

Submittal Date:
September 8, 2022

Riverbend Wind Energy Center

SPECIAL LAND USE PERMIT APPLICATION

PREPARED FOR:
Fremont Township, Sanilac County

PREPARED BY:
Algonquin Power (MI Energy Developments) LLC

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I. PROJECT INTRODUCTION | Fremont Special Land Use Permit Amendment Application

Algonquin Power (MI Energy Developments) LLC, a Delaware limited liability company organized under the laws of Delaware, which is indirectly wholly owned Algonquin Power Co., d/b/a Liberty Power (“Liberty Power”), a Delaware limited liability company, proposes to construct a wind energy conversion system, titled “Riverbend Wind Energy Center”, in Sanilac County, Michigan.

Riverbend Wind, owned by Algonquin Power & Utilities Corp. (AQN), parent company of Liberty, is a diversified international generation, transmission, and distribution utility with over \$17 billion of total assets. Through its two business groups, the Regulated Services Group and the Renewable Energy Group, AQN is committed to providing safe, secure, reliable, cost-effective, and sustainable energy and water solutions through its portfolio of electric generation, transmission, and distribution utility investments to over one million customer connections, largely in the United States and Canada. AQN is a global leader in renewable energy through its portfolio of long-term contracted wind, solar, and hydroelectric generating facilities. AQN owns, operates, and/or has net interests in over 4 GW of installed renewable energy capacity. The company also has approximately 3.8 GW of projects within its development pipeline.

AQN is committed to delivering growth and the pursuit of operational excellence in a sustainable manner through an expanding global pipeline of renewable energy and electric transmission development projects, organic growth within its rate-regulated generation, distribution, and transmission businesses, and the pursuit of accretive acquisitions and value enhancing recycling of assets. The Riverbend Wind Energy Center (project) will be located in Fremont and Speaker townships. The project proposes to permit three layouts referenced as scenario 25, 16, and 16a in this application and will only construct one of the layouts. Scenario 25 consists of 50 turbine pad locations between Fremont and Speaker with 26 pad locations within Fremont Township. Scenario 16 and 16a both consists of a total of 56 wind turbines between both townships with a total of 30 turbine locations within Fremont Township. The total number of turbines proposed across both townships is 50 turbines totaling approximately 300 megawatts (MW), which is enough capacity to supply approximately 90,000 homes with clean renewable electricity.

As illustrated throughout this application narrative, Riverbend Wind has been very diligent in designing a project that meets or exceeds the requirements of the Fremont Township Zoning Ordinance (Ordinance No. 100, adopted 12/16/16, as amended through 6/22/21).

The portion of the wind energy center proposed in Fremont Township requires permitting for up to 30 turbine locations. There are approximately 142 agreements in Fremont Township alone which currently accounts for approximately 13,433 acres of land participating in the project. The permanent infrastructure and turbines, on private land, in Fremont Township are to occupy approximately 22 acres of permanent infrastructure occupying 30 acres of land.

Riverbend Wind’s application complies with the general and specific standards and requirements for special land uses in the Michigan Zoning Enabling Act (MZEA) and the Fremont Township Zoning Ordinance. This enclosed Fremont Township Special Land Use Permit (SLUP) application narrative is in response, and outlined accordingly, to the Fremont Township Zoning Ordinance. A section for “Additional Information” has also been included.

1) DESCRIPTION OF PROPOSED FACILITES

Individual lease and easement agreements, permitting the siting of the project, have been signed by respective landowners for each proposed wind turbine and related facilities location. In addition, Riverbend Wind has written agreements with all consenting landowners, which ensure minimal impact to their land and that public health and safety guidelines will be followed. In addition, the proposed project will not emit any fumes or odor. Below, please find a listing of all proposed Riverbend Wind Energy Center facilities. See site plan in **Appendix A** for locations of all proposed facilities.

- **Generation Equipment Description**

The model being contemplated has a rotor diameter up to 163 (approx. 534ft) meters and are on monopole steel tubular towers up to an approximate hub height of 119m (approx. 390ft) These turbines employ active yaw control to steer the machine with respect to the wind. They have active blade pitching to maximize power output. The towers and turbines will be painted with a non-reflective/off-white color designed to minimize visual impacts. No advertising or graphics will be placed on any part of the tower or blades; however, the turbines will be clearly numbered above the entrance doors for identification and emergency response. The towers will not be illuminated except as required by the Federal Aviation Administration (FAA) approval. If the FAA concludes that an aircraft detection lighting system (ADLS) is appropriate for this site and approves its use, Riverbend Wind will install and operate the ADLS.

Typical Turbine Specifications							
Hub Height (m)	Hub Height (ft)	Rotor Diameter (m)	Rotor Diameter (ft)	Tip Height (m)	Tip Height (ft)	Ground Clearance (m)	Ground Clearance (ft)
119	390	162	531	200	656	38	124.5
118.5	389	163	535	200	656	38	124.5

Electrical Collection System

The power generated by the project will be collected and conveyed to the project substation located in Fremont Township by an electrical power collection system proposed. The project’s energy collection system will include buried cables and fiber-optic communication lines, and above ground electrical junction boxes. The underground electrical lines, on private land, will be located in Fremont Township. Refer to the site plan for the approximate location, to be confirmed based on final design (Appendix A).

▪ **Substation**

The project substation, located in Fremont Township, increases the voltage from the 34.5 kV, as collected from the pad-mounted transformers at each wind turbine, to the 345 kV required for interconnection. The project substation shall include but not be limited to transformers, metering equipment, circuit breakers, poles and disconnects, and other devices to regulate the flow of electrical power.

▪ **Overhead Transmission Line Connection**

This project does not propose to construct an overhead transmission line. The project will connect directly into the existing overhead transmission line.

▪ **Laydown Yard**

Two proposed gravel base temporary laydown areas, located in Fremont Township, will be required during construction of the Riverbend Wind Energy Center. These Laydown yards will be used to temporarily store turbine parts, equipment, office trailers, and parking.

▪ **Operations & Maintenance Facility**

The day-to-day operation of the proposed facility will be conducted at a newly constructed Operations & Maintenance (O&M) Facility. This facility will include a storage area for spare parts, vehicles, office spaces for local employees and more.

▪ **Switching Station (Built By Utility)**

The project Substation will tie into a project switching station that will be constructed by the local utility ITC.

▪ **Permanent MET Tower**

Three proposed MET towers will be constructed in Fremont Township.

▪ **Existing Public Roads**

There is an existing State controlled highway system providing sufficient transportation to the project location and to the necessary county roads providing access to each proposed wind turbine. It may be necessary to improve (grade or widen) some existing municipal roads during construction to accommodate construction equipment and equipment transport trucks. It may also be necessary to repair, repave, or reconstruct existing county roads damaged by project construction. Riverbend Wind anticipates entering into a formal Road Use Agreement with the jurisdiction having authority to comply with the use of public roads.

▪ **New Turbine Access Roads**

Newly constructed turbine access roads will be graded and will consist of gravel over compacted material, with a gravel thickness specified by the engineer upon completion of geotechnical analysis. The gravel will be obtained off site from local crushed rock gravel pits. The access roads will generally be constructed at-grade, where possible. Culverts may be installed if ‘washes’ cannot be crossed at grade and as a preventive measure to avoid any damages to the existing or new access roads and the existing highway/county road system. When construction is complete, the access roads will be left in place to provide access for future operations and maintenance activities. After construction, these roads will be graded where low spots and ruts have occurred, and culverts will be left in place. The roads will also be available for the use of the landowner.

II. WIND ENERGY CONVERSION SYSTEMS | Special Land Use Permit Requirements

Riverbend Wind adheres to the following requirements, as outlined in “Section 13.12 Public Service Facilities, Communication Towers, and Wind Energy Conversion Systems” of the Fremont Township Zoning Ordinance.

Utility grid wind energy system Special Land Use permit application requirements:

1) APPLICANT IDENTIFICATION

Project Developer:

Riverbend Wind, LLC
354 Davis Road, Suite 100
Oakville, ON L6J 2X1

Riverbend Wind Energy Center Location:

Fremont Township
Sanilac County, Michigan

On behalf of the listed participating landowners of the Riverbend Wind Energy Center, this application is submitted by Riverbend Wind, a limited liability company organized under the laws of Delaware to own and operate the proposed utility grid wind energy system. Riverbend Wind is a wholly owned subsidiary of Algonquin Power Co (d/b/a) Liberty Power. This application package is being submitted on September 8, 2022 to Fremont Township for special land use review and approval by the Fremont Township Planning Commission.

2) SITE PLAN – ARTICLE 16 (SECTION 16.03)

The Riverbend Wind Energy Center site plan (“site plan”) can be found in **Appendix A**. The site plan, which includes maps showing the physical features and land uses of the project area, both before and after construction of the proposed project, includes the following as directed by Section 16.03 of Fremont Township’s Zoning Ordinance:

- a) Area of the site.
- b) Date, north point, and scale of not less than one (1) inch equals three hundred (300) feet.
- c) Dimensions of all property lines.
- d) Location and dimensions of all existing and proposed structures on the property or on adjacent properties within one hundred (100) feet of the property lines.
- e) Location and dimensions of all existing and proposed roads (including rights-of-way), driveways, sidewalks, and parking areas.

- f) Location of all existing and proposed utility lines, wells, septic systems, and storm drainage.
- g) Location, dimensions and details of proposed plantings, greenbelts and landscaped areas.
- h) Exterior drawings of proposed new buildings or existing buildings to which major additions are proposed.
- i) Location, dimensions, and drawings of existing and proposed signs.
- j) Name, address, and telephone number of the person who prepared the site plan.

3) ESCROW, CONSTRUCTION BOND, AND ANNUAL INSPECTIONS – SECTION 13.12.B.1

Riverbend Wind will reimburse the Township for annual inspections of any and all wind energy conversion systems (“WECS”) through the escrow fund established pursuant to Section 13.12.B.1(a), adjustable from time-to-time by the Township Board.

4) ENVIRONMENTAL ASSESSMENT – SECTION 13.12.B.2

See **Appendix B** for the environmental reports. These reports identify and assess potential impacts on the natural environment, avian, bats and general wildlife. Riverbend Wind is currently working on completing reports summarizing the results of a formal wetland, stream, and floodplain determination and delineation, a threatened and endangered species habitat assessment (found within the Site Characterization Study and Critical Issues Analysis). Riverbend Wind can make these reports available to the township upon request once they have been completed. Riverbend Wind commits to complying with applicable parts of the Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.), including Part 31, Water Resources Protection (MCL 324.3101 et seq.), Part 91, Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.), Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.), Part 303 Wetlands (MCL 324.30301 et seq.), Part 325 Great Lakes and Submerged Lands (MCL 324.32501 et seq.), and Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.). In general, Riverbend Wind is anticipated to have a low probability of impact to the natural and cultural environment.

In addition to the studies and reports completed pursuant to the requirements of the Fremont Township Zoning Ordinance, the additional studies listed below have also been completed (or in the process of being completed) as part of our due diligence:

- Site Characteristic Survey Report
- Bat Surveys
- Large and Small Bird Use Report
- Economics Benefit Analysis Report
- Raptor Nest Survey Report
- Wetland Delineation Report
- Signal Interference Studies
- Public Health and Safety Report

5) ECONOMIC IMPACT – SECTION 13.12.B.3

Riverbend Wind is in the process of conducting an economic impact study in conformance with section 13.12.3 of Fremont Township’s Zoning Ordinance and will be available at the township’s request. This study will include probable financial impact as to jobs, tax revenue, lease payments and property values.

6) SITE PLAN – SECTION 13.12.B.4

The applicant has submitted herewith a site plan that shows the commitments have been adhered to in compliance to the municipal ordinance. Additionally, Riverbend Wind will have an O&M Plan (as outlined in section 18 below) to ensure that each turbine will have the capability to be monitored 24 hours per day, 7 days a week and in addition to automatic sensors that will review for wind speeds and ice events, the O&M team will have around the clock remote surveillance at each turbine.

Riverbend Wind will meet or exceed the following site plan requirements as defined in the Fremont Township Ordinance:

- a. Location and height of all proposed buildings, structures, electrical lines, towers, guy wires, guy wire anchors, security fencing, and other above ground structures associated with the WECS and/or Testing Facility.
Refer to sheets FRE-01 to FRE-36 of site plan for structure locations and FRE-DET for heights and dimensions.
- b. Locations and height of all adjacent buildings, structures, and above ground utilities located within 300 feet of the exterior boundaries of the lot or parcel where the proposed WECS and/or Testing Facility will be located. Specific distances to other on-site buildings, structures, and utilities shall also be provided. The location of all existing and proposed overhead and underground electrical transmission or distribution lines shall be shown, whether to be utilized or not with the WECS or Testing Facility, located on the lot or parcel involved.
Refer to sheets FRE-01 to FRE-36 of site plan.
- c. Existing and proposed distances from the WECS and/or Testing Facility to all structures over four hundred (400) square feet located on the property where the WECS and/or Testing Facility will be located.
Refer to sheets FRE-01 to FRE-36 of site plan.
- d. Elevation of the proposed WECS and/or Testing Facility location and its relationship to the elevation of all existing and proposed structures within 300 feet of the proposed WECS and/or Testing Facility.
Refer to sheets FRE-01 to FRE-36 of site plan.
- e. Access Driveway to the WECS and/or Testing Facility together with a detailed narrative regarding dimensions, composition, and maintenance of the proposed Access Driveway. Any WECS and Testing Facility shall be located so as to minimize the disruption to agricultural activity and, therefore, the location of WECS, Testing Facilities, and Access Driveways is encouraged along internal property lines. All such Access Driveways shall be constructed to no less than Township driveway standards.
Refer to sheets FRE-01 to FRE-36 of site plan for access road locations. Refer to sheet FRE-DET for dimensions, composition and maintenance details.
- f. Planned security measures to prevent unauthorized trespass and access.
All access doors to wind turbine towers and electrical equipment will be lockable. Wind turbine towers will not be climbable on the exterior. Appropriate warning signs will be placed on wind turbines towers, electrical equipment, and WECS entrances.
- g. The WECS Applicant shall provide to the Township a written description of the maintenance program to be used to maintain the WECS and Testing Facility, including procedures and schedules for removal when determined to be obsolete or abandoned.
Refer to section 18 below.
- h. A lighting plan for each WECS and Testing Facilities shall be approved by the Planning Commission. Such plan must describe all lighting that will be utilized, including any lighting that may be required

by the FAA. Such a plan shall include, but is not limited to, the planned number and location of lights, light color and whether any lights will be flashing. Strobe lights are discouraged and must be shielded from the ground if such lights are allowed by the Planning Commission. ADLS shall be utilized if allowed by FAA and must be installed within twelve (12) months of FAA approval. (Amended by ZOA 100-03, adopted 6/22/21)

Once the site plan is approved, Riverbend Wind will submit a FAA approved lighting plan with ADLS to the organization for approval.

- i. As appropriate, the applicant will provide the Planning Commission with any additional information requests.

7) SETBACKS – SECTION 13.12.B.5

Setbacks, as required, in Section 13.12.B.5 are adhered to in the Riverbend Wind Energy Center and contained in this summary below:

Turbine setback to	Ordinance Requirement	As Designed
Inhabited Structures	At least 1,320 feet	At least 1,375 feet
Participating Parcel Property Line	No setback established	No setback established
Non-Participating Parcel Property Line	1.5x total structure height (656 x 1.5 = 984 feet) but no less than 500 feet	At least 1,000 feet
Public Roads	1,320 feet unless unique circumstances do not allow, in which case the setback must be 1.5x total structure height (656 x 1.5 = 984 feet) but no less than 500 feet.	At least 1,320 feet

Appendix J provides a table that includes setback distances of all turbines from inhabited structures, non-participating parcel property lines and public roads. As shown in Table J-1 each of the proposed turbine locations in Fremont Township comply with ordinance requirements for setbacks. Under the three Scenarios the closest turbine to an inhabited structure is 1,384 ft, 1,026 ft to a non-participating property line and 1,350 ft to a public road.

There are 336 inhabited structures within 1 mi of a wind turbine, of which 69 are participating landowners and 267 are non-participating landowners.

8) MINIMUM BLADE CLEARANCE AND MAXIMUM HEIGHT – SECTION 13.12.B.6

- a. The clearance of turbines designed for the Riverbend Wind Energy Center will exceed the minimum requirement of fifty (50) feet from ground level to the blade at its lowest point.

- b. The maximum height of the turbines designed for the Riverbend Wind Energy Center will not exceed the maximum height of seven hundred (700) feet measured with the windmill blade at its highest point.

9) PUBLIC HEALTH – SECTION 13.12.B.7

WECS and Testing Facilities shall not be unreasonably injurious to the public health and safety or to the health and safety of occupants of nearby properties.

Riverbend Wind has designed the project in a manner that will ensure the public health and safety of occupants of nearby properties and all residents and visitors to Fremont Township. Riverbend Wind has retained Ollson Environmental Health Management (OEHM) to review the project layout, sound and shadow flicker reports and prepare a public health and safety report, as seen in **Appendix C**. As established in the application, the project complies with the Township performance regulations with regard to setbacks, sound and shadow flicker requirements and will not generate fumes or odor. The project will not create excessive traffic during the operational phase. Each turbine is serviced by its own access road. Although there is a remote chance that during the life of the project that a tower could collapse, a blade or fragments could be dislodged, or ice may be thrown from a blade the setback back distances in the table above will ensure the protection of public safety occupants of nearby properties and traffic in the area. The acceptability of the Township ordinance requirements, adhered to in the design of Riverbend Wind, to protect public health and safety are further discussed in **Appendix C**.

10) FENCING – SECTION 13.12.B.8

All access doors to wind turbine towers will be lockable. Wind turbine towers will not be climbable on the exterior. Appropriate warning signs will be placed on wind turbines towers, electrical equipment, and substation. Appropriate security fencing will be installed around the substation.

11) COMPLIANCE – SECTION 13.12.B.9

Riverbend Wind will comply with all applicable federal, state, and local laws and regulations and will obtain all required federal, state, and local approvals, licenses or permits for the proposed utility grid wind energy system prior to the start date of construction. Liberty Power performs a systematic evaluation of its wind projects to ensure they are sited in an environmentally responsible manner and in compliance with all applicable local, state and federal laws and regulations.

The following list represents some of the permits and approvals being pursued, as part of this project:

ENTITY / APPLICATION	DESCRIPTION	STATUS
Michigan Department of Environment, Great Lakes and Energy (EGLE)	Potential NREPA permits/approvals include: <ul style="list-style-type: none"> ● Part 31 Floodplains ● Part 301 Watercourses ● Part 303 Wetlands 	Application Anticipated
Federal Aviation Administration (FAA)	Approval / Permit	Application Submitted
Michigan Department of Transportation (MDOT)	Tall Structure Permit	Application Anticipated
Sanilac County Road Commission	ROW Permits & Agreements	Application Anticipated
Sanilac County Drain Commission	ROW Permits & Agreements	Application Anticipated
Sanilac County Construction and Land Use	Soil Erosion and Sedimentation Control Permit	Application Anticipated

Michigan Department of Transportation (MDOT)	ROW Permits & Agreements	Application Anticipated
Sanilac County Airport Board of Appeals (AZBA)	Permits & Approvals	Application Anticipated
Public and Private Utility Crossing Agreements	Permits & Agreements	Application Anticipated

12) BLADE ARCS – SECTION 13.12.B.10

Blade arcs of all turbines designed will exceed the minimum of seventy-five (75) feet of clearance over and from any structure

13) BRAKING DEVICES – SECTION 13.12.B.11

All of the proposed turbines will have a braking device installed that is capable of stopping operation in high winds.

14) SIGNAGE – SECTION 13.12.B.12

Each turbine will have one sign, not exceeding two square feet in area, posted at the base of the tower that will contain at least the following:

1. Warning high voltage.
2. Owner’s name and operator’s name.
3. Emergency telephone numbers (list more than one number).

15) COMMUNICATION INTERFERENCE – SECTION 13.12.B.13

No turbines associated with the Riverbend Wind Energy Center will be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antennas for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception. No turbines associated with the project shall be installed in any location along the major axis of an existing microwave communications link where its operation is likely to produce electromagnetic interference in the link’s operation.

In the event that reasonable verified interference is experienced, Riverbend Wind will provide alternate service to each individual resident or property owner affected within thirty (30-90) days of receipt of the reasonable verified complaint.

Riverbend Wind obtained reports from ComSearch (a third-party communications expert) to confirm that the project will not cause significant impacts to microwave beam paths, off-air television reception, Land Mobile and Emergency Services, Mobile Phone or AM/FM radio broadcast. The formal Signal Interference reports can be found in **Appendix D**.

16) SOUND EMISSIONS – SECTION 13.12.B.14

Refer to **Appendix E** for results of sound modeling report performed for this project.

Riverbend Wind will meet or exceed the following noise requirements as defined in the Fremont Township zoning ordinance:

- a. Noise emissions from the operation of a WECS and Testing Facility shall not exceed forty-five (45) decibels on the DBA scale as measured at the nearest property line of a non-Participating Property or road. A baseline noise emission study of the proposed site and impact upon all areas within one mile of the proposed WECS and/or Testing Facility location must be done (at the WECS Applicant’s cost) prior to any placement of a WECS

and/or Testing Facility and submitted to the Township. The WECS Applicant must also provide estimated noise levels to property lines at the time of Special Land Use application.

- b. In the event the noise levels resulting from the WECS exceed the criteria listed above, a waiver to said levels may be approved provided that:
- written consent from the affected property owner(s) has been obtained which must provide that the affected property owner(s) are aware of the WECS and the noise limitations imposed by this Article;
 - the written consent shall additionally provide that affected property owner(s) grant their consent to allow noise levels to exceed the maximum limits otherwise allowed;
 - the written consent shall also provide that the affected property owner(s) are aware that the waiver will apply to succeeding owners of the property;
 - a permanent noise impact easement shall be recorded with the Sanilac County Register of Deeds office which describes the benefitted and burdened properties, and which advises all subsequent owners of the burdened property that noise levels in excess of those otherwise permitted by the ordinance may exist on or at the burdened property; and
 - a copy of the recorded permanent noise impact easement shall be filed with the Township.

17) ELECTRICAL SYSTEM – SECTION 13.12.B.15

The electrical collection system will be placed underground within the interior of each participating parcel at a depth designed to accommodate the existing land use, and electrical code mandates, to the maximum extent practicable. The collection system may be placed overhead (but on private land), near substations or points of interconnection to the electric grid or in other areas as necessary.

18) MAINTENANCE SCHEDULE – SECTION 13.12.B.16

The project will be monitored during various daily checks and inspections consistent with industry practice. Following Installation and Start-up, the service and maintenance include the following intervals:

- A 500-hr. service inspection;
- A detailed annual inspection and service;
- Multi-year service – gear oil changes and part repair and replacement

First Service Inspection: Service inspection will take place one to three months after the turbines have been commissioned. Typical activities include torque check of bolts, cleaning, visual inspections, greasing and filtering of gear oil.

Annual Service: The yearly service inspections will consist of a semi-annual inspection and an annual component check.

Multi-Year Service: Inspections and preventative maintenance are performed consistent with industry practice and manufacturer recommendations based upon turbine hours, age and performance history. Items such as checking and tightening of terminal connectors, inspection of the wind braking system, cleaning, visual inspections, checking and testing of oil and grease and balance check are normal multi-year checks.

i. General Maintenance Duties

The O&M involves scheduled and unscheduled maintenance including periodic operational checks and tests, and regular preventive maintenance on all turbines, related plant facilities, equipment, safety systems, controls, instruments and

machinery. These tasks are completed on an “as-needed basis” and are determined by the visual inspections and monitoring data. The general items are:

- Perform routine inspections;
- Maintain all oil levels;
- Maintain the control systems, access roads, drainage systems and other facilities necessary for the operation and access;
- Update all manuals with new bulletins;
- Maintain interconnection facilities;
- Provide an inventory of all consumables, and parts required to perform scheduled and unscheduled maintenance on the wind farm;
- Manage lubricants, solvents, and other hazardous materials as required by local and/or state regulations;
- Train and supervise a work force necessary to meet the general maintenance requirements;
- Implement appropriate security measures.

19) DAMAGE TO PUBLIC ROADS – SECTION 13.12.B.17

Riverbend Wind anticipates entering into a formal Road Use Agreement with the jurisdiction having authority. Riverbend Wind will comply with the terms outlined in the executed Road Use Agreement.

20) INSURANCE – SECTION 13.12.B.18

Riverbend Wind will keep all turbines and facilities insured at all times for at least \$2,000,000 of liability insurance to cover Riverbend Wind, Fremont Township, and all landowners as stated in Section 13.12.B.18 of Fremont Township’s Zoning Ordinance.

21) VISUAL IMPACT – SECTION 13.12.B.19

Riverbend Wind will meet the following requirements set forth by the Fremont Township Zoning Ordinance:

- A WECS and/or Testing Facility shall be painted a non-obtrusive (light environmental color such as beige, gray or off-white) color that is non-reflective.
- The wind turbine base and blades shall be of a color consistent with all other turbines in the area.
- No striping of color or advertisement shall be visible on the blades or tower.

22) SHADOW FLICKER – SECTION 13.12.B.20

Riverbend Wind hired Stantec to conduct a shadow flicker analysis at occupied structures and public roads and rights of way. Riverbend Wind will comply with ordinance section 13.12.B.20 based on mitigations found in **Appendix F**.

23) VIBRATIONS – SECTION 13.12.B.21

The structures will not produce vibrations or wind currents humanly perceptible beyond the property boundaries of Participating Property where the turbines or Testing Facility will be located.

24) STRAY VOLTAGE – SECTION 13.12.B.22

The project will be properly designed and grounded such that it will not produce stray voltage. In the unlikely event of a stray voltage issue, Riverbend Wind will remain in compliance with section 13.12.B.20 of the ordinance.

25) UNREASONABLE RISK OF HARM – SECTION 13.12.B.23

As established in the application, the project complies with performance regulations with regard to setbacks and sound and does not generate fumes or odor. The project will not create excessive traffic during the

operational phase. Each turbine is serviced by its own access road. Each turbine site includes off-street parking for periodic O&M activities. Please refer to **Appendix B** for the results of the following reports that indicate that no unreasonable risk of harm to the occupants of any adjoining properties or area wildlife:

- Tier I and Tier II Reports pursuant to USFWS Wind Energy Citing Guidelines (Critical Issues Analysis and Site Characteristic Study)
- Bat Surveys
- Avian Migration and Breeding Bird Surveys (including Raptor Nest Surveys)
- Desktop Wetlands Analysis and Drainage Review
- Wetlands, Floodplains, and Stream Delineation Assessment
- Threatened and Endangered Species Habitat Assessments

26) DECOMMISSIONING – SECTION 13.12.B.24

Riverbend Wind is committed to developing a plan to decommission the project at the end of its useful life. If Riverbend Wind has an opportunity to re-power the project and enter into a new power purchase agreement, decommissioning would not be required until the end of the useful life of the repowered project.

The goal of project decommissioning is to remove the installed power generation and transmission equipment for recycling or reuse and return the site to a condition as close to a pre-construction state as feasible. A performance bond or equivalent financial instrument shall be posted in an amount determined by the Township to guarantee decommissioning activities.

The major activities required for the decommissioning include the following:

- Creation of temporary work areas to enable decommissioning of equipment;
- Wind turbine and meteorological tower removal;
- Structural foundation removal to 4 feet below grade;
- Road removal if requested by land owner;
- Restoration of temporary work areas.

The details of the Decommissioning Plan for layout 25 is provided in **Appendix G-1**. The details of the Decommissioning Plan for layouts 16 and 16a are provided in **Appendix G-2**.

27) FINANCIAL SECURITY – SECTION 13.12.B.25

Riverbend Wind will remain in compliance with the financial security bond and terms as referenced from Section 13.12.B.24 and Section 13.12.B.25.

28) COMPLAINT RESOLUTION – SECTION 13.12.B.26

Riverbend Wind has implemented a complaint resolution process to be used during the construction and operation phases of the project. The complaint resolution process is to establish a uniform and timely method of documenting, responding to and mitigating complaints received by Riverbend Wind. The details of the complaint resolution process are consistent with the requirements for the Michigan Zoning Enabling Act (MZEA) and the Fremont Township Zoning Ordinance. The details of the Complaint Resolution process are provided in **Appendix H**.

III. SITE PLAN REQUIREMENTS – ARTICLE 16

2) ARTICLE 16: SITE PLAN REVIEW REQUIREMENTS

In accordance with the Fremont Zoning Township Section 16, the site plan must meet the following standards:

Section 16.03 Content

- A) Area of the site.**
Refer to sheet 01 of site plan.
- B) Date, north point, and scale of not less than one (1) inch equals one hundred (100) feet.**
Refer to sheets FRE-01 to FRE-36 of site plan. Per correspondence with Townley Engineering, a scale of one (1) inch equals three hundred (300) is acceptable.
- C) Dimensions of all property lines.**
Refer to sheets FRE-01 to FRE-36 of the site plan.
- D) Location and dimensions of all existing and proposed structures on the property or on adjacent properties within one hundred (100) feet of the property lines.**
Refer to sheets FRE-01 to FRE-36 of site plan.
- E) Location and dimensions of all existing and proposed roads (including rights-of-way), driveways, sidewalks, and parking areas (see Article 12).**
Refer to sheets FRE-01 to FRE-36 of site plan.
- F) Location of all existing and proposed utility lines, wells, septic systems, and storm drainage.**
Refer to sheets FRE-01 to FRE-36 of site plan.
- G) Location, dimensions and details of proposed plantings, greenbelts and landscaped areas (see Section 13.08).**
Not applicable for the project. If landscaping is chosen in instances of shadow flicker mitigation, additional details will be provided.
- H) Exterior drawings of proposed new buildings or existing buildings to which major additions are proposed.**
Refer to sheet FRE-DET of site plan.
- I) Location, dimensions, and drawings of existing and proposed signs (see Section 13.06).**
Refer to item 14 of this document for signage details.
- J) Name, address, and telephone number of the person who prepared the site plan.**
Refer to sheet 00 of site plan for contact information.

Section 16.04 Standards

- A) Adequacy of traffic ingress, egress, circulations, and parking.**
The project will not create excessive traffic during the operational phase. Each turbine is serviced by its own access road. Each turbine site includes off-street parking for periodic O&M activities.
- B) Adequacy of landscaping to protect adjoining properties and enhance the environment of the community.**
Landscaping will be considered on a case-by-case basis as a means of shadow flicker mitigation for receptors above 30 hours a year. Refer to **Appendix F** for specific details. Additionally, structures associated with the project will meet the requirements set forth in Section 13.12.B.19 of the Fremont Township Zoning Ordinance for visual impacts.
- C) Location and design of proposed structures so as to ensure that detrimental effects on adjacent properties will be minimized.**
All planned turbine locations and associated infrastructure will comply with the specific criteria regarding setbacks, height, sound and such other mandated specifications within the zoning ordinance.
- D) Adequacy of storm drainage.**
The project does not propose to alter the natural drainage patterns. Grading for the project will be limited to smoothing larger humps and dips as necessary to allow for the construction of gravel access roads.
- E) Location and design of signs so as to prevent highway visibility obstructions, driver distractions, encroachments, and adverse impacts on the community environment.**

Sign placement will be limited to a single sign, not exceeding two square feet in area, posted at the base of each turbine.

3) ARTICLE 17: PROCEDURES AND STANDARDS FOR SPECIAL LAND USE APPROVAL BY PLANNING COMMISSION

In accordance with the Fremont Township Zoning Ordinance, a SLUP must meet the following standards pursuant to Article 17:

Section 17.02 Hearing

Riverbend Wind has provided a list and mapping of the participating landowners within the project, and properties and landowners within a minimum of three hundred (300) feet from the property lines of the property which is the subject of the request. Refer to **Appendix I** for the landowners list.

Assuming all permits and approvals are issued, the below table depicts an anticipated schedule outlining major project milestones.

Riverbend Wind Energy Center Anticipated Milestones	
Break Ground	Spring, 2024
Spring Turbine Delivery Commencement	Summer, 2024
Commercial Operation Date	Summer, 2025

Section 17.03 Standards

- a) The location, size and character of the proposed use shall be in harmony with, and appropriate to the surrounding neighborhood.**

The proposed use is compatible with agricultural uses, allows the agricultural uses to continue in the same manner as planned, and is designed to ensure each wind turbine and access road will not unreasonably disrupt farming activities. With regard to the other uses in Fremont Township, each planned turbine location will comply with the specific criteria regarding setbacks, height, sound and such other mandated specifications within the zoning ordinance, and thus will permit any existing use to continue as intended by the underlying zoning district. The zoning ordinance specifically provides for this use.

- b) The proposed use shall not result in the creation of a hazardous traffic condition.**

As established in the application, the project complies with performance regulations with regard to setbacks and sound and does not generate fumes or odor. The project will not create excessive traffic during the operational phase. Each turbine is serviced by its own access road. Each turbine site includes off-street parking for periodic O&M activities.

- c) The site layout, intensity of use, and time periods of use shall not be such as to create a nuisance due to dust, noise, smell, vibration, smoke, lighting, or other causes.**

The typical operations of the Riverbend Wind Energy Center will not create nuisance due to dust, noise, smell, vibration, smoke, or lighting.

- d) All specific requirements of the zoning district where the proposed use would be located shall be complied with.**

The Riverbend Wind Energy Center will not create excessive additional requirements for public costs for public facilities and services. As stated earlier, the project will not place any excessive demands on Township and community resources. All review fees and inspections will be covered by Riverbend Wind. All public roads will be left in the same if not better condition, and Riverbend Wind's use of local public roads will be governed by a road use agreement with Sanilac County.

As discussed in the Decommissioning Summary, a surety bond or other form of surety will be issued prior to commencement of construction in an amount equal to the current cost to decommission the project and reconstitute the land, less the salvage value of decommissioned equipment. This amount will be revisited every 5 years throughout the life of the project. The surety issued to the Township will assure payment of the decommissioning costs such that the Township will not need to fund any aspect of the project's decommissioning.

V. CONCLUSION

This submission and its attachments demonstrate Riverbend Wind's compliance with the Fremont Township Zoning Ordinance. Upon approval of the application, Riverbend Wind looks forward to the opportunity to construct the Riverbend Wind Energy Center in 2024. The project anticipates bringing several local benefits such as:

1. Local jobs: For instance, Deerfield II Wind Project in Huron County, MI currently employs approximately 150-200 people during construction and has an estimate of 10-17 permanent full-time jobs during operations,
2. Supplies clean renewable energy to approximately 90,000 homes while operating safely and in compliance with all applicable local, state, and federal regulations.
3. Supports local establishments through donations and other community events
4. Local tax revenues
5. Improved infrastructure