area studied.



Conclusion

At 394 or 427 feet AGL, the proposed MET tower will not exceed the 14 CFR Part 77.17(a)(1) or 77.17(a)(2) obstruction standards or any 77.19/21/23 imaginary surfaces. However, the proposed MET tower should remain below FAA obstacle clearance surfaces in order to avoid the possibility of determinations of hazard.

At 624 and 693 feet AGL, wind turbines in the eastern sections of the study area would exceed the Iowa County (MRJ) 14 CFR Part 77.17(a)(2) obstruction standard (*Figure 2*). However, none of the proposed locations are located in this area. At 624 and 693 feet AGL, proposed wind turbines will exceed 14 CFR Part 77.17(a)(1) – a height of 499 feet above ground level at the site of the object – and will be identified as obstructions regardless of location. However, exceeding these surfaces does not automatically result in the issuance of a determination of hazard. Proposed structures must have airspace impacts that constitute a substantial adverse effect in order to warrant the issuance of determinations of hazard.

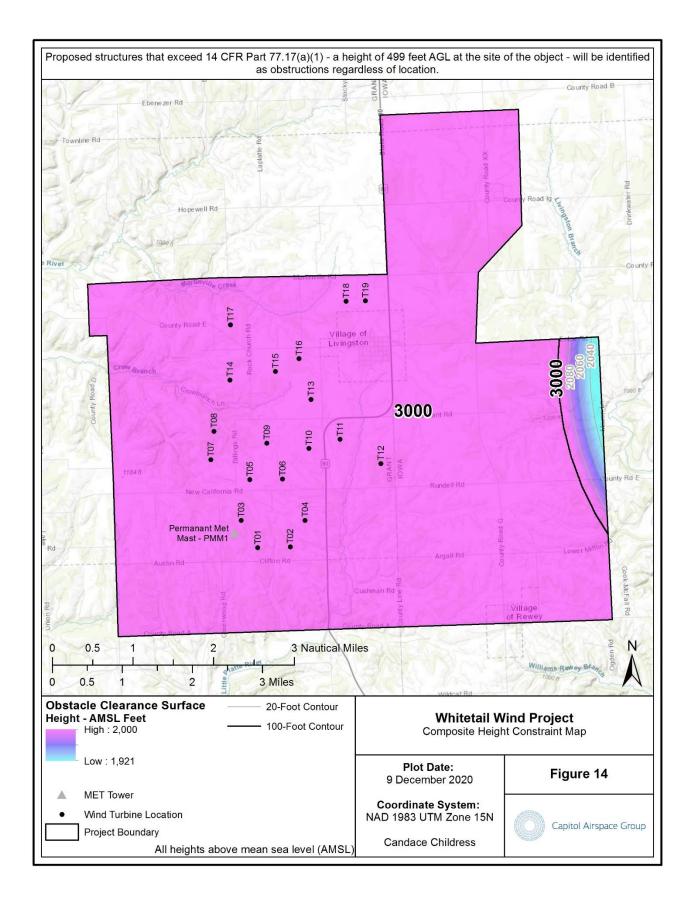
The lowest obstacle clearance surfaces overlying the Whitetail wind project range from 1,921 to 2,000 feet AMSL (*Figure 14*) and are associated with Iowa County (MRJ) instrument departure procedures (*Figure 5*) and multiple instrument approach procedures (*Figure 6, Figure 7*, & *Figure 8*). Proposed structures that exceed these surfaces would require an increase to instrument departure procedure minimum climb gradients and instrument approach procedure minimum altitudes. If the FAA determines that these impacts would affect as few as one operation per week, it could result in determinations of hazard. However, USGS elevation data indicates that these surfaces should not limit 624 or 693-foot AGL wind turbines or a 394 or 427-foot AGL MET tower within the defined study area (green area, *Figure 15*).

The Whitetail wind project is located in an area designated as 'Yellow' by the FAA/DoD Preliminary Screening Tool (*Figure 13*). Impact on surveillance radar systems can result in determinations of hazard regardless of the lack of impact on the airspace surfaces described in this report.

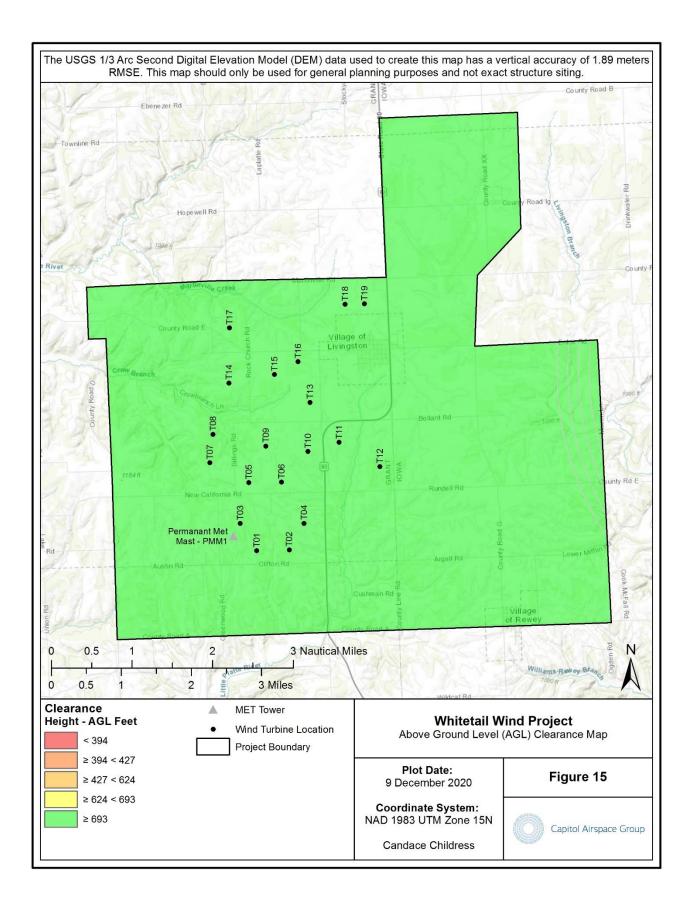
The AGL Clearance Map (*Figure 15*) is based on USGS National Elevation Dataset (NED) 1/3 Arc Second data which has a vertical accuracy of 1.89 meters root-mean-square error (RMSE). Therefore, the AGL Clearance Map should only be used for general planning purposes and not exact structure siting. In order to avoid the possibility of determinations of hazard, proposed structure heights should adhere to the height constraints depicted in the Composite Map (*Figure 14*).

If you have any questions regarding the findings of this study, please contact *Dan Underwood* or *Candace Childress* at (703) 256-2485.









Appendix G

Communication Infrastructure Studies

Whitetail Wind Energy Project

Grant County, Wisconsin

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Wind Power GeoPlanner™

AM and FM Radio Report

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 9, 2021





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1. Introduction

Comsearch analyzed AM and FM radio broadcast stations whose service could potentially be affected by the proposed Whitetail Wind Project in Grant County, Wisconsin.

2. Summary of Results

AM Radio Analysis

Comsearch found four database records¹ for AM stations within approximately 30 kilometers of the project, as shown in Table 1 and Figure 1. The closest station to the area of interest (AOI) is WPVL, which broadcasts out of Platteville, Wisconsin, located 11.24 km to the south of the project AOI.

ID	Call Sign	Status ²	Frequency (kHz)	Transmit ERP ³ (kW)	Operation Time	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the AOI (km)
1	WPVL	LIC	1590	0.97	Daytime	42.755539	-90.505815	11.24
2	WPVL	LIC	1590	0.47	Nighttime	42.755539	-90.505815	11.24
3	WZRK	LIC	810	0.25	Daytime	42.919439	-90.135249	23.91
4	WZRK	LIC	810	0.01	Nighttime	42.919439	-90.135249	23.91

Table 1: AM Radio Stations within 30 Kilometers of Project Area

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the AM/FM station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.

² LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

³ ERP = Transmit Effective Radiated Power.



Wind Power GeoPlanner™ AM and FM Radio Report Whitetail Wind, LLC

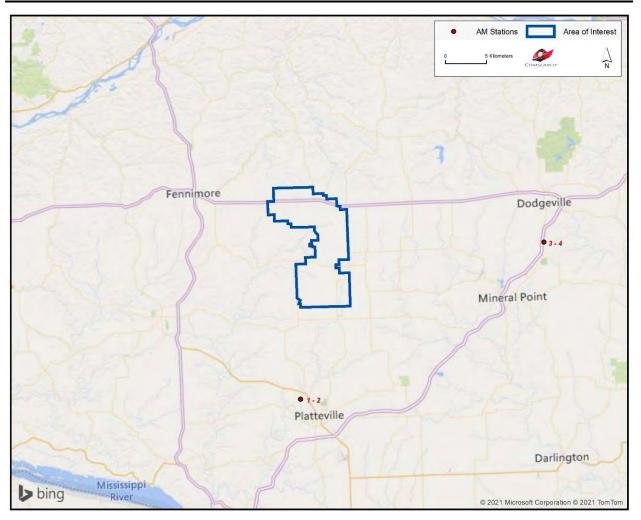


Figure 1: AM Radio Stations within 30 Kilometers of Project Area



FM Radio Analysis

Comsearch determined that there were eleven database records for FM stations within a 30kilometer radius of the Whitetail Wind Project, as shown in Table 2 and Figure 2. All of the stations are currently licensed and operating, one of which is a translator station that operates with limited range and two are auxiliary (backup) stations. The closest station is WJTY, which is currently licensed in Lancaster, Wisconsin, located on the northeast edge of the project AOI.

ID	Call Sign	Service ⁴	Status⁵	Frequency (MHz)	Transmit ERP ⁶ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the AOI (km)
1	WJTY	FM	LIC	88.1	49.0	42.952444	-90.430139	0.00
2	WHHI	FM	LIC	91.3	100.0	43.048778	-90.368861	10.25
3	WHHI	FS	LIC	91.3	35.0	43.048889	-90.369000	10.25
4	WSSW	FM	LIC	89.1	0.13	42.764056	-90.405583	10.40
5	WGLR-FM	FS	LIC	97.7	3.48	42.838306	-90.670667	13.76
6	WSUP	FM	LIC	90.5	1.0	42.732472	-90.485944	13.78
7	WGLR-FM	FM	LIC	97.7	11.5	42.863333	-90.703194	16.06
8	KIYX	FM	LIC	106.1	4.2	42.690833	-90.624028	20.97
9	WPVL-FM	FM	LIC	107.1	4.2	42.690833	-90.624028	20.97
10	WDMP-FM	FM	LIC	99.3	1.55	42.919417	-90.135111	23.92
11	W245DE	FX	LIC	96.9	0.25	42.919444	-90.135111	23.92

Table 2: FM Radio Stations within 30 km

ID	Call Sign	Status ⁷	Frequency (MHz)	Antenna Make	Antenna Model	Antenna Size (m)	Recommended Minimum Separation Distance ⁸ (km)
1	WJTY	LIC	88.1	SHI	6813-6	20.42	0.245

Table 3: FM Radio Stations within 2 km of the Project Area with Separation Distances

⁴ FM = FM broadcast station; FX = FM translator station; FS = FM auxiliary (backup) station; FB = FM booster station.

⁵ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁶ ERP = Transmit Effective Radiated Power.

⁷ LIC = Licensed and operational station; APP = Application for construction permit; CP=Construction permit granted; CP MOD = Modification of construction permit.

⁸ Recommended minimum separation distance is based on the far field distance of the antenna or 1.5 km if no antenna information is available and includes separation from both the turbine towers and blades. Comsearch Proprietary - 3 -



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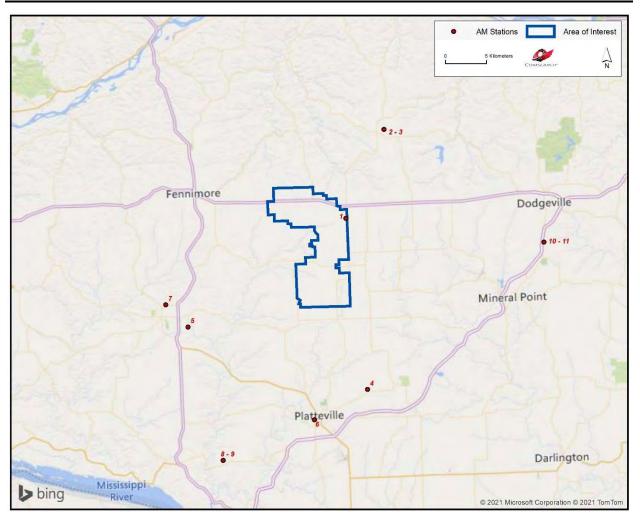


Figure 2: FM Radio Stations within 30 km



3. Impact Assessment

The exclusion distance for AM broadcast stations varies as a function of the antenna type and broadcast frequency. For directional antennas, the exclusion distance is calculated by taking the lesser of 10 wavelengths or 3 kilometers. For non-directional antennas, the exclusion distance is simply equal to 1 wavelength. Potential problems with AM broadcast coverage are only anticipated when AM broadcast stations are located within their respective exclusion distance limit from wind turbine towers. The closest AM station (KFTM) is located 11.24 km from the project. As there were no stations found within 3 kilometers of the project, which is the maximum possible exclusion distance based on a directional AM antenna broadcasting at 1000 KHz or less, the project should not impact the coverage of local AM stations.

The coverage of FM stations is generally not sensitive to interference due to wind turbines, especially when large objects (e.g., wind turbines) are located in the far field region of the radiating antenna to avoid the risk of distorting its radiation pattern. Station WJTY is the nearest FM station, just inside the northeastern edge of the AOI. Based on the licensed antenna information, WJTY requires a minimum separation distance of 0.245 from the station and any turbine tower and blade. At this distance there should be adequate separation to avoid radiation pattern distortion. All other FM stations are located 10.25 km or further from the AOI and would not be impacted by the wind project.

4. Recommendations

Since no impact on the licensed and operational AM broadcast stations was identified in our analysis, no recommendations or mitigation techniques are required for AM stations for this project.

All turbines and blades should be located 0.245 km from station WJTY or further. If this minimum separation distance is met, no other recommendations or mitigation techniques are required for this project.

5. Contact

For questions or information regarding the AM and FM Radio Report, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5656
Fax:	703-726-5595
Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com

Wind Power GeoPlanner™ Doppler Weather Radar Study

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 8, 2021





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1. Introduction

The purpose of this document is to describe the research, calculations, and analysis performed to assess the impact of the proposed Whitetail Wind project on the operation of Doppler Weather Radar Systems owned and operated by television stations and commercial interests within the vicinity of the project. This study was performed for Whitetail Wind, LLC.

2. Project Area

The location of the Whitetail Wind project in Grant County, Wisconsin is shown in Figure 1. The proposed turbines will have a maximum hub height of 162 meters and a rotor diameter of up to 130 meters, giving the structures an overall maximum height of 211 meters above ground level.



Figure 1: Location of Whitetail Wind Project in the State of Wisconsin



3. Technical Data

Based on a preliminary analysis of the terrain within the vicinity of the project and taking into account the elevation of turbines listed in Section 2, a reasonable search radius for radar systems was established at 250 kilometers from the center of the project area. Tables 2 and 3 contain the technical parameters of the commercial Doppler radar systems located within 250 kilometers of the project, including ownership and geographical data¹. A depiction of the location of the Doppler radar systems with respect to the project boundaries appears in Figure 3.

ID	Call Sign	Frequency (MHz)	Ground Elevation (m)	Antenna Height (m)	Output Power (Watts)	Distance to the Area of Interest (km)
1	WPMF490	5350.0-5460.0	304.0	42.0	200	74.69
2	KKR988	5350.0-5460.0	285.0	23.0	225	189.54
3	WQVG967	2900.0-2950.0	270.0	41.5	1000000	190.34
4	KZP310	5350.0-5460.0	201.2	61.8	220	202.34
5	WZL495	5485.0-5560.0	271.0	26.0	250000	214.66
6	WPYY795	3500.0-3550.0	219.1	31.2	329587	217.60
7	KCO707	5350.0-5460.0	205.0	20.0	175	223.06
8	WQAZ631	5450.0-5600.0	229.0	26.7	421000	225.97
9	WQGW693	5450.0-5500.0	221.9	12.5	100000	242.54

 Table 2: Technical Data for Commercial Interest and Television Station Doppler Radar Systems within 250 Kilometers of the Whitetail Wind Project

ID	Call Sign	Owner- Operator	Location	Latitude (NAD83)	Longitude (NAD83)
1	WPMF490	Gray Television Licensee, LLC	MIDDLETON, WI	43.088889	-89.528722
2	KKR988	WISN Hearst Television Inc.	MENOMONEE FALLS, WI	43.175000	-88.121194
3	WQVG967	WLS Television, Inc.	LILY LAKE, IL	41.937500	-88.477917
4	KZP310	FOX TELEVISION STATIONS, LLC	BROWN DEER, WI	43.180750	-87.963972
5	WZL495	Gray Television Licensee LLC	EAU CLAIRE, WI	44.799694	-91.466556
6	WPYY795	NBC Telemundo License LLC	NAPERVILLE, IL	41.779167	-88.225000
7	KCO707	United Airlines, Inc.	ELK GROVE TOWNSHIP, IL	42.035028	-87.955611

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.



ID	Call Sign	Owner- Operator	Location	Latitude (NAD83)	Longitude (NAD83)
8	WQAZ631	Nexstar Media Inc.	LITTLE CHUTE, WI	44.296889	-88.317778
9	WQGW693	FOX TELEVISION STATIONS, LLC	LOCKPORT, IL	41.613250	-88.014528

Table 3: Location and Ownership of Commercial Interest and Television Station Doppler RadarSystems within 250 Kilometers of the Whitetail Wind Project

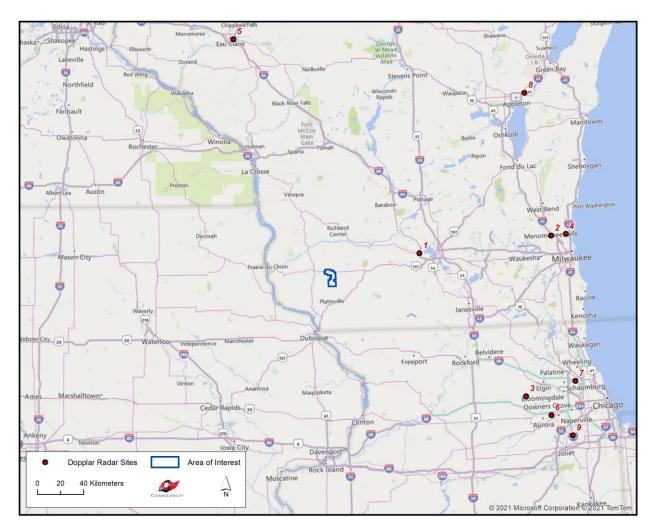


Figure 3: Location of Doppler Radar Systems within 250 Kilometers of the Whitetail Wind Project



4. Impact Assessment

The technical approach to determine the potential impact of the turbines on the Doppler radar systems in the area is to calculate whether the wind turbines are in line-of-sight (LOS) of the radar systems. The wind turbines of the Whitetail Wind project have the potential to block radar coverage and produce false targets if the turbines are in line-of-sight of the radar systems' transmitted signals.

To verify the presence or absence of LOS conditions between the Whitetail Wind energy project and the Doppler radar systems identified in Section 3, LOS coverage plots were generated for each of the radar systems. These plots identify the geographical regions that have LOS to a given radar by taking into account the height of the radar antenna, the maximum height of the wind turbine blades, the curvature of the earth, and potential refractivity in the atmosphere. The plots may be referenced in the Appendix section of this report.

According to the LOS coverage plots, the effective terrain elevations would block LOS between the antennas of all seven radars and the wind project area. Therefore, LOS conditions would not exist between the radars and the wind turbines.

5. Conclusions

Based on the analysis described in this report, none of the nine Doppler radar systems in the vicinity of the Whitetail Wind energy project could be impacted by the project's planned wind turbines.

6. Contact

For questions or information regarding the Doppler Radar Study, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5656
Fax:	703-726-5595
Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com



Appendix

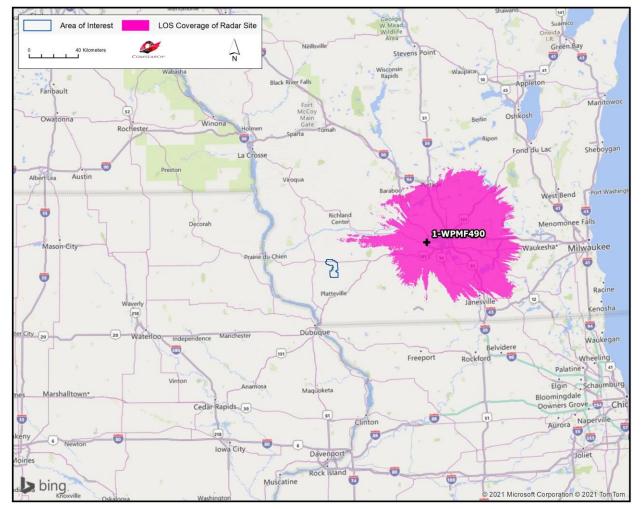


Figure A-1: Line-of-Sight Coverage of WPMF490 with Respect to Whitetail Wind Project



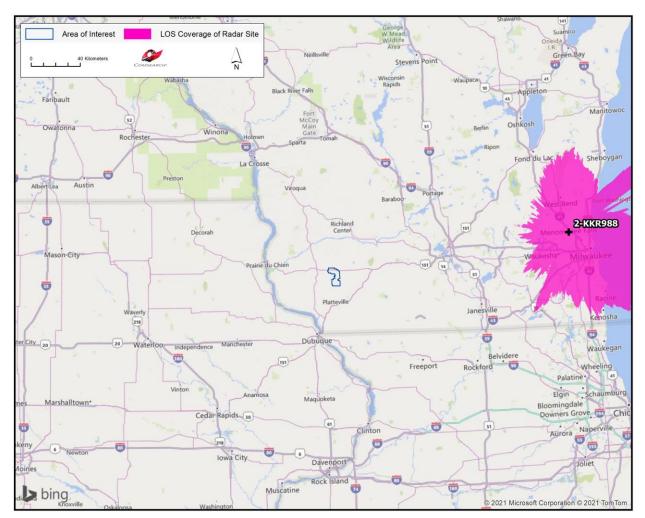


Figure A-2: Line-of-Sight Coverage of KKR988 with Respect to Whitetail Wind Project



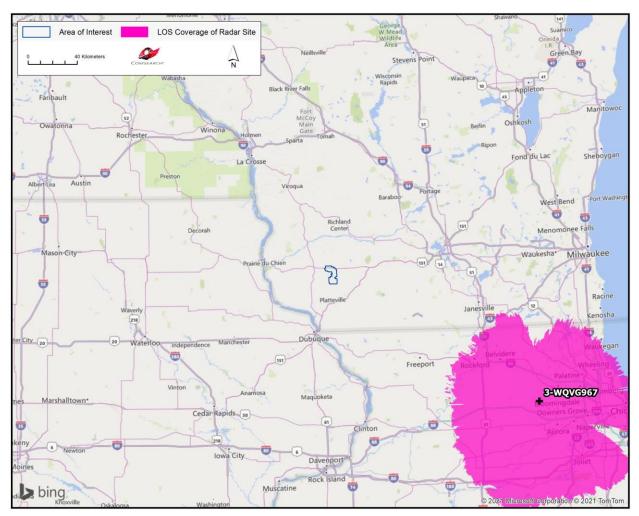


Figure A-3: Line-of-Sight Coverage of WQVG967 with Respect to Whitetail Wind Project



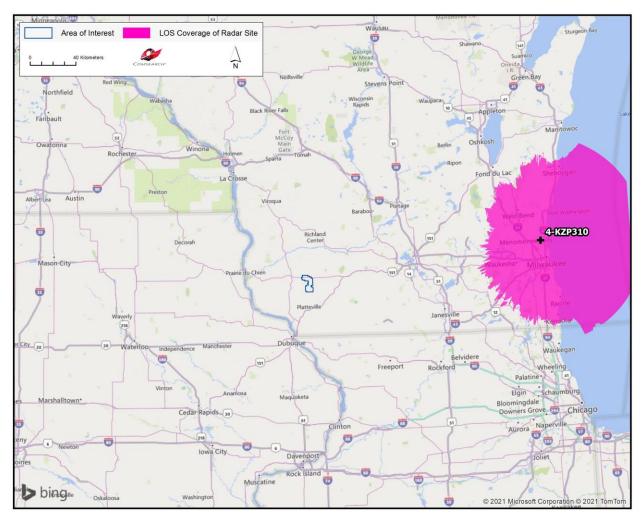


Figure A-4: Line-of-Sight Coverage of KZP310 with Respect to Whitetail Wind Project



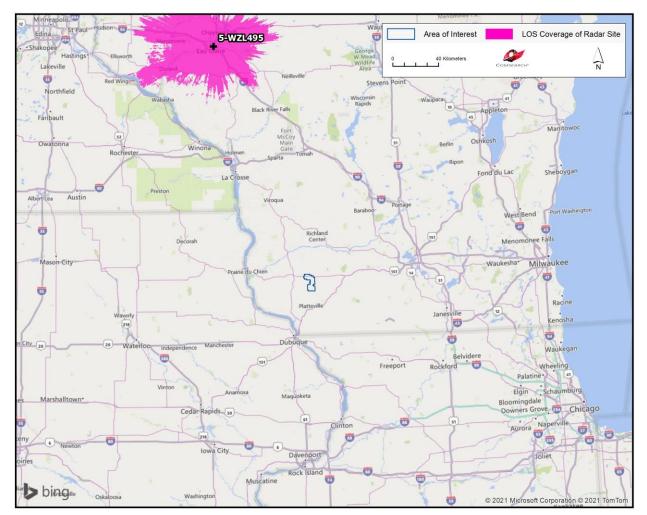


Figure A-5: Line-of-Sight Coverage of WZL495 with Respect to Whitetail Wind Project



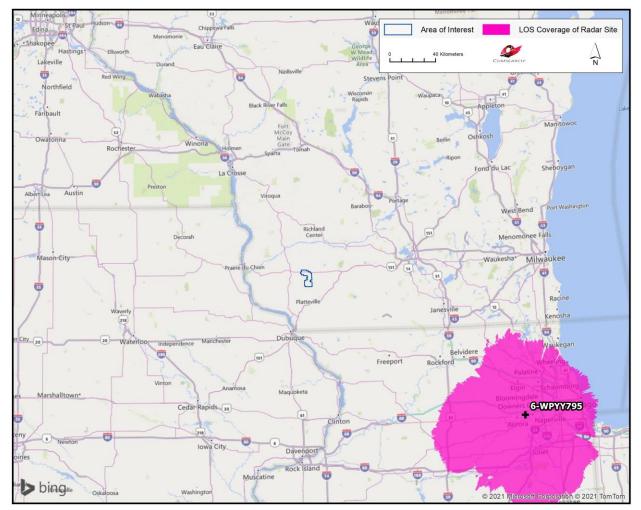


Figure A-6: Line-of-Sight Coverage of WPYY795 with Respect to Whitetail Wind Project



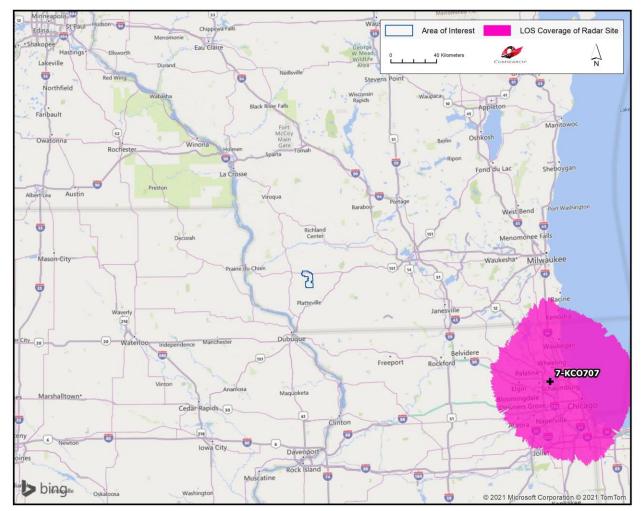


Figure A-7: Line-of-Sight Coverage of KCO707 with Respect to Whitetail Wind Project



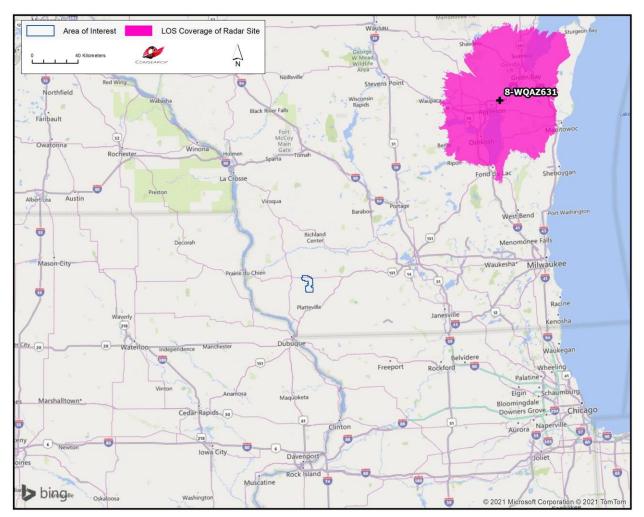


Figure A-8: Line-of-Sight Coverage of WQAZ631 with Respect to Whitetail Wind Project



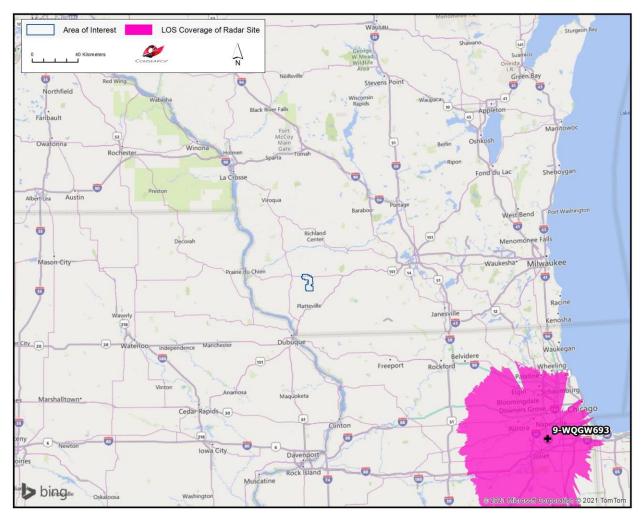


Figure A-9: Line-of-Sight Coverage of WQGW693 with Respect to Whitetail Wind Project

Wind Power GeoPlanner™ Government RADAR Systems Analysis

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 8, 2021





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1. Introduction

Comsearch was contracted by Whitetail Wind, LLC to determine if there would be any significant degradation to the operational coverage of Government RADAR systems located near the proposed Whitetail Wind, LLC Project in Grant County, Wisconsin. Figure 1 shows the location of the Whitetail Wind, LLC project area.

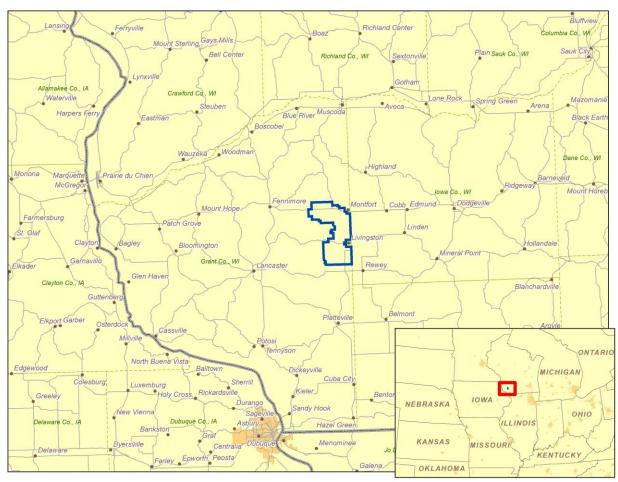


Figure 1: Whitetail Wind, LLC Wind Energy Project Area



2. Summary of Screening Results

There are three types of radar systems that Comsearch examined as part of this analysis: Department of Defense (DoD) military systems, Federal Aviation Administration (FAA) long range radar systems, and National Weather Service (NWS) NEXRAD WSR-88D systems.

Comsearch used the DoD RADAR screening tool to determine whether potential coverage issues were anticipated for the above systems. The geographical coordinates that outline the Whitetail Wind, LLC project area were used as an input parameter for the screening tool:

Identifier	Longitude	Latitude
NW	90°32'13.802"W	42°59'17.089"N
NE	90°25'42.817"W	42°57'43.414"N
SE	90°25'37.351"W	42°51'21.706"N
SW	90°30'6.611"W	42°51'26.02"N

The results of the screening showed that there were potential issues with the FAA long range radars. However, there is no predicted impact to Department of Defense (DoD) military operations nor to National Weather Service (NWS) NEXRAD WSR-88D systems. In support of these findings, three figures and statements were captured from the DoD screening tool and are presented below.



Figures 2A through 2E show the screening results for the DoD military system which are basically sectional aeronautical charts centered on the four points above as well as the center point of the wind project area.



Figure 2A: Screening Tool Diagram for DoD Military Systems (center point of project area)



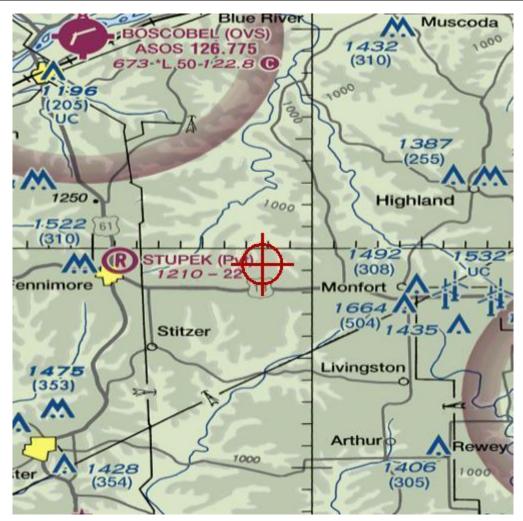


Figure 2B: Screening Tool Diagram for DoD Military Systems (centered at NW)





Figure 2C: Screening Tool Diagram for DoD Military Systems (centered at NE)



Wind Power GeoPlanner™ Government RADAR System Analysis Whitetail Wind, LLC

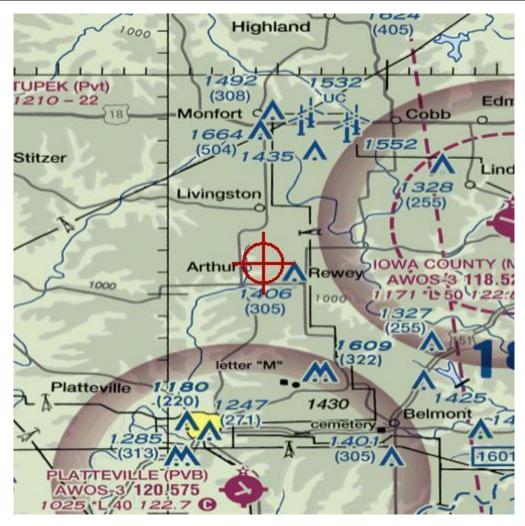


Figure 2D: Screening Tool Diagram for DoD Military Systems (centered at SE)



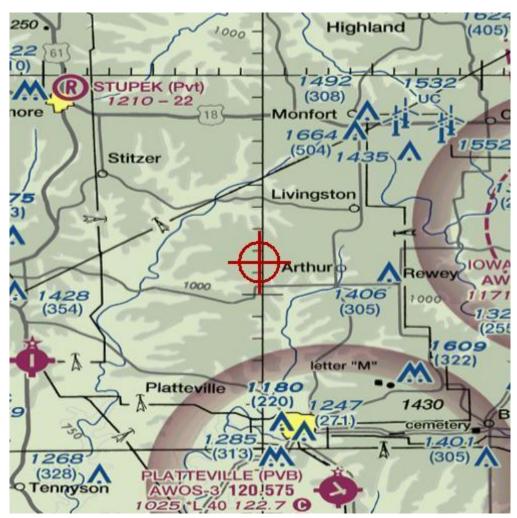


Figure 2E: Screening Tool Diagram for DoD Military Systems (centered at SW)



According to the DoD screening tool, there are no likely impacts to military airspace. The following contacts were provided for confirmation and documentation if required:

•	David Brentzel USAF Regional Environmental Coordinator	(404) 562-4211
•	US Navy Representative, FAA Eastern Service Area USN Regional Environmental Coordinator	(404) 305-6908
•	LTC Jeffrey Martuscelli USA Regional Environmental Coordinator	(404) 305-6915
•	US Marine Corps Representative, FAA Eastern Service Area USMC Regional Environmental Coordinator	(404) 305-6907

Formal project approval is granted as a result of the FAA review of the Form 7460-1 that is required for each individual wind turbine to be installed in the project. No issues are anticipated based on the preliminary screening tool results.



Figure 3 shows the screening results for the NEXRAD weather service systems. The screening tool map shows that the Whitetail Wind, LLC project will be located in the "Green" area of the NEXRAD systems located around the project area. The "Green" designation signifies that no obstruction to the radar line-of-sight (RLOS) is predicted for the surrounding radar systems. Since NEXRAD can detect wind turbines occasionally at great distances, NOAA would still like to know the location of all wind farm projects so that corrupted radar data can be flagged. All information regarding the wind project can be sent through the NTIA.

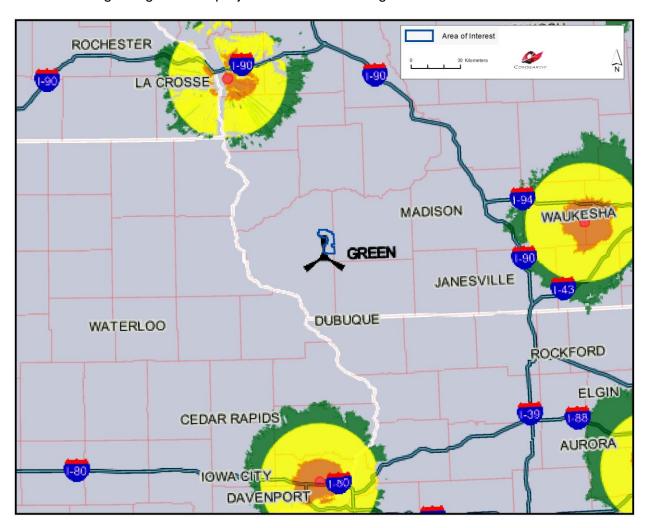


Figure 3: Screening Tool Diagram for Weather Service RADAR Coverage



Figure 4 shows the screening results for the FAA long range radar system. According to the map diagram, there are at least four FAA radar systems in the surrounding area, and based on the wind project location, potential impacts to Air Defense and Homeland Security radars exist. Consequently, the screening tool returned the "Yellow" designation for the Whitetail Wind, LLC project as shown in Figure 4. When either a "yellow" or "red" designation is returned by the screening tool, it indicates that an aeronautical study is required. This study is performed by the FAA upon receipt of Form 7460-1 which must be submitted for each of the proposed wind turbines.

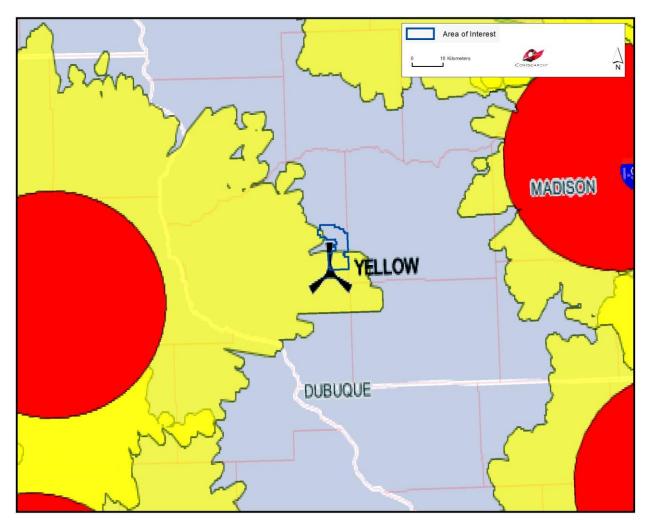


Figure 4: Screening Tool Diagram for FAA Long Range Radar Coverage



3. Analysis

To determine the potential impact of the proposed wind turbines on the FAA radar systems around the Whitetail Wind, LLC project, the line-of-sight (LOS) distance between a given radar and wind turbine is calculated. If the physical separation distance between a radar and wind turbine is within the LOS distance, then the wind turbine would have the potential to obstruct coverage and produce false targets for that particular radar. Otherwise, the wind turbine would be located over the horizon and beyond line-of-sight. The separation distance between a radar and wind turbine is based on their geographical coordinates, whereas the LOS distance is determined based on the sum of the horizon distances associated with a particular radar antenna and wind turbine.

The distance to the horizon for a radar antenna is a function of its height and is given by:

$$D_1 = (2^*H_R)^{\frac{1}{2}}$$
 (Equation 1)

Where:

- D₁ = Distance from radar to horizon in miles
- H_R = Height of radar antenna above sea level in feet

Likewise, the distance to the horizon for a wind turbine is a function of the maximum height reached by the tip of the rotating blade and is given by:

$$D_2 = (2^*H_{WT})^{\frac{1}{2}}$$
 (Equation 2)

$$H_{WT} = (H_h + R/2)$$
 (Equation 3)

Where:

- D₂ = Distance from wind turbine to horizon in miles
- HwT = Max height of wind turbine blade tip above sea level in feet
- H_h= Hub height in feet
- R = Rotor diameter in feet

The LOS distance, in miles, is simply the sum of horizon distances as follows:

$$D_{LOS} = (D_1 + D_2)$$
 (Equation 4)

From Equation 2 and Equation 3, the horizon distance for each wind turbine is determined. If the geographical coordinates and heights for each FAA radar is provided, then their corresponding horizon distance as well as LOS distance can be calculated using Equation 1 and Equation 4, respectively.



4. Conclusions

Potential issues involving military operations in the same area as the Antrim Winds Energy Project were examined. Based on the DoD screening tool, no issues were identified.

According to the same screening tool, no issues were identified with the Weather Service's NEXRAD Radar Systems. Therefore, NOAA will not need to perform a detailed analysis but still requests that the Weather Service be informed about the wind project. The Weather Service can be informed through the NTIA notification process or by sending information regarding the wind project directly to NOAA at wind.energy.matters@noaa.gov.

The FAA will be informed of the wind project through the submission of the FAA Form 7460-1 that will be required for each of the proposed wind turbines. The FAA will then perform an aeronautical study and may respond to one or more of the form submissions with a finding that an individual wind turbine is a presumed hazard to aviation because of its obstruction of radar signal or degradation to the radar operation.

Potentially, there are three reasons that the FAA may object to the installation of wind turbines in the at-risk area depicted in Figure 4: (1) the wind turbines may create shadow zones which may prevent target detection, (2) there may be target loss because of clutter return (reflections from the wind turbines), and (3) the creation of false targets due to the reflections from the wind turbines.

In order to receive approval for a wind turbine that is declared as a presumed hazard to aviation operations, it is possible to show using the technical approach in Section 3 that the wind turbine would not be a hazard. Otherwise, the hazard finding could be mitigated by modifying the wind turbine dimensions and/or changing its location.



5. Contact

For questions or information regarding the Government RADAR System Analysis report, please contact:

Contact person:	David Meyer
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Fax:	703-726-5595
Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com

Wind Power GeoPlanner™

Land Mobile & Emergency Services Report

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 2, 2021





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1. Introduction

An assessment of the emergency services in the Whitetail Wind, LLC project area was performed by Comsearch to identify potential impact from the planned turbines. We evaluated the registered frequencies for the following types of first responder entities: police, fire, emergency medical services, emergency management, hospitals, public works, transportation and other state, county, and municipal agencies. We also identified all industrial and business land mobile radio (LMR) systems and commercial E911 operators within the proposed wind energy facility boundaries. This information is useful in the planning stages of the wind energy facility because the data can be used in support of facility communications needs and to evaluate any potential impact on the emergency services provided in that region. An overview of the project area, which is located in Grant County, Wisconsin, appears below in Figure 1.



Figure 1: Area of Interest (AOI)



2. Summary of Results

Our land mobile and emergency services incumbent data¹ was derived from the FCC's Universal Licensing System (ULS) and the FCC's Public Safety & Homeland Security bureau. We identified both site-based licenses as well as regional area-wide licenses designated for public safety use.

Site-Based Licenses

The site-based licenses were imported into GIS software and geographically mapped relative to the wind energy project area of interest as defined by the customer. Each site on the map was given an ID number and associated with site information in a data table. A depiction of the fixed-site licenses in the project area appears in Figure 2.

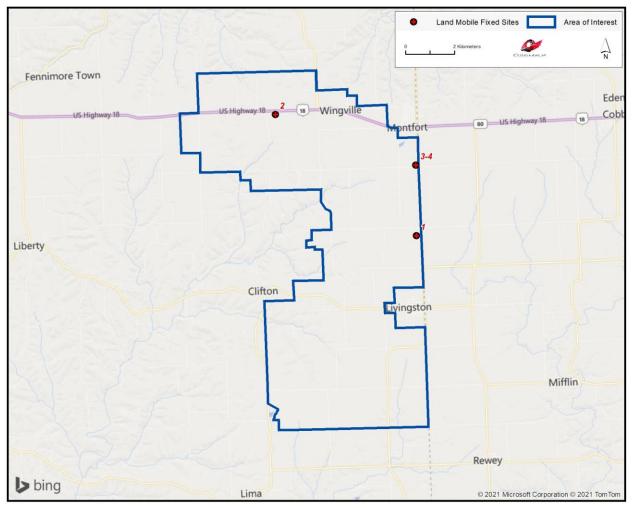


Figure 2: Land Mobile & Emergency Service Sites in Area of Interest



Figure 2 identifies four site-based licenses in the Whitetail Wind, LLC project area of interest. Specific information about these sites is provided in Table 1.

ID	Call Sign	Frequency Band (MHz)	Licensee	Antenna Height AGL (m)	Latitude (NAD83)	Longitude (NAD83)
1	KNAA234	450-470	BIDDICK INC	17	42.926389	-90.430417
2	WNPI600	450-470	IOWA GRANT SCHOOL DISTRICT	98	42.972222	-90.498750
3	WPTV651	450-470	GENERAL COMMUNICATIONS	122	42.952222	-90.429722
3	WPUJ776	450-470	GENERAL COMMUNICATIONS INC	122	42.952222	-90.429722

Table 1: Land Mobile & Emergency Service Sites in Area of Interest

Mobile Licenses

In addition to the fixed-site licenses above, 404 mobile licenses defined by center point and radius were found to intersect the Whitetail Wind, LLC project area. Appendix A contains a tabular summary of these stations.

Area-Wide Licenses

The regional area-wide licenses were compiled from FCC data sources and identified for each county intersected by the wind energy project area. The Whitetail Wind, LLC project is located in Grant County, Wisconsin, part of Public Safety Region #45, which contains all the counties in Wisconsin, excluding the greater Chicago metropolitan area. The regional public safety operations are overseen by the entity listed below.

Russell Schreiner

Chairperson, Public Safety Region #45 828 Center Ave., Sheboygan, WI 53081 Phone: 920-459-3351 Fax: 920-459-0205 Email: <u>russ.schreiner@sheboyganwi.gov</u>

The chairperson for Region #45 serves as the representative for all public safety entities in the area and is responsible for coordinating current and future public safety use in the wireless spectrum. In the bands licensed by the FCC for area-wide first responders, which include 220 MHz, 700 MHz, 800 MHz and 4.9 GHz, as well as the traditional Part 90 public safety pool of

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the land mobile station's FCC license and governed by Comsearch's data license notification and agreement located at <u>http://www.comsearch.com/files/data_license.pdf</u>



frequencies, eighteen licenses were found for the State of Wisconsin and three for the County of Grant (see Table 2). These area-wide licenses are designated for mobile use only.

ID	Licensee	see Area of Operation			
1	AMERICAN NATIONAL RED CROSS	Statewide: WI	25-50		
2	American National Red Cross	Statewide: WI	25-50		
3	Ascension St. Michael's Hospital, Inc.	Statewide: WI	450-470		
4	DANE, COUNTY OF	Statewide: WI	450-470, 2450-2500		
5	DOUSMAN TRANSPORT CO INC	Statewide: WI	800/900		
6	GRANT, COUNTY OF	Countywide: GRANT, WI	25-50, 150-174		
7	Grant, County of	Countywide: GRANT, WI	450-470, 4940-4990		
8	GREENFIELD, CITY OF	Statewide: WI	800/900		
9	Milwaukee County OEM	Statewide: WI	150-174		
10	MILWAUKEE, CITY OF	Statewide: WI	450-470		
11	NATIONAL SKI PATROL SYSTEM INC	Statewide: WI	150-174		
12	PARATECH AMBULANCE SERVICE INC	Statewide: WI	150-174		
13	Platteville, City of	Countywide: GRANT, WI	4940-4990		
14	State of Wisconsin	Statewide: WI	150-174, 800/900		
15	TREMPEALEAU, COUNTY OF	Statewide: WI	450-470		
16	UW Hospitals and Clinics	Statewide: WI	150-174, 450-470		
17	VERONA, CITY OF	Statewide: WI	150-174		
18	WISCONSIN DIVISION OF HEALTH	Statewide: WI	150-174		
19	Wisconsin State of	Statewide: WI	4940-4990		
20	WISCONSIN, STATE OF	Statewide: WI	0-10, 25-50, 150-174, 406-413, 450-470, 800/900, 2450-2500, 4940-4990		
21	Wisconsin, State of	Statewide: WI	150-174		

Table 2: Regional Licenses



E911 Operators

Wireless operators are granted area-wide licenses from the FCC to deploy their cellular networks, which often include handsets with E911 capabilities. Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. We have identified the type of service for each carrier in Grant County, Wisonsin, in Table 3.

Mobile Phone Carrier	Service ²
AT&T	700 MHz, AWS, PCS, WCS
DISH Network	700 MHz, AWS
T-Mobile	AWS, PCS
US Cellular	700 MHz, AWS, Cellular, PCS
Verizon	700 MHz, AWS, Cellular, PCS

 Table 3: Mobile Phone Carriers in Area of Interest with E911 Service

3. Impact Assessment

The first responder, industrial/business land mobile sites, area-wide public safety, and commercial E-911 communications as described in this report are typically unaffected by the presence of wind turbines, and we do not anticipate any significant harmful effect to these services in the Whitetail Wind, LLC project area. Although each of these services operates in different frequency ranges and provides different types of service including voice, video and data applications, there is commonality among these different networks with regard to the impact of wind turbines on their service. Each of these networks is designed to operate reliably in a non-line-of-sight (NLOS) environment. Many land mobile systems are designed with multiple base transmitter stations covering a large geographic area with overlap between adjacent transmitter sites in order to provide handoff between cells. Therefore, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user is likely receiving signals from multiple transmitter locations. Additionally, the frequencies of operation for these services have characteristics that allow the signal to propagate through wind turbines. As a result, very little, if any, change in their coverage should occur when the wind turbines are installed.

² AWS: Advanced Wireless Service at 1.7/2.1 GHz

CELL: Cellular Service at 800 MHz

PCS: Personal Communication Service at 1.9 GHz

WCS: Wireless Communications Service at 2.3 GHz

⁷⁰⁰ MHz: Lower 700 MHz Service



When planning the wind energy turbine locations in the area of interest, a conservative approach would dictate not locating any turbines within 77.5 meters of land mobile fixed-base stations to avoid any possible impact to the communications services provided by these stations. This distance is based on FCC interference emissions from electrical devices in the land mobile frequency bands. As long as the turbines are located more than 77.5 meters from the land mobile stations, they will meet the setback distance criteria for FCC interference emissions in the land mobile bands.

4. Recommendations

In the event that a public safety entity believes its coverage has been compromised by the presence of the wind energy facility, it has many options to improve its signal coverage to the area through optimization of a nearby base station or even adding a repeater site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base station or repeater site.

5. Contact

For questions or information regarding the Land Mobile & Emergency Services Report, please contact:

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Company:	Comsearch
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Telephone:	703-726-5656
Fax:	703-726-5595
Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com



Appendix A

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
1	BLP00658	800/900	GRAY TELEVISION LICENSEE, LLC	97	43.050833	-89.487056
2	KA2026	150-174	GRAY TELEVISION LICENSEE, LLC	97	43.050833	-89.487056
3	KAA845	800/900	DUBUQUE, CITY OF	97	42.447500	-90.855417
4	KAL350	450-470	DYERSVILLE READY MIX INC DBA BARD	114	42.642500	-91.365139
5	KAQ667	150-174	LAFAYETTE, COUNTY OF	40	42.688889	-90.120139
6	KAV728	150-174	GRANT, COUNTY OF	48	42.854167	-90.700694
7	KAV741	150-174	LAFAYETTE COUNTY HIGHWAY DEPARTMENT	56	42.666944	-90.115972
8	KB32913	450-470	BAYCOM INC.	120	43.183333	-89.000111
9	KB87867	150-174	WISCONSIN, STATE OF	90	42.975000	-90.647083
10	KC25354	450-470	MAGNUM COMMUNICATIONS, INC.	80	43.540250	-90.032361
11	KD28633	450-470	BRINK'S INCORPORATED	121	41.983333	-91.166833
12	KD28672	450-470	BRINK'S INCORPORATED	121	43.073056	-89.382056
13	KD50657	150-174	WISCONSIN POWER AND LIGHT COMPANY	241	43.776389	-90.443333
14	KD50657	150-174	WISCONSIN POWER AND LIGHT COMPANY	241	43.005000	-89.196222
15	KDJ795	450-470	KUHLMAN CONSTRUCTION COMPANY	121	42.642500	-91.365139
16	KDP358	150-174	IOWA, COUNTY OF	40	42.973278	-90.131583
17	KDP748	450-470	CENTURY CONCRETE COMPANY INC	121	42.243333	-90.906806
18	KE9048	150-174	SAUK COUNTY	80	43.473861	-89.766778
19	KEH352	450-470	GRAY TELEVISION LICENSEE, LLC	97	43.050278	-89.487611
20	KEL404	150-174	JO DAVIESS, COUNTY OF	48	42.493944	-90.643778
21	KEQ862	450-470	C J MOYNA & SONS CONSTRUCTION INC	80	42.879972	-91.378472
22	KFK536	150-174	PLATTEVILLE, CITY OF	19	42.738333	-90.476806
23	KJO444	150-174	PRAIRIE READY MIX INC	121	43.062750	-91.120139
24	KJO444	150-174	PRAIRIE READY MIX INC	121	43.314694	-90.839583



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
25	KJO444	150-174	PRAIRIE READY MIX INC	121	43.137750	-90.705972
26	KNAA234	450-470	BIDDICK INC	32	42.926389	-90.430417
27	KNAA234	450-470	BIDDICK INC	32	42.902861	-90.427167
28	KNAR750	450-470	GOLDBECK TOWING SERVICE	129	43.865528	-91.321528
29	KNBA349	450-470	WIELAND AND SONS LUMBER	32	43.184528	-90.494278
30	KNBE751	450-470	Bard Materials	32	42.764167	-90.405417
31	KNDM577	150-174	WISCONSIN, STATE OF	40	42.902417	-90.946528
32	KNFU686	150-174	LA VALLE, TOWN OF	232	43.584417	-90.134583
33	KNGH221	450-470	SCENIC RIVERS ENERGY COOPERATIVE	61	42.750000	-90.475139
34	KNGH999	450-470	SCOTT CRANBERRY MARSH INC	112.7	43.885250	-90.579306
35	KNIA746	25-50	COMMUNITY ANTENNA SYSTEM	121	43.690250	-90.369583
36	KNJM205	450-470	MONTFORT RESCUE SQUAD INC	24	42.966667	-90.420417
37	KNNF892	150-174	KRANTZ, ROGER	40	42.857444	-90.709472
38	KOK429	450-470	DAIRYLAND POWER COOPERATIVE	116	42.755556	-90.383472
39	KPH920	450-470	Board of Regents of the University of Wisconsin System	64.4	42.732500	-90.485972
40	KQB367	150-174	GRAY TELEVISION LICENSEE, LLC	97	43.050833	-89.487056
41	KQF686	25-50	MONTAGUE, JOHN K	64	43.055278	-89.943167
42	KSB447	150-174	IOWA, COUNTY OF	40	42.973278	-90.131583
43	KSC277	150-174, 450-470	RICHLAND, COUNTY OF	40	43.337472	-90.378472
44	KSG353	450-470	IVEY CONSTRUCTION INC	64	42.876111	-90.107056
45	KSI448	150-174	BLACK EARTH JT FIRE DIST	80	43.142222	-89.748722
46	KS1896	150-174	NORTHWAY COMMUNICATIONS INC.	322	44.888028	-89.652056
47	KTB517	450-470	FRONTIER FS COOPERATIVE	56	42.667778	-90.139028
48	KT1824	150-174	University of Wisconsin-Platteville	16	42.732222	-90.485972
49	KTS780	150-174	MUSCODA JOINT FIRE DISTRICT	40	43.188361	-90.443250



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
50	KVU344	150-174	SCOTT CONSTRUCTION INC	113	43.430528	-89.650667
51	KXT859	150-174	Upland Hills Health	64	42.951944	-90.130111
52	KYH665	150-174	CHIQUITA PROCESSED FOODS LLC	121	42.808333	-90.317639
53	KYH665	150-174	CHIQUITA PROCESSED FOODS LLC	121	43.253889	-89.340667
54	KZJ461	150-174	BNSF Railway Co.	40	42.634556	-90.873722
55	KZZ422	150-174	MEMORIAL HOSPITAL OF BOSCOBEL	80	43.133306	-90.708194
56	WNAC316	450-470	LANCASTER COMMUNITY SCHOOLS	40	42.847778	-90.700139
57	WNAE298	150-174	RICHLAND CENTER REDI MIX	40	43.337472	-90.378194
58	WNAN337	150-174	MOWRY TRUCKING	64	42.571667	-90.344861
59	WNBM603	450-470	Upland Hills Health	40	42.954028	-90.128556
60	WNCL915	216-220	Exelon Generation Company, LLC	121	42.061972	-89.508444
61	WNDH648	150-174	BOSCOBEL, CITY OF	32	43.133861	-90.705139
62	WNFR534	150-174	ROSS SOIL SERVICE LLC	48	42.851389	-90.191528
63	WNGA590	450-470	RIVERDALE SCHOOL DISTRICT	48	43.160000	-90.425833
64	WNIR576	450-470	THUNDERBRANCH ACRES INC	56	42.520833	-89.974278
65	WNIV695	150-174	DODGEVILLE, CITY OF	40	42.961111	-90.131778
66	WNJZ554	450-470	KEOKUK CO AMBULANCE	322	41.333333	-92.204639
67	WNKU924	450-470	UNIVERSITY OF WISCONSIN	24	42.733611	-90.489583
68	WNLA839	450-470	WASTE MANAGEMENT HOLDINGS INC.	56	43.059722	-91.100556
69	WNLQ653	150-174	GRANT REGIONAL HEALTH CENTER	24	42.829972	-90.688000
70	WNLY834	450-470	American National Red Cross	121	43.811639	-91.187639
71	WNMB719	150-174	SHULLSBURG, TOWN OF	40	42.566389	-90.230972
72	WNME671	25-50	BOEHNEN INC	72	43.113889	-89.653167
73	WNMI719	450-470	Steger Const Inc	72	42.553611	-91.213472
74	WNML295	450-470	FLEXSTEEL INDUSTRIES INC	48	42.531667	-90.683472



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
75	WNMP734	450-470	FRITZ FARMS	64	42.810833	-90.703750
76	WNMP734	450-470	FRITZ FARMS	32	42.698694	-90.649778
77	WNMS686	150-174	DICKEYVILLE, CITY OF	32	42.627500	-90.591806
78	WNMS896	150-174	GUTTENBERG, CITY OF	80	42.780278	-91.102639
79	WNMW232	800/900	BAYCOM INC	113	43.813306	-91.184306
80	WNMX269	150-174	GRANT, COUNTY OF	56	42.979167	-90.656250
81	WNNH901	800/900	Interstate Power and Light Company	113	42.046667	-91.074444
82	WNNH902	800/900	Interstate Power and Light Company	113	42.297278	-91.579444
83	WNNS220	150-174	CITY OF MINERAL POINT	40	42.862500	-90.020389
84	WNNT979	450-470	LINS, KEVIN	64	43.208333	-90.083444
85	WNPC800	450-470	ComElec Services, Inc.	72	42.400556	-90.398750
86	WNPI600	450-470	IOWA GRANT SCHOOL DISTRICT	72	42.972222	-90.498750
87	WNPN626	800/900	HARTUNG BROTHERS INC	113	43.174389	-89.982889
88	WNPQ574	450-470	Vernon Communications Cooperative	64	43.208306	-90.644583
89	WNQB263	450-470	MINERAL POINT UNIFIED SCHOOLS	48	42.866667	-90.187639
90	WNQD298	450-470	LANCASTER, CITY OF	16	42.846361	-90.691778
91	WNQS880	450-470	GALENA TERRITORY ASSOCIATION	80	42.393333	-90.305694
92	WNRS519	450-470	ComElec Services, Inc.	121	42.503611	-90.747917
93	WNRU816	150-174	MICHEK OIL COMPANY	48	43.049417	-90.380389
94	WNRV800	150-174	ENGE FARMS INC	64	43.315833	-89.889833
95	WNUW943	450-470	DAVIS FARMS	64	42.512778	-90.164472
96	WNUX451	800/900	WISCONSIN, STATE OF	113	43.144139	-90.681250
97	WNUX451	800/900	WISCONSIN, STATE OF	113	42.963056	-89.394000
98	WNVE734	150-174	ComElec Services, Inc.	37	42.682500	-90.118472
99	WNVF925	800/900	State of Wisconsin	113	43.567750	-89.492889



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100	WNVG839	450-470	ComElec Services, Inc.	32	42.666111	-90.137361
101	WNVR426	450-470	ComElec Services, Inc.	72	42.646667	-89.635667
102	WNWC205	450-470	MERLIN MOSER AND SON	80	42.500000	-91.208472
103	WNYK609	450-470	LUTHERAN HOSPITAL LA CROSSE	121	43.794417	-91.249583
104	WNYM890	450-470	RUNDELL, DAVID	32	42.887500	-90.420972
105	WNYU878	150-174	RICHLAND, COUNTY OF	40	43.337472	-90.378194
106	WNYW536	450-470	UNIVERSITY OF WISCONSIN	40	42.830000	-90.789583
107	WNZC892	450-470	REDDY AG SERVICE INC	40	42.928333	-90.622083
108	WNZF393	450-470	ComElec Services, Inc.	80	42.838889	-89.726500
109	WNZH231	150-174	Lamers Bus Lines	40	42.667639	-90.107639
110	WPAE827	450-470	ComElec Services, Inc.	121	42.503611	-90.747917
111	WPBE296	450-470	PFAB, CLIFFORD	56	42.463056	-90.658750
112	WPBI314	800/900	Interstate Power and Light Company	113	42.243167	-90.908556
113	WPBI314	800/900	Interstate Power and Light Company	113	42.058972	-90.701583
114	WPBI314	800/900	Interstate Power and Light Company	113	42.528778	-90.616250
115	WPBI314	800/900	Interstate Power and Light Company	113	42.353611	-90.372361
116	WPBI314	800/900	Interstate Power and Light Company	113	42.133667	-90.120694
117	WPBI315	800/900	Interstate Power and Light Company	113	42.686944	-91.826389
118	WPBI315	800/900	Interstate Power and Light Company	113	42.804139	-91.417361
119	WPBI315	800/900	Interstate Power and Light Company	113	42.595833	-90.952361
120	WPBI316	800/900	Interstate Power and Light Company	113	42.998611	-91.191667
121	WPBI317	800/900	Interstate Power and Light Company	113	43.315778	-91.788972
122	WPBI317	800/900	Interstate Power and Light Company	113	43.059722	-91.503333
123	WPBI317	800/900	Interstate Power and Light Company	113	43.332222	-91.163333
124	WPBI319	800/900	Interstate Power and Light Company	113	43.335750	-91.166944



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125	WPBP725	150-174	WILSON GRANT, ANN	97	42.383333	-91.341806
126	WPBR742	450-470	RIVER VALLEY SCHOOL DISTRICT	64	43.227222	-90.069278
127	WPCW927	800/900	MEGACOMM CORPORATION	113	42.398889	-90.667639
128	WPCY538	450-470	RULE CONSTRUCTION LTD	80	42.995556	-90.147889
129	WPDC829	450-470	READY BUS LINE	80	43.411639	-91.138750
130	WPDI785	450-470	MEYER, C R	121	43.134444	-89.334000
131	WPDM569	450-470	NOVAK FARMS LLC	40	42.996667	-90.309833
132	WPDS778	450-470	SOUTHERN WISCONSIN FOODS OF LAKE DELTON LLC DBA BURGER KING	120	42.916667	-89.375111
133	WPDX544	450-470	LECTRONICS INC	80	42.261972	-90.443194
134	WPEA993	150-174	LAMERS BUS LINES, INC.	40	42.975222	-90.136750
135	WPEB968	450-470	SOUTHWEST WISCONSIN TECHNICAL COLLEGE	32	42.976028	-90.636694
136	WPEI340	450-470	ComElec Services, Inc.	80	42.838889	-89.726500
137	WPEI912	450-470	DE WITT ELECTRIC INC	121	41.825028	-90.541806
138	WPFG537	150-174	Archer Daniels Midland Company	121	41.830306	-90.188472
139	WPGG505	450-470	Isle of Capri Marquette	56	43.044417	-91.177083
140	WPGK706	150-174	Wisconsin Gas LLC	97	43.383306	-90.308472
141	WPGV417	450-470	LANDS END INC	32	42.975556	-90.145111
142	WPGW597	450-470	MONROE CLINIC	80	42.614167	-89.632056
143	WPGW707	450-470	PER MAR SECURITY SERVICES	80	43.050278	-89.487056
144	WPID431	800/900	ComElec Services, Inc.	80	42.299472	-90.194028
145	WPIH771	450-470	LORAS COLLEGE	46	42.503333	-90.681250
146	WPIJ432	450-470	Flipco INC.	80	43.063889	-89.697333
147	WPJI268	800/900	ComElec Services, Inc.	112	42.297528	-90.194028
148	WPJM485	450-470	DD and JJ Foods, Inc. DBA Piggly Wiggly #181	121	43.533306	-89.300111



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149	WPJX780	800/900	ComElec Services, Inc.	80	42.431944	-90.352917
150	WPKA478	150-174	FENNIMORE, CITY OF	25	42.982778	-90.655694
151	WPKC434	150-174	GRANT COUNTY FIREFIGHTERS ASSOCIATION	40	42.854167	-90.700694
152	WPKE802	450-470	TELEVISION WISCONSIN, INC.	80	43.055833	-89.535111
153	WPKM439	450-470	NELSON MILL & AGRI CENTER INC	80	43.562472	-90.889861
154	WPKW425	800/900	DUBUQUE, COUNTY OF	97	42.447500	-90.855417
155	WPKY375	800/900	DUBUQUE, COUNTY OF	97	42.447500	-90.855417
156	WPLQ824	800/900	State of Wisconsin	112	43.567750	-89.492889
157	WPLR315	800/900	WISCONSIN, STATE OF	112	43.034417	-91.142361
158	WPLT948	800/900	BADGERLAND COMMUNICATIONS INC	112	43.430528	-89.653722
159	WPLU664	800/900	State of Wisconsin	112	43.034417	-91.142361
160	WPLV685	800/900	WISCONSIN, STATE OF	112	43.809111	-90.100389
161	WPLV685	800/900	WISCONSIN, STATE OF	112	43.134444	-89.398806
162	WPLX935	800/900	State of Wisconsin	112	42.963056	-89.394000
163	WPMA265	150-174	POTOSI RESCUE SQUAD INC	32	42.700000	-90.692083
164	WPMK622	450-470	ComElec Services, Inc.	32	42.764167	-90.405417
165	WPML245	450-470	BEMIS PERFORAMANCE PACKAGING	25	42.861111	-90.700694
166	WPMP518	150-174	BOSCOBEL RURAL FIRE DISTRICT	32	43.137306	-90.706222
167	WPMP518	150-174	BOSCOBEL RURAL FIRE DISTRICT	20	43.125167	-90.694028
168	WPMV481	800/900	MCKEE ASSOCIATES INC	113	43.050833	-89.486778
169	WPMV525	800/900	SCHORR CONSTRUCTION INC	113	42.958889	-89.490389
170	WPMV532	800/900	OREGON SCHOOLS	113	42.958889	-89.490389
171	WPMW427	800/900	BIERMAN, NICK	112	43.430528	-89.653722
172	WPMW428	800/900	PELLETIER, GARY E	112	43.430528	-89.653722
173	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.982194	-91.114306



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174	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.776361	-90.443472
175	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.966667	-90.420417
176	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.268583	-90.417361
177	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.669167	-89.617889
178	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.489694	-89.509000
179	WPNU308	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.005000	-89.196222
180	WPNU321	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.727222	-91.005000
181	WPNU321	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.916111	-90.134972
182	WPNU321	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.120750	-89.619806
183	WPNU321	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.005000	-89.196222
184	WPNU399	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.523611	-90.615833
185	WPNU399	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.663833	-90.049000
186	WPNU399	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.150278	-89.295417
187	WPNW378	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.394722	-89.872500
188	WPNW378	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.670000	-89.617583
189	WPNX937	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.273750	-90.955306
190	WPNX937	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.495833	-89.548333
191	WPNX937	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.412778	-89.233611
192	WPNZ285	450-470	POTOSI, TOWN OF	25	42.694167	-90.710417
193	WPOA463	450-470	THOMAS, NEAL	25	42.914583	-90.312472
194	WPOD379	150-174	RUSS STRATTON BUSES	40	42.746139	-90.907556
195	WPOD379	450-470	RUSS STRATTON BUSES	25	42.694167	-90.710417
196	WPOZ203	150-174	BLUMENTHAL LANSING COMPANY	121	43.360250	-91.244583
197	WPPD445	150-174	GUNDERSEN LUTHERAN MEDICAL CENTER	600	43.794417	-91.249583
198	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.062472	-91.121778



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199	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.906111	-90.473889
200	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.776361	-90.443472
201	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.966667	-90.420417
202	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.268583	-90.417361
203	WPPG623	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.242944	-90.064306
204	WPQF980	150-174	DODGEVILLE AREA AMBULANCE	25	42.966333	-90.143611
205	WPQH422	150-174	CARNS, RODNEY	40	42.663083	-90.241611
206	WPQK259	150-174	POTOSI FIRE DEPARTMENT	24	42.700000	-90.692083
207	WPRS428	450-470	Wendhausen, Wade	25	42.908667	-90.360778
208	WPRT584	150-174	SCHMITT, KEN	40	42.616111	-90.730139
209	WPSE878	150-174	City of Cuba City	40	42.603056	-90.424444
210	WPSH670	450-470	Willet Hofmann & Assoc Inc	161	41.850000	-89.475000
211	WPTK890	800/900	Comelec Services, Inc.	113	42.400556	-90.398611
212	WPTM712	150-174	BELMONT AMBULANCE SERVICE	40	42.526944	-90.334167
213	WPTM837	800/900	ComElec Services, Inc.	113	42.762194	-90.389833
214	WPTP304	800/900	Wisconsin Power and Light Company	113	42.958889	-89.490278
215	WPTR530	800/900	ROCK RIVER SERVICE	113	42.284722	-89.633611
216	WPTU442	800/900	ADLER, THOMAS H	112	43.077778	-89.666944
217	WPTU797	150-174	FENNIMORE RESCUE SQUAD	40	42.982778	-90.655694
218	WPTV651	450-470	GENERAL COMMUNICATIONS	32	42.952222	-90.429722
219	WPTW865	450-470	GENERAL COMMUNICATIONS	32	42.762194	-90.389833
220	WPUY436	450-470	GRANT, COUNTY OF	32	42.829972	-90.688000
221	WPVY666	800/900	MercyOne Dubuque Medical Center	113	42.492222	-90.674306
222	WPXD519	150-174	LANCASTER, CITY OF	18	42.846389	-90.709444
223	WPXJ481	150-174	LANDS END INC	40	42.975556	-90.145111



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
224	WPXQ642	450-470	Crapp Farms	32	42.745556	-90.700278
225	WPXT242	800/900	Wisconsin Power and Light Company	113	42.762139	-90.389806
226	WPXT242	800/900	Wisconsin Power and Light Company	113	42.666667	-90.138611
227	WPXT242	800/900	Wisconsin Power and Light Company	113	43.183889	-89.253944
228	WPXY465	150-174	NORTH END AUTO WRECKING	40	42.526944	-90.683444
229	WPYF768	150-174	MINERAL POINT, CITY OF	30	42.864889	-90.186861
230	WPYL347	150-174	VIVID INC DBA HOUSE ON THE ROCK	40	43.091667	-90.131944
231	WPYR594	800/900	HODGE COMPANIES	113	42.519167	-90.619722
232	WPYR595	800/900	TM CORP	113	42.519167	-90.619722
233	WPYR596	800/900	MORRISON BROTHERS COMPANY	113	42.519167	-90.619722
234	WPYR639	800/900	COMELEC SERVICES INC	113	42.519167	-90.619722
235	WPYY361	800/900	Interstate Power and Light Company	113	43.090222	-91.854833
236	WQAD890	450-470	GENERAL COMMUNICATIONS	32	42.975194	-90.133750
237	WQAI420	800/900	Wisconsin Power and Light Company	113	43.055833	-89.535000
238	WQAI425	800/900	Wisconsin Power and Light Company	113	43.625833	-89.780833
239	WQAI425	800/900	Wisconsin Power and Light Company	113	43.309722	-89.727778
240	WQAI425	800/900	Wisconsin Power and Light Company	113	43.427778	-89.653889
241	WQAI949	800/900	Wisconsin Power and Light Company	113	42.576667	-89.692778
242	WQAR953	800/900	Interstate Power and Light Company	113	43.316500	-91.455000
243	WQAR953	800/900	Interstate Power and Light Company	113	43.315722	-91.438139
244	WQAS201	450-470	DODGEVILLE AGRI SERVICE	32	42.976389	-90.134444
245	WQAS850	150-174	WAMSLEY, CHARLIE	40	42.751111	-90.875000
246	WQAW936	450-470	VIVID, INC. DBA THE HOUSE ON THE ROCK RESORT	32	43.158333	-90.338889
247	WQBA885	450-470	K & J FARMS	32	42.572639	-90.545556
248	WQBB874	800/900	Wisconsin Power and Light Company	113	42.958889	-89.490278



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
249	WQBC477	800/900	Wisconsin Power and Light Company	113	43.150278	-89.295417
250	WQBC865	450-470	H&K Partners, LLC	121	43.060417	-89.512639
251	WQBC865	450-470	H&K Partners, LLC	121	43.103611	-89.343778
252	WQBC865	450-470	H&K Partners, LLC	121	43.131139	-89.301806
253	WQBC865	450-470	H&K Partners, LLC	121	43.185111	-89.234167
254	WQBE559	800/900	Wisconsin Power and Light Company	113	43.026667	-89.854722
255	WQBE963	800/900	GENERAL COMMUNICATIONS	113	42.958889	-89.490278
256	WQBF797	450-470	Macdonald, William A	32	43.037556	-90.238250
257	WQBJ423	800/900	Dubuque County E911 Commission	113	42.281472	-91.011333
258	WQCA704	800/900	Wisconsin Power and Light Company	113	43.584194	-89.819889
259	WQCG696	800/900	GENERAL COMMUNICATIONS	113	43.050833	-89.486944
260	WQCM329	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.875000	-90.673056
261	WQCS284	800/900	Interstate Power and Light Company	113	42.955833	-91.816111
262	WQCS501	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.816083	-89.660889
263	WQDE966	150-174	TOP OF THE CLASS CORPORATION	40	42.528778	-90.616250
264	WQDV323	150-174	Interstate Power & and Light Company	290	43.557167	-93.661056
265	WQDV323	150-174	Interstate Power & and Light Company	290	42.686944	-91.826389
266	WQEF708	150-174	KOBUSSEN BUSES LTD	40	43.315389	-90.426389
267	WQEH760	450-470	VESTAS AMERICAN WIND TECHNOLOGY	16	42.965639	-90.368750
268	WQEI908	450-470	AMERICAN TIME & SIGNAL CO.	20	42.985972	-90.647250
269	WQEW248	450-470	Aclara Technologies LLC	80	43.281611	-90.187806
270	WQFW336	450-470	AMERICAN TIME	20	42.847611	-90.712500
271	WQFW336	450-470	AMERICAN TIME	20	42.976000	-90.637278
272	WQGH986	150-174	MONTFORT RESCUE SQUAD INC	25	42.966667	-90.420417
273	WQHD517	150-174	IOWA, COUNTY OF	40	42.973278	-90.131639



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
274	WQHF415	800/900	MINNESOTA, STATE OF	113	43.668750	-91.404194
275	WQHF415	800/900	MINNESOTA, STATE OF	113	43.550583	-91.361472
276	WQHJ819	150-174	DUBUQUE COMMUNITY SCHOOL	40	42.528778	-90.616250
277	WQHP691	150-174	PLATTEVILLE, CITY OF	24	42.733889	-90.475417
278	WQIQ798	150-174	LANGE, MATT	80	43.006000	-91.334333
279	WQIS696	150-174	IOWA, COUNTY OF	32	43.000000	-90.116667
280	WQIU701	150-174	PLATTEVILLE, CITY OF	20	42.735000	-90.478611
281	WQJN548	450-470	T & D GRAIN INC	32	42.790111	-90.458556
282	WQKB482	800/900	State of Wisconsin	112	43.567750	-89.492889
283	WQKD862	800/900	RACOM Corporation	113	41.860000	-90.205000
284	WQKD865	800/900	RACOM Corporation	113	43.279722	-91.787778
285	WQKD869	800/900	RACOM Corporation	113	42.528611	-90.615556
286	WQKD870	800/900	RACOM Corporation	113	42.441944	-91.110556
287	WQKD876	800/900	RACOM Corporation	113	42.313333	-90.599444
288	WQKD893	800/900	RACOM Corporation	113	42.447500	-90.855556
289	WQKD899	800/900	RACOM Corporation	113	42.605000	-90.799167
290	WQKD925	800/900	RACOM Corporation	113	43.754722	-91.296389
291	WQKE791	450-470	WALTER, TAYLOR	32	42.908056	-90.754056
292	WQKM917	150-174	WISCONSIN, STATE OF	40	42.903333	-90.950278
293	WQKP291	150-174	WISCONSIN, STATE OF	40	43.048778	-90.368861
294	WQKR812	450-470	BOSCOBEL AREA SCHOOLS	32	43.125167	-90.694028
295	WQKX454	450-470	Warco Transportation Company	40	42.605000	-90.799306
296	WQKX454	450-470	Warco Transportation Company	32	42.700250	-90.693306
297	WQKX454	150-174	Warco Transportation Company	32	42.739806	-90.467417
298	WQKX454	150-174	Warco Transportation Company	40	43.055278	-90.378611



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
299	WQKX454	150-174	Warco Transportation Company	40	43.055389	-90.378583
300	WQLC653	150-174	POTOSI RESCUE SQUAD	30	42.695611	-90.699889
301	WQLE935	150-174	DODGEVILLE, CITY OF	30	42.962917	-90.133361
302	WQLM596	450-470	MARTIN SYSTEMS INC	80	43.024889	-89.472222
303	WQLZ389	150-174	WISCONSIN, STATE OF	40	42.666667	-90.138611
304	WQMF698	450-470	COMMUNICATIONS ENGINEERING CO	80	42.490000	-90.738889
305	WQMI710	470-512	GRAY TELEVISION LICENSEE, LLC	270	41.528639	-90.573444
306	WQMK331	150-174	WISCONSIN, STATE OF	40	42.601111	-90.554444
307	WQMK739	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	42.722722	-89.856500
308	WQMK982	150-174	PLATTEVILLE, CITY OF	40	42.738333	-90.476806
309	WQMM943	450-470	ITC MIDWEST	80	42.846667	-91.377306
310	WQNC900	150-174	IOWA, COUNTY OF	40	42.961111	-90.130361
311	WQNG697	450-470	PLATTEVILLE, CITY OF	32	42.734806	-90.478611
312	WQNR463	150-174	SUNKISSD TNT INC.	40	42.999361	-90.653500
313	WQNU802	150-174	REDFEARN, STEVE	40	42.609528	-90.415889
314	WQNV528	450-470	MASTERS, MARK	32	42.961833	-90.243000
315	WQNY230	450-470	HOLY GHOST IMMACULATE CONCEPTION SCHOOL	32	42.628000	-90.596083
316	WQOP488	450-470	UNITED COOPERATIVE	16	42.743972	-90.337139
317	WQOQ328	150-174	DICKEYVILLE, CITY OF	32	42.622806	-90.591000
318	WQOQ846	150-174	WISCONSIN, STATE OF	40	42.973278	-90.131583
319	WQOV470	150-174	KIRSCHBAUM, BILL	32	42.934528	-90.537250
320	WQOV538	150-174	L & M CORRUGATED CONTAINER CORPORATION	40	42.732389	-90.444111
321	WQOW673	450-470	SCHUBERT, MIKE	32	42.799556	-90.115361
322	WQPD249	150-174	Southwest Health EMS	32	42.729556	-90.441944
323	WQPM421	150-174	RICHLAND, COUNTY OF	40	43.315389	-90.426389



ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
324	WQPT601	150-174	RIVERDALE AG SERVICE	40	43.183889	-90.442639
325	WQQB301	150-174	BAXTER, CHARLIE	40	42.595000	-90.127917
326	WQQH821	150-174	VOSBERG, RONALD L	40	42.646944	-90.486389
327	WQQK543	150-174	MURRAY, BRADLEY A	40	42.629167	-90.130972
328	WQQZ351	450-470	UNIVERSITY OF WISCONSIN PLATTEVILLE	56	42.735000	-90.486250
329	WQRM486	150-174	BELMONT, CITY OF	24	42.736667	-90.333750
330	WQRQ791	150-174	RIEKEN, CHRIS	40	42.561528	-90.484056
331	WQRR828	150-174	SOUTHWEST HEALTH CENTER	32	42.720000	-90.425028
332	WQRV558	150-174	PREMIER COOPERATIVE	32	42.864417	-90.686556
333	WQRV558	150-174	PREMIER COOPERATIVE	32	42.980556	-90.643194
334	WQRV617	150-174	NAUMAN, DAVE	40	42.590722	-90.791972
335	WQRX841	450-470	AL-DO FARMS, INC	32	42.822778	-90.809528
336	WQSB365	150-174	KAUFFMAN, DAVID	40	42.983083	-90.655333
337	WQSB371	450-470	BARK, JAMES	32	42.885111	-90.907139
338	WQSG215	800/900	SBH SPECTRUM, LLC	113	43.812222	-91.198333
339	WQSJ888	150-174	FAHERTY	40	42.764083	-90.405611
340	WQSV575	150-174	REDFERN, JACK	40	42.543889	-90.427361
341	WQTD298	150-174	MERGEN, TERRY	48	42.916806	-90.964500
342	WQTD366	150-174	HARD SCRABBLE FARMS LLC	40	42.985306	-90.478056
343	WQTN952	150-174	BELMONT COMMUNITY SCHOOL DISTRICT	40	42.734722	-90.322917
344	WQTU223	450-470	Wendhausen, RICHARD	32	42.908667	-90.360778
345	WQU850	800/900	GENERAL COMMUNICATIONS	113	43.050833	-89.486667
346	WQVA714	150-174	REICHLING FARMS	40	42.815667	-90.100111
347	WQVH284	450-470	WOLF L & G FARMS, LLC	32	42.770417	-90.697583
348	WQVJ774	450-470	BOYS & GIRLS CLUBS OF WEST CENTRAL WISCONSIN INC	95	43.469167	-89.741944



Wind Power GeoPlanner™ Land Mobile & Emergency Services Report Whitetail Wind, LLC

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
349	WQVM890	450-470	KNEBEL FARMS LLC	32	42.715389	-90.347333
350	WQVN419	450-470	AMERICAN TIME & SIGNAL CO.	20	42.741639	-90.493917
351	WQVS305	450-470	A BEEP, LLC	32	42.762139	-90.389806
352	WQVT469	800/900	WISCONSIN, STATE OF	64	43.144167	-90.681111
353	WQVU920	800/900	RapidLink Wireless, LLC	113	43.369389	-89.529111
354	WQVV542	800/900	RapidLink Wireless, LLC	113	42.993556	-89.993417
355	WQVV542	800/900	RapidLink Wireless, LLC	113	43.356139	-89.779083
356	WQVV542	800/900	RapidLink Wireless, LLC	113	42.817833	-89.628639
357	WQVZ580	450-470	LANGE CUSTOM CHOPPING	32	42.606694	-90.425806
358	WQWI587	150-174	RETTENMEIRER, BRAD	40	42.601694	-90.728361
359	WQWJ396	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.321861	-90.867306
360	WQWN578	150-174	BROUGHTON, BRENT	104	43.450000	-90.033333
361	WQWR749	450-470	Spectrum Brands- Rayovac	16	42.975528	-90.628028
362	WQXF353	800/900	WISCONSIN POWER AND LIGHT COMPANY	113	43.485500	-89.419194
363	WQXF812	450-470	SLOAN IMPLEMENT	32	42.876806	-90.103667
364	WQYA535	25-50	River City Ready Mix	80	43.665472	-90.858333
365	WQYA894	450-470	WALNUT HOLLOW FARMS, INC.	32	42.976444	-90.132611
366	WQYC527	150-174	IOWA, COUNTY OF	35	42.973278	-90.131583
367	WQYR274	450-470	WEST UNION TRENCHING LLC	160	42.963556	-91.799028
368	WQZE704	450-470	ZieglerInc	32	42.969833	-90.111417
369	WQZF740	450-470	TIMMERMAN, MICHAEL	32	42.599389	-90.540917
370	WQZW369	450-470	MONEYPENNY FARMS	32	42.888167	-90.336833
371	WRAB671	450-470	SLOAN IMPLEMENT	32	42.908194	-90.869639
372	WRAC403	450-470	HOPPMAN, ADAM	32	42.590778	-90.507444
373	WRAE688	450-470	KLEIN, MIKE	32	42.762556	-90.350750



Wind Power GeoPlanner™ Land Mobile & Emergency Services Report Whitetail Wind, LLC

ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
374	WRBQ628	450-470	LEAHY GRAIN	32	42.660722	-90.358250
375	WRCB364	150-174	B & B PUMPING, LLC	40	42.624389	-90.777444
376	WRCH481	450-470	DAIRYLAND POWER COOPERATIVE	32	42.874972	-90.672972
377	WRCH481	450-470	DAIRYLAND POWER COOPERATIVE	32	43.017111	-90.665056
378	WRCK380	450-470	DAIRYLAND POWER COOPERATIVE	32	42.603056	-90.479167
379	WRCK380	450-470	DAIRYLAND POWER COOPERATIVE	32	42.666667	-90.138611
380	WRCV983	450-470	NUTRIEN AG SOLUTIONS INC	32	42.596611	-90.429944
381	WRCV983	450-470	NUTRIEN AG SOLUTIONS INC	32	42.844167	-90.155083
382	WRCX328	450-470	Duluth Trading Company	80	42.488361	-90.772917
383	WRCX328	450-470	Duluth Trading Company	80	42.863056	-89.526556
384	WRDI976	450-470	POTOSI SCHOOL DISTRICT	32	42.692583	-90.694889
385	WRDL268	450-470	AMERICAN TIME & SIGNAL CO.	20	42.741806	-90.326472
386	WREC842	450-470	ADAMS, PAT	32	42.611500	-90.427694
387	WREZ409	800/900	WISCONSIN, STATE OF	112	43.075000	-89.380278
388	WRFC374	450-470	SIEG, LLC	32	42.854528	-90.157583
389	WRFF350	150-174	GRANT REGIONAL HEALTH CENTER	24	42.843750	-90.708750
390	WRFI225	450-470	UNITED ELECTRIC, INC	80	43.070000	-89.459167
391	WRFK820	150-174	WISCONSIN, STATE OF	80	43.223278	-90.433167
392	WRFS456	150-174	GRANT, COUNTY OF	32	42.826528	-90.686306
393	WRHX828	450-470	BELMONT COMMUNITY SCHOOL DISTRICT	32	42.741889	-90.326472
394	WRJA814	450-470	MEISTER CHEESE COMPANY, LLC	32	43.186000	-90.429944
395	WRJG472	150-174	MINERAL POINT RURAL FIRE DEPT	40	42.862528	-90.186778
396	WRJG739	150-174	MINERAL POINT, CITY OF	40	42.860833	-90.180111
397	WRJI206	450-470	DODGEVILLE SCHOOL DISTRICT	32	42.966389	-90.146111
398	WRJI206	450-470	DODGEVILLE SCHOOL DISTRICT	32	42.964167	-90.143889



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ID	Call Sign	Frequency Band (MHz)	Licensee	Mobile Area Radius (km)	Latitude (NAD83)	Longitude (NAD83)
399	WRJI206	450-470	DODGEVILLE SCHOOL DISTRICT	32	42.965000	-90.140278
400	WRJP891	150-174	Dakota Minnesota & Eastern Railroad Corporation	40	42.686889	-90.678500
401	WRJQ305	450-470	BAHR FARMS	32	42.683333	-90.284222
402	WRKP583	450-470	SKOGEN'S FESTIVAL FOODS	80	43.325556	-90.270556
403	WRML989	150-174	GRANT, COUNTY OF	32	42.829972	-90.688000
404	WSM837	25-50	VONDRUM, JAMES J	80	42.801389	-90.631528

Table A: Mobile Licenses Intersecting Project Area

Wind Power GeoPlanner™

Microwave Study

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 2, 2021





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1. Introduction

Microwave bands that may be affected by the installation of wind turbine facilities operate over a wide frequency range (900 MHz – 23 GHz). Comsearch has developed and maintains comprehensive technical databases containing information on licensed microwave networks throughout the United States. These systems are the telecommunication backbone of the country, providing long-distance and local telephone service, backhaul for cellular and personal communication service, data interconnects for mainframe computers and the Internet, network controls for utilities and railroads, and various video services. This report focuses on the potential impact of wind turbines on licensed, proposed and applied non-federal government microwave systems.

2. Project Overview

Project Information Name: Whitetail Wind, LLC County: Grant State: Wisconsin

Number of Turbines: TBD Blade Diameter: 162 meters Hub Height: 130 meters



Figure 1: Area of Interest



3. Fresnel Zone Analysis

Methodology

Our obstruction analysis was performed using Comsearch's proprietary microwave database, which contains all non-government licensed, proposed and applied paths from 0.9 - 23 GHz¹. First, we determined all microwave paths that intersect the area of interest² and listed them in Table 1. These paths and the area of interest that encompasses the planned turbine locations are shown in Figure 2.

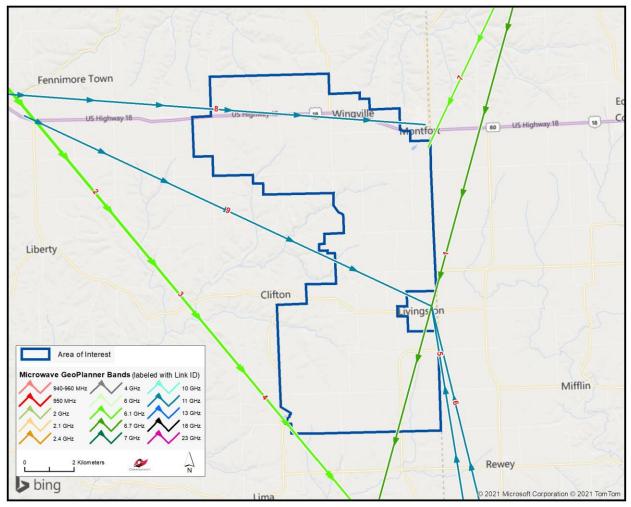


Figure 2: Microwave Paths that Intersect the Area of Interest

¹ Please note that this analysis does not include unlicensed microwave paths or federal government paths that are not registered with the FCC.

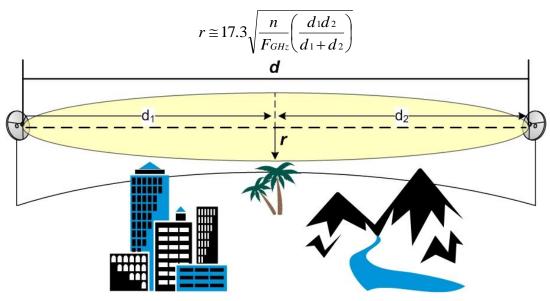
 $^{^2}$ We use FCC-licensed coordinates to determine which paths intersect the area of interest. It is possible that as-built coordinates may differ slightly from those on the FCC license.



ID	Status	Callsign 1	Callsign 2	Band	Path Length (km)	Licensee
1	Licensed	WPOT676	WPQN985	6.7 GHz	51.97	Wisconsin, State of
2, 3	Licensed	WPTH706	WPTJ605	6.1 GHz	39.41	Wisconsin RSA No. 8 Limited Partnership
4	Licensed	WPTV513	WPTV517	6.1 GHz	39.61	US Cellular Operating Company, LLC (WI)
5	Licensed	WQPJ210	WQWX755	11 GHz	15.43	ComElec Services
6	Licensed	WQWX756	WQWX755	11 GHz	15.86	ComElec Services
7	Licensed	WQYD684	WQYC586	6.1 GHz	11.18	USCOC of Greater Wisconsin, L.P.
8	Licensed	WQYL366	WQYL363	11 GHz	19.97	Upper Midwest Wireless, LLC
9	Licensed	WQYT608	WQWX755	11 GHz	18.28	ComElec Services

Table 1: Summary of Microwave Paths that Intersect the Area of Interest (See enclosed mw_geopl.xlsx for more information and GP_dict_matrix_description.xls for detailed field descriptions)

Next, we calculated a Fresnel Zone for each path based on the following formula:



Where,

- r = Fresnel Zone radius at a specific point in the microwave path, meters
- n = Fresnel Zone number, 1
- F_{GHz} = Frequency of microwave system, GHz
- d₁ = Distance from antenna 1 to a specific point in the microwave path, kilometers
- d₂ = Distance from antenna 2 to a specific point in the microwave path, kilometers



The calculated Fresnel Zone shows the narrow area of signal swath and is calculated for each microwave path in the project area. In general, this is the area where the planned wind turbines should be avoided, if possible. Likewise, Comsearch recommends that an area directly in front of each microwave antenna should be avoided. This corresponds to the Consultation Zone which measures 1 kilometer along the main beam of the antenna and 24 ft (7.3 meters) wide. A depiction of the individual Fresnel and Consultation Zones is shown in Figure 3, and is also included in the shapefiles^{3,4}.

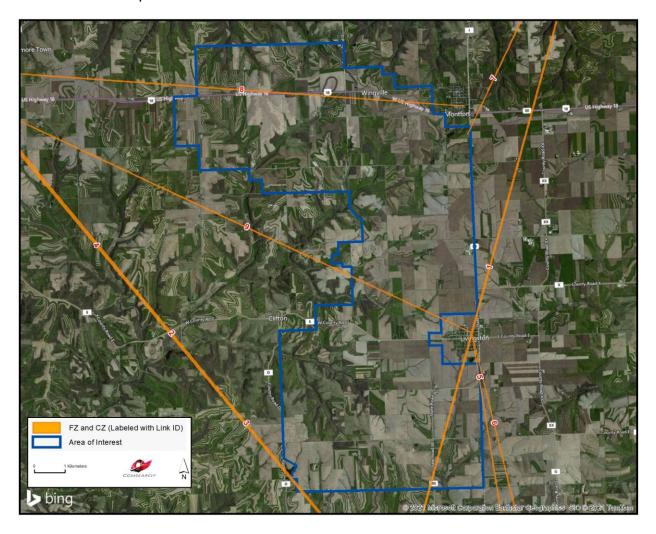


Figure 3: Fresnel and Consultation Zones in the Area of Interest

³ The ESRI® shapefiles enclosed are in NAD 83 UTM Zone 15 projected coordinate system.

⁴ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data provided in this report is governed by Comsearch's data license notification and agreement located at <u>http://www.comsearch.com/files/data_license.pdf</u>.



Discussion of Potential Obstructions

Total Microwave PathsPaths with Affected Fresnel Zones		Total Turbines	Turbines intersecting Fresnel Zones	
9	N/A	N/A	N/A	

For this project, turbine locations were not provided; thus we could not determine if any potential obstructions exist between the planned wind turbines and the incumbent microwave paths. If the latitude and longitude values for turbine locations are provided, Comsearch can identify where a potential conflict might exist.

4. Conclusion

Our study identified nine microwave paths intersecting the Whitetail Wind, LLC project area. The Fresnel and Consultation Zones for these microwave paths were calculated and mapped. We recommend that all turbines be sited in locations that will not encroach on these exclusion zones.

5. Contact

For questions or information regarding the Microwave Study, please contact:

Contact person:	David Meyer
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Wind Power GeoPlanner™ Mobile Phone Carrier Report Whitetail Wind, LLC

Prepared on Behalf of Whitetail Wind, LLC

July 2, 2021





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1. Introduction

Comsearch has developed and maintains comprehensive technical databases containing information on licensed mobile phone carriers across the US. Mobile phone carriers operate in multiple frequency bands and are often referred to as Advanced Wireless Service (AWS), Personal Communication Service (PCS), 700 MHz Band, Wireless Communications Service (WCS), and Cellular. They hold licenses on an area-wide basis which are typically comprised of several counties.

This report focuses on the potential impact of wind turbines on mobile phone operations in and around the project area.



2. Summary of Results

Methodology

Our mobile phone analysis was performed using Comsearch's proprietary carrier database, which is derived from a variety of sources including the Federal Communications Commission (FCC). Since mobile phone market boundaries differ from service to service, we disaggregated the carriers' licensed areas down to the county level. Then we compiled a list of all mobile phone carriers in the main counties that intersect the area of interest. The area of interest was defined by the client and encompasses the planned turbine locations. A depiction of the wind project area and counties appears below.



Figure 1: Counties that intersect the Area of Interest



Results

The Whitetail Wind, LLC Project is located in Grant County, WI. We have identified the type of service, channel block, market ID and FCC callsign for each carrier in the county of interest. A description of the various service types and geographic market areas is below with a summary table on the following page.

AWS

AWS licensees won their spectrum in an auction that started in August 2006. The licensees are authorized by 734 Cellular Market Areas (CMA) for Block A, 176 Economic Areas (BEA) for Blocks B and C, and 12 Regional Economic Area Groupings (REAG) for Blocks D, E and F. This spectrum at 1.7 and 2.1 GHz was allocated for mobile broadband and advanced wireless services. Partitioning and leases are permitted in the band.

Cellular

Licensees are authorized by Metropolitan and Rural Statistical Areas, also known as CMAs. Unserved areas can be covered by licensees other than the original A or B block licensee. To determine the most realistic coverage, we compiled the Cellular Geographic Service Areas (CGSA) from the 32 dBu contours defined by Part 22.911(a) of the FCC rules. Mobile services are provided at 800 MHz and partitioning and leases are permitted in the band.

PCS

There have been nine auctions for this band, with the last one being held in August 2008. Licensees are authorized by 51 Major Trading Areas (MTA) for Blocks A and B, 493 Basic Trading Areas (BTA) for Blocks C through F, and 176 Economic Areas (EA) for Block G. This band has been heavily partitioned and disaggregated both by counties and by smaller polygons within counties (known as undefined areas or partial counties). The 1.9 GHz PCS carriers provide mobile services and leases are permitted in the band.

700 MHz Band

Originally used for analog television broadcasting, this band consists of an upper and lower band, each having its own set of frequency blocks. There have been three auctions in this band with the last one (Auction 73) being held in 2008 and mobile phone carriers eventually winning licenses for Blocks A, B, and C of the Lower 700 MHz band and Block C of the Upper 700 MHz band. Licensees are authorized by 176 Economic Areas (EA) for Lower Block A, 734 Cellular Market Areas (CMA) for Lower Blocks B and C, and 12 Regional Economic Area Groupings (REAG) for Upper Block C. Partitioning and leases are permitted in the band.

WCS

Mobile services provided in the 2.3 GHz band occupy frequency blocks above and below the spectrum allocated for Satellite Digital Audio Radio Service (SDARS) from 2320 MHz to 2345 MHz. WCS licensees are authorized by 52 Major Economic Areas (MEA) for Blocks A and B and 12 Regional Economic Area Groupings (REAG) for Blocks C and D. Partitioning and leases are permitted in the band.



Service ¹ Mobile Phone Carrier		Channel Block	County	ST	Market ID	Callsign
700 MHz	US Cellular	Lower A	Grant	WI	BEA104	WQLE671
700 MHz	US Cellular	Lower B	Grant	WI	CMA715	WQLE804
700 MHz	AT&T	Lower C	Grant	WI	CMA715	WPWV451
700 MHz	AT&T	Lower D	Grant	WI	EAG704	WPZA238
700 MHz	DISH Network	Lower E	Grant	WI	BEA104	WQJZ246
700 MHz	Verizon	Upper C	Grant	WI	REA003	WQJQ691
AWS	US Cellular	А	Grant	WI	CMA715	WQGL791
AWS	US Cellular	В	Grant	WI	BEA104	WQGV765
AWS	T-Mobile	С	Grant	WI	BEA104	WQGB366
AWS	AT&T	D	Grant	WI	REA003	WQGV784
AWS	T-Mobile	E	Grant	WI	REA003	WQMN858
AWS	Verizon	F	Grant	WI	REA003	WQGA717
Cellular	US Cellular	А	Grant	WI	CMA715	KNKN311
Cellular	Verizon	В	Grant	WI	CMA715	KNKN459
PCS	T-Mobile	А	Grant	WI	MTA032	KNLF263
PCS	US Cellular	А	Grant	WI	MTA032	WQUC373
PCS	Sprint	В	Grant	WI	MTA032	KNLF264
PCS	AT&T	С	Grant	WI	BTA118	WPOK625
PCS	US Cellular	С	Grant	WI	BTA118	WQBK378
PCS	Verizon	D	Grant	WI	BTA118	KNLG861
PCS	Verizon	E	Grant	WI	BTA118	KNLG969
PCS	US Cellular	F	Grant	WI	BTA118	KNLF881
PCS	Sprint	G	Grant	WI	BEA104	WQKT212
WCS	AT&T	А	Grant	WI	MEA017	KNLB217
WCS	AT&T	В	Grant	WI	MEA017	KNLB206
WCS	AT&T	С	Grant	WI	REA003	WPQL711
WCS	AT&T	D	Grant	WI	REA003	WQDM396

Table 1: Mobile Phone Carriers in the Area of Interest

¹ AWS: Advanced Wireless Service at 1.7/2.1 GHz CELL: Cellular Service at 800 MHz

PCS: Personal Communication Service at 1.9 GHz

⁷⁰⁰ MHz: Communication Service at 1.9 GHz WCS: Wireless Communication Service at 2.3 GHz



FCC-Licensed Sites

For competitive and confidentiality reasons, most mobile phone carriers' individual sites are not licensed with the FCC. However, in the cellular band, if a base station extends the existing Cellular Geographic Service Area (CGSA), then it must be recorded with the FCC. No licensed cellular sites were identified near the Whitetail Wind, LLC area of interest.

Summary

The telephone communications in the mobile phone carrier bands are typically unaffected by the presence of the wind turbines and we do not anticipate any significant harmful effect to mobile phone services in the Whitetail Wind, LLC project area. Mobile phone systems are designed with multiple base transmitter stations covering a specific area. Since mobile telephone signals are designed with overlap between adjacent base transmitter sites in order to provide handoff between cells, any signal blockage caused by the wind turbines does not materially degrade the reception because the end user may be receiving from multiple transmitter locations. For example, if a particular turbine attenuates the signal reception into a mobile phone, the phone may receive an alternate signal from a different transmit location, resulting in no disruption in service. Mobile phone systems that are implemented in urban areas near large structures and buildings often have to combat even more problematic signal attenuation and reflection conditions than rural areas containing a wind energy turbine facility.

For the cellular towers located within the project area, no setback distance is required from an interference standpoint other than physical clearance of the blades. From an electromagnetic standpoint, a setback distance of 77.3 meters should be used to meet FCC emission requirements.

In the unlikely event that a mobile phone carrier believes their coverage has been compromised by the presence of the wind energy facility, they have many options to improve their signal coverage to the area through optimization of a nearby base transmitter or even adding a new sector or cell site. Utility towers, meteorological towers or even the turbine towers within the wind project area can serve as the platform for a base transmit site or cell enhancer.



3. Contact Us

For questions or information regarding the Mobile Phone Carrier Report, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
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Web site:	www.comsearch.com

Wind Power GeoPlanner™

Off-Air TV Analysis

Whitetail Wind, LLC



Prepared on Behalf of Whitetail Wind, LLC

July 6, 2021





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1. Introduction

Off-air television stations broadcast signals from terrestrially-based facilities directly to television receivers. Comsearch identified those off-air stations whose service could potentially be affected by the proposed Whitetail Wind, LLC wind project in Grant County, Wisconsin. Comsearch then examined the coverage of the stations and the communities in the area that could potentially have degraded television reception due to the location of the proposed wind turbines.

2. Summary of Results

The proposed wind energy project area and local communities are depicted in Figure 1, below.



Figure 1: Wind Farm Project Area and Local Communities



To begin the analysis, Comsearch compiled all off-air television stations¹ within 150 kilometers of the proposed turbines. TV stations at a distance of 150 kilometers or less are the most likely to provide off-air coverage to the project area and neighboring communities. These stations are listed in Table 1, below, and a plot depicting their locations is provided in Figure 2. There are a total of 83 database records for stations within approximately 150 kilometers of the proposed turbines. Of these stations, only 47 stations are currently licensed and operating, 20 of which are low-power stations or translators. Translator stations are low-power stations that receive signals from distant broadcasters and retransmit the signal to a local audience. These stations serve local audiences and have limited range, which is a function of their transmit power and the height of their transmit antenna.

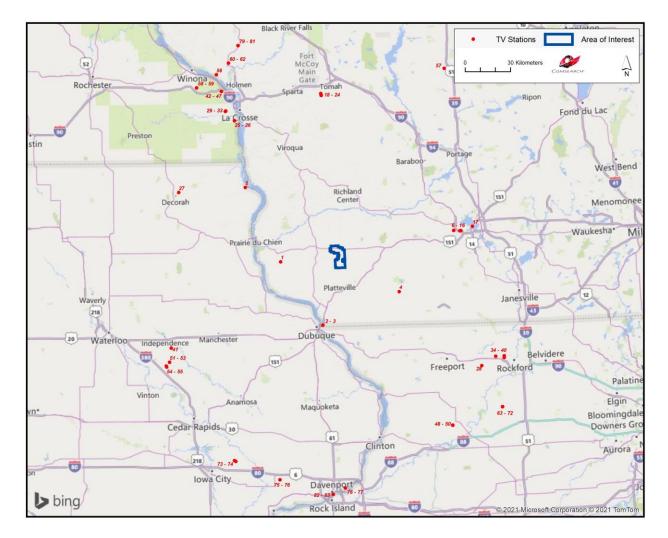


Figure 2: Plot of Off-Air TV Stations within 150 Kilometers of Proposed Turbines

¹ Comsearch makes no warranty as to the accuracy of the data included in this report beyond the date of the report. The data presented in this report is derived from the TV station's FCC license and governed by Comsearch's data license notification and agreement located at http://www.comsearch.com/files/data_license.pdf.



Wind Power GeoPlanner™ **Off-Air Television Report** Whitetail Wind, LLC

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Area of Interest (km)
1	W16DU-D	LIC	LPT	16	4.58	42.902417	-90.946528	33.26
2	KFXB-TV	LIC	DTV	14	580.0	42.519167	-90.619722	38.72
3	KRIN	APP	DRT	18	2.0	42.519167	-90.619722	38.72
4	K1700-D	CP	LPD	17	3.0	42.704167	-89.995000	39.23
5	K31NJ-D	LIC	LPT	31	15.0	43.349722	-91.221111	68.59
6	WISC-TV	LIC	DTV	11	46.9	43.055833	-89.535000	73.60
7	WMSN-TV	LIC	DTV	18	440.0	43.055833	-89.535000	73.60
8	WHA-TV	LIC	DTV	20	200.0	43.055833	-89.535000	73.60
9	WIFS	LIC	DTV	21	175.0	43.055833	-89.535000	73.60
10	WKOW	LIC	DTV	26	800.0	43.055833	-89.535000	73.60
11	WMTV	LIC	DTV	19	155.0	43.050833	-89.486944	77.41
12	WMWD-LD	CP	LPD	15	15.0	43.052500	-89.478333	78.13
13	W23BW-D	CP	DCA	23	15.0	43.052500	-89.478333	78.13
14	W23BW-D	LIC	DCA	23	11.81	43.052500	-89.478333	78.13
15	WMWD-LD	LIC	LPD	38	15.0	43.052500	-89.478333	78.13
16	WZCK-LD	LIC	LPD	24	15.0	43.052500	-89.476667	78.27
17	W08CK	LIC	LPA	8	0.036	43.074972	-89.381222	86.31
18	W43DD-D	CP	LPD	43	3.15	43.885222	-90.579278	99.74
19	W45DR-D	CP	LPD	45	3.15	43.885222	-90.579278	99.74
20	W47EA-D	CP	LPD	47	3.15	43.885222	-90.579278	99.74
21	WEZY-LP	CP	LPD	35	15.0	43.897222	-90.582500	101.08
22	WEZY-LP	CP	LPD	51	15.0	43.897222	-90.582500	101.08
23	WEZY-LP	LIC	LPA	51	150.0	43.897222	-90.582500	101.08

² Definitions of service and status codes:

- ACA Analog Class A
- DCA Digital Class A

DRT - Digital Replacement Translator

DT - ETL testing

DTS - Distributed Transmission System

- **DTV Full Service Television**
- DTX Digital TV Auxiliary LPA Low Power Analog TV
- LPD Low Power Digital TV
- LPT Digital TV Translator
- LPX Analog TV Translator
- TS Legacy Service for Analog TV Auxiliary
- TV Analog TV legacy

LIC - Licensed and operational station

CP - Construction permit granted

CP MOD - Modification of construction permit

APP – Application for construction permit, not yet operational

STA - Special transmit authorization, usually granted by FCC for temporary operation

AMD - Amendment

³ ERP = Transmit Effective Radiated Power



Wind Power GeoPlanner™ Off-Air Television Report Whitetail Wind, LLC

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Area of Interest (km)
24	WEZY-LP	STA	LPA	51	7.5	43.897222	-90.582500	101.08
25	KQEG-CA	LIC	DCA	23	15.0	43.748056	-91.297500	104.51
26	KQEG-CD	STA	DCA	23	2.25	43.747861	-91.298500	104.54
27	K25PE-D	LIC	LPT	25	15.0	43.326667	-91.765833	106.63
28	W35DY-D	LIC	LPT	35	3.44	42.245250	-89.353639	111.34
29	WHLA-TV	LIC	DTV	15	400.0	43.805083	-91.368083	112.98
30	WXOW	LIC	DTV	28	251.0	43.806389	-91.367500	113.07
31	W34FC-D	LIC	LPT	34	15.0	43.806389	-91.367500	113.07
32	WEAU	LIC	DRT	30	15.0	43.804444	-91.372167	113.13
33	WLAX	LIC	DTV	33	1000.0	43.804444	-91.372167	113.13
34	WREX	LIC	DTV	13	18.0	42.296667	-89.239444	115.71
35	WREX	CP	DTV	13	30.0	42.296667	-89.239444	115.71
36	WFBN-LD	LIC	LPD	23	15.0	42.296667	-89.170833	120.50
37	WIFR-LD	LIC	LPD	28	15.0	42.296667	-89.170833	120.50
38	WCRD-LP	CP	LPD	30	12.5	42.296667	-89.170833	120.50
39	WTVO	LIC	DTV	16	196.0	42.287222	-89.170833	121.06
40	WQRF-TV	LIC	DTV	36	910.0	42.287222	-89.170833	121.06
41	KWWL	LIC	DTV	7	49.0	42.400556	-91.843611	121.12
42	K28MV-D	CP	LPD	28	2.0	43.923306	-91.400389	125.19
43	W32DW-D	CP	LPD	32	1.0	43.923306	-91.400389	125.19
44	W34EB-D	CP	LPD	34	1.0	43.923306	-91.400389	125.19
45	K36MW-D	CP	LPD	36	2.0	43.923306	-91.400389	125.19
46	W45DM-D	CP	LPD	45	1.0	43.923306	-91.400389	125.19
47	W46EP-D	CP	LPD	46	1.0	43.923306	-91.400389	125.19
48	W27EJ-D	LIC	LPD	27	15.0	41.897861	-89.606056	126.18
49	W19CX	LIC	LPX	19	9.5	41.897778	-89.605556	126.21
50	W31DT-D	CP	LPD	31	15.0	41.897778	-89.605556	126.21
51	KCRG-TV	LIC	DTV	9	48.0	42.316389	-91.858611	126.50
52	KGAN	LIC	DTV	29	850.0	42.316389	-91.858611	126.50
53	KRIN	LIC	DTV	35	250.0	42.316389	-91.858611	126.50
54	KPXR-TV	LIC	DTV	22	215.0	42.295278	-91.886389	129.64
55	KFKZ-LD	LIC	LPD	32	15.0	42.288139	-91.881806	129.70
56	W26FD-D	CP	LPD	26	15.0	44.023389	-91.439222	136.18
57	W29ET-D	LIC	LPT	29	4.0	44.020222	-89.558694	136.49
58	K24JA-D	CP	LPD	24	0.05	43.947806	-91.604028	137.16
59	K25LC-D	CP	LPD	25	0.05	43.947806	-91.604028	137.16
60	WKBT-DT	CP	DTV	8	38.7	44.091111	-91.338056	138.57
61	WKBT-DT	LIC	DTV	8	25.7	44.091111	-91.338056	138.57
62	W19DP-D	CP	LPD	19	15.0	44.091111	-91.338056	138.57
63	WDXN-LD	CP	LPD	6	0.3	41.996111	-89.203056	138.92
64	WRDH-LP	LIC	LPA	7	3.0	41.996111	-89.203056	138.92
65	WCRD-LD	CP	LPD	9	3.0	41.996111	-89.203056	138.92



Wind Power GeoPlanner™ Off-Air Television Report Whitetail Wind, LLC

ID	Call Sign	Status	Service ²	Channel	Transmit ERP ³ (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Area of Interest (km)
66	WMKB-LD	CP	LPD	18	9.0	41.996111	-89.203056	138.92
67	WMKB-LP	LIC	LPA	25	39.8	41.996111	-89.203056	138.92
68	WBKM-LD	CP	LPD	25	1.0	41.996111	-89.203056	138.92
69	WRDH-LP	CP	LPD	26	1.0	41.996111	-89.203056	138.92
70	W34EM-D	CP	LPD	34	15.0	41.996111	-89.203056	138.92
71	WCRD-LP	LIC	LPA	44	35.5	41.996111	-89.203056	138.92
72	WBKM-LP	LIC	LPA	46	35.5	41.996111	-89.203056	138.92
73	KIIN	LIC	DTV	12	57.0	41.720833	-91.341667	143.93
74	KWKB	LIC	DTV	25	1000.0	41.724778	-91.352833	143.99
75	K20KF-D	LIC	LPD	20	15.0	41.606111	-90.993333	144.72
76	K33QA-D	CP	LPD	33	15.0	41.606111	-90.993333	144.72
77	WHBF-TV	LIC	DTV	4	33.7	41.546944	-90.476389	145.48
78	KWQC-TV	LIC	DTV	17	1000.0	41.546889	-90.477167	145.48
79	W21DC-D	CP	LPD	21	1.0	44.194667	-91.255417	146.05
80	W22DT-D	CP	LPD	22	0.5	44.194667	-91.255417	146.05
81	W28DT-D	CP	LPD	28	1.0	44.194694	-91.255611	146.06
82	WHBF-TV	CP	DRT	19	0.25	41.510278	-90.574167	149.69
83	WHBF-TV	LIC	DRT	47	2.3	41.510278	-90.574167	149.69

Table 1: Off-Air TV Stations within 150 Kilometers of Proposed Turbines

3. Impact Assessment

Based on a contour analysis of the licensed stations within 150 kilometers of the Whitetail Wind, LLC, it was determined that ten of the full-power digital stations, identified below in Table 2, along with low-power digital station W16DU-D, may have their reception disrupted in and around the project. The areas primarily affected would include TV service locations within 10 kilometers of the turbines that have clear line-of-sight (LOS) to a proposed wind turbine but not to the respective station. After the wind turbines are installed, communities and homes in these locations may have degraded reception of these stations. This is due to multipath interference caused by signal scattering as TV signals are reflected by the rotating wind turbine blades and mast.



ID	Call Sign	Status	Service	Channel	Transmit ERP (kW)	Latitude (NAD 83)	Longitude (NAD 83)	Distance to the Area of Interest (km)
1	W16DU-D	LIC	LPT	16	4.58	42.902417	-90.946528	33.26
2	KFXB-TV	LIC	DTV	14	580.0	42.519167	-90.619722	38.72
6	WISC-TV	LIC	DTV	11	46.9	43.055833	-89.535000	73.60
7	WMSN-TV	LIC	DTV	18	440.0	43.055833	-89.535000	73.60
8	WHA-TV	LIC	DTV	20	200.0	43.055833	-89.535000	73.60
9	WIFS	LIC	DTV	21	175.0	43.055833	-89.535000	73.60
10	WKOW	LIC	DTV	26	800.0	43.055833	-89.535000	73.60
11	WMTV	LIC	DTV	19	155.0	43.050833	-89.486944	77.41
41	KWWL	LIC	DTV	7	49.0	42.400556	-91.843611	121.12
51	KCRG-TV	LIC	DTV	9	48.0	42.316389	-91.858611	126.50
52	KGAN	LIC	DTV	29	850.0	42.316389	-91.858611	126.50

Table 2: Licensed Off-Air TV Stations Subject to Degradation

4. Recommendations

While TV signals are reflected by wind turbines, which can cause multipath interference to the TV receiver, modern digital TV receivers have undergone significant improvements to mitigate the effects of signal scattering. When used in combination with a directional antenna, it becomes even less likely that signal scattering from wind farms will cause interference to digital TV reception.

Nevertheless, signal scattering could still impact certain areas currently served by the TV station mentioned above, especially those that would have line-of-sight to at least one wind turbine but not to the station antenna. In the unlikely event that interference is observed in any of the TV service areas, it is recommended that a high-gain directional antenna be used, preferably outdoors, and oriented towards the signal origin in order to mitigate the interference.

Both cable service and direct broadcast satellite service will be unaffected by the presence of the wind turbine facility and may be offered to those residents who can show that their off-air TV reception has been disrupted by the presence of the wind turbines after they are installed.



5. Contact

For questions or information regarding the Off-Air TV Analysis, please contact:

Contact person:	David Meyer
Title:	Senior Manager
Company:	Comsearch
Address:	19700 Janelia Farm Blvd., Ashburn, VA 20147
Telephone:	703-726-5656
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Email:	dmeyer@comsearch.com
Web site:	www.comsearch.com

Appendix H Agency Comments

Whitetail Wind Energy Project

Grant County, Wisconsin

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State of Wisconsin / DEPARTMENT OF NATURAL RESOURCES

Tony Evers, Governor Adam N. Payne, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711 101 S. Webster St. Box 7921 Madison, WI 53707-7921

February 15, 2023

David Kuhlmann Westwood Professional Services 12701 Whitewater Dr Minnetonka, MN 55343

SUBJECT: Endangered Resources Review (ERR Log # 21-194)

Proposed Whitetail Wind Project - Renewed 02/15/23, Grant, Iowa County, WI (T06N R01W S35, T05N R01W S11, T05N R01E S18, T05N R01W S23, T05N R01W S01, T05N R01W S26, T05N R01E S31, T05N R01E S07, T05N R01E S06, T05N R01W S16, T05N R01W S20, T05N R01W S24, T05N R01W S27, T05N R01W S36, T06N R01E S31, T05N R01W S13, T05N R01W S33, T04N R01W S02, T04N R01E S06, T05N R01W S02, T05N R01W S15, T05N R01W S35, T06N R01W S34, T05N R01W S03, T05N R01W S12, T05N R01W S28, T05N R01W S34, T05N R01W S10, T05N R01W S17, T05N R01W S21, T05N R01W S22, T05N R01E S19, T05N R01W S29, T05N R01W S25, T04N R01W S03, T06N R01W S36, T05N R01W S14, T04N R01W S04, T04N R01W S01, T05N R01E S30)

Dear David Kuhlmann,

The Bureau of Natural Heritage Conservation has reviewed the proposed project described in the Endangered Resources (ER) Review Request received March 26, 2021. The complete ER Review for this proposed project is attached and follow-up actions are summarized below:

Required Actions: 4 species Recommended Actions: 1 species No Follow-Up Actions: 1 species Additional Recommendations Specified: Yes

This ER Review may contain Natural Heritage Inventory data (http://dnr.wi.gov/topic/NHI), including specific locations of endangered resources, which are considered sensitive and are not subject toWisconsin's Open Records Law. Information contained in this ER Review may be shared with individuals who need this information in order to carry out specific roles in the planning, permitting, and implementation of the proposed project. Specific locations of endangered resources may not be released or reproduced in any publicly disseminated documents.

The attached ER Review is for informational purposes and only addresses endangered resources issues. This ER Review does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities. Please contact the ER Review Program whenever the project plans change, new details become available, or more than a year has passed to confirm if results of this ER Review are still valid.

Please contact me at 608-228-9796 or via email at stacy.rowe@wi.gov if you have any questions about this ER Review.

Sincerely,

Stacy Rowe Endangered Resources Review Program



State of Wisconsin / DEPARTMENT OF NATURAL RESOURCES

Tony Evers, Governor Preston D. Cole, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711 101 S. Webster St. Box 7921 Madison, WI 53707-7921

March 29, 2022

David Kuhlmann Westwood Professional Services 12701 Whitewater Dr Minnetonka, MN 55343

SUBJECT: Endangered Resources Review (ERR Log # 21-194)

Proposed Whitetail Wind Project - Renewed 03/29/22, Grant, Iowa County, WI (T06N R01W S35, T05N R01W S11, T05N R01E S18, T05N R01W S23, T05N R01W S01, T05N R01W S26, T05N R01E S31, T05N R01E S07, T05N R01E S06, T05N R01W S16, T05N R01W S20, T05N R01W S24, T05N R01W S27, T05N R01W S36, T06N R01E S31, T05N R01W S13, T05N R01W S33, T04N R01W S02, T04N R01E S06, T05N R01W S02, T05N R01W S15, T05N R01W S35, T06N R01W S34, T05N R01W S03, T05N R01W S12, T05N R01W S28, T05N R01W S34, T05N R01W S10, T05N R01W S17, T05N R01W S21, T05N R01W S22, T05N R01E S19, T05N R01W S29, T05N R01W S25, T04N R01W S03, T06N R01W S36, T05N R01W S14, T04N R01W S04, T04N R01W S01, T05N R01E S30)

Dear David Kuhlmann,

The Bureau of Natural Heritage Conservation has reviewed the proposed project described in the Endangered Resources (ER) Review Request received March 26, 2021. The complete ER Review for this proposed project is attached and follow-up actions are summarized below:

Required Actions: 4 species Recommended Actions: 1 species No Follow-Up Actions: 1 species Additional Recommendations Specified: Yes

This ER Review may contain Natural Heritage Inventory data (http://dnr.wi.gov/topic/NHI), including specific locations of endangered resources, which are considered sensitive and are not subject toWisconsin's Open Records Law. Information contained in this ER Review may be shared with individuals who need this information in order to carry out specific roles in the planning, permitting, and implementation of the proposed project. Specific locations of endangered resources may not be released or reproduced in any publicly disseminated documents.

The attached ER Review is for informational purposes and only addresses endangered resources issues. This ER Review does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities. Please contact the ER Review Program whenever the project plans change, new details become available, or more than a year has passed to confirm if results of this ER Review are still valid.

Please contact me at 608-228-9796 or via email at stacy.rowe@wi.gov if you have any questions about this ER Review.

Sincerely,

Stacy Rowe Endangered Resources Review Program



State of Wisconsin / DEPARTMENT OF NATURAL RESOURCES

Tony Evers, Governor Preston D. Cole, Secretary Telephone 608-266-2621 Toll Free 1-888-936-7463 TTY Access via relay - 711 101 S. Webster St. Box 7921 Madison, WI 53707-7921

April 9, 2021

David Kuhlmann Westwood Professional Services 12701 Whitewater Dr Minnetonka, MN 55343

SUBJECT: Endangered Resources Review (ERR Log # 21-194)

Proposed Whitetail Wind Project, Grant, Iowa County, WI (T06N R01W S35, T05N R01W S11, T05N R01E S18, T05N R01W S23, T05N R01W S01, T05N R01W S26, T05N R01E S31, T05N R01E S07, T05N R01E S06, T05N R01W S16, T05N R01W S20, T05N R01W S24, T05N R01W S27, T05N R01W S36, T06N R01E S31, T05N R01W S13, T05N R01W S33, T04N R01W S02, T04N R01E S06, T05N R01W S02, T05N R01W S15, T05N R01W S35, T06N R01W S34, T05N R01W S03, T05N R01W S12, T05N R01W S28, T05N R01W S34, T05N R01W S10, T05N R01W S17, T05N R01W S21, T05N R01W S22, T05N R01W S13, T06N R01W S36, T05N R01W S22, T05N R01W S22, T05N R01W S03, T06N R01W S36, T05N R01W S14, T04N R01W S04, T04N R01W S01, T05N R01E S30)

Dear David Kuhlmann,

The Bureau of Natural Heritage Conservation has reviewed the proposed project described in the Endangered Resources (ER) Review Request received March 26, 2021. The complete ER Review for this proposed project is attached and follow-up actions are summarized below:

<u>Required Actions</u>: 3 species <u>Recommended Actions</u>: 2 species <u>No Follow-Up Actions</u>: 1 species <u>Additional Recommendations Specified</u>: Yes

This ER Review may contain Natural Heritage Inventory data (http://dnr.wi.gov/topic/NHI), including specific locations of endangered resources, which are considered sensitive and are not subject toWisconsin's Open Records Law. Information contained in this ER Review may be shared with individuals who need this information in order to carry out specific roles in the planning, permitting, and implementation of the proposed project. Specific locations of endangered resources may not be released or reproduced in any publicly disseminated documents.

The attached ER Review is for informational purposes and only addresses endangered resources issues. This ER Review does not constitute DNR authorization of the proposed project and does not exempt the project from securing necessary permits and approvals from the DNR and/or other permitting authorities. Please contact the ER Review Program whenever the project plans change, new details become available, or more than a year has passed to confirm if results of this ER Review are still valid.

Please contact me at 608-228-9796 or via email at stacy.rowe@wi.gov if you have any questions about this ER Review.

Sincerely,

Stacy Rowe Endangered Resources Review Program Brett,

Confirming that the same process would apply. I also did not see any FEMA flood zone hits for the project area.

Take care,

Justin Johnson Zoning Technician Grant County Conservation, Sanitation and Zoning Dept. 150 W Alona Ln Lancaster, WI 53813 608-723-6377 ext. 118

From: Brett Horvath [mailto:Brett.Horvath@westwoodps.com]
Sent: Monday, August 15, 2022 4:09 PM
To: Justin Johnson <justinjohnson@co.grant.wi.gov>
Cc: Shannon Hansen <Shannon.Hansen@westwoodps.com>; Matthew Vollbrecht
<Matthew.Vollbrecht@westwoodps.com>
Subject: [EXTERNAL SOURCE] Zoning Applicability - Whitetail Wind Project

Good Afternoon Justin,

I am reaching out to you this afternoon regarding the Whitetail Wind project in Grant County, WI (also developed by PRC Wind and ALLETE Clean Energy). This project will be immediately adjacent to the Red Barn Wind project, which is in construction now, and as part of the CUP application and permitting process for Whitetail Wind I wanted to discuss the potential Shoreland Zone and FEMA floodplain Zoning permitting requirements. The attached emails were the findings for the Red Barn Project, and I would like to understand if Whitetail will be able to follow the process. Please let me know if there are any additional considerations that we need to account for on Whitetail or if you would like to have a meeting to discuss the project in more detail.

Thanks,

Brett Horvath, PE

Wind Project Manager brett.horvath@westwoodps.com Licensed in MN

direct(952) 207-7660main(952) 937-5150cell(612) 357-3127

Westwood

12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

westwoodps.com (888) 937-5150

From:	Justin Johnson	
То:	Drew Janke (MP)	
Cc:	Timothy Sweeney (ACE); "Aaron Stout"; Joe Sedarski; Brett Horvath; Shannon Hansen; Thomas Miller	
Subject:	RE: Shoreland Zoning Applicability - Red Barn Wind Project	
Date:	Monday, May 9, 2022 12:30:58 PM	

Drew,

Per Section 10 of Wisconsin Act 391, a Shoreland Zoning Permit is not required from our department.

Please let me know if you have any questions.

Thanks,

Justin Johnson Zoning Technician Grant County Conservation, Sanitation and Zoning Dept. 150 W Alona Ln Lancaster, WI 53813 608-723-6377 ext. 118

From: Drew Janke (MP) [mailto:djanke@mnpower.com]
Sent: Wednesday, May 4, 2022 3:56 PM
To: Justin Johnson <justinjohnson@co.grant.wi.gov>
Cc: Timothy Sweeney (ACE) <tsweeney@alletecleanenergy.com>; 'Aaron Stout'
<Aaron.Stout@prcwind.com>; 'Joe Sedarski' <Joe.Sedarski@westwoodps.com>; Brett Horvath
<Brett.Horvath@westwoodps.com>; Shannon Hansen <Shannon.Hansen@westwoodps.com>;
Thomas Miller <Thomas.Miller@westwoodps.com>
Subject: Shoreland Zoning Applicability - Red Barn Wind Project

Good afternoon, Justin.

As follow-up to our conversation earlier today, the purpose of this email is to review and confirm with you the applicability of the Grant County Shoreland Zoning Ordinance - Chapter 316 (Shoreland Ordinance) that may be associated with construction and operation of the Red Barn Wind Project.

Section 316, 2.1(1) of the Shoreland Ordinance refers to areas regulated as shorelands and include areas: 1) within 1,000 feet of the OHWM of navigable lakes, ponds or flowages; and 2) within 300 feet of the OHWM of navigable rivers or streams, or to the landward side of the floodplain (whichever is greater).

We note that siting/routing of Project facilities was done to avoid and/or minimize impacting shoreland areas to the greatest extent possible, and that the collection line (no impacts to water resources since they will be bored beneath) and temporary crane crossing locations of

wetland/waterway resources have been permitted under the WDNR-issued permit and covered by the U.S. Army Corps of Engineers under the Utility Regional General Permit (Utility RGP) and applicable Nationwide Permits.

Ultimately, we'd like to determine whether a Shoreland Zoning Permit is required from the County and process to secure that, if so. If approval is required, we would like to review the application process and timeline for completing this process. We appreciate your continued assistance and support of the Red Barn Wind Project.

Best Regards,

Drew Janke

Environmental Compliance Specialist | Minnesota Power / ALLETE 30 West Superior Street Duluth, MN 55802

T: 218-355-3569 M: 218-576-9213

From:	Justin Johnson
То:	Drew Janke (MP)
Cc:	"Aaron Stout"; Timothy Sweeney (ACE); Joe Sedarski; Brett Horvath; Shannon Hansen; Thomas Miller
Subject:	RE: FEMA Floodplain Areas - Red Barn Wind Project
Date:	Monday, May 9, 2022 12:29:13 PM

Drew,

Confirming that there are no floodplains within the Project Area that require approval from our department or require a Floodplain Zoning Permit.

Please let me know if you have any questions.

Thanks,

Justin Johnson Zoning Technician Grant County Conservation, Sanitation and Zoning Dept. 150 W Alona Ln Lancaster, WI 53813 608-723-6377 ext. 118

From: Drew Janke (MP) [mailto:djanke@mnpower.com]
Sent: Wednesday, May 4, 2022 3:37 PM
To: Justin Johnson <justinjohnson@co.grant.wi.gov>
Cc: 'Aaron Stout' <Aaron.Stout@prcwind.com>; Timothy Sweeney (ACE)
<tsweeney@alletecleanenergy.com>; 'Joe Sedarski' <Joe.Sedarski@westwoodps.com>; Brett
Horvath <Brett.Horvath@westwoodps.com>; Shannon Hansen
<Shannon.Hansen@westwoodps.com>; Thomas Miller <Thomas.Miller@westwoodps.com>
Subject: FEMA Floodplain Areas - Red Barn Wind Project

Good afternoon, Justin.

As follow-up to our conversation earlier today, the purpose of this email is to review and confirm with you the applicability of the Grant County Floodplain Zoning Ordinance - Chapter 290 (Floodplain Ordinance) that may be associated with construction and operation of the Red Barn Wind Project. Attached please find kmz's of the planned Project facilities, the Project Area, wetlands/waterways, disturbance limit/survey corridor, temp and permanent crossing items. We have reviewed FEMA floodplain data available on the Wisconsin Department of Natural Resources (WDNR) website (see https://dnrmaps.wi.gov/H5/?Viewer=SWDV) and have determined that no FEMA floodplains are located within the Project Area.

Section 290-6 of the Floodplain Ordinance refers to maps and revisions to such on file in the office of the Grant County Conservation, Sanitation and Zoning Department (official maps based on the Flood Insurance Study [FIS] and Flood Insurance Rate Map [FIRM] are listed in this part of the Ordinance). We would like to confirm with you that there are no floodplains

within the Project Area that require approval of the County or require a Floodplain Zoning Permit. If County regulated floodplains are located within the Project Area, we would like to request mapping of these areas so we can further assess the location of planned Project facilities and construction related activities to confirm floodplain approval is not required. If approval is required, we would like to review the application process and timeline for completing this process.

We would be happy to further discuss this with you if you have any questions or comments on this matter or require additional information. We appreciate your continued assistance and support of the Red Barn Wind Project.

Best Regards,

Drew Janke

Environmental Compliance Specialist | Minnesota Power / ALLETE 30 West Superior Street Duluth, MN 55802

T: 218-355-3569 M: 218-576-9213

Appendix I

Decommissioning Plan

Whitetail Wind Energy Project

Grant County, Wisconsin

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A DECOMMISSIONING PLAN FOR

Whitetail Wind Project

Grant County, Wisconsin

MARCH 30, 2023

PREPARED FOR:

PREPARED BY:



Whitetail Wind, LLC

Westwood

Decommissioning Plan

Whitetail Wind Project

Grant County, Wisconsin

Prepared for:

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401

Prepared by:

Westwood Professional Services 12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343 (952) 937-5150

Project Number: 0024134.01 Date: March 30, 2023

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Attachment A: Site Map

Attachment B: Decommissioning Cost Estimate



1.0 Introduction / Project Description

The Whitetail Wind Project (Facility) is a wind power generation project proposed by Whitetail Wind, LLC (Applicant) in Grant County, Wisconsin. The Facility will include twenty-one (21) wind turbines, access roads, four (4) meteorological (met) towers, a substation, underground collection lines, and an operation and maintenance (O&M) facility. Please refer to the Site Map in Attachment A for a layout diagram of the facility.

This Decommissioning Plan ("Plan") has been prepared in accordance with the Wisconsin PSC 128.19. The purpose of the Plan is to describe the means and methods that can be used to remove project facilities, and reclaim, restore, and return the land altered during the construction and operation of the wind project to its predevelopment condition to the extent feasible. The Plan identifies components which may be removed, and the areas that may be restored once the Facility has not operated for twelve consecutive months, or when the Facility has surpassed the useful lifespan of the turbines and facilities. The Plan should be renewed once every five (5) years.

The useful life of commercial size turbines is generally considered to be 30 years. At that time, the project will either be decommissioned or repowered with newer technology. This decommissioning plan reflects the full decommissioning of the Facility, including removal of all infrastructure and equipment, and reclamation of the site to match previous land use, unless otherwise specified.

2.0 Proposed Future Land Use

Prior to the development of the Facility, the land use of the project area was primarily agricultural production. After the developed areas of the Facilities are decommissioned, they will be tilled to a farmable condition. Please refer to Section 3.2 for a detailed description of reclamation activities.

3.0 Engineering Techniques

Decommissioning of the wind farm includes multiple phases and activities such as:

- Application of necessary sediment and erosion controls during and following decommissioning activities.
- Public road modifications (if required) and access road improvements to accommodate heavy equipment traffic during decommissioning.
- Removal of aboveground components (turbines, transformers, overhead transmission lines, and substation) for either resale or scrap.
- Removal of turbine foundations to a depth of four feet below grade.
- Removal of other underground components (junction boxes, transformer and substation foundations) to a depth of four feet below grade.
- Removal of access roads (unless the landowners request the roads to remain) and decompaction.
- Reclamation, re-grading, and restoration of disturbed areas including topsoil reapplication and decompaction of soils.

• Repair and/or restoration of public roads and culverts to pre-decommissioning conditions, as required.

During decommissioning the landowners will be consulted to identify the extent and type of work to be completed. Some Facility infrastructure, such as the access roads, may be left in place at the landowners' requests. Underground utility lines, if deeper than four feet below ground surface elevation, may be left in place to minimize land disturbance and associated impacts to future land use.

Decommissioning will include the removal and transportation of all turbine components from the Facility site. Decommissioning will also include the removal of electrical components, foundations, and any other associated facilities in the manner described in the Plan, unless otherwise agreed upon by Applicant and the applicable landowner(s). All dismantling, removal, recycling, and disposal of materials generated during decommissioning will comply with rules, regulations, and prevailing Federal, State, and local laws at the time decommissioning is initiated, and will use approved local or regional disposal or recycling sites as available. Recyclable materials will be recycled to the furthest extent practicable. Non-recyclable materials will be disposed of in accordance with State and Federal law.

3.1 Decommissioning of Project Components

3.1.1 Public Road Improvement and Access Road Modifications and Removal

As the cost estimate is based on scrapping and recycling turbine components where possible, sections of public roads that have insufficient strength to accommodate the construction traffic necessary for decommissioning will need to be improved prior to the start of hauling operations. Intersection turning radius modifications are not anticipated since turbine components will be cut to fit on standard semitrailer trucks. The roads subjected to decommissioning traffic will be restored to a condition equal to or better than the condition of the road prior to decommissioning activities. A pre-decommissioning road survey will be prepared for the decommissioning activities, similar to a pre-construction survey, so that road conditions pre- and post-decommissioning can be accurately assessed. Aggregate removed from the Facility access roads is a potential source for the public road restoration material.

3.1.2 Wind Turbine Felling

This cost estimate assumes that the turbines not being resold will be brought to the ground using the technique of "felling." Once on the ground, the turbines will be disassembled and processed for recycling. The felling technique has been used on numerous wind decommissioning projects and has several advantages over disassembly using large crawler cranes. Felling of turbine eliminates the use of crane paths and crane pads that are otherwise necessary to disassemble the components of a turbine. In addition to the costs associated with preparing crane paths and pads, this method will reduce the total disturbed area that needs to be reclaimed and restored during the decommissioning process. The elimination of the use of large cranes also reduces the number of trucks delivering and removing equipment, and reduces the time required for decommissioning. Felling consists of disconnecting electrical connections and draining oil, hydraulic fluid, and any other liquids from

the turbine. A long cable is attached to the nacelle and to a heavy piece of equipment, such as a bulldozer, positioned on the access road. Wedge shaped areas are then cut out of the tower steel using cutting torches to create a hinge that will direct the turbine to fall on the access road when pulled by the dozer.

3.1.3 Wind Turbine Removal

Each wind turbine consists of steel tower segments, a nacelle, a rotor and hub assembly, and three blades. These modular components can be disassembled and then processed into pieces small enough (less than 40 feet by 8 feet by 8 feet, and less than 20 tons) to be loaded onto standard semitrailer trucks and transported off-site. The components of the wind turbines that are not designated for resale will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a licensed recycling facility. If there are facilities for recycling of turbine blades at the time the turbines are decommissioned, the blades will be transported to the facility for recycling, if cost effective. At this time, blade recycling facilities are not operating at the scale necessary for the volume of waste that will be generated from decommissioning this project. As a result, this cost estimate assumes the blades and other components that cannot be recycled will be disposed of at a licensed landfill.

3.1.4 Turbine Foundation Removal and Restoration

The turbine foundations are constructed from concrete and rebar. Little topsoil stripping will be required since the portion of the foundation less than five feet deep is within the gravel ring around each turbine. The foundation will first be exposed using backhoes or other earth moving equipment. The pedestal (upper part of the turbine foundation) will then be removed to a depth of at least four feet below grade using hydraulic vibratory hammers to break up the concrete. The rebar can be cut with torches or cutoff saws. The concrete will be broken into pieces sized for transport. The foundation debris will be hauled off site to be recycled or disposed of, depending on market prices for aggregate at the time of decommissioning. The rebar will be recycled.

Following removal of the top four feet of the turbine foundation, the resulting void will be backfilled with native subsoils and compacted to at least 90% of the fill material's standard Proctor density. Topsoil will be reapplied to the site and graded to match surrounding grade to preserve existing drainage patterns. The reapplied topsoil and subsoil will be decompacted to a minimum depth of 18 inches and revegetated to match pre-construction conditions.

3.1.5 Meteorological (Met) Towers

Following disconnection of electrical components, towers will be gradually lowered to the ground for disassembly. The steel structures will be cut into pieces sized to meet recycling requirements so the scrap value may be maximized. The components will then be loaded on tractor-trailers and transported to a metal recycling facility.

The concrete pads, along with any anchoring components, will be excavated to a depth of four feet. Concrete will be broken into transportable pieces and hauled off site. Following removal of the foundations, subsoil will be decompacted to a

minimum depth of 18 inches. Topsoil will be reapplied to match the surrounding grade.

3.1.6 Access Roads

During decommissioning efforts, access roads may be left in place at the landowners' requests.

Removal of access roads will entail removal of the road base aggregate and any other materials used for constructing the roads. During removal, the topsoil adjacent to both sides of the roads will be stripped and stockpiled in a windrow paralleling the road. The road base materials will then be removed by bulldozers, wheeled loaders, or backhoes, and hauled off-site in dump trucks to be recycled or disposed of at an off-site facility. On-site processing may allow much of the aggregate to be re-used to improve public roads. The aggregate base can often be used by local landowners for driveway or clean fill. Another option is to use the aggregate base as "daily cover" at a landfill, where it is usually accepted without cost. If geotextile fabric was utilized under the aggregate base, it will be removed and disposed of in a landfill off-site. The access road removal will proceed from the turbine area to the public roads to limit tracking and provide stable access during removal. Following removal, topsoil will be reapplied and graded to blend with surrounding contours to promote preconstruction drainage patterns. Topsoil to cover the access roads, turbine rings, and met tower rings will be acquired from the areas where it was stockpiled (or wasted) during the original construction. Since topsoil stayed with each landowner during the construction of the wind farm there will be adequate topsoil to restore each area to its pre-construction condition. The soil and topsoil will then be decompacted to a minimum depth of 18 inches and restored to pre-construction tillable conditions or revegetated.

3.1.7 Underground Electrical Collection Lines

The electrical cables and fiber optic conduits contain no material known to be harmful to the environment and will be left in place, non-functional. Any cables at a depth of less than five feet, such as cables entering and exiting the turbine foundations, junction boxes, or substation components, will be removed. Following any necessary removal, the area affected will be restored by reapplication of topsoil to match the surrounding grade and preserve existing drainage patterns. The topsoil and subsoil will be decompacted to a minimum depth of 18 inches and tilled to farmable conditions.

3.1.8 Substation

Decommissioning of the project substation will be performed with the rest of the Facility. All steel, conductors, switches, transformers, and other components of the substation will be disassembled and taken off-site to be recycled or reused. Foundations and underground components will be removed to a depth of four feet. The rock base will be removed using bulldozers and backhoes or front loaders. The material will be hauled from the site using dump trucks to be recycled or disposed at on off-site facility. Additionally, any permanent storm water treatment facilities will be removed. Topsoil will be reapplied to match surrounding grade to preserve

existing drainage patterns. Topsoil and subsoil will be decompacted to a minimum depth of 18 inches and the site will be revegetated to match pre-construction conditions.

3.1.9 Operations and Maintenance Building

The O&M Building is a sturdy, general purpose steel building. If the building is not repurposed, decommissioning will include disconnection of the utilities and demolition of the building structure, foundation, rock base parking lot, and associated vegetated/stormwater handling facilities. All associated materials will be removed from the site using wheeled loaders or backhoes and bulldozers and hauled off site in dump trucks. All recyclable materials will be brought to appropriate facilities and sold; the remaining materials will be disposed of at an approved landfill facility. Subgrade soils will be decompacted and graded to blend with the adjacent topography. Topsoil will be reapplied to match existing surrounding grade to preserve existing drainage patterns, and the site will be tilled either to a farmable condition or re-vegetated, depending upon location.

3.2 Reclamation

In addition to the reclamation activities described above for each decommissioning activity, all unexcavated areas compacted by equipment and activity during the decommissioning will be decompacted to a depth of 18 inches or to a depth as needed to ensure proper density of topsoil consistent and compatible with the surrounding area and associated land use. All materials and debris associated with the Facility decommissioning will be removed and properly recycled or disposed of at off-site facilities.

As necessary, the topsoil will be stripped and isolated prior to removal of structures and facilities for reapplication to promote future land use activities. Preservation of topsoil will be key for re-establishing vegetation at the site. The topsoil will be reapplied following backfill, as necessary, and graded to blend with adjacent contours to maintain pre-construction drainage patterns. Decompaction of the soil and topsoil will be done to a minimum depth of 18 inches.

Areas formerly used for agriculture shall be re-tilled to a farmable condition. In areas not to be used for crops, the topsoil will then be revegetated using seed mixes approved by the local Farm Service Agency, Soil and Water Conservation District, Natural Resource Conservation Service, or other state agency. The selected seed mix must be suitable for the site's annual precipitation and elevation. Temporary erosion protection such as nurse crop (annual grass to aid in the establishment of permanent species), mulch, hydromulch, or erosion control blanket will be applied in accordance with the requirements of the project Storm Water Pollution Prevention Plan (SWPPP) until permanent vegetation has been established.

4.0 Best Management Practices (BMPs)

During decommissioning, erosion and sediment control BMPs will be implemented to minimize the potential for erosion of site soils and sedimentation of surface waters and waters of the state. Because decommissioning will entail disturbance of more than one acre of soil, the Applicant will prepare a SWPPP and obtain coverage under the state-specific National Pollutant Discharge Elimination System (NPDES) permit prior to initiating soil disturbing activities. Potential BMPs to be implemented during decommissioning activities are described below and will be subject to refinement in the SWPPP. The decommissioning team will review the permitting requirements at the time of decommissioning, and obtain any other necessary permits, which may include a U.S. Army Corps of Engineers Section 404 Permit to Discharge Dredged or Fill Material.

4.1 Erosion Control

Erosion control measures will be refined based on the standard of practice current at the time the SWPPP is developed for decommissioning. All disturbed areas without permanent impermeable or gravel surfaces, or planned for use as cropland, will be vegetated for final stabilization. All slopes steeper than 4:1 should be protected with erosion control blankets. Restoration should include seed application prior to the application of blanket. All slopes 4:1 or flatter should be restored with seed and mulch, which will be disc anchored.

<u>Project Phasing/Design BMP</u>: Time periods during which disturbed soils are exposed should be minimized the degree possible. Stabilization of soils will generally be accomplished immediately following decommissioning of the access roads, turbine sites, electrical and fiber optic cables, step-up substation, met towers, and O&M facility. Where this is not possible, temporarily exposed soils will be temporarily stabilized with vegetation in accordance with the SWPPP for decommissioning.

<u>Erosion Control Blankets and Seed BMP</u>: Erosion control blanket (double sided netting with wood fiber or weed-free straw fiber blanket) will be used as temporary stabilization for areas of slopes steeper than 4:1 and for areas of concentrated flow, such as ditches, swales, and similar areas around culverts. Seed will be applied in these areas with the blanket for temporary and/or permanent vegetative growth as necessary. The SWPPP developed for decommissioning will provide detailed specifications for erosion control blankets to be used under various slope and drainage conditions.

<u>Ditch/Channel Protection</u>: Where new channels are formed, as in the case of culverts removed from access roads and the removal of low water crossings, the resulting channel will be protected with erosion control blankets as described in the section above.

<u>Surface Roughening</u>: Surface roughening or slope tracking is the act of running a dozer or other heavy tracked equipment perpendicular to the grade of disturbed slopes with a grade of 3H:1V and steeper with a continuous length of 75 feet or greater. The tracks will provide a rough surface to decrease erosion potential during an interim period until a smooth grade, seed and erosion control blanket can be applied.

<u>Temporary Mulch Cover and Seed BMP</u>: Temporary mulch cover (wood fiber to resist loss from grazing by wildlife or domestic animals) will be applied at a rate of two tons per acre to provide temporary erosion protection of exposed soils areas with slopes flatter than or equal to 3:1. Seed will be applied with the mulch for temporary and/or permanent vegetative growth as called for in the SWPPP. Mulch will be used for all soil types where slopes are flatter than 3:1 and no significant concentrated flows are present. The mulch will be disc-anchored to the soil to keep it from blowing away. The mulch prohibits the impact of the rain drop from dislodging soil and subsequently carrying the soil away

during sheet drainage. In sandy soils tackifier may be used to assist the disc anchoring if the mulch cannot be secured to the sandy soils.

<u>Soil Stockpiles</u>: Topsoil that is stripped from the construction site and base materials will be stockpiled on site. Stockpile areas will be located in areas that will not interfere with the decommissioning activities, and be located away from pavement, site drainage routes, or other areas of concentrated flow. Stockpiles should also be located away from wetlands and surface waters. Perimeter controls, such as silt fence, will be installed around all stockpiles if stockpiles are not placed within existing silt fences or other sediment control, where the potential exists for material to be eroded and transported to sensitive nature resources. Soils that are stockpiled for longer durations will be temporarily seeded and mulched or stabilized with a bonded fiber polymer emulsion.

<u>Permanent seed and temporary mulch and / or erosion control blanket BMP</u>: In areas at final grade that will not be used for agriculture, permanent seed will be applied to promote vegetative cover for permanent erosion control. Temporary mulch and/or erosion control blanket will be applied as appropriate in areas to provide temporary erosion protection until the permanent seed is established.

4.2 Sediment Control

<u>Removal of Ditch Crossing BMP</u>: Temporary ditch crossings may be needed to accommodate the movements of cranes or other heavy equipment. Perimeter controls such as silt fence will be used at crossing locations to minimize runoff from exposed soils. Crossings will be done during dry conditions, if possible. If a stream is wet at the time of the crossing, alternative BMPs will be applied. These could include a temporary dam and bypass pump to install the crossing in dry conditions. Timber construction mats will be used as needed to prevent compaction and rutting at crossing locations. All temporary fills and construction mats will be removed immediately after the crossing is successfully completed and the temporarily disturbed area restored using the appropriate BMPs as described above.

<u>Dewatering</u>: A temporary sump and rock base will be used if a temporary pump is used to dewater an area of accumulated water. If a rock base cannot be used, the pump intake will be elevated to draw water from the top of the water column to avoid the intake and discharge of turbid water. Energy dissipation riprap will be applied to the discharge area of the pump hose. The water will be discharged to a large flat vegetated area for filtration/infiltration prior to draining into receiving waters of conveyances/ditches. If discharge water is unavoidably turbid, dewatering bags, temporary traps, rock weepers, or other adequate BMP will be used to control sediment discharge.

<u>Silt Fence BMP or Fiber Logs</u>: Silt fences or fiber logs will be used as perimeter controls downgradient of exposed soils during construction to capture suspended sediment particles on site, to extent possible. The standard silt fence or fiber logs will also be used in smaller watershed areas where the contributing areas are typically less than 1/4 acre of drainage per 100 feet of standard silt fence or the fiber logs. Standard silt fence or fiber logs will also be used for stockpiles 8 feet high or higher which have slopes of 3:1 or steeper. Standard silt fence or fiber logs should not be used in areas of highly erodible soils which are found within streams, slopes, or banks of creeks and streams within the Facility's site.

<u>Rock Entrance/Exit Tracking Control BMP</u>: Rock construction entrances will be installed where access to a construction area is needed from adjacent paved surfaces.

<u>Street Scraping/Sweeping BMP</u>: Street scraping and sweeping will be used to retrieve sediment tracked or washed onto paved surfaces at the end of each working day, or as needed.

4.3 Controlling Stormwater Flowing onto and through the Project

Given the low gradient of the slopes in the project area, controlling stormwater flow that enters the project area will likely require minimal effort during decommissioning activities. Only newly disturbed areas may require new, temporary stormwater control.

<u>Diversion Berms/Swales/Ditches</u>: It may be necessary to direct diverted flow toward temporary settling basins via berms, swales, or ditches. If diversion controls are deemed necessary for decommissioning activities, these must be stabilized by temporary mulch and seeding, erosion control blankets, or by installing riprap to protect the channel from erosive forces.

<u>Rock Check Dams</u>: It may be necessary to install temporary check dams within swales or ditches that convey storm water from areas disturbed by decommissioning activities. Rock check dams are effective for velocity control, sediment control, and to augment temporary stabilization of channels. Filter fabric can be utilized to help filter the flow, minimize the scour of the soil under the rock, and facilitate removal of the check dams once permanent stabilization is achieved. The height of check dams should be at least two feet. Spacing depends upon slope. Downgradient rock checks should have the top elevation at the same elevation as the bottom of the previous (upgradient) rock check.

<u>Hay Bale Check Dams</u>: Hay bale check dams may be used for velocity control within swales of the project to slow the water runoff within the drainage channels/swales. The bales should be approximately three feet in length and anchored into the soil. The midpoint elevation of the top of the bale (i.e., ponding height) must be lower than the end points of the bale where the bale meets grade, to prohibit water from flowing around the bales thus causing erosion and scour. If the bales cannot be applied properly in the field, the use of rock checks as a replacement is recommended.

<u>Temporary Sedimentation Basins</u>: Sedimentation basins serve to remove sediment from runoff from disturbed areas of the site. The basins allow runoff to be detained long enough to allow the majority of the sediment to settle out prior to discharge. The location and dimensions of temporary sedimentation basins, if any are necessary, will be verified in accordance with Wisconsin Department of Natural Resources requirements at the time of decommissioning.

4.4 Permitting

All decommissioning and reclamation activities will comply with Federal and State permit requirements. Decommissioning activities that will disturb more than one acre of soil will require coverage under the state-specific NPDES permit for construction stormwater. The permits will be applied for and received prior to decommissioning construction activities commencing. A SWPPP will be developed prior to filing for construction stormwater permit coverage. If necessary for decommissioning activities, wetlands and waters permits will be obtained as needed from the US Army Corps of Engineers (USACE) or Wisconsin Department of Natural Resources. A Spill Prevention, Control and Countermeasures (SPCC) Plan for decommissioning will likely be required for decommissioning work as well.

4.5 Health and Safety Standards

Work will be conducted in strict accordance with Applicant's health and safety plan. The construction contractor hired to perform the decommissioning will also be required to prepare a site-specific health and safety plan. All site workers, including subcontractors, will be required to read, understand, and abide by the Plans. A site safety office will be designated by the construction contractor to ensure compliance. This official will have stop-work authority over all activities on the site should unsafe conditions or lapses in the safety plan be observed.

5.0 Timeline

Decommissioning of the wind farm will be initiated if the project has not produced electricity for a period of up to 360 days. It is anticipated that the decommissioning activities for the project can be completed in an approximately 75-week period. The estimated costs for decommissioning are tied to assumptions about the amount of equipment mobilized, the crew sizes, weather and climate conditions, and the productivity of the equipment and crews.

6.0 Decommissioning Costs

The cost estimate for decommissioning and reclamation of the Facility was prepared in current dollars, with the salvage value of equipment or materials calculated separately. The estimate includes:

- An analysis of the physical activities necessary to implement the approved reclamation plan, with physical construction and demolition costs based on applicable Department of Transportation unit bid prices from surrounding states and RSMeans material and labor cost indices;
- (ii) The level of effort or number of crews required to perform each of the activities; and
- (iii) An amount to cover contingencies above the calculated cost.

The following information was used to develop the cost estimate:

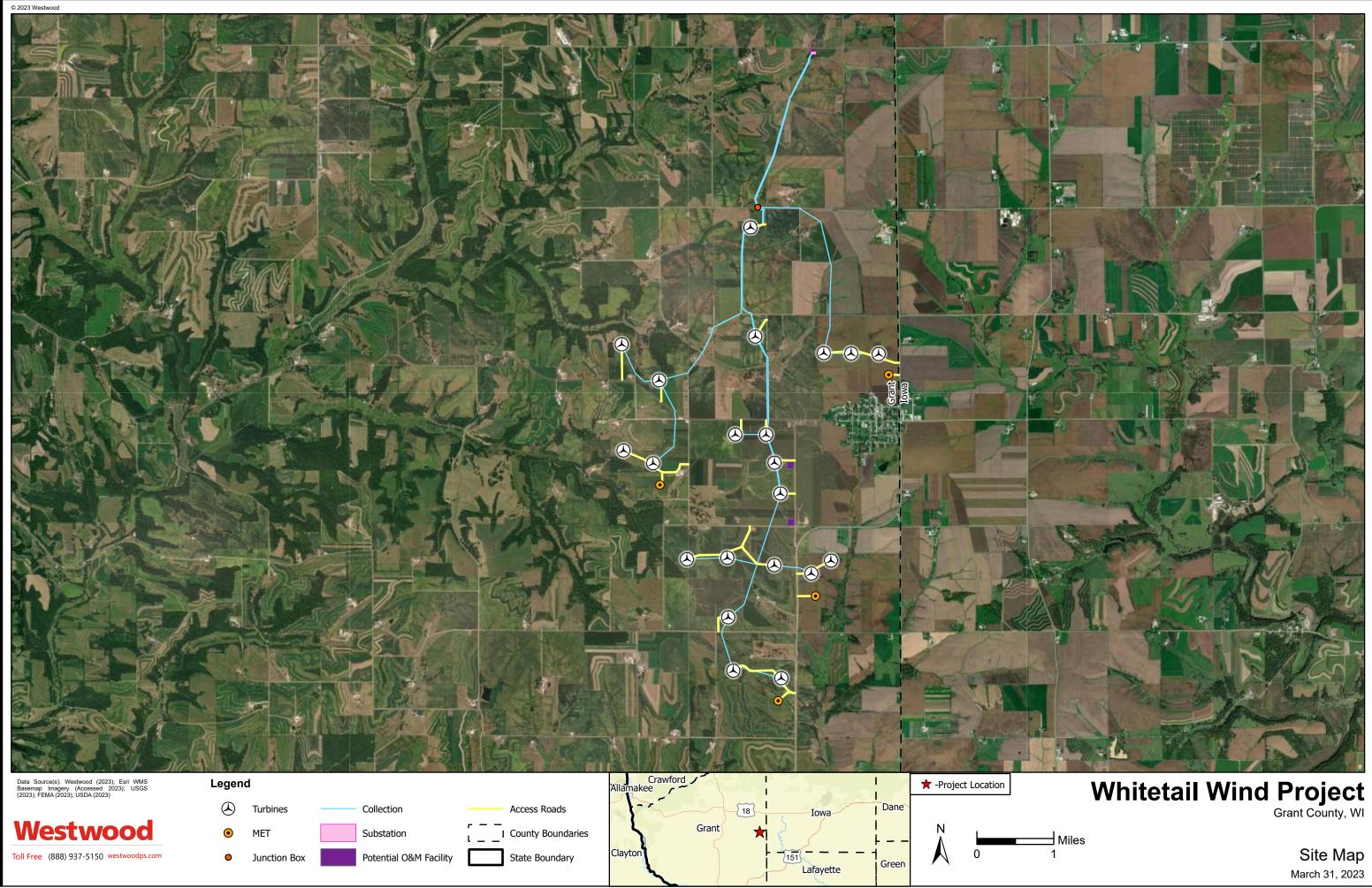
- 1. Project quantities for the Facility are based on the updated 10% project layout shapefiles dated 3/20/2023 prepared by Westwood Professional Services.
- 2. The Estimate is shown on a total cost basis. The decommissioning plan and cost estimate will be reviewed and revised, as necessary, every five (5) years.
- 3. Turbines will be assumed to have all applicable components recycled as scrap. The estimate uses a current structural scrap price of \$217.72 per ton in the Midwest, based on prices posted on scrapmonster.com, March 28, 2023. The posted prices are three months old. The posted spot prices used in the cost estimate were discounted by twenty-five percent (25%) to reflect the difficultly of realizing spot prices from local recyclers.

- 4. Electrical transformers have significant value for aluminum or copper used in the windings and the steel used in other parts of the transformer. Newer transformers can be resold. Older transformers are recycled as scrap. Few companies accept used transformers for resale or recycling so finding pricing is difficult. For this estimate we used pricing posted scrapmonster.com and discounted by twenty-five percent (25%): \$0.29 per pound for used transformers. We assumed the posted price is similar to the price offered by West End Salvage located in Lancaster, WI, which was identified as the regional transformer recycling location.
- 5. The current price for scrap electrical motors is \$0.26 per pound. The posted spot price used in the cost estimate was discounted be twenty-five percent (25%) to reflect the difficultly of realizing spot prices from local recyclers.

The total estimated cost of the decommissioning of the Whitetail Wind Project is approximately \$3,363,700 (\$160,200 per turbine), including crop loss. Estimated salvage/scrap value of the turbines, transformers, and other materials is approximately \$1,221,400. The net decommissioning costs after accounting for resale and salvage values is approximately \$2,142,300, or \$102,100 per turbine.

Attachment A

Site Map



Attachment B

Decommissioning Cost Estimate

Whitetail Wind Project Decommissic	oning C	ost Estin	nate	
	Quantity	Unit	Unit Cost	Total Cost
Number of Turbines	21	Each		
Mobilization/Demobilization	1	Lump Sum	\$195,000.00	\$195,000
Mobilization was estimated to be approximately 7% of total cost of other items.				
Permitting				
County Permits	1	Lump Sum	\$10,000.00	\$10,00
State Permits (SWPPP, SPCC)	1	Lump Sum	\$20,000.00	\$20,00
Subtotal Permits				\$30,000
Wind Turbine Generators				
Disconnect Turbine Wiring	21	Each	\$2,883.20	\$60,54
Fell Turbine	21	Each	\$2,187.79	\$45,94
Process to Size and Load Turbine Components	5,818	Tons	\$131.92	\$767,48
Haul Turbine Components Offsite for Recycling	5,818	Tons	\$6.30	\$36,63
Haul Turbine Components For Disposal	2,444	Tons	\$4.67	\$11,41
Turbine Components Disposal	2,444	Tons	\$81.00	\$197,93
Excavate Around Turbine Foundation	2,444	Each	\$462.46	\$9,71
Remove Turbine Foundation to a Depth of 4 feet and Load	792	Cubic Yards	\$402.40	\$167,62
Backfill Excavation Area from Turbine Foundation Removal	21	Each	\$197.68	\$107,020
Haul Concrete (Turbine Foundation)	1,603	Tons	\$157.08	\$7,48
Disposal of Concrete from Turbine Foundation	1,603	Tons	\$81.00	\$129,856
Remove and Load Transformer	21	Each	\$553.61	\$11,62
Freight Transformer to Recycler	21	Each	\$52.47	\$1,102
Remove Transformer Pad	84	Cubic Yards	\$141.12	\$11,82
Transformer Disposal (Including Oil) - All material can be recycled	21	Each	\$0.00	\$11,02
Haul Concrete (Transformer Pad)	170	Tons	\$4.67	\$793 \$793
Disposal of Concrete from Transformer Pad	170	Tons	\$81.00	\$13,74
Decompact Wind Turbine Generator Site	21	Each	\$30.66	\$13,74
Grade Wind Turbine Generator Site, 10,000-20,000 SF range	21	Each	\$1,439.35	\$30,226
Erosion and Sediment Control at Turbine/Transformer Site	21	Each	\$559.50	\$11,750
Till to Farmable Condition	7.14	Acre	\$158.78	\$1,13
Subtotal Wind Turbine Generators	7.14	Aue	Ş130.70	\$1,521,62
Met Tower (Free Standing)				
Disconnect Tower Wiring	4	Each	\$720.80	\$2,883
Dismantle, Disassemble, and Load Tower Components	4	Each	\$4,288.40	\$17,154
Freight Tower Components Offsite for Recycling	16	Tons	\$6.30	\$103
Excavate Around Tower Foundation	4	Each	\$146.04	\$584
Remove Tower Foundation to a depth of 5 feet and Load	3.2	Cubic Yards	\$211.73	\$68
Haul Concrete (Tower Foundation)	6.6	Tons	\$4.67	\$3:
Disposal of Concrete from Met Tower	6.6	Tons	\$81.00	\$53
Remove and Load Gravel Surfacing from Met Tower Road	3,628	Cubic Yards	\$2.61	\$9,470
Haul Gravel from Met Tower Site	1,347	Tons	\$3.85	\$5,18
Disposal of Gravel from Met Tower Site	3,628	Cubic Yards	\$0.00	\$0
Grade Met Tower Site, 1100 SF-3000 SF range	4	Each	\$1,477.47	\$5,91
Erosion and Sediment Control	4	Each	\$559.50	\$2,23
Till Met Tower Site to Farmable Condition	0.23	Acre	\$150.48	\$3.
Subtotal Met Towers (Free Standing)				\$44,80
Electrical Collection (Remove at Junction Boxes)				
Removal of Underground Collector System Cables (34.5 kV)	22	Each	\$400.00	\$8,800
Haul Underground Collector System Cables (34.5 kV)	1.5	Tons	\$6.30	\$
Disposal of Removed Cables (See Salvage Value)	1.5	Tons	\$0.00	\$I
Removal of Junction Box	1	Each	\$100.00	\$10
Erosion and Sediment Control at Junction Box Location	1	Each	\$100.00	\$100
Revegetation at Junction Box Location	1	Each	\$133.33	\$13
			,	7 100

	Quantity	Unit	Unit Cost	Total Cost
Access Roads	12.247	Cultin Vanda	ć2.00	60C 7C7
Remove and Load Gravel Surfacing from Access Roads	12,247	Cubic Yards	\$3.00	\$36,767
Haul Gravel Removed from Access Roads	19,840	Tons	\$4.67	\$92,689
Disposal of Gravel Removed from Access Roads (Use as "Daily Cover")	19,840	Tons	\$0.00	\$0
Remove and Load Geotextile Fabric	55,112	Square Yards	\$1.50	\$82,669
Haul Geotextile Fabric	63	Tons	\$4.67	\$293
Dispose of Geotextile Fabric	63	Tons	\$81.00	\$5,073
Remove and Load Culvert from Beneath Access Roads	16	Each	\$448.00	\$7,168
Haul Culvert Removed from Access Roads	8	Tons	\$4.67	\$38
Disposal of Culverts	8	Tons	\$81.00	\$664
Remove Low Water Crossing from Access Roads	6	Each	\$3,400.00	\$20,400
Haul Low Water Crossing Materials Removed from Access Roads	6	Each	\$273.57	\$1,641
Disposal of Low Water Crossing Materials	6	Each	\$3,409.00	\$20,454
Decompact Access Road Corridor	30,061	Linear Feet	\$0.05	\$1,475
Grade Access Road Corridor	30,061	Linear Feet	\$1.73	\$51,922
Erosion and Sediment Control Along Access Roads	4,509	Linear Feet	\$3.73	\$16,819
Rock Entrances from Paved Roads	16	Each	\$2,000.00	\$32,000
Till to Farmable Condition	16.56	Acres	\$150.48	\$2,492
Subtotal Access Roads				\$372,564
Substation				
Disassembly and Removal of Main Power Transformer(s)	1	Each	\$4,500.00	\$4,500
Freight Transformer(s) Offsite for Recycling	1	Each	\$490.00	\$490
Disposal of Transformer (Including Oil) - has Salvage Value	1	Each	\$0.00	\$0
Excavate Around Transformer Foundation(s)	1	Each	\$4,624.60	\$4,625
Remove Complete Transformer Foundation(s)	1	Each	\$109,000.00	\$109,000
	1	Each		
Backfill Excavation Area from Transformer Foundation Removal			\$1,000.00	\$1,000
Haul Concrete (Transformer, Switch Gear, etc. Foundations)	523	Tons	\$4.67	\$2,443
Disposal of Concrete from Transformer Foundation	523	Tons	\$81.00	\$42,350
Demolish Substation Site Improvements (fences, etc)	1	Lump Sum	\$3,500.00	\$3,500
Demolish Control Building and Foundation	1	Lump Sum	\$2,200.00	\$2,200
Remove Medium/High Voltage Equipment	1	Lump Sum	\$3,500.00	\$3,500
Remove Structural Steel Substation Frame	1	Lump Sum	\$3,500.00	\$3,500
Remove and Load Gravel Surfacing from Substation Site	1,079	Cubic Yards	\$3.00	\$3,239
Haul Gravel Removed from Substation Site	1,602	Tons	\$4.67	\$7,485
Disposal of Gravel from Substation Site (Use as "Daily Cover")	1,602	Tons	\$0.00	\$0
Decompact Substation Site	1.03	Acres	\$89.03	\$92
Grade Substation Site	1	Each	\$3,250.20	\$3,250
Erosion and Sediment Control at Substation Site	1	Lump Sum	\$3,730.00	\$3,730
Till to Farmable Condition	1.03	Acres	\$150.48	\$156
Subtotal Substation				\$195,060
O&M Building				1
Demolish O&M Building and Foundation	1	Lump Sum	\$10,000.00	\$10,000
Demolish O&M Site Improvements (fences, etc)	1	Lump Sum	\$3,000.00	\$3,000
Haul Concrete (O&M Building Foundation)	71	Cubic Yards	\$18.00	\$1,275
Crush Concrete (O&M Building Foundation)	71	Cubic Yards	\$17.00	\$1,273
Disposal of Crushed Concrete from O&M Building Foundation	71	Cubic Yards	\$17.00	\$1,204
Remove & Restore Septic and Drainfield area		Lump Sum	\$3,000.00	\$708
Disposal of O&M Building Demolition and Removed Site Improvements	1	Lump Sum	\$3,000.00	\$3,000
Remove and Load Gravel Surfacing of O&M Site	3,148	Cubic Yards	\$2,500.00 \$3.00	\$2,500
Haul Gravel Removed from O&M Site	3,148	Cubic Yards	\$3.85	\$12,113
Disposal of Gravel from O&M Site	3,148	Cubic Yards	\$0.00	\$0 ¢350
Decompact O&M Building Site	1	Lump Sum	\$250.35	\$250
Erosion and Sediment Control at O&M Building Site	1	Lump Sum	\$3,730.00	\$3,730
Till O&M Building Site to Farmable Condition	3.0	Acres	\$150.48	\$451

	Quantity	Unit	Unit Cost	Total Cost
Public Roads Restoration	13.6	Miles	\$44,000.00	\$597,858
Crop Loss	42	Acres	\$1,050.00	\$44,100
Total Direct Costs				\$3,057,843
Contingency (10%)				\$305,784
Total Demolition Cost				\$3,363,700
Salvage/Recycle/Resale				
Turbine Towers (Structural Steel)	4,061	Tons	\$217.72	\$884,166
Turbine Nacelles (Structural Steel)	905	Tons	\$217.72	\$197,064
Met Towers (Structural Steel)	16	Tons	\$217.72	\$1,752
Substation (Structural Steel)	20.0	Tons	\$217.72	\$2,177
Turbine Generators	222	Pounds	\$0.26	\$58
Transformers (Core and Coils)	431,991	Pounds	\$0.29	\$123,117
Transformers (oil)	18,579	Gallons	\$0.70	\$13,005
Subtotal Salvage				\$1,221,400
Total Demolition Minus Salvage Value				\$2,142,300
Total Demolition Minus Salvage per Turbine				\$102,100

Appendix J

90-Day Pre-Application Notice and Affidavit of Mailing

Whitetail Wind Energy Project

Grant County, Wisconsin

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PSC Pre-Application Notices

Whitetail Wind Farm Project

Grant County, Wisconsin

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12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA EMAIL

May 16, 2022

Martin Day, Administrator Public Service Commission of Wisconsin North Tower, 6th Floor Hills Farm State Office Building 4822 Madison Yards Way Madison, Wisconsin 53705 <u>Martin.Day@wisconsin.gov</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Martin Day:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Because the Project is considering use of wind turbines exceeding 600 feet in height, a special preapplication notice was previously submitted to the Public Service Commission of Wisconsin (Commission) under Wis. Admin. Code § PSC 128.105(1m) on November 16, 2020 (see attached copy).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely, WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

(d) A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.

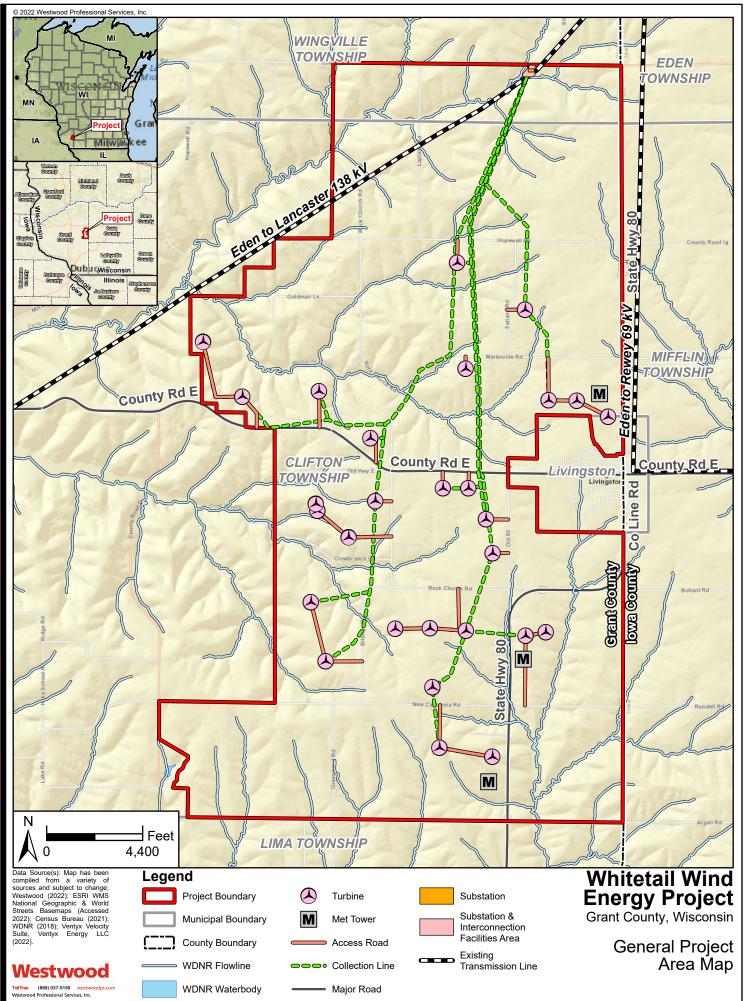
Table 1: Potential Federal, State and Local Permits and Approvals				
Agency		Name and Type of Permit/Approval		
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard) Notice of Actual Construction or Alteration (Form 7460-2)		
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals Jurisdictional Determination		
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species		
	U.S. Department of Commerce – National Telecommunications and Information Administration ("NTIA")	NTIA Communications Study		
	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan		
	National Oceanic and Atmospheric Administration	NexRAD		
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form		
	Wisconsin Department of Natural	Section 401 Permit		
	Resources	Grading Permit		
		Waterway and Wetland Permit		
		Wetland Water Quality Certification		
		Endangered Species Review		
		Incidental Take Authorization		
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm Water Pollution Prevention Plan		
	Wisconsin State Historical Society	Archaeological and Cultural Resource Review		
	Wisconsin Department of Agriculture,	Aboveground		
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)		
	Wisconsin Department of Transportation	Heavy and Oversized Load Permits		

Table 1: Potential Federal, State and Local Permits and Approvals			
Agency		Name and Type of Permit/Approval	
	Wisconsin Department of Transportation / Grant County	High Structure Permit	
	Wisconsin Department of Transportation	Permit to Construct and Operate Utility Facilities on Highway Right-of-Way	
		Permit for Connection to State Trunk Highway	
		Permit to Work on Highway Right-of-Way	
Local	Grant County	Conditional Use Permit (per Ordinance and Grant County Wind Energy Siting Ordinance, Chapter 70)	
		Zoning Permit	
		Sanitary Permit (for O&M building)	
		Oversize/Overweight Permit (County Roads)	
	Towns	Oversize/Overweight Permit (Town Roads)	
		Driveway Permits	
		Utility Right-of-Way Access Permits	
		Sanitary Permit (for O&M building)	

(e) Whether the owner is requesting a joint application review process under s. PSC 128.30(7) and the name of each political subdivision that may participate in the joint review process.

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

- **Attachment** Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)
- Attachment Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1m), November 16, 2022



12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main fax (952) 937-5822

(952) 937-5150

November 16, 2020

Westwood

Andy Ehlert Public Service Commission of Wisconsin 4822 Madison Yards Way North Tower – 6th Floor Madison, Wisconsin 53705

sent via email: andy.ehlert@wisconsin.gov

Re: Whitetail Wind Farm, Grant County, Wisconsin File: R0020134.00

Dear Andy Ehlert:

On behalf of Whitetail Wind Energy, LLC ("Whitetail"), Westwood Professional Services provides the following preapplication notice under Wis. Admin. Code § PSC 128.105 for the proposed Whitetail Wind Energy Project in Grant County, Wisconsin:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1m) •
- Project map required under to Wis. Admin. Code § PSC 128.105(2)

Because the project is considering use of wind turbines exceeding 600 ft., this special pre-application notice is being provided to the commission under requirement (1m) of Wis. Admin. Code § PSC 128.105.

Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-906-7423.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES

Eru Hunsen

Eric Hansen **Director, Environmental Services**

Preapplication Notice for <100MW: Whitetail Wind Farm ("Project") Pursuant to Wis. Admin. Code § PSC 128.105

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement (1m) of Wis. Admin. Code § PSC 128.105:

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size and Description</u>: The Project is proposed to be <100MW and will include approximately 19 turbines with a capacity of between approximately 3.0MW to 5.6 MW. The Project will also include a substation, underground collection lines, access roads, permanent meteorological tower, and possibly an operations and maintenance building.

The Project will meet all requirements of Wis. Admin Code § PSC 128

(b) A map showing the planned location of all wind energy system facilities.

Please see attached Project overview map showing the location of all wind energy system facilities including turbines, substation, access roads and underground electrical collector lines and permanent meteorological tower.

(c) Contact information for the owner.

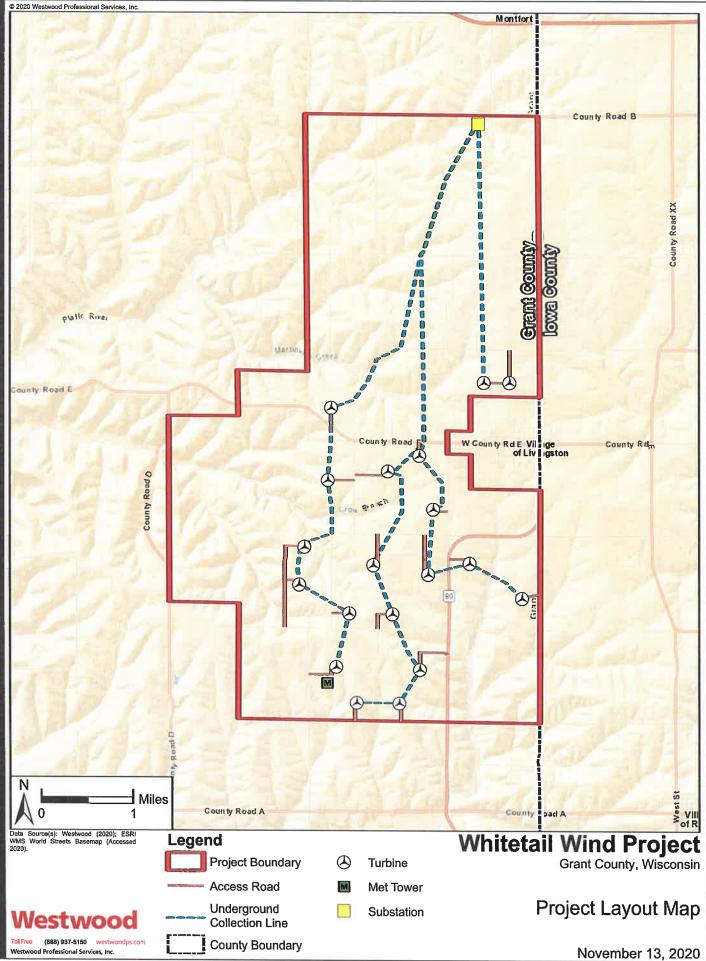
The developer and manager of the Project is Whitetail Wind, LLC. Whitetail is an affiliate of PRC Wind, a Minnesota company that has been developing renewable energy projects throughout the Midwest since 1997.

Whitetail Wind, LLC 618 2nd Ave. SE Minneapolis, MN 55414 ATTN: Jay Regnier (612) 284-4778

vite states	Table 1: Potential Federal, State a	
Agency		Name and Type of Permit/Approval
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or
		Alteration (Determination of No Hazard)
		Notice of Actual Construction or Alteration
		(Form 7460-2)
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide
		Permit(s);
		Wetland Delineation Approvals
		Jurisdictional Determination
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species
	U.S. Department of Commerce –	NTIA Communications Study
	National Telecommunications and	
	Information Administration ("NTIA")	
	Environmental Protection Agency	Spill Prevention Control and Countermeasure
		("SPCC") Plan
State	Wisconsin Department of Natural	Very Small Quantity Generator Hazardous
	Resources	Waste Collection Facility Form
	Wisconsin Department of Natural	Section 401 Permit
	Resources	Grading Permit
	Wisconsin State Historical Society	Waterway and Wetland Permit
		Wetland Water Quality Certification
		Endangered Species Review
		Incidental Take Authorization
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm
		Water Pollution Prevention Plan
	Wissensin Department of Acriculture	Archaeological and Cultural Resource Review
	Wisconsin Department of Agriculture, Trade and Consumer Protection	Aboveground
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid
		Storage Tank Registration Form (TR-WM-118)
	Wisconsin Department of	Heavy and Oversized Load Permits
	Transportation	
	Wisconsin Department of	High Structure Permit
	Transportation	
	Grant County	
	Wisconsin Department of	Permit to Construct and Operate Utility Facilities
	Transportation	on Highway Right-of-Way
		Permit for Connection to State Trunk Highway
		Permit to Work on Highway Right-of-Way
Local	Grant County	Zoning Permit
		Conditional Use Permit
		Sanitary Permit (for O&M building)

	Table 1: Potential Federal, State and Local Permits and Approvals	
Agency		Name and Type of Permit/Approval
	Towns	Oversize/Overweight Permit (Town Roads)
		Driveway Permits
		Utility Right-of-Way Access Permits
		Sanitary Permit (for O&M building)

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.



Agency Pre-Application Notices

Whitetail Wind Farm Project

Grant County, Wisconsin

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Whitetail Wind Project		
Grant County, Wisconsin Pre-Filing Notice Letter Contact List: August 17, 2022		
Agency	Contact	
Federal	contact	
The office of the deputy undersecretary of the U.S. department of defense	Colin H. Kahl Under Secretary of Defense for Policy 2000 Defense Pentagon Washington, DC 20301-2000	
State		
Wisconsin Public Services Commission	Martin Day, Administer Division of Energy Regulation and Analysis North Tower 6 th Floor 4822 Madison Yards Way Madison, WI 53705 Phone: (608) 266-5481 Email: Martin.Day@wisconsin.gov	
Wisconsin Department of Transportation	Angela Adams, Deputy Director 3550 Mormon Coulee Rd. La Crosse, WI 54601 Phone: (608) 785-9022 Email: Angela.Adams@dot.wi.gov	
Wisconsin Department of Natural Resources	Ben Callan, Chief, Environmental Analysis and Sustainability Program Integration Services Section Wisconsin Department of Natural Resources 101 S. Webster Street PO Box 7921 Madison, WI 53707-7921 Phone (608)-405-0016 Email: Benjamin.Callan@Wisconsin.gov	
Wisconsin Department of Agriculture, Trade and Consumer Protection	Secretary Randy Romanski 2811 Agriculture Dr. P.O. Box 8911 Madison, WI 53708-8911 Phone: (608) 224-5012 Email: randy.romanski1@wisconsin.gov	

Whitetail Wind Project		
Grant County, Wisconsin		
Pre-Filing Notice Letter Contact List: August 17, 2022		
Agency	Contact	
Local		
Grant County, Wisconsin	Tonya White, County Clerk 111 S. Jefferson St. PO Box 529 Lancaster, WI 53813-0529 Phone: 608-723-2675 Email: countyclerk@co.grant.wi.gov	
Village of Montfort	Shelly Kazda Village Clerk-Treasurer PO Box 157 102 East Park Street Montfort, Wisconsin 53569 Phone (608) 943-6917 Email: clerk@montfortvillage.com	
Village of Livingston	Shelly Osterndorff Village Clerk 1528 New California Road Livingston WI 53554 Phone: (608) 574-0869 Email: ostern@yousq.net	
Town of Wingville	Marlys Helmich Treasurer 392 Route 66 Montfort WI 53569-9714 Phone (608)-943-8474 Email:	
Town of Clifton	Jeanne Christopher Treasurer 897 Hopewell Road Livingston WI 53554 Phone: (608)-574-9402 Email:	
Emergency Responders and Air Ambulance Services		

Whitetail Wind Project		
Grant County, Wisconsin Pre-Filing Notice Letter Contact List: August 17, 2022		
Agency	Contact	
Grant County WI Sheriff's Department	Nate Dreckman, Sheriff 8820 US 61 PO Box 506 Lancaster, WI 53813 (608) 723-2157 Email: ndreckman@co.grant.wi.gov	
Cuba City Fire Department Cuba City Area Rescue Squad Ambulance	Mark Patterson, Chief 108 N Main Street Cuba City, WI 53807 Phone (608) 744-2024	
Southwest Health Ambulance Service	Brian Adam, Director of EMS 1400 Eastside Road Platteville WI 53818 Phone (608) 348-2331	
Potosi Rescue Squad Ambulance	Potosi Rescue Squad Ambulance 210 North Main Street Potosi, WI 53820 Phone (608) 330-2287 Email: potosirescue@tds.net	
West Grant Rescue Squad Ambulance	West Grant Rescue Squad Ambulance 136 Mill Street Bloomington WI 53804 Phone (608) 994-3180 NOTE: GOOGLE SAYS PERMANENTLY CLOSED	
UW Madison Air Care	UW Madison Air Care Administrative Services Building 301 S Westfield Road Madison, WI (608) 263-3260 https://www.uwhealth.org/med-flight	
GundersenAIR	GundersenAIR 1900 South Ave La Croix WI, 54601 (608) 782-7300 www.gundersenhealth.org	

Whitetail Wind Project Grant County, Wisconsin		
Pre-Filing Notice Letter Contact List: August 17, 2022 Agency Contact		
UIHC AirCare Air Ambulance Base	Sven Steen, MD, EMT-T 11120 Airport Rd, Dubuque, IA 52003 (RETURNED)	
	200 Hawkins Drive Iowa City, IA 52242 <mark>(Resent 6/15/2022)</mark>	



12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Colin H. Kahl Under Secretary of Defense for Policy 2000 Defense Pentagon Washington, DC 20301-2000

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Colin H. Kahl:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

But Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

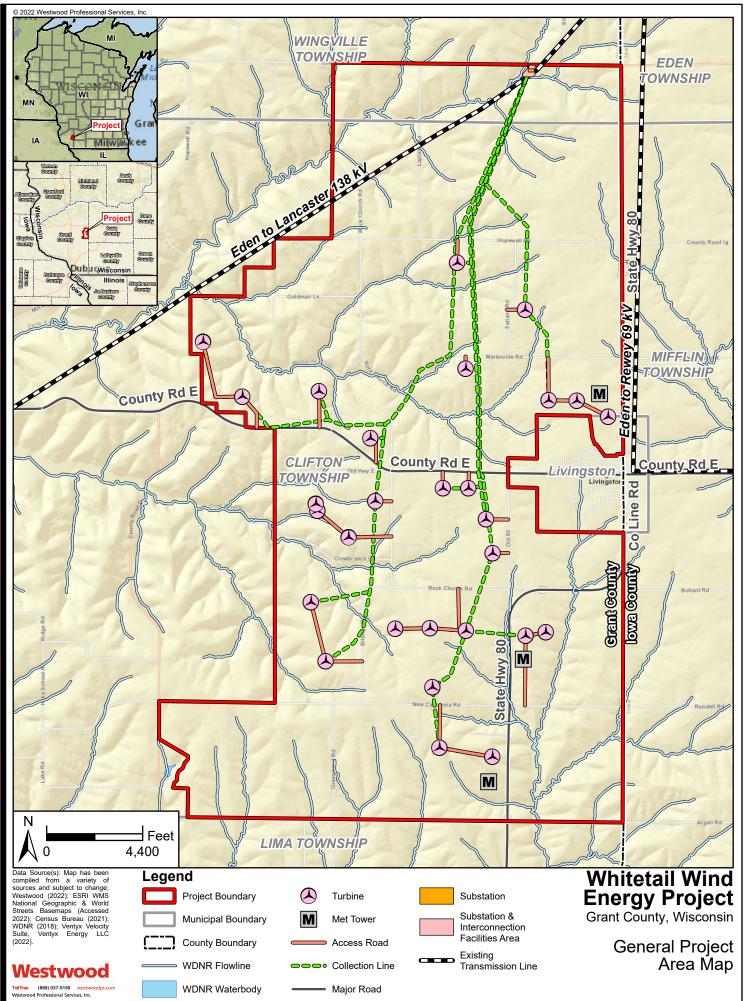
Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

Table 1: Potential Federal, State and Local Permits and Approvals		
Agency		Name and Type of Permit/Approval
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard) Notice of Actual Construction or Alteration (Form 7460-2)
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals Jurisdictional Determination
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species
	U.S. Department of Commerce – National Telecommunications and Information Administration ("NTIA")	NTIA Communications Study
	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan
	National Oceanic and Atmospheric Administration	NexRAD
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form
	Wisconsin Department of Natural	Section 401 Permit
	Resources	Grading Permit
		Waterway and Wetland Permit
		Wetland Water Quality Certification
		Endangered Species Review
		Incidental Take Authorization
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm Water Pollution Prevention Plan
	Wisconsin State Historical Society	Archaeological and Cultural Resource Review
	Wisconsin Department of Agriculture,	Aboveground
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)
	Wisconsin Department of Transportation	Heavy and Oversized Load Permits

	Table 1: Potential Federal, State and Local Permits and Approvals		
Agency		Name and Type of Permit/Approval	
	Wisconsin Department of Transportation / Grant County	High Structure Permit	
	Wisconsin Department of Transportation	Permit to Construct and Operate Utility Facilities on Highway Right-of-Way	
		Permit for Connection to State Trunk Highway	
		Permit to Work on Highway Right-of-Way	
Local	Grant County	Conditional Use Permit (per Ordinance and Grant County Wind Energy Siting Ordinance, Chapter 70)	
		Zoning Permit	
		Sanitary Permit (for O&M building)	
		Oversize/Overweight Permit (County Roads)	
	Towns	Oversize/Overweight Permit (Town Roads)	
		Driveway Permits	
		Utility Right-of-Way Access Permits	
		Sanitary Permit (for O&M building)	

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Angela Adams, Deputy Director 3550 Mormon Coulee Rd. La Crosse, WI 54601 Phone: (608) 785-9022 Email: Angela.Adams@dot.wi.gov

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Angela Adams:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Bout Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

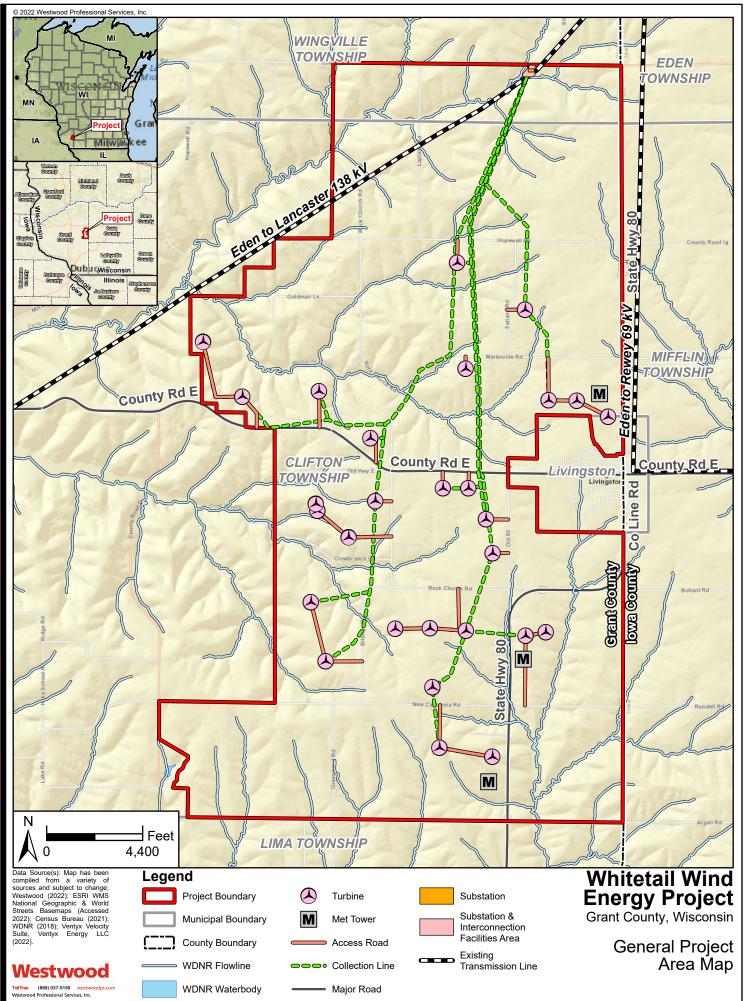
Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

Table 1: Potential Federal, State and Local Permits and Approvals		
Agency		Name and Type of Permit/Approval
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard) Notice of Actual Construction or Alteration (Form 7460-2)
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals Jurisdictional Determination
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species
	U.S. Department of Commerce – National Telecommunications and Information Administration ("NTIA")	NTIA Communications Study
	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan
	National Oceanic and Atmospheric Administration	NexRAD
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form
	Wisconsin Department of Natural	Section 401 Permit
	Resources	Grading Permit
		Waterway and Wetland Permit
		Wetland Water Quality Certification
		Endangered Species Review
		Incidental Take Authorization
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm Water Pollution Prevention Plan
	Wisconsin State Historical Society	Archaeological and Cultural Resource Review
	Wisconsin Department of Agriculture,	Aboveground
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)
	Wisconsin Department of Transportation	Heavy and Oversized Load Permits

	Table 1: Potential Federal, State and Local Permits and Approvals		
Agency		Name and Type of Permit/Approval	
	Wisconsin Department of Transportation / Grant County	High Structure Permit	
	Wisconsin Department of Transportation	Permit to Construct and Operate Utility Facilities on Highway Right-of-Way	
		Permit for Connection to State Trunk Highway	
		Permit to Work on Highway Right-of-Way	
Local	Grant County	Conditional Use Permit (per Ordinance and Grant County Wind Energy Siting Ordinance, Chapter 70)	
		Zoning Permit	
		Sanitary Permit (for O&M building)	
		Oversize/Overweight Permit (County Roads)	
	Towns	Oversize/Overweight Permit (Town Roads)	
		Driveway Permits	
		Utility Right-of-Way Access Permits	
		Sanitary Permit (for O&M building)	

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Ben Callan, Chief, Environmental Analysis and Sustainability Program Integration Services Section Wisconsin Department of Natural Resources 101 S. Webster Street PO Box 7921 Madison, WI 53707-7921 Phone (608)-405-0016 Email: <u>Benjamin.Callan@Wisconsin.gov</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Ben Callan:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

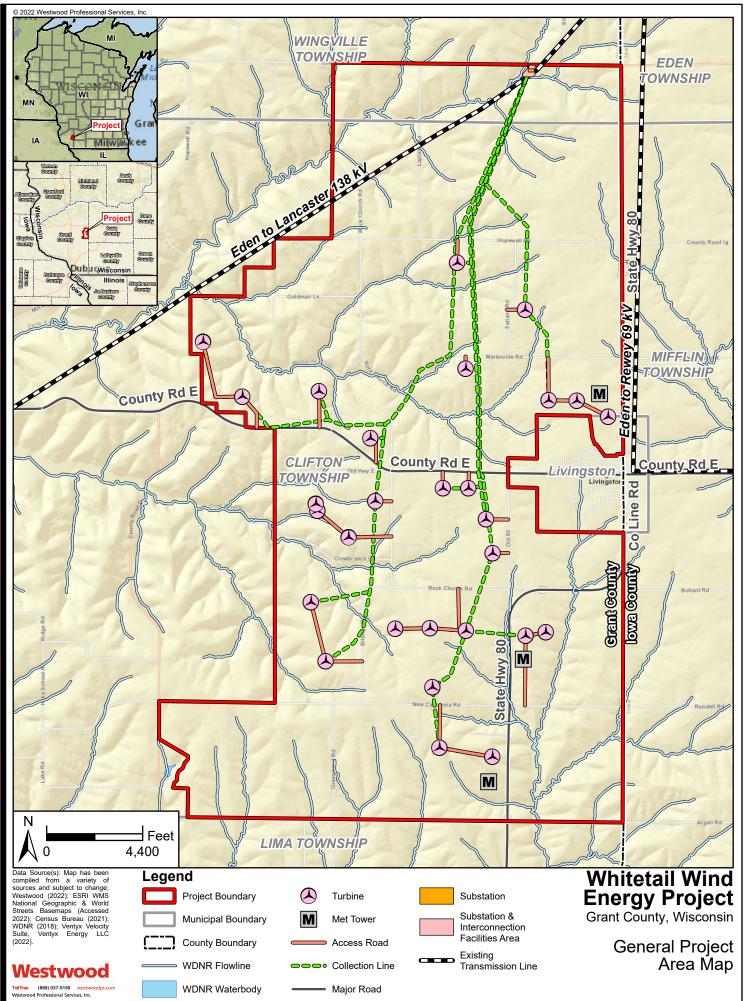
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(c) Contact information for the owner.

Table 1: Potential Federal, State and Local Permits and Approvals		
Agency		Name and Type of Permit/Approval
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	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan
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State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form
	Wisconsin Department of Natural	Section 401 Permit
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Brian Adam, Director of EMS 1400 Eastside Road Platteville WI 53818 Phone (608) 348-2331

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Brian Adam:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

But Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

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Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

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<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

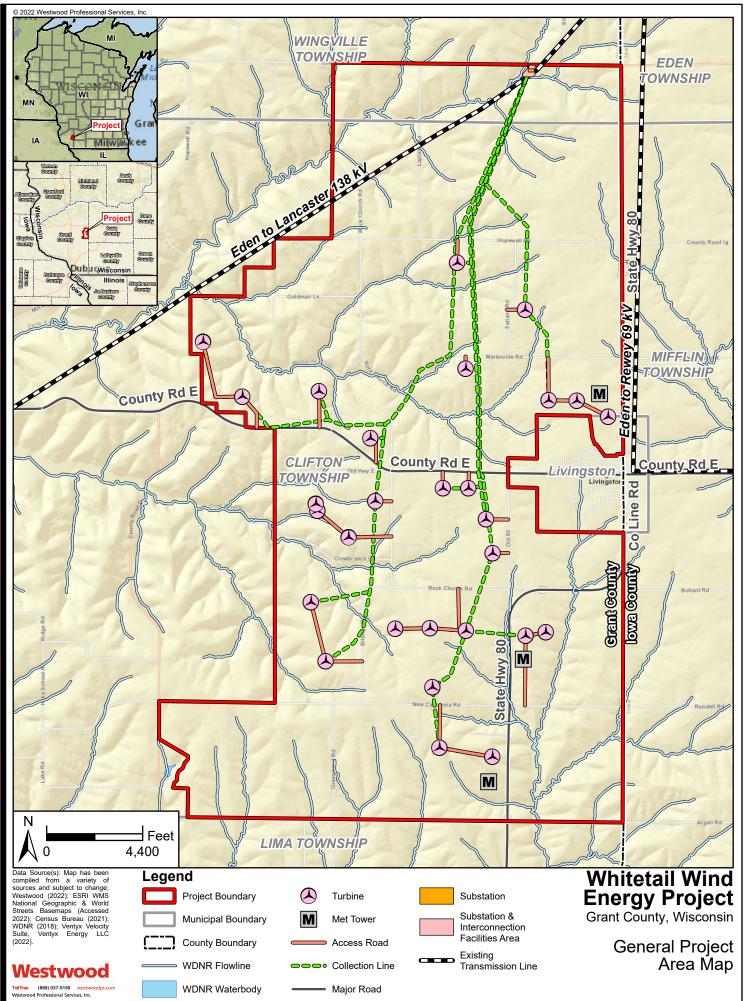
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	National Oceanic and Atmospheric Administration	NexRAD
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form
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		Utility Right-of-Way Access Permits	
		Sanitary Permit (for O&M building)	

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

GundersenAIR 1900 South Ave La Croix WI, 54601 (608) 782-7300 www.gundersenhealth.org

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear GundersenAIR:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Bout Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

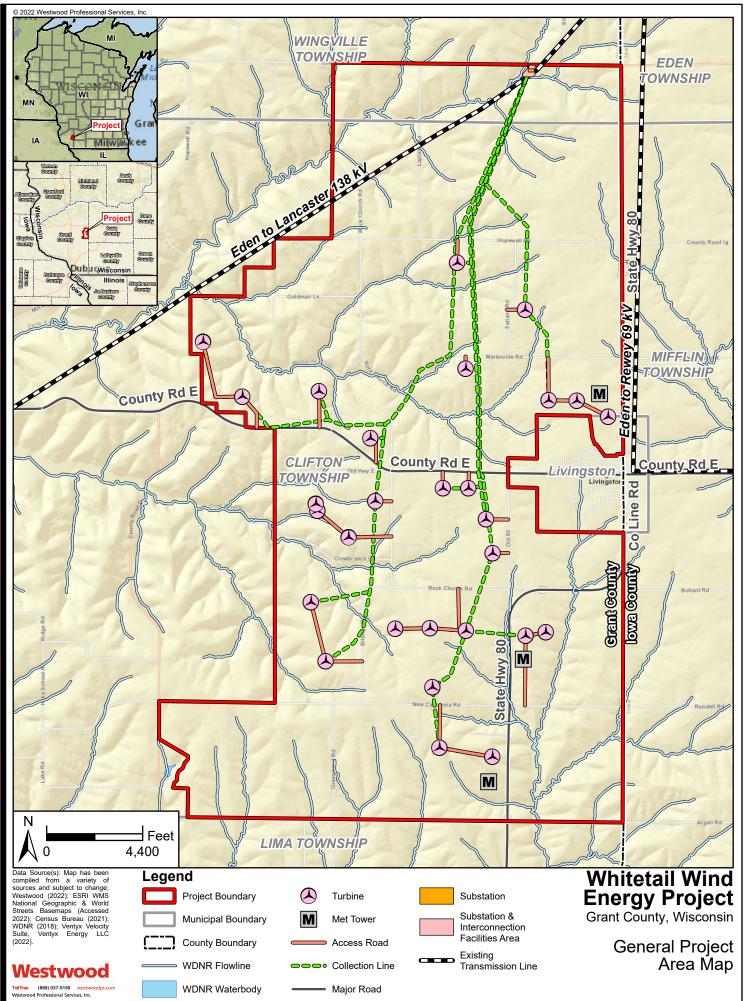
Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Jeanne Christopher Treasurer 897 Hopewell Road Livingston WI 53554 Phone: (608)-574-9402

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Jeanne Christopher:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Brut Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

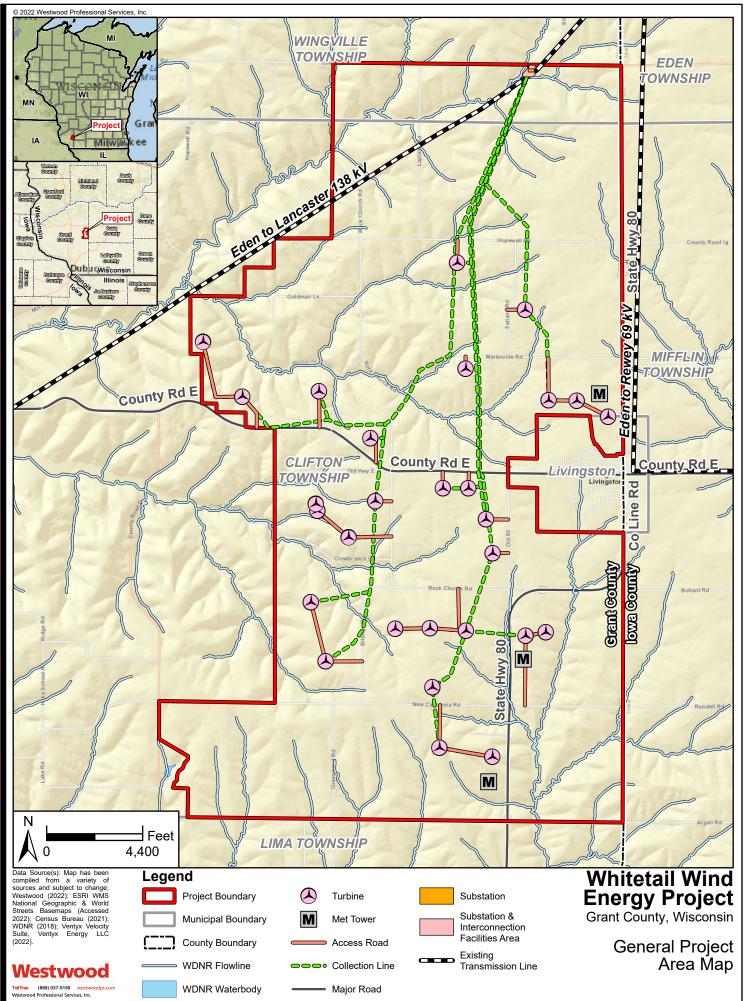
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(c) Contact information for the owner.

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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Mark Patterson, Chief 108 N Main Street Cuba City, WI 53807 Phone (608) 744-2024

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Mark Patterson:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
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Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

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<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

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<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

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(b) A map showing the planned location of all wind energy system facilities.

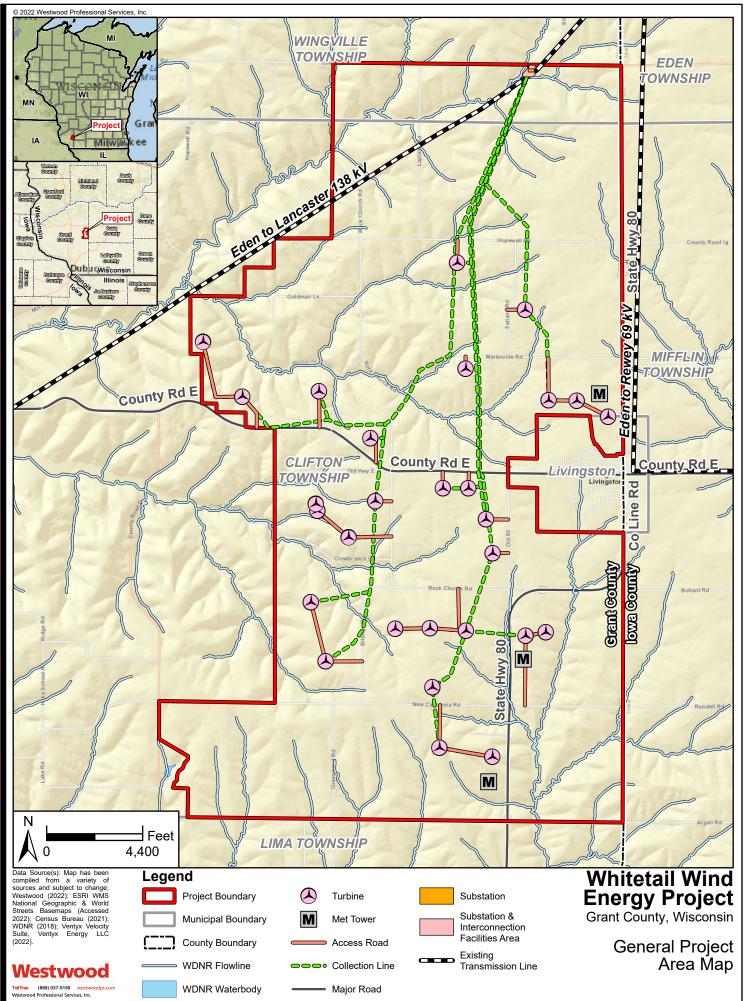
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Marlys Helmich Treasurer 392 Route 66 Montfort WI 53569-9714 Phone (608)-943-8474

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Marlys Helmich:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Brut Honan

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(b) A map showing the planned location of all wind energy system facilities.

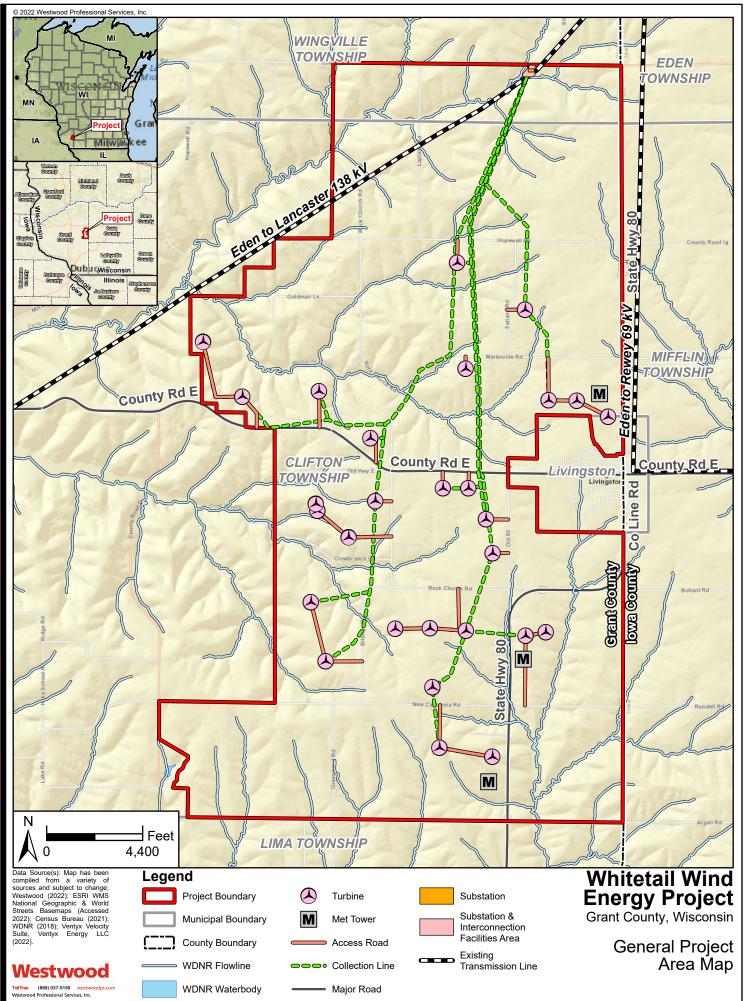
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Nate Dreckman, Sheriff 8820 US 61 PO Box 506 Lancaster, WI 53813 (608) 723-2157 Email: <u>ndreckman@co.grant.wi.gov</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Nate Dreckman:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

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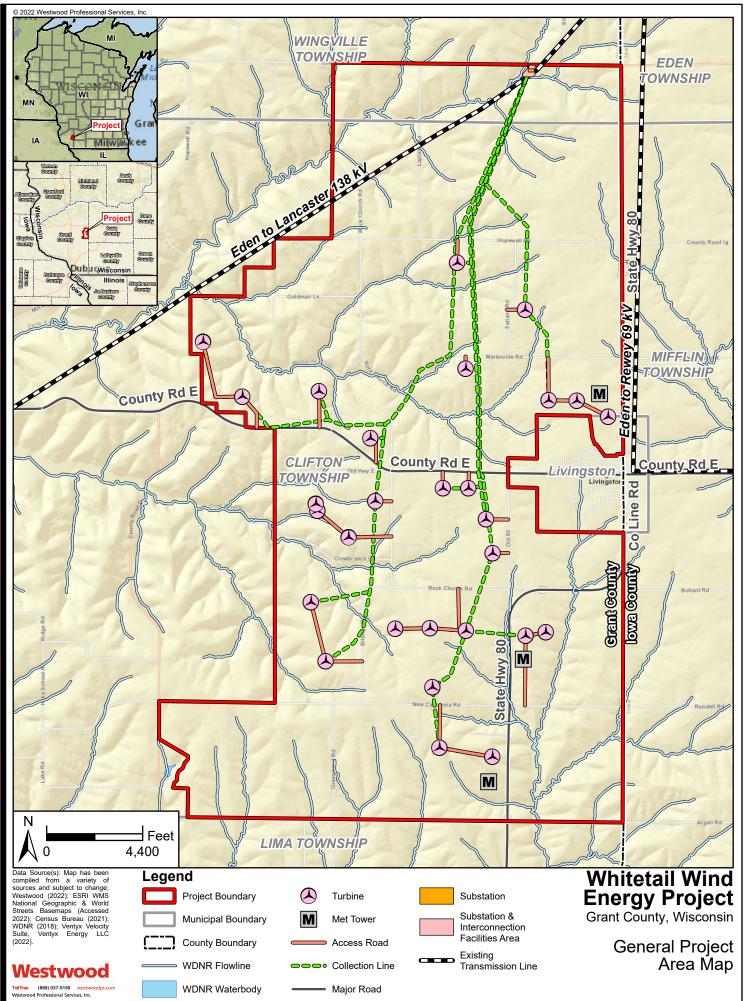
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Potosi Rescue Squad Ambulance 210 North Main Street Potosi, WI 53820 Phone (608) 330-2287 Email: <u>potosirescue@tds.net</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Potosi Rescue Squad:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Brut Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

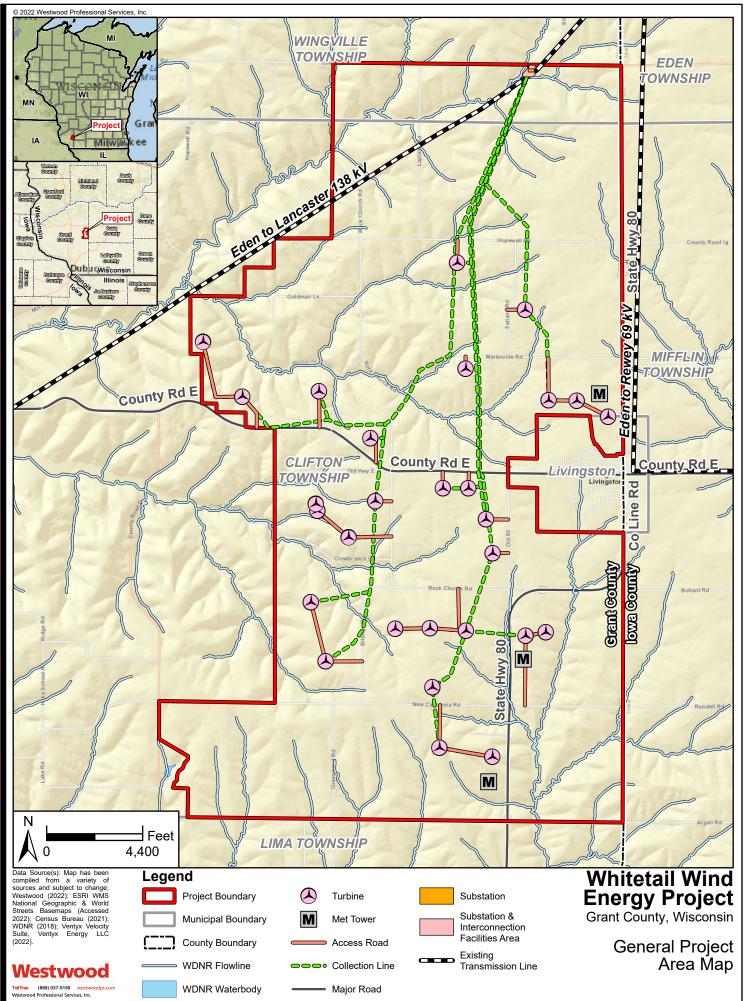
Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

	Table 1: Potential Federal, State a	and Local Permits and Approvals
Agency		Name and Type of Permit/Approval
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Secretary Randy Romanski 2811 Agriculture Dr. P.O. Box 8911 Madison, WI 53708-8911 Phone: (608) 224-5012 Email: randy.romanski1@wisconsin.gov

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Randy Romanski:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

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<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

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<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

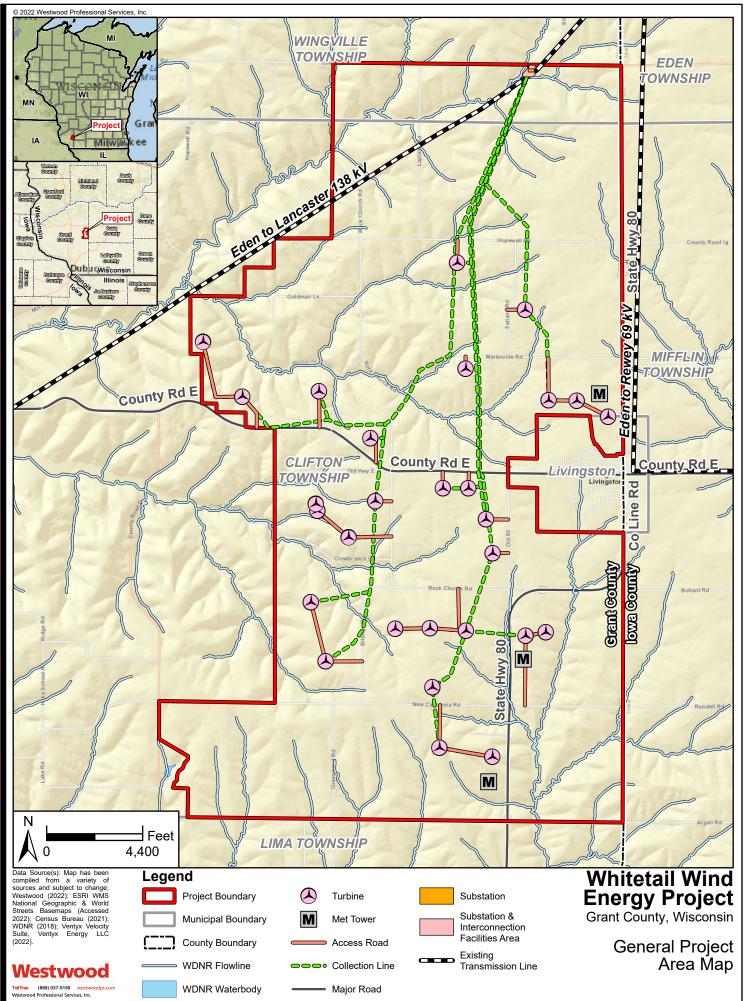
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Shelly Kazda Village Clerk-Treasurer PO Box 157 102 East Park Street Montfort, Wisconsin 53569 Phone (608) 943-6917 Email: <u>clerk@montfortvillage.com</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Shelly Kazda:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

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<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

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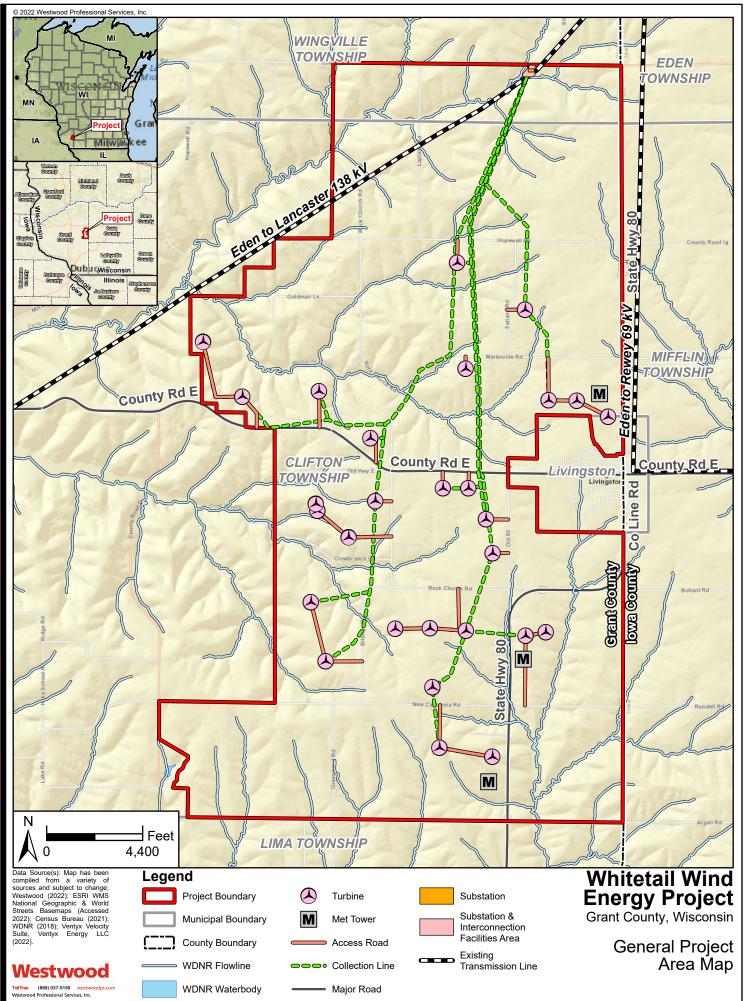
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Shelly Osterndorff Village Clerk 1528 New California Road Livingston WI 53554 Phone: (608) 574-0869 Email: <u>ostern@yousq.net</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Shelly Osterndorff:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

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(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

(d) A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.

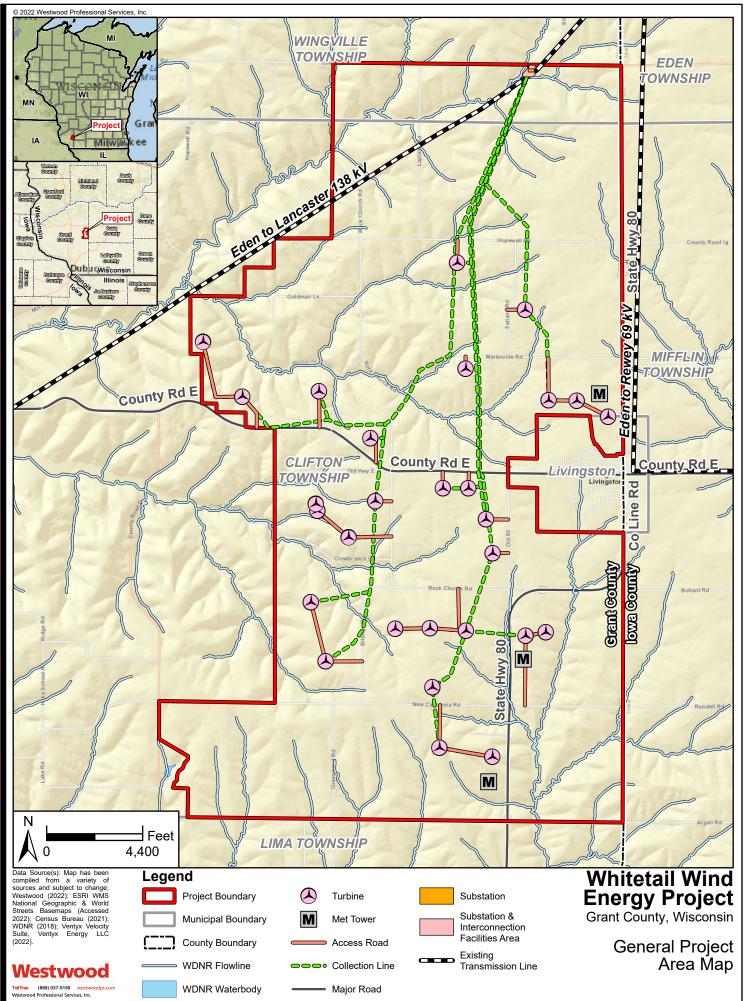
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(e) Whether the owner is requesting a joint application review process under s. PSC 128.30(7) and the name of each political subdivision that may participate in the joint review process.

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Sven Steen, MD, EMT-T 11120 Airport Rd, Dubuque, IA 52003

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Sven Steen:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

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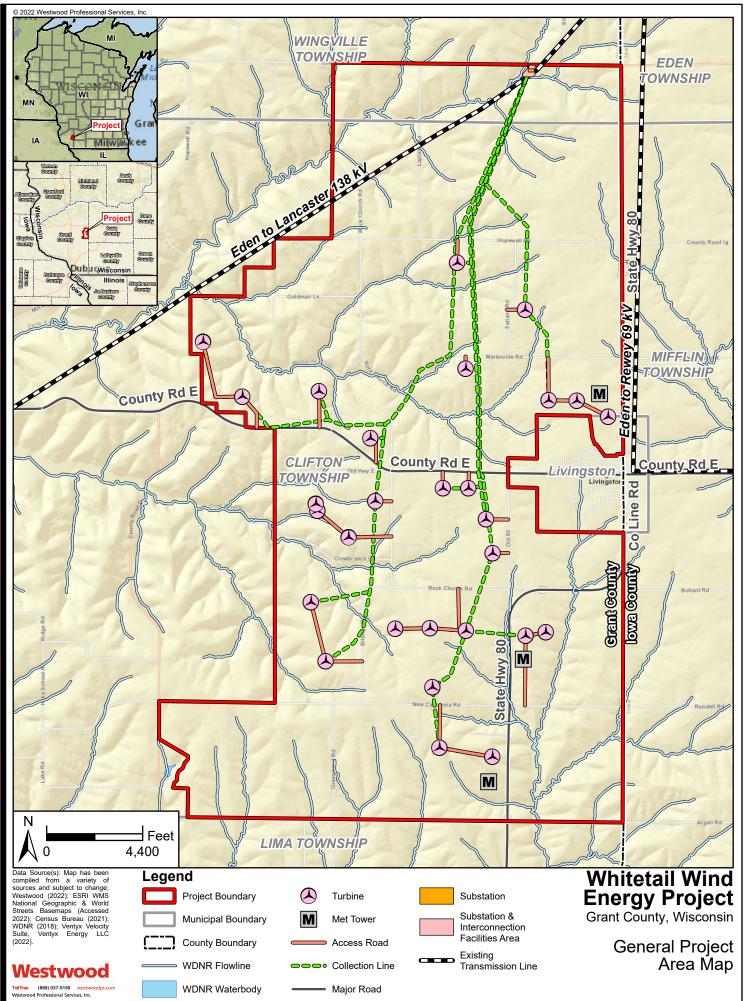
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		Sanitary Permit (for O&M building)
		Oversize/Overweight Permit (County Roads)
	Towns	Oversize/Overweight Permit (Town Roads)
		Driveway Permits
		Utility Right-of-Way Access Permits
		Sanitary Permit (for O&M building)

(e) Whether the owner is requesting a joint application review process under s. PSC 128.30(7) and the name of each political subdivision that may participate in the joint review process.

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

Tonya White, County Clerk 111 S. Jefferson St. PO Box 529 Lancaster, WI 53813-0529 Phone: 608-723-2675 Email: <u>countyclerk@co.grant.wi.gov</u>

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear Tonya White:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

(d) A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.

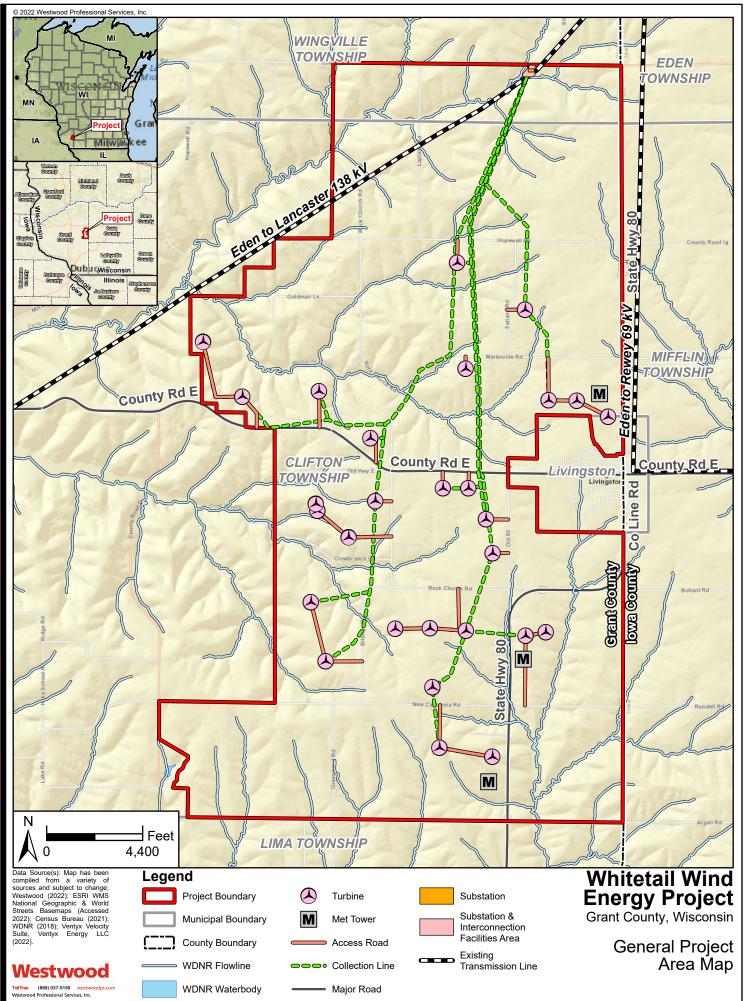
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Agency		Name and Type of Permit/Approval	
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard) Notice of Actual Construction or Alteration (Form 7460-2)	
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals Jurisdictional Determination	
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species	
	U.S. Department of Commerce – National Telecommunications and Information Administration ("NTIA")	NTIA Communications Study	
	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan	
	National Oceanic and Atmospheric Administration	NexRAD	
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form	
	Wisconsin Department of Natural	Section 401 Permit	
	Resources	Grading Permit	
		Waterway and Wetland Permit	
		Wetland Water Quality Certification	
		Endangered Species Review	
		Incidental Take Authorization	
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm Water Pollution Prevention Plan	
	Wisconsin State Historical Society	Archaeological and Cultural Resource Review	
	Wisconsin Department of Agriculture,	Aboveground	
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)	
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		Sanitary Permit (for O&M building)

(e) Whether the owner is requesting a joint application review process under s. PSC 128.30(7) and the name of each political subdivision that may participate in the joint review process.

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)





main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

UW Madison Air Care Administrative Services Building 301 S Westfield Road Madison, WI (608) 263-3260 https://www.uwhealth.org/med-flight

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear UW Madison Air Care:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

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(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

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<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

(d) A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.

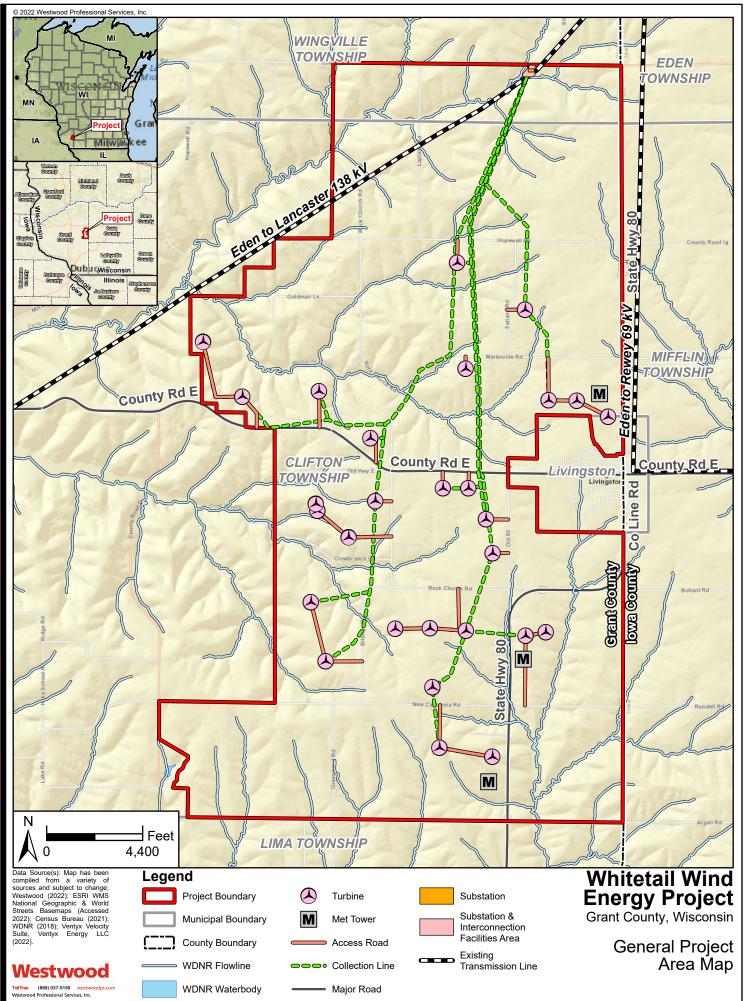
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		Waterway and Wetland Permit	
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Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)





12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

VIA CERTIFIED MAIL

May 16, 2022

West Grant Rescue Squad Ambulance 136 Mill Street Bloomington WI 53804 Phone (608) 994-3180

Re: Whitetail Wind Farm, Grant County, Wisconsin

Dear West Grant Rescue Squad:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

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Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Brett Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

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Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

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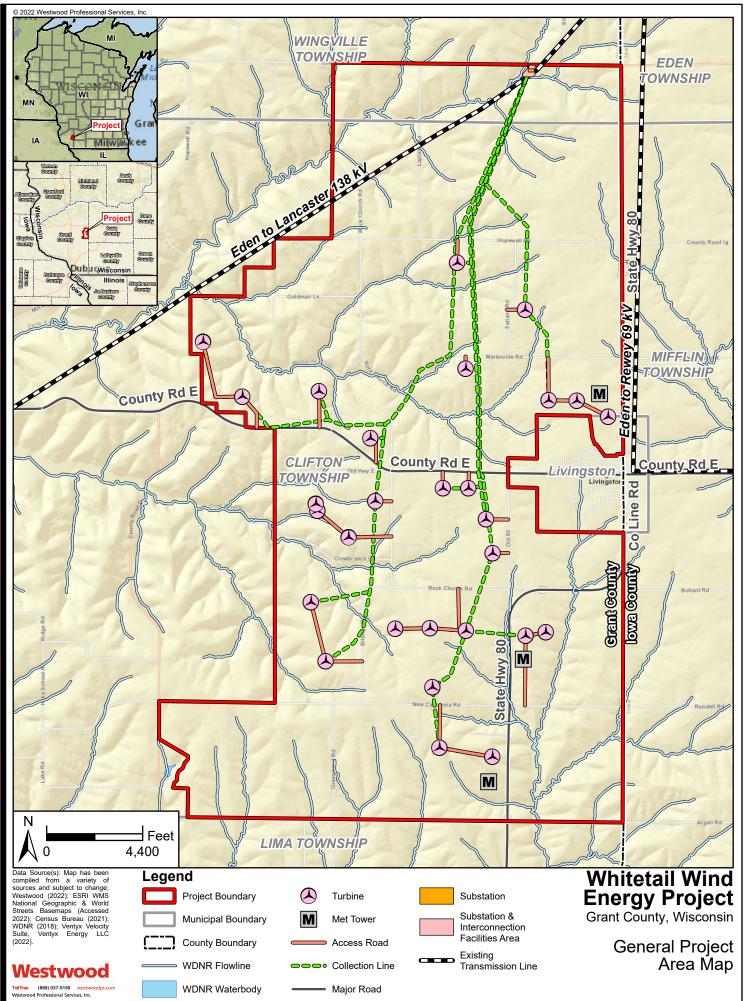
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Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)



Landowner Pre-Application Mailing Affidavit and Representative Letter

Whitetail Wind Farm Project

Grant County, Wisconsin

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AFFIDAVIT OF MAILING (U.S. MAIL)

STATE OF MINNESOTA COUNTY OF HENNEPIN

STATE OF MINNESOTA COUNTY OF HENNEPIN

Angeli Modjeski, being duly sworn on oath, states that on May Z3 2022, I mailed the following document(s):

Preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

• Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,

• Project map required under to Wis. Admin. Code § PSC 128.105(2).

by placing a true and correct copy of document in an envelope, separetely addressed as applicable, and mailing the envelope(s) from Minneapolis, Minnesota, by United States mail, postage prepaid, to each of the following:

Mailing list attached

Dated: May 23, 2022

Angeli Modjeski

Subscribed and sworn to before me

this	23 day of_	May	,2027
	Z		
	T		

Notary Public of Other Official

Same.	Lisa R Hammer
St. he tables	Notary Public
Barris States	Minnesota
+ 7415 *	My Commission Expires January 31, 2025

KENNETH J & KAY A MOEN PO BOX 215 LIVINGSTON WI 53554-0215

PAUL N & BLANCHE F DAILEY PO BOX 25 MONTFORT WI 53569

SUZANNE D KETTLER PO BOX 286 LIVINGSTON WI 53554

FAMILY LIFE BROADCASTING INC PO BOX 35300 TUCSON AZ 85740

ROBERT D MYERS & DENISE K MYERS PO BOX 4 LIVINGSTON WI 53554

PATRICK E & JANE M GRISWOLD PO BOX 670648 DALLAS TX 75367

KAREN FRANCIS & JOHN J MATHEWS LE PO BOX 81 LIVINGSTON WI 53554-9759

LIVINGSTON VILLAGE PO BOX 90 LIVINGSTON WI 53554-0090

LIVINGSTON STATE BANK PO BOX 99 LIVINGSTON WI 53554-0099

H & C DEBACK FAMILY LIMITED PARTNERSHIP W198 S10957 RACINE AVE MUSKEGO WI 53150 D&L BOLLANT PROPERTY HOLDING LLC PO BOX 215 MONTFORT WI 53569

LOLWING, THOMAS L PO BOX 25 LIVINGSTON WI 53554

JI-ZIMM LLC PO BOX 293 LIVINGSTON WI 53554

PETER J PUSTINA PO BOX 37 LIVINGSTON WI 53554-0037

AMERICAN TRANSMISSION COMPANY LLC PO BOX 47 WAUKESHA WI 53187-0047

LIVINGSTON CO-OP OIL CO PO BOX 68 LIVINGSTON WI 53554

FRANK D & KAREN A FRANCIS PO BOX 81 LIVINGSTON WI 53554-0081

CRARY BUILDERS INC PO BOX 930062 RD VERONA WI 53593-0062

TERRANCE R & TRINA J SLACK S 910 CHRISTMAS MOUNTAIN RD WISCONSIN DELLS WI 53965

SUSAN K MARX W6987 SUNRISE TRL APPLETON WI 54914 LIVINGSTON-CLIFTON FIRE DISTRICT PO BOX 233 LIVINGSTON WI 53554-0233

NOYES, KATHERINE M PO BOX 252 BARNEVELD WI 53507

DONALD F & KAREN A WHITAKER PO BOX 35 LIVINGSTON WI 53554-0035

REDDY AG SERVICE INC PO BOX 38 STITZER WI 53825

SQUARE A INVESTMENTS LLC PO BOX 528 LANCASTER WI 53813

WISCONSIN DEPT OF NATURAL RESOURCES PO BOX 7921 MADISON WI 53707-7921

THE HELL INN LLC PO BOX 88 MINERAL POINT WI 53565

DONALD & VIRGINIA BERG PO BOX 99 DICKEYVILLE WI 53808

DEBACK REVOCABLE TRUST W198 S10957 RACINE AVE MUSKEGO WI 53150

RJ FOLEY HOLDINGS LLC W9963 COUNTY ROAD O PORTAGE WI 53901 GENE MAZEWSKI 106 BAKER BLVD BEAVER DAM WI 53916

JOHN L & FAYE E HORNING 10717 ROCK CHURCH RD LIVINGSTON WI 53554

LARRY J KLAAS 10894 SCENIC RD STITZER WI 53825

ROBERT & DAWN HAASE 1090 OAK GROVE RD MONTFORT WI 53569

ANTHONY D LOEFFELHOLZ & KIMBERLY LOEFFELHOLZ 110 N GROVE ST LIVINGSTON WI 53554

MARK E SPEIDEL & NANCY J HENDERSON 11066 HICKORY GROVE RD LIVINGSTON WI 53554-0013

MCLAUGHLIN, LINDA L 1112 N JOHNS ST DODGEVILLE WI 53533

CURTIS A BREIWA 1123 CROW BRANCH LN LIVINGSTON WI 53554

STEVEN J & BETTY J STASKAL 11270 ROCK CHURCH RD LIVINGSTON WI 53554

MY TURN NORTH LLC 114 N PARK ST BELMONT WI 53510 CHRIS REUTER & MICHELLE REUTER 1060 COUNTY ROAD E REWEY WI 53580

BOLLANT FARMS INC 10818 PINE KNOB LN STITZER WI 53825

RUNDELL FARMS INC 109 BOLLANT RD LIVINGSTON WI 53554

RANDAL J & BETTY J BUSSAN 10934 OLD HWY E LIVINGSTON WI 53554-9616

GILBERT A & CINDY L KNUTSON 110 S GRAND ST LIVINGSTON WI 53554-0013

LYBIE H DIVALL & OLIVE DIVALL 111 S JEFFERSON ST LANCASTER WI 53813

CRAIG R & LESLEE J GRAU 11141 ROCK CHURCH RD BOX 23 LIVINGSTON WI 53554

LESTER HERSHBERGER & KATHRYN J HERSHBERGER 1124 GOLDMAN LN LIVINGSTON WI 53554

RONALD J & JUDY C IVERSON 11277 ROCK CHURCH RD LIVINGSTON WI 53554

DAVID W & MARY SUE DIVINE 11497 FELLAND RD LIVINGSTON WI 53554-9736 DENISE M VACHA & SCOTT MCCABE 10646 ROCK CHURCH RD LIVINGSTON WI 53554

STEVEN BOLLANT & DELORES BOLLANT 10818 PINE KNOB LN STITZER WI 53825

RUNDELL REVOCABLE TRUST 109 BOLLANT RD LIVINGSTON WI 53554

ROBERT J & ANGELA M MCINTYRE & DONALD R ALLEN JR 110 CENTER ST LIVINGSTON WI 53554

CHARLES R & CATHERINE R HRUBES & PETER D HRUBES 110 WOODWARD AVE LIVINGSTON WI 53554-0243

SAMUEL H SCHMUCKER & LORENE D SCHMUCKER 11117 HICKORY GROVE RD LIVINGSTON WI 53554

ERIC T IVERSON 11228 ROCK CHURCH RD LIVINGSTON WI 53554-9728

BRENT M BUSSAN 1126 COUNTY ROAD E LIVINGSTON WI 53554

LEVI & SARAH KEMPF 1139 OLD HWY E LIVINGSTON WI 53554

JODI A SHEMAK 115 GRAND ST LIVINGSTON WI 53554 TRELAY FARMS INC 12005 ROCK CHURCH RD LIVINGSTON WI 53554

LOGAN J MILLS 100 S CENTER ST LIVINGSTON WI 53554

JNV PROPERTIES LLC 10070 FAIRVIEW RD LANCASTER WI 53813

FAYE WARNE 101 E SIOUX RD #1054 PHARR TX 78577

NELSON M ZIMMERMAN & PAULINE S ZIMMERMAN 10219 HAKE SCHOOL RD LIVINGSTON WI 53554

JINKINS, CHARLES K 10422 HWY 80 LIVINGSTON WI 53554

ANDREW HINDERMAN & CASSY M NELSON 105 N CENTER ST LIVINGSTON WI 53554

DANIEL A & ANNA H LEY 105 S CENTER ST LIVINGSTON WI 53554-0008

EARL R ROCKWELL & MICHELLE E ROCKWELL 105 STATE ROAD 80 LIVINGSTON WI 53554

DAVID M & HEIDI F PIERICK 1051 EBENEZER RD MONTFORT WI 53569 SAMUEL H SCHMUCKER & LORENE D SCHMUCKER E1920 COUNTY ROAD G LAVALLE WI 53941

MERLIN W GORSLINE & VIRGNIA M GORSLINE 100 W MATTHEWS ST MONTFORT WI 53569

CALVIN F JR & BARBARA E GATCH & EMILY W GATCH 10086 LAKE ELEANOR RD DUBUQUE IA 52003

CURTIS D & SARA E WHITAKER 10147 BILLINGS RD LIVINGSTON WI 53554

DENNIS D & DEBRA K LUNDELL 10285 BILLINGS RD LIVINGSTON WI 53554

CHARLES K JINKINS & JILL ARMBRUSTER 10422 STATE ROAD 80 LIVINGSTON WI 53554

MARCELLA DANTI 105 N GROVE ST LIVINGSTON WI 53554

JOANNE M MARSHALL 105 S FRANKLIN ST LIVINGSTON WI 53554-9759

JOSEPH A WILBERDING 105 W BARBER AVE LIVINGSTON WI 53554

JOSEPH E GINGERICH & ERVIN R MILLER 10522 STATE ROAD 80 LIVINGSTON WI 53554 EAGLE CREEK MIDWEST LLC 10 STATE HOUSE SQUARE. 15TH FLOOR HARTFORD CT 06103

ALLEN H HERSHBERGER & FANNIE F HERSHBERGER 1004 GOLDMAN LN LIVINGSTON WI 53554

DAVID J & ANN A VOSBERG 10091 HAKE SCHOOL RD LIVINGSTON WI 53554

IVEY CONSTRUCTION CO 1020 BOLLERUD MINERAL POINT WI 53565-1298

ROBERT D ROELLI 103 CLIFTON ST COBB WI 53526

RURAL ROUTE 1 INC 105 E TAMA ST LIVINGSTON WI 53554

CRAIG & BARBARA MELLOR 105 N WATSON ST LIVINGSTON WI 53554

ELDON L WARNE & VICKI L WARNE 105 S PARK ST LIVINGSTON WI 53554

WALTER, RYAN L & WALTER, CHELSIE M 105 W WOODWARD AVE LIVINGSTON WI 53554

MICHAEL F & ROSEMARY DEUTSCH 10579 STATE ROAD 80 LIVINGSTON WI 53554 DEBRA A FRANCE 120 S GRAND ST LIVINGSTON WI 53554-0024

MARY S ROBINSON 120 W COUNTY ROAD E LIVINGSTON WI 53554

JEROME C & MARY C SMALLEY 1207 COUNTY ROAD E LIVINGSTON WI 53554-9724

DANIEL M & MARY BUCKHAUS 12163 LA PLATTE RD MONTFORT WI 53569

ISAAC J WIENKES 1220 COUNTY ROAD E LIVINGSTON WI 53554

KEVIN S HONAHAN & CYNTHIA M HONAHAN 12271 LAPLATTE RD MONTFORT WI 53569

BRENT A HOLMAN & ERIN M HOLMAN 12387 BETHEL RD MONTFORT WI 53569

DUANE J. GLASSON 12497 BETHEL RD MONTFORT WI 53569

TORRY W & KATHRYN A GROVES 125 S FRANKLIN ST LIVINGSTON WI 53554-9759

TM FOLEY HOLDINGS LLC 12527 STOCKYARD RD MONTFORT WI 53569 DANIEL T REUTER & CHARMAN REUTER 120 S GROVE ST LIVINGSTON WI 53554

RANDY L WARNE & NICOLE J WARNE 120 W FLORENCE ST LIVINGSTON WI 53554

DAVID R & JOANN M WILLIAMS 1210 COUNTY ROAD E LIVINGSTON WI 53554-9724

DENNIS L & ANGELA J HAYES 12193 LA PLATTE RD MONTFORT WI 53569

RICHARD K BREWER 12207 LA PLATTE RD MONTFORT WI 53569

RITA SUTHERS 123 MITCHELL HOLLOW RD PLATTEVILLE WI 53818

JOHN F WEIGEL 12436 BETHEL RD MONTFORT WI 53569

JASON L FOWELL 125 N CLIFTON ST LIVINGSTON WI 53554-9754

ANGELA HALL 125 S GRAND ST LIVINGSTON WI 53554

WANDA IVERSON 1258 GOLDMAN LN LIVINGSTON WI 53554 JOSHUA D KERL 120 S PARK ST LIVINGSTON WI 53554

JASON B & WENDY R BIDDICK 12005 ROCK CHURCH RD LIVINGSTON WI 53554-9799

THOMAS E & KAYLA D SPURLEY 12111 STOCKYARD RD MONTFORT WI 53569

DUSTIN SIMONS & HARRY W SIMONS 12197 STATE ROAD 80 MONTFORT WI 53569

CARLEY R REISEN 12227 LA PLATTE RD MONTFORT WI 53569

MARK A & JOYCE E MATTHEWS 1230 COUNTY ROAD E W LIVINGSTON WI 53554-0222

BISHOP, BRADLEY C 1249 US HIGHWAY 18 COBB WI 53526

ROGER L & NAOMI G KINGERY 125 S CLIFTON ST LIVINGSTON WI 53554

DANIEL R & KATHRYN F SOMAN 125 W BARBER AVE LIVINGSTON WI 53554

JAMES R & DEBRA K UDELHOVEN 12591 STIVARIUS LN FENNIMORE WI 53809-9723 KERT A ALDERSON 115 N CLIFTON ST LIVINGSTON WI 53554-0225

JENNIFER J AMEND 115 S GRAND ST LIVINGSTON WI 53554

WILLIAM J & DONNA MAE MCLIMANS 115 STATE ROAD 80 N LIVINGSTON WI 53554-0196

RILEE B REVOCABLE TRUST 116 BOLLANT RD LIVINGSTON WI 53554

RURAL ROUTE 1 INC 11623 STATE RD 80 LIVINGSTON WI 53554

WASHBURN FARM LLC 11808 ROCK CHURCH RD LIVINGSTON WI 53554

TIMOTHY P & LISA T LUNDELL 1190 GOLDMAN LN LIVINGSTON WI 53554

BRADLEY D & PEGGY J BIDDICK 11921 ROCK CHURCH RD LIVINGSTON WI 53554

LINDA RUNDELL 120 CENTER ST LIVINGSTON WI 53554-0038

JAMES W KNUTSON 120 N CLIFTON ST LIVINGSTON WI 53554 JEREMY K MCDERMOTT 115 N WATSON ST LIVINGSTON WI 53554

CHRISTOPHER & KAMBLY ROTH 115 S WATSON ST LIVINGSTON WI 53554

STEVEN, KARA & DANIEL J VOSBERG; MARK, PHILLIP & JOHN VOSBERG 1150 COLLEEN ST PLATTEVILLE WI 53818

QUENTIN & BETTY JANE MARTIN 11603 FELLAND RD LIVINGSTON WI 53554

TRELAY LAND & CATTLE CO 11623 STATE RD 80 LIVINGSTON WI 53554

WILLIAM L KIRSCHBAUM & CHRISTINE A KIRSCHBAUM IRREVOCABLE TR 11830 ANNATON RD STITZER WI 53825-9736

DALE J AUSTIN & VIOLET M AUSTIN 1191 AUSTIN RD PLATTEVILLE WI 53818

MARK R DAILEY REVOCABLE TRUST 1197 HOPEWELL RD LIVINGSTON WI 53554-9782

LOEFFELHOLZ, TIMOTHY 120 COUNTY ROAD E EAST LIVINGSTON WI 53554

RICKY L COLSON & TAMMY J COLSON 120 N GRAND ST LIVINGSTON WI 53554 GRANVILLE INCOME TRUST 115 S CLIFTON ST LIVINGSTON WI 53554

ROCK CHURCH MEMORIAL SOCIETY INC 115 STATE ROAD 80 LIVINGSTON WI 53554

JOSEPH & LAURIE HOFFMAN 11570 ROCK CHURCH RD LIVINGSTON WI 53554

BIDDICK INC 11623 STATE RD 80 LIVINGSTON WI 53554

MANESTAY VENTURES LLC 11623 STATE ROAD 80 N LIVINGSTON WI 53554

PAMELA R UDELHOVEN 11870 ROCK CHURCH RD LIVINGSTON WI 53554-9730

GARY E & SUSAN A TOMAS 11921 LA PLATTE RD LIVINGSTON WI 53554-9734

MONROE L & BETTY W NISLEY 1199 OLD E LIVINGSTON WI 53554

T & K INVESTMENT PROPERTIES LLC 120 COUNTY ROAD E EAST LIVINGSTON WI 53554

DAVID C & DEBRA L THORMANN 120 N GROVE ST LIVINGSTON WI 53554-0153

MIFFLIN LUMBER COMPANY 1432 COUNTY ROAD G REWEY WI 53580

WASHBURN FARM, LLC; IRVIN L KOETHE REVOCABLE TRUST; LULA M KOETHE 145 ABEL DR GUTTFENBERG 14 52052 THEODORE J GRISWOLD JR & LINDA L GRISWOLD 1460 CROW BRANCH LN LIVINGSTON WI 53554

SOUTHWESTERN WISCONSIN COMMUNITY ACTION PROGRAM INC 149 N IOWA ST DODGEVILLE WI 53533

DJDAW IRREVOCABLE TRUST 1508 US HIGHWAY 18 FENNIMORE WI 53809

D & S JON-DEE ACRES LAND LLC 1528 NEW CALIFORNIA RD LIVINGSTON WI 53554-9724

MARTIN J MELSSEN 1558 COUNTY ROAD E LIVINGSTON WI 53554

WILLIAM & RUTH ANN SPURLEY 1580 ROASTER RD MONTFORT WI 53569

MYERS INCOME TRUST 1612 EGGUM RD MT HOREB WI 53572

EINERSON, AUSTIN D 162 RUNDELL RD LIVINGSTON WI 53554 WENDY JO GOULET; FLOYD & CONSTANCE CUSHMAN LE 1435 CODY PKWY APT C PLATTEVILLE WI 53818

DONALD K SKAIFE & CHERYL L SKAIFE JOINT REVOCABLE TRUST 1460 CROW BRANCH LN LIVINGSTON WI 53554

DENNIS M & DEBORAH K DIXON 1465 NEW CALIFORNIA RD LIVINGSTON WI 53554

FRANCIS A BERRY & LOUANN M COOK 150 WOODWARD AVE LIVINGSTON WI 53554

CLIFTON TOWNSHIP 1528 NEW CALIFORNIA RD LIVINGSTON WI 53554

ROBERTS, GARY A JR & ROBERS, JULIE L 1547 COUNTY ROAD E REWEY WI 53580

JESSE TROXEL & TRACEY TROXEL 156 BLUEBIRD LN GAYS MILLS WI 54631

LARRY HORNING 1604 W COUNTY ROAD E LIVINGSTON WI 53554

LEO J JR & VICKIE J STRAKA 1613 COUNTY ROAD E LIVINGSTON WI 53554

DUSTIN BOLLANT & LESLIE BOLLANT 1624 HOPEWELL RD STITZER WI 53825 DAVID L KITE & KATHLEEN A KITE IRREVOCABLE TRUST 1437 HOPEWELL RD LIVINGSTON WI 53554-9731

LINDA L GRISWOLD & KATHLEEN & MARY GRISWOLD 1460 CROW BRANCH LN LIVINGSTON WI 53554

GEORGE J & JULIANN M WINDERS 1480 13TH ST FENNIMORE WI 53809-1912

DONALD L JR & KATHRYN A AUSTIN 1503 AUSTIN RD PLATTEVILLE WI 53818

KMOO JON-DEE ACRES LAND LLC 1528 NEW CALIFORNIA RD LIVINGSTON WI 53554

LLOYD J GERARDY 155 NEW CALIFORNIA RD LIVINGSTON WI 53554

S & M LAND LLC & D & S LAND LLC 156 WALNUT RD PLATTEVILLE WI 53818

CHARLES E & LAURA L SLOVINSKI 1607 COUNTY ROAD E LIVINGSTON WI 53554

MELVIN L & KATHLEEN MICHEK 1617 HOPEWELL RD STITZER WI 53825

RYAN L & AUDRA L KUHLS 1662 COUNTY ROAD E LIVINGSTON WI 53554 REITER, VICKY M & REITER, JAKE J 127 COUNTY ROAD A REWEY WI 53580

KYLE BURKHOLDER 130 GROVE ST LIVINGSTON WI 53554

VINCENT T WALMER & BILLIE JO WALMER 130 S FRANKLIN ST LIVINGSTON WI 53554

TODD ORTON 130 W WOODWARD AVE LIVINGSTON WI 53554

JEREMY IVERSON 1320 GOLDMAN LN LIVINGSTON WI 53554

DONALD R & PATRICIA E SCHROEDER 135 W BARBER AVE LIVINGSTON WI 53554

VAULT PROPERTIES LLC 13805 CENTERVILLE RD HIGHLAND WI 53543

DAVID L SERSCH & EILEEN F STUNTEBECK 14 JAARSMA CT MADISON WI 53716

KYLE PAGEL & NAOMI MICHECK 140 WOODWARD AVE LIVINGSTON WI 53554

JAMES R & AMY J KITE 1416 HOPEWELL RD LIVINGSTON WI 53554-9731 DAVID & RAMONA ORTON 1276 CROW BRANCH RD LIVINGSTON WI 53554

STIVARIUS, DANIEL 130 HWY 80 SOUTH LIVINGSTON WI 53554

MISTY A MARSHALL 130 S GROVE ST LIVINGSTON WI 53554

ERIC & JILLENE BIERMAN 130 WATSON ST LIVINGSTON WI 53554

SYLVAN F. & REBECCA S. LAPP 134 CUSHMAN RD LIVINGSTON WI 53554

SANDRA L WUNDERLIN 135 WOODWARD AVE LIVINGSTON WI 53554-0064

ELI A BONTRAGER & LORENE H BONTRAGER 1398 COUNTY ROAD E LIVINGSTON WI 53554

THOMAS L & LOIS M BROWN 140 S FRANKLIN ST LIVINGSTON WI 53554-0205

C & NW TRANSPORTATION CO 1400 DOUGLAS STOP 1640 OMAHA NE 68179

DREWRY TRUST & ANDREW & JANE DREWRY 1421 VILAS AV MADISON WI 53711 GLENDA M HOLZER 12937 2ND ST FENNIMORE WI 53809

GERALD P BERG 130 N CENTER ST LIVINGSTON WI 53554-0022

JAYMI L ELLERY & JASON H ORR 130 S PARK ST LIVINGSTON WI 53554

MICHAEL J & SANDRA K HERGES 1306 COUNTY ROAD E LIVINGSTON WI 53554

CENTURYTEL OF CENTRAL WISCONSIN LLC 135 N BONSON ST PLATTEVILLE WI 53818

NIHLES IRREVOCABLE TRUST 1358 AUSTIN RD PLATTEVILLE WI 53818

C & N JON-DEE ACRES LAND LLC 1399 COUNTY ROAD E LIVINGSTON WI 53554-9724

CHRISTIE L CUSHMAN 140 W BARBER AVE LIVINGSTON WI 53554

CAROL I AULTMAN 14051 CENTERVILLE RD HIGHLAND WI 53543

THOMAS BOLLANT & ANNETTE BOLLANT 1424 EBENEZER RD FENNIMORE WI 53809 AMANDA M. BARTH 210 N GROVE ST LIVINGSTON WI 53554-0054

WAYNE W PAYNE 210 S PARK ST LIVINGSTON WI 53554-0265

JEAN S WAGNER 211 OWEN RD APT 417 MONONA WI 53716

BEVERLY J CARL 215 PARK ST LIVINGSTON WI 53554

ROGER L & JERALDINE A DURNI 215 S PARK ST LIVINGSTON WI 53554-0236

CALEB Z SHORES 215 WOODWARD AVE LIVINGSTON WI 53554

LIVINGSTON FREE METHODIST CHURCH INC 220 N PARK ST LIVINGSTON WI 53554

ALEXANDER A RUGGIERI & ALICIA G RUGGIERI 225 BARBER ST LIVINGSTON WI 53554

THE LIVINGSTON JUNK COMPANY LLC 225 S FRANKLIN ST LIVINGSTON WI 53554

ERIK ZIMMERMAN 2253 W LAWN AVE MADISON WI 53711 CAROL K FRANCIS 210 S FRANKLIN ST LIVINGSTON WI 53554

TIMOTHY ALLEN RUTKOWSKI 210 W COUNTY ROAD E LIVINGSTON WI 53554

DEREK LOY 215 BAYLEY ST PLATTEVILLE WI 53818

DALE E COULTHARD 215 S FRANKLIN ST LIVINGSTON WI 53554

PATRIC CONNER & TODD & LISA HAGLUND 215 S STATE ROAD 80 LIVINGSTON WI 53554

STEVEN R & HOLLY L ALLEN 2173 LAKE RD LANCASTER WI 53813

WILLIAM A & DEBORA L WILSON 220 S CENTER ST LIVINGSTON WI 53554

KENNETH J LEY & JOYCE M LEY 225 S CLIFTON ST LIVINGSTON WI 53554

JEFFERY A & CHERYLL A KING 225 S GROVE ST LIVINGSTON WI 53554-9757 JAMIE DUVE & JEREMY DUVE 226 N PARK ST BELMONT WI 53510 SHIRLEY BROKOPP 210 S GROVE ST LIVINGSTON WI 53554-0034

PATRICK M & KATHY E NECHVATAL 210 W FLORENCE ST LIVINGSTON WI 53554-0217

KAREN A YELINEK 215 N CLIFTON ST LIVINGSTON WI 53554

DOUGLAS C & SHIRLEY MCCARTNEY 215 S GRAND ST LIVINGSTON WI 53554-0095

RONALD N & ELLEN M EGGERS 215 W BARBER ST LIVINGSTON WI 53554

ABRAHAM & AMY HOEPER 220 FLORENCE ST LIVINGSTON WI 53554

WALTER, BRAD R 2232 US HIGHWAY 18 DODGEVILLE WI 53533

GREGORY A ANDERSON

STEPHANIE A STRAKA 225 S FRANKLIN ST LIVINGSTON WI 53554

CHAD & DEANNA HAHN 225 STATE ROAD 80 N LIVINGSTON WI 53554

AARON J ZIMMER & JAMES R ZIMMER LE 230 CENTER ST LIVINGSTON WI 53554 HELEN M. KLAAS 1671 COUNTY ROAD E LIVINGSTON WI 53554

GOOD HOPE LAND COMPANY LLC 170 LINDEN ST WINNETKA IL 60093

GARY M & VICKI L ALLEN 1791 LAKE RD PLATTEVILLE WI 53818

AARON & KATIE SEDBROOK 180 CHERWILL ST LIVINGSTON WI 53554

ANNA J VOSBERG 1921 NEW CALIFORNIA RD PLATTEVILLE WI 53818

DAVID W & MARY JO ALLEN 1965 LAKE RD PLATTEVILLE WI 53818

GRANVILLE INCOME TRUST 200 S CLIFTON ST LIVINGSTON WI 53554

SPRINGER, JAMES H & SPRINGER, PATRICE Y 2046 COUNTY ROAD XX LIVINGSTON WI 53554

DENNIS W BIBA 205 N CLIFTON ST LIVINGSTON WI 53554

JAMES HEINS 205 S GRAND ST LIVINGSTON WI 53554 JASON & JACLYN BEVAN 1681 AUSTIN RD PLATTEVILLE WI 53818

RONALD & BARBARA SCHAEFER 1731 NEW CALIFORNIA RD LIVINGSTON WI 53554

GIROTTO, JAY & LYNN ETAL 18 CRESCENT KEY BELLEVUE WA 98006

RITA K CROWLEY 1860 17TH ST FENNIMORE WI 53809

KEVIN A HALL 1942 RIDGE RD LIVINGSTON WI 53554

G.R. BARTH REAL ESTATE, LLC 19663 US HIGHWAY 151 BELMONT WI 53510

SABINO H RAMOS & MARISOL C RAMIREZ 202 BENSON ST COBB WI 53526

RODNEY C & LAVON M ALLEN 205 COUNTY ROAD E LIVINGSTON WI 53554

STANLEY L SKAIFE & CONNIE E SKAIFE 205 S CLIFTON ST LIVINGSTON WI 53554

BRADLEY J & LAURA A WETZEL 205 STATE ROAD 80 LIVINGSTON WI 53554-0236 JAMES K LEPESKA 1683 HOPEWELL RD STITZER WI 53825

DAVID E BEVAN & JOYCE E BEVAN 1744 COUNTY ROAD A & D PLATTEVILLE WI 53818

PARJIM FARMLAND HOLDINGS LLC 18 CRESCENT KEY BELLEVUE WA 98006

CHRISTOPHER W ALLEN 1917 LAKE RD PLATTEVILLE WI 53818

ROBERT & ROSELYNN STIVARIUS; RITA M HARMON 1955 12TH ST FENNIMORE WI 53809-1607

LINDA S BROWN 200 CHERWILL ST LIVINGSTON WI 53554

SMITH, GENE N LIVING TRUST 204 COUNTY ROAD X LIVINGSTON WI 53554

JESSICA J. STEFFL 205 GROVE ST LIVINGSTON WI 53554

DANIEL P & JULIE C HAUK 205 S FRANKLIN ST LIVINGSTON WI 53554

GLEN C & TINA L PAULSON 210 BARBER AVE LIVINGSTON WI 53554 EPHRAIM S ALLGYER & SARAH S ALLGYER 30020 CENTER DRIVE RD PLATTEVILLE WI 53818

SHARIE M ALLEN 305 JACKSON ST LIVINGSTON WI 53554

KENNETH E WELLS 305 W THOMPSON ST LIVINGSTON WI 53554

PAUL R & DEENA L LYGHT 310 STATE ROAD 23 MINERAL POINT WI 53565

KORY A KAMMES 3102 COUNTY ROAD Y DODGEVILLE WI 53533

MATTHEW L AULTMAN 315 GRAND ST LIVINGSTON WI 53554

COLLISION SPECIALISTS SSE INC 320 BARBER AVE LIVINGSTON WI 53554

RYAN D BROWN & BRITTANY A BROWN 320 N WATSON ST LIVINGSTON WI 53554

DEBBIE REINHART & FRANK REINHART 320 W JACKSON ST LIVINGSTON WI 53554

DANIEL A RESCHKE 325 NEW CALIFORNIA RD LIVINGSTON WI 53554 KYLIAN M & SARA E WRZESINSKI 3019 ELM LN MIDDLETON WI 53562

AUDRA L KUHLS; JOHN & DEANNA MERWIN LE 305 S FRANKLIN ST LIVINGSTON WI 53554

SPITZER, JEFFREY G REVOCABLE TRUST; MCNEEL, JUDITH SPITZER REVOCABLE TRUST 310 COUNTY ROAD X LIVINGSTON WI 53554 STEVEN J STASKAL & HEIDI J LYONS 310 W COUNTY ROAD E LIVINGSTON WI 53554

MICK, KATHRYN M 3133 STATE ROAD 80 MONTFORT WI 53569

BRADLEY D LUNDELL 315 S FRANKLIN ST LIVINGSTON WI 53554

JOHN P & CYNTHIA A VONDRA 320 FRANKLIN ST LIVINGSTON WI 53554-0124

HOLLY NIHLES 320 S CLIFTON ST LIVINGSTON WI 53554

KELVIN G. CURTIS 325 N GRAND ST LIVINGSTON WI 53554

TARI NOVINSKA 325 S FRANKLIN ST LIVINGSTON WI 53554 IMPERIA FOODS LLC 303 E US HIGHWAY 18 MONTFORT WI 53569

JEREMIE D. KLAAS 305 S GROVE ST LIVINGSTON WI 53554

MARY T SAXON 310 S FRANKLIN ST LIVINGSTON WI 53554

REBECCA & CURTIS VACHA 310 W FLORENCE ST LIVINGSTON WI 53554-0013

DAVID J. & LINDA L. FRIESEN 315 E GROVE ST LIVINGSTON WI 53554

MITCHELL L MOHLMANN 317 S CLIFTON ST LIVINGSTON WI 53554

RONALD A & HEIDI L HAAS 320 N PARK ST LIVINGSTON WI 53554-0134

HERBERT J. & KATHY A. SCHULTZ 320 S PARK ST LIVINGSTON WI 53554

DANIEL L EDWINSON 325 N PARK ST LIVINGSTON WI 53554-0141

TRACY A LYGHT 340 WATSON ST LIVINGSTON WI 53554 KATHERINE J TYDRICH 230 GROVE ST LIVINGSTON WI 53554

MARK S. MARSHALL 230 S PARK ST LIVINGSTON WI 53554

DOUGLAS M CUSHMAN & JODY M CUSHMAN 23661 COUNTY ROAD Q SHULLSBURG WI 53586

WALTER, ROGER L REVOCABLE TRUST 251 ARGALL RD REWEY WI 53580

DAN H HERSHBERGER & MALINDA M HERSHBERGER 2575 EBENEZER RD FENNIMORE WI 53809

ADAM J MUELLER & KARSEY A MUELLER 2627 COUNTY ROAD XX LIVINGSTON WI 53554

LANGFOSS, GLENN & LANGFOSS, VICKIE 2700 COUNTY ROAD XX LIVINGSTON WI 53554

FITZSIMMONS, DONELLE A 2763 STATE ROAD 80 MONTFORT WI 53569

JAMES D KITE & LINDA J KITE 2819 STATE ROAD 80 MONTFORT WI 53569

SHEMAK, PAUL & BUTTERIS, LORI 2951 STATE ROAD 80 MONTFORT WI 53569 DAVID R MARSHALL 230 N STATE ROAD 80 LIVINGSTON WI 53554

STEVEN HURST & PHYLLIS HURST 233 E MAPLE GROVE RD NARVON PA 17555

TONKIN, BRUCE TRUST & TONKIN, SUSAN TRUST 2417 E MENLO ST MESA AZ 85213

ANN M KEMINK 251 ARGALL RD REWEY WI 53580

SCHOOL 2575 EBENEZER RD FENNIMORE WI 53809

K SALON & SPA LLC 265 CENTER LIVINGSTON WI 53554-0045

FAULL, COLE, ERIC, DAVID, GLENDA 271 COUNTY ROAD B MONTFORT WI 53569

CLIFTON, JOSEPH, LAVERNE, LOIS 277 US HIGHWAY 18 MONTFORT WI 53569

SCHMITZ, GENE A & SCHMITZ, ANNA M 284 COUNTY ROAD B MONTFORT WI 53569

STANTON, DARRIN L 298 RUNDELL RD LIVINGSTON WI 53554 PATRICIA RUNDE 230 S CLIFTON ST LIVINGSTON WI 53554

JOHN J. & SHERRILYN M. SCHURMAN 235 N GRAND ST LIVINGSTON WI 53554-0127

SNYDER, NORMAN B & SNYDER, MINERVA M 250 RUNDELL RD LIVINGSTON WI 53554

PROCHASKA, JEAN M IRREVOCABLE TRUST 2555 STATE ROAD 80 MONTFORT WI 53569

RYAN C & TRACY A CUSHMAN 25965 RIDGE LA BELMONT WI 53510

DANIEL D JR & IVA S HELMUTH 2665 655TH AVE ALBIA IA 52531

MILLER, ROBERT L & MILLER, COLLEEN R 276 COUNTY ROAD A REWEY WI 53580

WENDHAUSEN, RICHARD W REVOCABLE TRUST 2776 JEWELL RD DODGEVILLE WI 53533

JAMES W & CONNIE S ASHMORE 294 CUSHMAN RD LIVINGSTON WI 53554-9712

MELVIN E VACHA & THERESE VACHA 30 MAPLE DR PLATTEVILLE WI 53818 CATHERINE L OSTREM 415 S JILL ST LIVINGSTON WI 53554-9755

M E CHURCH 415 W WOODWARD AVE LIVINGSTON WI 53554-0059

VIVIEN G WELSH 420 S CLIFTON ST LIVINGSTON WI 53554

JOHN JELLE & KLARA JELLE 420 WOODWARD AVE LIVINGSTON WI 53554

DOUGLAS L & SUE A VAVRICKA 425 S PARK ST LIVINGSTON WI 53554

JOHN P SCULLION 4287 TOWER ST HIGHLAND WI 53543

NEUENDORF INCOME TRUST 4309 SOMERSET LN MADISON WI 53711

JOHN NICKSIC & BRITTANY M NICKSIC 440 S CLIFTON ST LIVINGSTON WI 53554

KOHLENBERG INVESTMENTS LLC 4427 US HIGHWAY 18 E FENNIMORE WI 53809

MATSON FAMILY TRUST 46 W 289 ELLITHORPE RD HAMPSHIRE FL 60140 BRENT S & YVONNE V BURGHY 415 S PARK ST LIVINGSTON WI 53554-9747

C & B FARMS, LLC 419 DOTY ST MINERAL POINT WI 53565

MEGAN J ANDREW 420 W FLORENCE ST LIVINGSTON WI 53554

TONY SIMMERMAN 4221 S 6TH ST LOT 37 MILWAUKEE WI 53221

CHURCH 425 W BARBER AVE LIVINGSTON WI 53554

THOMAS M & LECIA J LENZ 430 S CLIFTON ST LIVINGSTON WI 53554

BIDDICK, JAMES R REVOCABLE TRUST; BIDDICK, LINDALEE A REVOCABLE TRUST 435 COUNTY ROAD E REWEY WI 53580

JUSTIN T WARNE & JESSICA L WARNE 440 S PARK ST LIVINGSTON WI 53554

GARY J POPE 450 S CLIFTON ST LIVINGSTON WI 53554

ROBERT R & BETSY A HUEHNE & JOYCE A HUEHNE LE 461 CUSHMAN RD LIVINGSTON WI 53554-9712 ROGER P & CHRISTIE L KNUTSON 415 W FLORENCE ST LIVINGSTON WI 53554-0086

JACOB HIBNER 420 PARK ST LIVINGSTON WI 53554

LESLEY K MOORE 420 W THOMPSON ST LIVINGSTON WI 53554

CHURCH 425 BARBER AVE LIVINGSTON WI 53554-0175

BRIAN A. SNYDER 425 W FLORENCE ST LIVINGSTON WI 53554

ROGER J IVERSON 430 S PARK ST LIVINGSTON WI 53554-9747

ELDON PLACE 435 S PARK ST LIVINGSTON WI 53554-9747

DAVID K REISEN 4411 NE 21ST AVE FT LAUDERDALE FL 33308

ROBERT W & MARY A FAWCETT 455 S PARK ST LIVINGSTON WI 53554-9747

MICHAEL D CHANDLER 470 CUSHMAN RD PLATTEVILLE WI 53818 KRAMER FARMS, LLC 3419 SWANSEE RDG SUN PRAIRIE WI 53590

TINA M TROST 362 CUSHMAN RD LIVINGSTON WI 53554-9712

BLUE RIVER RENTALS LLC 3630 TURNING LEAF DR MADISON WI 53719

CURTIS A ZIMMERMAN 396 JONES BRANCH RD MINERAL POINT WI 53565

PLUEMER'S GARAGE INC 403 E US HIGHWAY 18 MONTFORT WI 53569

DALE M KIRCH & BETH J KIRCH 405 CLIFTON ST LIVINGSTON WI 53554

ISABEL IVERSON 405 W THOMPSON ST LIVINGSTON WI 53554

MOLLY L FITZSIMMONS 410 S CLIFTON ST LIVINGSTON WI 53554

GREGORY D & BARBARA A FAWCETT 410 W COUNTY ROAD E LIVINGSTON WI 53554

ERIC J GLASSON 412 EBENEZER RD MONTFORT WI 53569 BAILIE FARMS LLC 349 COUNTY ROAD IG LIVINGSTON WI 53554

JEFFREY J WALKER 3625 COUNTY ROAD Q DODGEVILLE WI 53533

BRIAN D WELSH & LILLY ANN WELSH 374 MARTINVILLE RD LIVINGSTON WI 53554-9400

JEFFREY & TERESA METZ REVOCABLE LIVING TRUST 4000 STATE ROAD 78 GRATIOT WI 53541

ORTON FARMS LLC 403 LYNNE LN BELVIDERE IL 61008

ROBERT W & MARY L PIERCE 405 S PARK ST LIVINGSTON WI 53554-9747

JOAN E NODOLF & JENNIFER L SANBORN 407 LAKEWOOD TER MARSHALL WI 53559

RAEL L. STECKLEIN 410 S JEAN ST LIVINGSTON WI 53554

JAMES D KOHLENBERG & JANET R KOHLENBERG IRREVOCABLE TRUST 410 W FLORENCE ST LIVINGSTON WI 53554-9752

ROBERT L RUNDELL 412 NEW CALIFORNIA RD LIVINGSTON WI 53554-9616 WISCONSIN DEPT OF TRANSPORTATION 3550 MORMON COULEE RD LACROSSE WI 54601

EDWARD BATTON & SHERRY L BATTON 3630 BLUE RIVER RD MONTFORT WI 53569

PHILLIP G CHRISTIANSEN 380 OGDEN RD REWEY WI 53580

BARBARA A PLUEMER 403 E US HIGHWAY 18 MONTFORT WI 53569

CASEY D ROELLI & SAMMY J ROELLI 404 ELM ST COBB WI 53526

GLORIA E BUSSAN 405 W JACKSON ST LIVINGSTON WI 53554

ROSEMARY J GLUEGE 410 N PARK ST LIVINGSTON WI 53554-0203

CLEM E & PHYLLIS M WIEGMAN 410 S JILL ST LIVINGSTON WI 53554-0044

ROBERT E & SHIRLEY PLACE, LE; PATRICIA & RICHARD RANDALL 410 W THOMPSON ST LIVINGSTON WI 53554-0092

FRANCIS & KATHRYN PLUEMER 415 JEAN ST LIVINGSTON WI 53554 THE TWENTY LLC 5242 BIG PLATTE RD POTOSI WI 53820

ZACKARY D & SARAH B HAKE 530 W BARBER AVE LIVINGSTON WI 53554

BARTON J & CYNTHIA M BAKER 535 W BARBER ST LIVINGSTON WI 53554-9701

DORIS E KLEIN 540 W BARBER AVE LIVINGSTON WI 53554

RODNEY P & HEATHER M BURTON 555 W BARBER AVE LIVINGSTON WI 53554

DAVID L WASHBURN & LINDA A WASHBURN REVOCABLE TRUST 603 OLD HIGHWAY 18 MONTFORT WI 53569

JENNIFER E POTTER & JASON P POTTER 605 W WOODWARD AVE LIVINGSTON WI 53554

JOEL WASHBURN & GIA MCINTOSH 615 COUNTY ROAD E LIVINGSTON WI 53554

JEFFREY O'NEAL 625 COUNTY ROAD E LIVINGSTON WI 53554

John & Jean Heiner 6414 EL CAMINO REAL HARLINGEN TX 78552 HARLINGEN TX 78552 JOHN H & TAMMY L KOHLENBERG 525 WOODWARD ST LIVINGSTON WI 53554-0012

NEIL I MILLARD 530 WOODWARD AVE LIVINGSTON WI 53554-0238

NATHANIEL A HOEPER; RONALD J HOEPER LE 535 W SAMPSON ST LIVINGSTON WI 53554-0166

JOHN P HILL & CARA J HILL 550 SEVENTH AVE PLATTEVILLE WI 53818

SCHAMBOW, KEITH & SCHAMBOW, ROGER 558 ENLOE RD REWEY WI 53580

THOMAS L WILCOX 604 JOE'S LN PLATTEVILLE WI 53818

MARK D WINTERS 6082 BORDEN RD BOSCOBEL WI 53805

CAMERON L WAHL 615 WOODWARD AVE LIVINGSTON WI 53554

DEAN D ACHENBACH & MARY C ACHENBACH 62555 CARRIAGE CIR PRAIRIE DU CHIEN WI 53821

HENRY & CLARA HERSHBERGER 649 EBENEZER RD MONTFORT WI 53569 HAROLD T. HILBY 530 SAMPSON ST LIVINGSTON WI 53554

KYLE W RICHARDS 5324 BIG SPRING RD HIGHLAND WI 53543

RICKY & ALISA IVERSON 539 MARTINVILLE RD LIVINGSTON WI 53554

KENNETH BURTON 550 W BARBER AVE LIVINGSTON WI 53554-9701

BREKKE BRUCE REVOCABLE TRUST 5890 BOULDER BRIDGE LN EXCELSIOR MN 55331

RODNEY A LINDNER 605 W FLORENCE ST LIVINGSTON WI 53554

JOHN P JR & DEBRA M HILL 610 W BARBER ST LIVINGSTON WI 53554-9742

CHAMBLISS-DEROUEN TRUST 6225 MINERAL POINT RD APT B44 MADISON WI 53705

STAR VALLEY RANCH LLC 641 HARVEST LN VERONA WI 53593

MYERS, EUGENE D & MYERS, BARBARA 655 COUNTY LINE RD REWEY WI 53580 THOMAS F JINKINS & PHILIP P JINKINS 470 ROCK CHURCH RD LIVINGSTON WI 53554

CHELSEA L DAVIS 477 CUSHMAN RD PLATTEVILLE WI 53818

RUPP, JANICE M 479 COUNTY ROAD E REWEY WI 53580

JOHN R THOMPSON 505 COUNTY ROAD E LIVINGSTON WI 53554-0096

THOMAS D REITER & DANIELLE J REITER 505 WOODWARD AVE LIVINGSTON WI 53554

SPRINGDALE FARMS INC 510 HOPEWELL RD LIVINGSTON WI 53554-9735

ERIC J & HOLLY J J SCHMITZ 510 W JACKSON ST LIVINGSTON WI 53554-0207

TERRY LEE FAWCETT 515 W BARBER AVE LIVINGSTON WI 53554

MIZE REVOCABLE TRUST 5160 NELS RD HIGHLANDS WI 53543

WILLIAM C & DONNA JEAN STRAKA 520 W BARBER AVE LIVINGSTON WI 53554-0016 MICHAEL D NODOLF & MOLLY J NODOLF 474 COUNTY ROAD A PLATTEVILLE WI 53818

EPHRAIM S ALLGYER & SARAH S ALLGYER 477 NEW CALIFORNIA RD LIVINGSTON WI 53554-9711

JENNIFER S NODOLF 485 CUSHMAN RD PLATTEVILLE WI 53818

LAVERN J MARSHALL 505 SAMPSON ST LIVINGSTON WI 53554-9426

BRADLEY D & BRUCE A LAUFENBERG; BRIAN LAUFENBERG 509 DIAGONAL ST HIGHLAND WI 53543

BETTY MILLARD 510 W BARBER AVE LIVINGSTON WI 53554-0021

CHURCH 510 WOODWARD AVE LIVINGSTON WI 53554

REAGAN M COLLINS 515 W FLORENCE ST LIVINGSTON WI 53554

MICHAEL E & JENNIFER L COCKROFT 520 COUNTY ROAD E LIVINGSTON WI 53554

WILLIAM & JON SLACK 520 W JACKSON ST LIVINGSTON WI 53554-9777 D & S LAND LLC 474 COUNTY ROAD A PLATTEVILLE WI 53818-9336

EPHRAIM S ALLGYER & SARAH S ALLGYER 478 NEW CALIFORNIA RD LIVINGSTON WI 53554-9711

RBM LAND LLC 500 US HIGHWAY 18 MONTFORT WI 53569

GREGORY J & TERESA M BURTON 505 W FLORENCE ST LIVINGSTON WI 53554

RANDALL A & LAURIE SEDBROOK 510 COUNTY ROAD E LIVINGSTON WI 53554

JACOB C YELINEK 510 W FLORENCE ST LIVINGSTON WI 53554

AUDREY J LOY 511 COUNTY ROAD E LIVINGSTON WI 53554-9765

GARRETT J KITE 515 WOODWARD AVE LIVINGSTON WI 53554

LORI J LENZ 520 MINERAL ST MINERAL POINT WI 53565

CALEB C WOLFF 520 W WOODWARD AVE LIVINGSTON WI 53554 ADAM FRIEDEN & MEGAN MCWILLIAMS 785 W BARBER AVE LIVINGSTON WI 53554

CHURCH 7939 COUNTY ROAD D PLATTEVILLE WI 53818

DOUGLAS R & SHELLY R CASPER 801 RIDGE AVE W LIVINGSTON WI 53554

CHARLES S HORN & DIANE R REUTER 803 W RIDGE AVE LIVINGSTON WI 53554

EARL MCLEAN & HEATHER M REDDY 805 W RIDGE AVE LIVINGSTON WI 53554

HAROLD G REDDY & JUDITH K REDDY REVOCABLE TRUST 809 W RIDGE AVE LIVINGSTON WI 53554

TIMOTHY A PETERSON & KRYSTA M RINDY 810 W COUNTY ROAD E LIVINGSTON WI 53554

GARY STUCKEY & JOANNA STUCKEY 815 COUNTY ROAD E LIVINGSTON WI 53554

STEVEN P & SUSAN M BARTH 827 ROCK CHURCH RD LIVINGSTON WI 53554-9708

RONI E BIEFER 885 EBENEZER RD MONTFORT WI 53569 RONALD JAMES & RMRV LIMITED PARTNERSHIP 788 COUNTY ROAD X LIVINGSTON WI 53554-0156

JOHN A. & JEAN SLACK, LE; GREGORY, TERRANCE SLACK 799 NEW CALIFORNIA RD LIVINGSTON WI 53554-9716

BRAD J LINDNER & JAYE A LINDNER 802 COUNTY ROAD A PLATTEVILLE WI 53818

KATHLEEN J STRAKA 804 STATE ROAD 80 S MONTFORT WI 53569

RYAN C & DONITA M PILLING 806 S STATE ROAD 80 MONTFORT WI 53569

REDDY ASSETS LLC 809 W RIDGE AVE LIVINGSTON WI 53554

PATRICK A LOEFFELHOLZ & BRITTANY A LOEFFELHOLZ 810 W RIDGE AVE LIVINGSTON WI 53554

SCHOOL 820 W COUNTY ROAD E LIVINGSTON WI 53554

DONNA K JINKINS 830 FLORENCE ST LIVINGSTON WI 53554

VERONICA BRIMMER 885 MARTINVILLE RD LIVINGSTON WI 53554 WALTER, PATRICIA A 789 COUNTY LINE RD REWEY WI 53580

SNYDER, NORMAN LAMAR & SNYDER, ELAINE Z 80 ARGALL RD REWEY WI 53580

BRIAN J RUNDE & STACI L RUNDE 802 W RIDGE AVE LIVINGSTON WI 53554

MICHAEL B & LAURI A SPEASE 805 W COUNTY ROAD E LIVINGSTON WI 53554

NEIL & STACEY CAMPBELL 808 W RIDGE AVE LIVINGSTON WI 53554

MCCARTHY, ROBERT J & MCCARTHY, NICOLE M 81 RUNDELL RD LIVINGSTON WI 53554

NEVIN M & MIRIAM HORNING 811 CLIFTON RD LIVINGSTON WI 53554-9714

STEINBACH, DAVID; STEINBACH, VICTORIA & JASON 8240 COUNTY RD D PLATTEVILLE WI 53818

PHILIP P JINKINS & MELISSA J JINKINS REVOCABLE TRUST 830 W FLORENCE ST LIVINGSTON WI 53554

ERIC M HRUBES 890 OLD HIGHWAY 18 MONTFORT WI 53569 WILLIAM A & CONNIE J EISELE 657 ROCK CHURCH RD LIVINGSTON WI 53554

LLOYD V & BARBARA A AMUNDSON 710 COUNTY ROAD E LIVINGSTON WI 53554-0026

WOLFGANG FEHRENSEN 712 SANCTUARY LA NAPERVILLE IL 60540

WOLF-GEORG FEHRENSEN 712 SANCTUARY LA NAPERVILLE IL 60540

JULIE G LOEFFELHOLZ & STEPHEN D DURST 720 W BARBER AVE LIVINGSTON WI 53554

RICHARD C & BRENDA A TOWSLEY 725 W FLORENCE ST LIVINGSTON WI 53554

ANTHONY J & SUSAN L REYNOLDS 735 W BARBER AVE LIVINGSTON WI 53554

PAUL PITZER & ROBIN L FRANCIS 740 W BARBER AVE LIVINGSTON WI 53554-0097

ERIC R & MARY J JOHANNESEN 750 W BARBER AVE LIVINGSTON WI 53554

MITCHELL L MUNSON 766 W BARBER AVE LIVINGSTON WI 53554 LEON HERSHBERGER & ESTHER HERSHBERGER 690 HOPEWELL RD LIVINGSTON WI 53554

BRUCE & MARY COYIER 710 W FLORENCE ST LIVINGSTON WI 53554

TEVA LLC 712 SANCTUARY LA NAPERVILLE IL 60540

SQUARE A INVESTMENTS LLC 712 SANCTUARY LA NAPERVILLE IL 60540

BRIAN & PATRICIA FOLEY 720 W JACKSON ST LIVINGSTON WI 53554

CARTER REVOCABLE TRUST DATED 7/23/1997 730 W BARBER ST LIVINGSTON WI 53554-9742

PATRICK L YELINEK 738 COUNTY ROAD E LIVINGSTON WI 53554

PETER J & REBECCA D YELINEK 745 BARBER AVE LIVINGSTON WI 53554

DANIEL K & JILL A ALLEN 755 W BARBER AVE LIVINGSTON WI 53554-0214

TODD & TIMM GONINEN; JUNE E GONINEN LE 775 W BARBER AVE LIVINGSTON WI 53554 RYAN M & ANNE M HILL 697 EBENEZER RD MONTFORT WI 53569

GREG D NODOLF 712 12TH ST WELLMAN IA 52356

ANTJE FEHRENSEN 712 SANCTUARY LA NAPERVILLE IL 60540

MARK PALAN & KATHY NECHVATAL 716 ROCK CHURCH RD LIVINGSTON WI 53556

JOSEPH E JORGENSON 725 BARBER ST LIVINGSTON WI 53554

PALMER, DONALD & PALMER, ELLEN 731 COUNTY LINE RD REWEY WI 53580

LEIX, DONALD E & LEIX, TIMOTHY J 74 BADGER HOLLOW RD MONTFORT WI 53569

KIELER REVOCABLE TRUST 748 COUNTY ROAD Z HAZEL GREEN WI 53811

TIMOTHY J WIEGMAN 765 W BARBER AVE LIVINGSTON WI 53554

ALAN L & JANE L CORDTS 781 HOPEWELL RD LIVINGSTON WI 53554-9735 PLUEMER FARMS LLC 987 CLIFTON RD LIVINGSTON WI 53554-9732

KURVIN M & JOANNE S ZIMMERMAN 9981 GREENWOOD RD LIVINGSTON WI 53554

TOM E & KARLA M THOMPSON 9992 STATE ROAD 80 LIVINGSTON WI 53554

PATRICK P & RITA RILEY PO BOX 104 LIVINGSTON WI 53554-0104

ANDREW, GENEVIEVE PO BOX 113 LIVINGSTON WI 53554

HAKE, TINA R DECLARATION OF TRUST PO BOX 127 LANCASTER WI 53813

GREGORY J SLACK & SHARON P SLACK PO BOX 151 LIVINGSTON WI 53554

WILLIAM F GRABER PO BOX 186 LIVINGSTON WI 53554-0177

ALLEN, JEFFREY S & ALLEN, REBECCA J PO BOX 193 LIVINGSTON WI 53554

CEMETERY PO BOX 203 LIVINGSTON WI 53554 ERNEST L DANZ 9936 GREENWOOD RD LIVINGSTON WI 53554-9715

BRIAN B & LISA A OLSON 9989 STATE ROAD 80 LIVINGSTON WI 53554

GAIL E ELLIS N5604 JORDSON COULEE RD WEST SALEM WI 54669

TERRANCE E. MORRISON PO BOX 105 LIVINGSTON WI 53554

TODD & TAMMY HOLDER PO BOX 121 LIVINGSTON WI 53554

MARK A & PAMELA J VONDRA PO BOX 15 LIVINGSTON WI 53554-0191

MONTFORT VILLAGE PO BOX 157 MONTFORT WI 53569

DOUGLAS J KLEIN PO BOX 188 LIVINGSTON WI 53554-5381

WILLIAM J & DONNA MAE MCLIMANS PO BOX 196 LIVINGSTON WI 53554-0196

BRUCE & DONNA MYERS PO BOX 212 LIVINGSTON WI 53554 ROY E & RUTH J DANZ 9936 GREENWOOD RD LIVINGSTON WI 53554-9715

ERIC THOMPSON 9992 STATE ROAD 80 LIVINGSTON WI 53554

GARY F & JEAN E CUMMINS PO BOX 103 LIVINGSTON WI 53554-0103

CINDY FUCHS PO BOX 106 LIVINGSTON WI 53554

DENNIS J & CLARA M BUSSAN PO BOX 126 LIVINGSTON WI 53554-0126

GRANT COUNTY HIGHWAY PO BOX 150 LANCASTER WI 53813

LIVINGSTON, VILLAGE OF PO BOX 175 LIVINGSTON WI 53554

JACQUELINE J KNUTSON PO BOX 192 LIVINGSTON WI 53554-0192

DEAN ETUX MUNSON PO BOX 201 LIVINGSTON WI 53554-0201

DANIEL K ALLEN & JILL A ALLEN PO BOX 214 LIVINGSTON WI 53554 BRIAN L & JEANNE L CHRISTOPHER 897 HOPEWELL LIVINGSTON WI 53554

STORE N STUFF MINI WAREHOUSE 912 LOG TOWN RD MINERAL POINT WI 53565

JUSTIN ORR & JESSICA ORR 925 W COUNTY ROAD E LIVINGSTON WI 53554

KASTNER, THEODORE H & KASTNER, JERI M 939 LOG TOWN RD MINERAL POINT WI 53565

JAMIE L BEVAN 9411 COUNTY ROAD D PLATTEVILLE WI 53818

ALAN C MYERS 9415 PLAZA DR PLATTEVILLE WI 53818

CHEALSEY M LOLWING & CHRISTOPHER T HAMPTON 9447 PLAZA DR PLATTEVILLE WI 53818

JEFFREY W ROLWES 9474 GREENWOOD RD PLATTEVILLE WI 53818

EMERY H HORNING 9660 STATE ROAD 80 LIVINGSTON WI 53554

NATHANIEL J DANZ & JEFFERY A DANZ 972 CLIFTON RD LIVINGSTON WI 53554 C & B FARMS, LLC 905 CENTER ST MINERAL POINT WI 53565

WILLIAM F GRABER 915 W COUNTY ROAD E LIVINGSTON WI 53554

MCCANN, LAWRENCE J IRREVOCABLE TRUST; MCCANN, ELAINE D IRREVOCABLE TRUST 928 COUNTY ROAD E REWEY WI 53580 VICKIE L MACE 9409 PLAZA DR PLATTEVILLE WI 53818

BRUCE A & MARY LOU PLACE 9413 STATE ROAD 80 N PLATTEVILLE WI 53818

PATRICK A CHANDLER 9416/9422 PLAZA DR PLATTEVILLE WI 53818

DOUGLAS L ANDERSON & SANDRA D REUTER 9448 PLAZA DR PLATTEVILLE WI 53818

THOMAS J WIKER 9532 STATE ROAD 80 LIVINGSTON WI 53554

ROBERT J. & COLETTE DEE STIVARIUS 9668 STATE ROAD 80 LIVINGSTON WI 53554

JAMES A & PAULA L DANZ 972 CLIFTON RD LIVINGSTON WI 53554 KENNETH J & KAREN A PLUEMER 906 COUNTY ROAD A PLATTEVILLE WI 53818

BROKOPP, STUART W 92 COUNTY ROAD IG LIVINGSTON WI 53554

MICHAEL J & DEBORAH A HALVERSON 935 COUNTY ROAD E LIVINGSTON WI 53554-0025

JEFFREY L BEVAN & MARGARET A BEVAN 9411 COUNTY ROAD D PLATTEVILLE WI 53818

CFN FEEDS INC 9413 STATE ROAD 80 N PLATTEVILLE WI 53818

ROBERT & JOANN L LETSON 9419 N RAVEN CT MILTON WI 53563

DANIEL V LOEFFELHOLZ 9456 PLAZA DR PLATTEVILLE WI 53818

DAVID L DANZ 9534 UNION RD PLATTEVILLE WI 53818

IVAN M & MABEL M SENSENIG 9705 COUNTY ROAD D PLATTEVILLE WI 53818

JOHN D & NORENE W ZIMMERMAN 9815 COUNTY ROAD D PLATTEVILLE WI 53818



main(952) 937-5150fax(952) 937-5822

May 16, 2022

Re: Whitetail Wind Farm, Grant County, Wisconsin

To Whom It May Concern:

On behalf of Whitetail Wind, LLC (Whitetail), Westwood Professional Services, Inc. (Westwood) provides the following preapplication notice pursuant to Wis. Admin. Code § PSC 128.105(1) for the proposed Whitetail Wind Energy Project (Project), an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Whitetail intends to file a Grant County Conditional Use Permit (CUP) Application no sooner than the 90th day after the date of this notice. Should you have any questions about this Preapplication Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely,

WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Preapplication Notice for the approximate 70 MW Whitetail Wind Energy Project (Project) Pursuant to Wis. Admin. Code § PSC 128.105(1)

Pursuant to Wis. Admin. Code § PSC 128.105(2), the Project owner shall include all of the following in a notice under requirement of Wis. Admin. Code § PSC 128.105(1):

(a) A complete description of the wind energy system, including the number and size of the planned wind turbines.

<u>Location</u>: The Project is proposed to be located in the Towns of Wingville and Clifton, Grant County, Wisconsin. Please see detailed Project overview map attached.

<u>Project Size</u>: The Project is proposed to be approximately 70 MW and will consist of up to approximately 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters ranging from 361 to 492 feet (110 to 150 meters) and hub heights of between 263 to 410 feet (80 to 125 meters), with total turbine heights between 459 to 656 feet (140 to 200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building.

Land Control: Formal leases/easements have been entered into with local landowners providing access to over 5,000 acres in the Project Area.

<u>Grid/Transmission Access</u>: This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

<u>Timing/Commercial</u>: Whitetail intends to submit a Conditional Use Permit Application for the Project to Grant County no earlier than 90 days after delivery of this Notice. It is anticipated the Project will achieve commercial operation in the 4th quarter of 2023.

The Project will meet all requirements of Wis. Admin Code § PSC 128.

(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and permanent meteorological towers.

(c) Contact information for the owner.

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Charlie Hooley (612) 331-1486 info@prcwind.com

(d) A list of all potential permits or approvals the owner anticipates may be necessary for construction of the wind energy system.

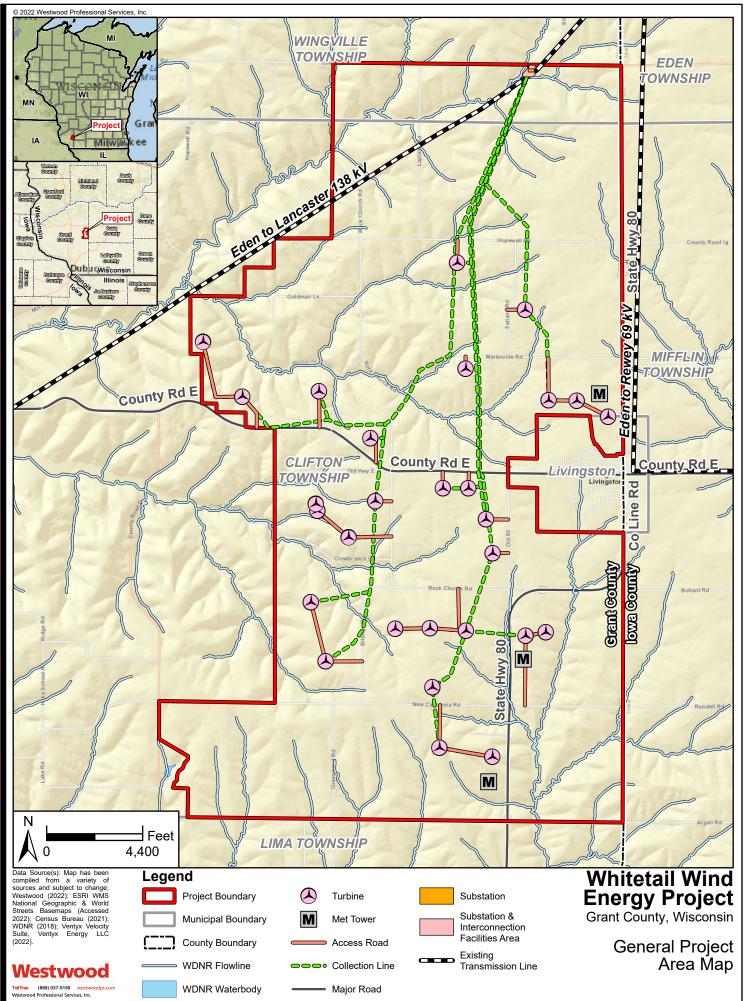
Table 1: Potential Federal, State and Local Permits and Approvals			
Agency		Name and Type of Permit/Approval	
Federal	Federal Aviation Administration	Form 7460-1 Notice of Proposed Construction or Alteration (Determination of No Hazard) Notice of Actual Construction or Alteration (Form 7460-2)	
	U.S. Army Corps of Engineers	Federal Clean Water Act and Nationwide Permit(s); Wetland Delineation Approvals Jurisdictional Determination	
	U.S. Fish and Wildlife Service	Review for Threatened and Endangered Species	
	U.S. Department of Commerce – National Telecommunications and Information Administration ("NTIA")	NTIA Communications Study	
	Environmental Protection Agency	Spill Prevention Control and Countermeasure ("SPCC") Plan	
	National Oceanic and Atmospheric Administration	NexRAD	
State	Wisconsin Department of Natural Resources	Very Small Quantity Generator Hazardous Waste Collection Facility Form	
	Wisconsin Department of Natural	Section 401 Permit	
	Resources	Grading Permit	
		Waterway and Wetland Permit	
		Wetland Water Quality Certification	
		Endangered Species Review	
		Incidental Take Authorization	
		Water Resources Application for Project Permits (WRAPP) for Construction Activities and Storm Water Pollution Prevention Plan	
	Wisconsin State Historical Society	Archaeological and Cultural Resource Review	
	Wisconsin Department of Agriculture,	Aboveground	
	Trade and Consumer Protection	Flammable/Combustible/Hazardous Liquid Storage Tank Registration Form (TR-WM-118)	
	Wisconsin Department of Transportation	Heavy and Oversized Load Permits	

	Table 1: Potential Federal, State and Local Permits and Approvals			
Agency		Name and Type of Permit/Approval		
	Wisconsin Department of Transportation / Grant County	High Structure Permit		
	Wisconsin Department of Transportation	Permit to Construct and Operate Utility Facilities on Highway Right-of-Way		
		Permit for Connection to State Trunk Highway		
		Permit to Work on Highway Right-of-Way		
Local	Grant County	Conditional Use Permit (per Ordinance and Grant County Wind Energy Siting Ordinance, Chapter 70)		
		Zoning Permit		
		Sanitary Permit (for O&M building)		
		Oversize/Overweight Permit (County Roads)		
	Towns	Oversize/Overweight Permit (Town Roads)		
		Driveway Permits		
		Utility Right-of-Way Access Permits		
		Sanitary Permit (for O&M building)		

(e) Whether the owner is requesting a joint application review process under s. PSC 128.30(7) and the name of each political subdivision that may participate in the joint review process.

Whitetail is not requesting joint application review under Wis. Admin. Code § PSC 128.30 (7) at this time.

Attachment Figure 1 Project Layout Map, Whitetail Wind Project (May 2022)



Appendix K

Emergency Response Plan Template

Whitetail Wind Energy Project

Grant County, Wisconsin

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Whitetail Wind, LLC Emergency Response Plan

APRIL 2023

Key Contact List for Whitetail Wind Energy Project				
Agency	Area	Phone Number		
Emergency Contacts				
Ambulance/Fire/Police/Rescue		911		
Grant County Sheriff	Grant County	608-723-2157		
Grant County Emergency Management	Grant County	608-723-7171		
Livingston Clifton Fire Department	Livingston, WI	608-943-6199		
Lancaster Police Department	Lancaster, WI	608-723-4188		
Environm	ental Emergencies & Spill	S		
Wisconsin Department of Natural Resources – Emergency Spill Hotline	Wisconsin	800-943-0003		
Local Hospitals with Emergency Services				
Gundersen Area Hospitals and Clinic	Grant County	608-375-4112 866-662-2242		
Grant Regional Health Center	Grant County	608-723-2143		
Southwest Health Center	Grant County	608-348-2331		
Regulato	ry and Municipal Contacts	5		
Wisconsin Department of Natural Resources	South Central Region	608-266-2621		
Grant County Conservation, Sanitation and Zoning	Grant County	608-723-6377, Ext. 3		
Utilities				
Alliant Utilities Customer Plus		800-255-4268		
Whitetail Wind Energy				
WTW O&M Facility	TBD	TBD		
Site Manager	TBD	TBD		

APRIL 2023

Whitetail Wind Energy Project

Address of Project O&M Building: TBD

Phone: TBD

IN AN EMERGENCY, DIAL 911

When calling local emergency dispatcher, **remain calm, speak slowly and clearly.** <u>Include the following information in your communication:</u>

- State the facility address or turbine coordinates;
- State the type of emergency (fire, medical, etc.);
- Stay on the phone until the responding agency releases you, answer all questions; and
- Advise the dispatcher if you need to evacuate the turbine and temporarily clear the area around the turbine.

For Emergencies requiring High Angle Rescue

- Dial: TBD
- Remain calm, speak slowly and clearly
- Tell operator to notify Grant County Sherriff / NRP / Fire / Ambulance

APRIL 2023

Critical Contact Information

Customer and Turbine Manufacturer Service Site

Site Manager: TBD (xxx) xxx-xxxx	Area/Site Manager: TBD (xxx) xxx-xxxx	Main Project Office: TBD (xxx) xxx-xxxx
Manager TBD (xxx) xxx- xxxx	Lead Technician: TBD (xxx) xxx-xxxx	Health & Safety TBD (xxx) xxx-xxxx

APRIL 2023

Specific Turbine Locations

Whitetail Wind Energy Project:

Table 1-A: Coordinates of Each Turbine (Degrees, Minutes, Seconds)		
Turbine	Latitude	Longitude
W01	42°51'56.25"N	90°27'32.10"W
W02	42°51'52.52"N	90°26'59.56"W
W04	42°52'51.62"N	90°28'3.48"W
W05	42°52'52.39"N	90°27'36.14"W
W06	42°52'48.65"N	90°27'4.30"W
W07	42°52'44.52"N	90°26'39.16"W
W08	42°53'24.27"N	90°27'0.13"W
W09	42°53'39.31"N	90°28'26.40"W
W10	42°53'53.55"N	90°27'30.71"W
W11	42°54'20.47"N	90°28'22.39"W
W12	42°54'38.33"N	90°28'47.72"W
W14	42°54'33.98"N	90°26'30.77"W
W15	42°54'33.79"N	90°26'12.19"W
W16	42°54'33.49"N	90°25'53.60"W
W17	42°55'20.38"N	90°26'31.35"W
W18	42°55'36.35"N	90°27'20.43"W
W19	42°52'22.75"N	90°27'35.54"W
W20	42°54'42.19"N	90°27'17.18"W
W21	42°53'45.60"N	90°28'46.51"W
S01	42°53'53.46"N	90°27'9.79"W
S02	42°52'50.93"N	90°26'25.90"W
S03	42°53'39.57"N	90°27'4.13"W
S04	42°53'47.58"N	90°28'12.32"W

ERP Rally Points

The Emergency Response Plan (ERP) Rally Points are the places where site employees will gather during an emergency or after a disaster to take roll call, organize rescue and first aid, and support teams.

For Each Individual Turbine:

At the beginning of each turbine's access road.

General Rally Point:

The projects Operation and Maintenance (O&M) building

On-Site Supervisor

Once individuals are gathered at the ERP Rally Point, take a headcount and immediately report to management.

Emergency Routes and Equipment

Maps of ERP Rally Points, emergency exit routes, fire extinguisher points, first aid kits, and eye wash stations are attached.

Emergency Response Supplies

Emergency response supplies include: first aid, CPR/AED kits, fire extinguishers, eye wash stations, tower rescue devises, spill cleanup kits, etc. These kits, or parts of these kits, will be kept in each turbine and in-service vehicles. Monthly inspections of these supplies will be conducted.

Emergency Notification System

Primary source of emergency communications will be cell phones with two-way radios as a secondary source.

Shelters for Severe Weather Events/Tornados/Lightning

In the case of severe weather tornados, lightning, earthquakes, employees should exit the turbine, and/or if in a location other than a turbine, move to an interior, windowless room on the main or lower floor as quickly as possible. *See On-Site Emergency Shelter Location(s).*

If in a turbine and evacuation is not possible, notify the site office, remote trip the main switchgear and take a position in the bottom of the tower. *See instructions below in the case of Lightning.* If in a location other than a turbine and time does not allow for movement, cover should be taken away from glass and under protective items such as sturdy desks. Hallways and enclosed stairwells are also acceptable shelter areas.

Once individuals have reached the On-site Emergency Shelter Location(s), they should assume a seated position on the floor with their heads down and their hands over their heads or place themselves under a desk. If they are wearing heavy clothing or have access to heavy clothing, they should use these items to cover their upper bodies and heads. Once the disaster has stabilized, exit from the building and gather at the ERP Rally Point.

Quick Reference

- 1. If possible, proceed to the nearest On-Site Emergency Shelter Location(s) assist others if possible.
- 2. Stay with other people in the area if you cannot get to one of the On-Site Emergency Shelter Locations.
- Once the disaster has stabilized, report to the ERP Rally Point DO NOT LEAVE THE ERP RALLY POINT unless it is unsafe to stay.
- 4. Check in the On-Site Supervisor or scene management.
- 5. Wait for further instruction or "All Clear" (clearance to re-enter)

On-Site Emergency Shelter Location #1:Maintenance BuildingOn-Site Emergency Shelter Location #2:Service Vehicles

Lightning

Notify site office and/or site supervisor of sighting, place the turbine in a safe condition and evacuate to service vehicles, other safe shelter, or site office as a general precaution.

Site/Turbine Incidents

In the case of a site (injury, environmental) or turbine incident (fire, over-speed, or debris separation), during an emergency, the top priorities are to:

- 1. Ensure human health and safety;
- 2. Preserve the environment;
- 3. Minimize or prevent property and equipment damage; and
- 4. Secure the area/scene, including establishing a temporary clearance area if appropriate.

Emergency Management

Emergency management establishes safety practices in response to risks and hazards associated with injury to persons or damage; loss of property. Whitetail Energy's Emergency Response Team will perform any High Angle, Confined Space, etc. when required, bringing the patient to the rally point so that local emergency services (Fire/Police/Ambulance) can medically assist while transporting the patient to the hospital. The emergency scene will be preserved to the best ability while rescue takes place. *(See Appendix for High Angle Rescue Services)*

Prior to the start of this project we will make arrangements with local emergency responders to create, implement, and maintain pre-emergency response planning. We will arrange to have the responders come to the site to familiarize themselves with the facilities.

This emergency Response plan coves a number of events that may occur at the Project site by natural causes, equipment failure or by human mistake. The following is a list of potential event:

Major Injuries Suspension Trauma/Orthostatic	Minor Injuries	Project Evacuation
Fire or Explosion Trauma/Orthostatic	Major Injuries	Suspension
	Fire or Explosion	Trauma/Orthostatic

*Orthostatic Intolerance may be experienced by workers using fall arrest systems

Each working crew will have a designated First Aid responder

Minor Injuries

If a minor medical incident occurs (Small cuts, abrasions, etc.) personnel should:

- 1. Perform first aid, as necessary; and
- 2. Consult the accident/injury reporting procedure to report the incident to the Site Supervisor and Health and Safety Manager.

Major Injuries

If a medical emergency exists, including the need for hospitalization or emergency services, personnel should:

When the Emergency has been identified:

- 1. The designated First Aid responder, Site Manager/Foreman/Health and Safety Representative will take control of the situation and call for help (911) or appoint someone to do so, Cell Phones or a phone at the site office can be used.
- 2. The certified first aider will perform first aid/ CPR , as needed
- 3. Enough workers will be appointed to guide emergency vehicles from the public road to the ERP Rally Point.
- 4. All workers who are not a part of the rescue operation will gather at a pre-arranged location so as not to interfere with rescue.
- 5. Once the worker has been removed from danger using emergency equipment available, the worker will be brought to the pre-arranged emergency pick-up location.
- 6. The accident site is to be secured as much as possible without interfering with rescue and safety of other workers.
- 7. The Site Manager and Health and Safety Manager must be notified of the accident as soon as possible.
- 8. The designated First Aid responder, Site Manager/Foreman or someone appointed by him/her will accompany the injured worker to the hospital and make all necessary telephone calls and other arrangements as required. If applicable, they will coordinate with the local police and Senior Management who will notify next-of-kin.

All or some of the following may investigate the accident:

- Police
- Coroner
- Department of Workforce Development
- Health and Safety Committee
- Safety Representative

In the case of a critical injury, the work at the site can only continue only if given permission. On site, the remaining work force shall meet to discuss the incident and not resume work or leave until each worker has come to terms with the accident in such a way that they can cope and go home safely. If not, a ride will be provided for any individuals.

As soon as possible, document all facts that pertain to the accident. Have names, phone numbers and addresses of all witnesses.

Turbine Incidents

Establishing a Temporary Clearance Area

When establishing a temporary clearance area in the event of a wind turbine incident (i.e., fire, runaway or debris separation), rope off or otherwise temporarily clear an area with a minimum radius of 500 meters (1,640 feet) measured from the base of the turbine.

Best judgment and common sense should always be employed when establishing a temporary clearance area. If a turbine incident is identified, but the situation appears to be mitigated, the establishment of a temporary clearance area may not be required.

Fire

In case of fire in or near a turbine:

- 1. Push the emergency-stop button. If it is physically safe to do so and it will not delay your exit from the turbine, disconnect the turbine at the main high-voltage circuit breaker. Personnel outside the turbine should not approach the turbine to push the emergency-stop button.
- 2. Immediately exit the turbine, only using fire-fighting equipment to ensure a safe escape route from the wind turbine.
- 3. Establish a temporary clearance area and move upwind outside the clearance area, or seek shelter, if appropriate.
- 4. Notify the site office who can contact local emergency responders if assistance is required to extinguish the fire.
- 5. Allow the tower to 'Burn-out'
- 6. If possible wet down the surrounding area to limit the possibility of the fire spreading to surrounding vegetation.

Runaway

In case of a runaway:

- 1. Push the emergency stop button. If it is physically safe to do so and it will not delay your exit from the turbine, disconnect the turbine at the main high voltage circuit breaker. Personnel outside the turbine should not approach the turbine to push the emergency stop button.
- 2. Immediately exit the turbine, and establish a temporary clearance area, if appropriate.
- 3. Move upwind outside the clearance area, or seek shelter, if appropriate.
- 4. Notify site office who can contact local emergency responders if assistance is required to address the situation.

Debris Separation

In case of debris separation:

- 1. Push the emergency-stop button. If it is physically safe to do so and it will not delay your exit from the turbine, disconnect the turbine at the main high-voltage circuit breaker. Personnel outside the turbine should not approach the turbine to push the emergency-stop button.
- 2. Immediately exit the turbine, and establish a temporary clearance area, if appropriate.
- 3. Move upwind outside the clearance area, or seek shelter, if appropriate.
- 4. Notify site office who can contact local emergency responders if assistance is required to address the situation.

NOTE: If debris separation is identified, but the situation appears to be mitigated, following the steps above may not be necessary. Best judgment and common sense should always be employed. Consult with your site manager for guidance.

Other Emergencies

Bomb Threat

- 1. Keep caller on the line and record call (if allowed by your local laws), if possible.
- 2. Notify the site office and evacuate the area.
- 3. Call local law enforcement or emergency dispatch, if appropriate.
- 4. Notify the customer, if appropriate.

Civil Disturbance

- 1. Be courteous and do not provoke person or crowd.
- 2. Notify the site office and evacuate the area, if appropriate.
- 3. Call local law enforcement or emergency dispatch, if appropriate.
- 4. Notify management.

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Environmental Policy

Environmental

In case of the spill of a hazardous substance (release of chemicals to the environment):

- 1. Ensure safety of personnel and equipment;
- 2. Stop the spill;
- 3. Remove all ignition sources;
- 4. Contain the spill;
- 5. Notify the site office/site supervisor;
- 6. Clear area, if appropriate;
- 7. Initiate cleanup procedures

What is a spill?

A spill is a discharge of one or more hazardous substances that adversely impact, or threaten to adversely impact, human health, welfare or the environment and requires an immediate response.

For detailed information on spill reporting requirements, see Wis. Stats. Section 292.11 and Wis. Admin. Code Chapter NR 706.

Your spill is reportable to the DNR if:

- there is an impact to human health;
- Note: An evacuation is considered a threat to human health.
- there is an impact to the environment;
- Note: Water of the state includes a threat or spill into a sanitary sewer, storm sewer, and/or surface water.
- there is a fire, explosion or safety hazard;
- Note: A slippery road condition is considered a safety hazard.
- you have not immediately cleaned up the spill; or
- Note: Has it evaporated or been cleaned up in accordance with NR700-726?
- the spill was more than the reportable quantities listed below.*

*A hazardous substance that is "discharged" into a secondary containment structure, that is completely contained and can be recovered with no discharge to the environment, is not subject to the discharge notification requirements.

Reportable quantities

If your spill is more than the amounts listed below, you must report it to the DNR.

Petroleum compounds

• Petroleum product completely contained on an impervious surface.

- 1 gallon of gasoline onto a pervious surface or runs off an impervious surface.
- 5 gallons of a petroleum product other than gasoline onto a pervious surface or runs off an impervious surface.
- Agrichemical compounds
- 250 pounds dry fertilizer.
- 25 gallons of a liquid fertilizer.
- Pesticides that would cover less than 1 acre of land if applied according to label instructions.
- Federal reportable quantities
- The federal reportable quantity for a specific substance as outlined in the CERCLA RQ column of the Sara Title 3 list of lists [exit DNR].

Additional information

For additional information on reporting a spill, please refer to the DNR guidance Wisconsin Spill Reporting Requirements RR-560.

It will be ensured that this policy is subject to a process of regular reviews so that account is taken of developments in legislation and technology as they affect the environment. The objective is to balance the need to achieve its business aims and to improve the quality of environment which may be affected by its operators.

The primary responsibility for implementation lies with the Site Manager who will assist in carrying out periodic environmental audits. He is responsible for ensuring that:

- A high standard of housekeeping is maintained and, where possible, take steps to reduce odour, noise, dust, atmospheric pollution and other impact thereby avoiding complaints and arising out of operations in the work place
- In planning the operations on the jobsite the social and environmental consequences are considered
- The site is kept in a clean and tidy manner and maintaining a high standard of appearance at the site
- All records of environmental monitoring are maintained and available for inspection in accordance with current legislation
- The workforce is regularly informed of the environmental conditions at the site and is trained to operate the equipment with proper regard for the environment and is involved in any proposed changes
- Any complaints regarding work operation are dealt with fairly and promptly; and that details of the investigation and the action taken are recorded and reported back to the complainant
- There is continual improvement in environmental performance

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Emergency Response Team

Emergency Response Team – Trained in CPR/First Aid/Fire Safety/Spill Response/High Angle Rescue

Name: TBD Title: TDB 24 Hour Contact #: TBD

Name: TBD Title: TDB 24 Hour Contact #: TBD

Name: TBD Title: TDB 24 Hour Contact #: TBD

Name: TBD Title: TDB 24 Hour Contact #: TBD

Emergency Drills

Semi-Annual drills will be practiced and documented so employees become better prepared for real emergencies and so that any deficiencies in the plan can be identified and corrected.

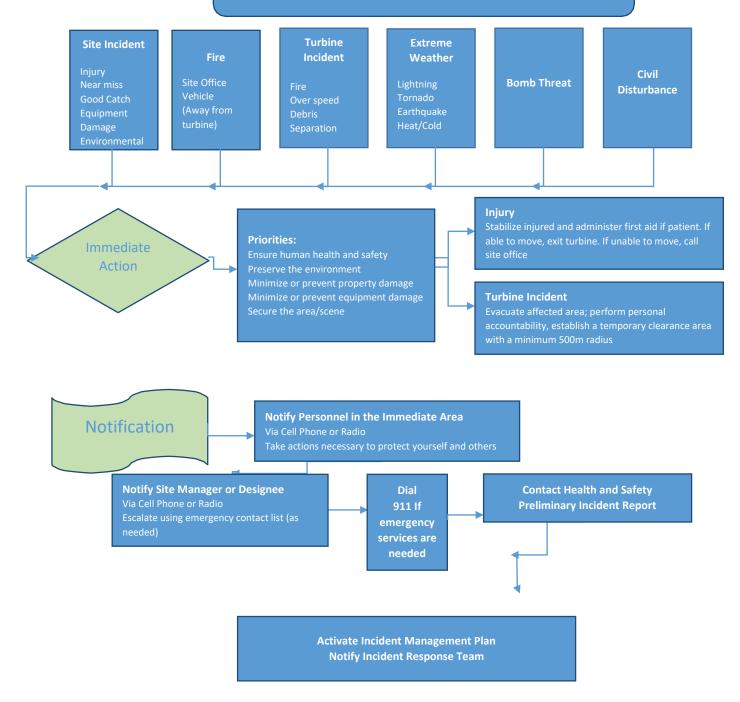
General Information

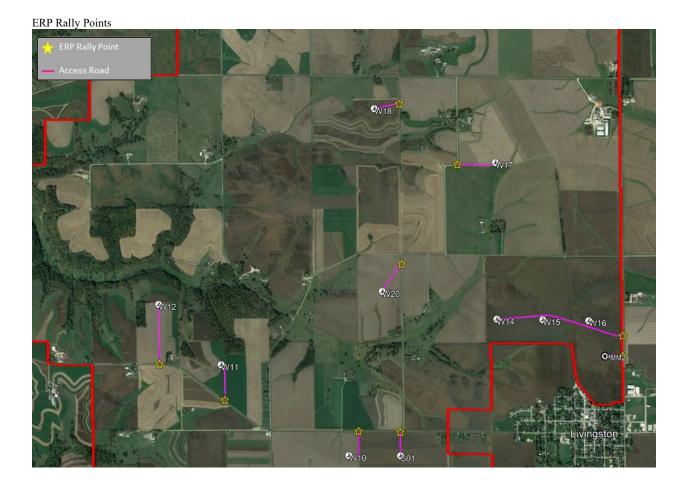
During the construction phase of the project, the project area will be monitored by security when work crews are not on site. Once turbines become operational, the SCADA (*Supervisory Control and Data Acquisition*) software will monitor all turbines for any variances in operation.

This document will be updated and changed as information comes available and changes.

APRIL 2023

QUICK REFERENCE EMERGENCY RESPONSE PLAN







Specific Turbine Evacuation Instruction

High Angle Rescue

Appendix L

Same Day Notice to Property Owners and Residents (Sample)

Whitetail Wind Energy Project

Grant County, Wisconsin

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12701 Whitewater Drive, Suite 300 Minnetonka, MN 55343

main(952) 937-5150fax(952) 937-5822

April 4, 2023

Re: Same Day Notice for Whitetail Wind Energy Project, Grant County, Wisconsin

To Whom It May Concern:

On behalf of Whitetail Wind, LLC ("Whitetail"), Westwood Professional Services, Inc. ("Westwood") provides the following written Notice of the proposed Whitetail Wind Energy Project ("Project) pursuant to the Grant County Wind Energy System Siting Ordinance Chapter 270-3C(4) and Wis. Admin. Code § PSC 128.30(5)(a) requiring Whitetail to notify property owners and residents, located within one mile of the proposed Project, on the same day the Conditional Use Permit application is filed.

The Project is an approximate 70 megawatt (MW) wind energy project, proposed to be located in Grant County, Wisconsin. Enclosed with this letter, please find the following:

- Preapplication Notice pursuant to Wis. Admin. Code § PSC 128.105(1); and,
- Project map required under to Wis. Admin. Code § PSC 128.105(2).

Should you have any questions about this Notice or the Project, please do not hesitate to contact me at 952-207-7660.

Sincerely, WESTWOOD PROFESSIONAL SERVICES, INC.

Britt Honan

Brett Horvath, PE Wind Project Manager

Notice for the approximate 70 MW Whitetail Wind Energy Project (Project)

Pursuant to the Grant County Wind Energy System Siting Ordinance Chapter 270-3C(4) and Wis. Admin. Code § PSC 128.30(5)(a), Whitetail Wind, LLC ("Whitetail") provides the following information concerning the Project:

(a) A complete description of the wind energy system, including the number and size of the wind turbines.

The Project is proposed on privately-owned land in the unincorporated towns of Wingville and Clifton and the village of Livingston in Grant County, Wisconsin. Please see detailed Project overview map attached. The Project is proposed to be approximately 70 MW and will consist of up to 21 turbines with a capacity of between 2.0 to 4.2 MW. The turbines may have rotor diameters up to 492 feet (150 meters) and hub heights up to 410 feet (125 meters), with total turbine heights up to 656 feet (200 meters) above ground surface. The Project will also include a substation, underground electrical collection lines, access roads, permanent meteorological towers, and possibly an operations and maintenance (O&M) building. Formal leases/easements have been entered into with local landowners providing access to over 5,800 acres in the Project Area. This Project is planned to interconnect to the existing American Transmission Company (ATC)138 kilovolt high voltage transmission line south of Highway 18 and west of Highway 80, southeast of the village of Montfort.

(b) A map showing the planned location of all wind energy system facilities.

Please see the attached Project overview map showing the location of proposed wind energy system facilities including wind turbines, underground electrical collection lines, Project substation, access roads, and proposed locations of 1 or 2 permanent meteorological towers.

(c) The proposed timeline for construction and operation of the wind energy system.

<u>Construction Timeline</u>: Whitetail anticipates that Project construction may begin as soon as Q2 2024 pending approval of this Application and receipt of other required approvals and be completed in Q4 2024. The Project will meet all requirements of Wis. Admin Code § PSC 128.

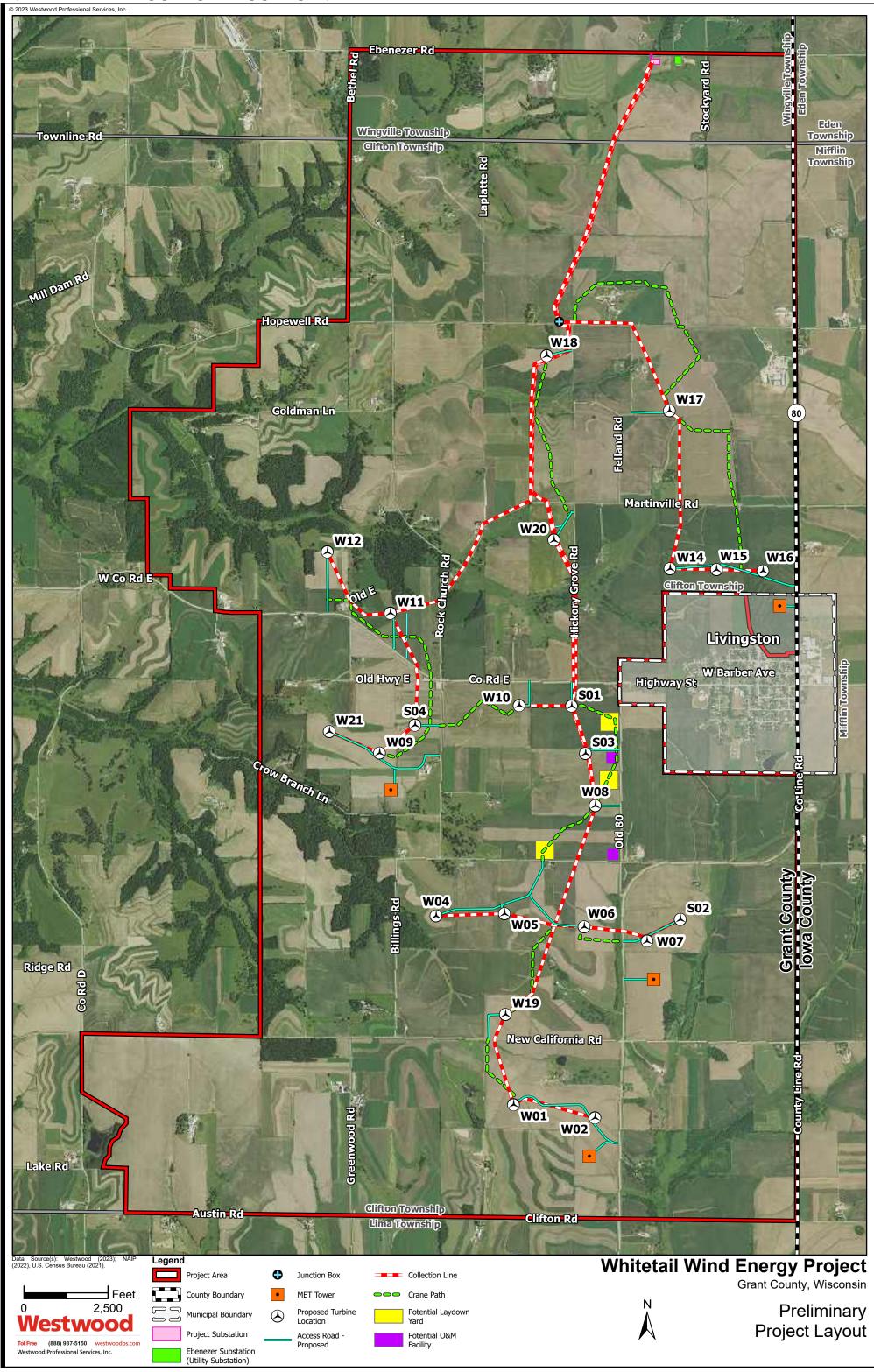
(d) Locations where the Application is available for public review

- 1. Grant County Conservation, Sanitation and Zoning Department, 150 West Alona Lane, Suite #1, Lancaster, WI 53813,
- 2. Lancaster Schreiner Memorial Library, 113 West Elm Street, Lancaster, WI 53813
- 3. Fennimore Dwight Parker Library, 925 Lincoln Avenue, Fennimore, WI 53809.

(e) Owner contact information

The developer and manager of the Project is Whitetail Wind, LLC (Whitetail). Whitetail is an affiliate of ALLETE Clean Energy (ACE). ACE is an independent power producer established in 2011 with headquarters in Duluth, Minnesota. ALLETE Clean Energy, through subsidiaries, owns and operates wind farms in seven states with more than 1,300 megawatts of capacity.

Whitetail Wind, LLC 901 North 3rd Street, Suite 220 Minneapolis, MN 55401 ATTN: Aaron Stout (281) 229-6728 aaron.stout@prcwind.com



Map Document: N:\0024134.00\GIS\ArcPro\R0024134_040_CUPExhibits_220620\R0024134_040_CUPExhibits_220620.aprx 3/31/2023 4:23 PM HNeme