

**LAKE TOWNSHIP WIND ENERGY CONVERSION FACILITY OVERLAY ZONING ORDINANCE**

**SECTION 1. PURPOSE AND INTENT**

The purpose of this Article is to provide a regulatory scheme for the designation of properties suitable for the location, construction and operation of Wind Energy Conversion Facilities (Wind Energy Facilities) in Lake Township, Huron County, to protect the health, welfare, safety, and quality of life of the general public, and to ensure compatible land uses in the vicinity of the areas affected by wind energy facilities. A Wind Energy Facility Overlay District shall be considered a map amendment, wherein lands so classified shall become pre-qualified for a Wind Energy Facility with construction of such facility approved pursuant to Section 5 Wind Energy Facility Site Plan Review, of this Article. It is further recognized that a Wind Energy Facility Overlay District is intended as an agricultural preservation measure.

**SECTION 2. DEFINITIONS**

As used in this Article, the following terms shall have the meaning indicated:

**Board of Trustees** shall mean the Lake Township Board of Trustees.

**Commission** shall mean the Lake Township Planning Commission.

**Township** shall mean the Township of Lake.

**FAA** shall mean the Federal Aviation Administration.

**Hub Height** shall mean, when referring to a Wind Turbine, the distance measured from ground level to the center of the turbine hub.

**MET Tower** shall mean a meteorological tower used for the measurement of wind speed.

**Michigan Tall Structure Act (Act 259 of 1959)** shall govern the height of structures in proximity to airport related uses and is included as a standard in this Article by reference.

**Non-participating parcel** means a parcel of real property which is not under lease or other property agreement with a Wind Energy Conversion Facility (WECF) owner/operator.

**Participating parcel** means a parcel of real property which is under lease or other property agreement with a Wind Energy Conversion Facility (WECF) owner/operator.

**Wind Energy Conversion Facility (WECF)** or Wind Energy Facility shall mean an electricity generating facility consisting of one or more wind turbines under common ownership or operation control, and includes substations, MET Towers, cables/wires and other buildings accessory to such facility, located on private land which is under lease or other property agreement with a WECF owner/operator, whose main purpose is to supply electricity to off-site customers(s). It includes substations, MET towers, cables and wires and other buildings

accessory to such facility.

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**Wind Energy Facility Site Permit** is a permit issued upon compliance with standards of this Article.

**Wind Energy Facility Site Plan Review** is the process used to review a proposed Wind energy Facility.

**Wind Energy Overlay Districts** are districts created by the Lake Township Board of Trustees, upon receiving a recommendation of the Lake Township Planning Commission, by identifying specific areas within the Agricultural District best situated for development of wind energy facilities and adopting specific provisions that apply in that area in addition to other provisions of the zoning ordinance.

**Wind Turbine** shall mean a wind energy conversion system which converts wind energy into electricity through the use of a wind turbine generator, and includes the turbine, blade, tower, base and pad transformer, if any; provided that such a system shall only be a wind turbine for purposes of this Article if it both has a total height greater than 150 feet and nameplate capacity of greater than 100 kilowatts.

### **SECTION 3. REGULATORY FRAMEWORK**

#### **3.1 Zoning**

A Wind Energy Facility may be constructed on land that is zoned Agricultural and within an area designated as a Wind Energy Facility Overlay District on the official zoning map for the Township, subject to provisions and standards of Section 5 Wind Energy Facility Site Plan Review of this Article.

#### **3.2 Principal or Accessory Use**

A Wind Energy Facility and related accessory uses may be considered either principal or accessory uses. A different existing use or an existing structure on the same parcel shall not preclude the installation of a Wind Energy Facility or a part of such facility on such parcel. Wind Energy Facilities that are constructed and installed in accordance with the provisions of this Article shall not be deemed to constitute the expansion of a nonconforming use or structure. Wind Energy Facilities shall be reviewed and approved pursuant to Section 5 of this Article.

After designation as a Wind Energy Overlay District, new structures and uses within the “overlay” area shall be limited to those uses identified within Article IV. Agricultural District and wind energy facilities, subject to any additional standards of this Article.

### **SECTION 4.0 APPLICABILITY**

A Wind Energy Conversion Facility (WECF) or Wind Energy Facility (WEF) shall be permitted in Agricultural Districts with a Wind Energy Facility Overlay District Classification. Wind Energy Facility Site Plan Review standards shall be used when reviewing an application for wind energy facility permit.

**SECTION 5.0 WIND ENERGY FACILITIES SITE PLAN REVIEW PROCEDURE**

The following process shall be utilized when reviewing an application for a Wind Energy Facility Permit: Within an Agricultural District, a Wind Energy Facility Overlay District shall be created based on “attributes” and “limitations” identified in the Lake Township Master Plan. A “Wind Energy Overlay District” classification is a prerequisite to developing a Wind Energy Facility. It is the intent of this “overlay district” to identify agricultural land eligible for commercial, large-scale wind energy conversion facilities and, at the same time, provide for maximizing and preserving agricultural activity.

**5.1 Site Plan Review Required.** Wind Energy Conversion Facilities shall not be located, constructed, erected, altered, or used without first obtaining a Wind Energy Facilities Permit pursuant to this Article. The Wind Energy Facilities Site Plan must be reviewed and approved by the Lake Township Planning Commission pursuant to standards contained herein. A site plan which does not fully comply with the standards of this Article shall be submitted to the Board of Trustees for further review and possible approval. Modifications of development standards shall be based on a recommendation by the Planning Commission that said modification is in the best interest of the Township and the applicant. Where modification of a standard is requested, the Board of Trustees shall hold a public hearing prior to consideration of a modified site plan. An applicant proposing a Wind Energy Facility must submit the following site plan materials:

1. Survey of the property showing existing features such as contours, large trees, buildings, structures, roads (rights-of-way), utility easements, land use, zoning district, ownership of property, and vehicular access;
2. Plan(s) showing the location of proposed turbine towers, underground and overhead wiring (including depth underground wiring), access roads (including width), substations and accessory structures;
3. A description of the routes to be used by construction and delivery vehicles and of any road improvements that will be necessary in the Township to accommodate construction vehicles, equipment or other deliveries, and an agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Wind Energy Facility;
4. Engineering data concerning construction of the tower and its base or foundation, which must be engineered and constructed in such a manner that upon removal of said tower, the soil will be restored to its original condition to a depth of 3 feet;
5. Anticipated construction schedule; and
6. Description of operations, including anticipated regular and unscheduled maintenance.

**5.2 Application Fee:** An applicant for a Wind Energy Facility shall remit an application fee to the Township in the amount specified in the fee schedule adopted by resolution of the Lake Township Board of Trustees. This schedule shall be based on the cost to the township of the review which may be adjusted from time to time.

**5.3 - Application Material.** The following shall be included and/or be utilized as standards when preparing, submitting and reviewing an application for a Wind Energy Facility. A site plan which differs from these standards can be approved only upon the review of the Lake Township Planning Commission and approval of the Board of Trustees that the modification is in the best interest of the Township and applicant.

**A. Avian Analysis.** The applicant shall submit an avian study to assess the potential impact of proposed Wind Energy Facilities upon bird and bat species. The avian study shall at a minimum report on a literature survey for threatened and endangered species, and any information on critical flyways. The applicant must identify any plans for post-construction monitoring or studies. The analysis should also include an explanation of potential impacts and propose a mitigation plan, if necessary.

**B. Visual Appearance; Lighting; Power lines.** The applicant shall use measures to reduce the visual impact of wind turbines to the extent possible, utilizing the following:

- 1) Wind turbines shall be mounted on tubular towers, painted a non-reflective, non-obtrusive color. The appearance of turbines, towers and buildings shall be maintained throughout the life of the wind energy facility pursuant to industry standards (i.e., condition of exterior paint, signs, landscaping, etc). A certified registered engineer and authorized factory representative shall certify that the construction and installation of the wind energy conversion system meets or exceeds the manufacturer's construction and installation standards.
- 2) The design of the Wind Energy Facility's buildings and related structures shall, to the extent reasonably possible, use materials, colors, textures, screening and landscaping that will blend facility components with the natural setting and then existing environment.
- 3) Wind Energy Facilities shall not be artificially lighted, except to the extent required by the FAA or other applicable authority, or otherwise necessary for the reasonable safety and security thereof.
- 4) Wind turbines shall not be used for displaying any advertising except for reasonable identification of the manufacturer or operator of the Wind Energy Facility.
- 5) The electrical collection system shall be placed underground within the interior of each parcel at a depth designed to accommodate the existing agricultural land use to the maximum extent practicable. The collection system may be placed overhead adjacent to Township roadways, near substations or points of interconnection to the electric grid or in other areas as necessary.

**C. Setbacks, Separation and Security.** The following setbacks and separation requirements shall apply to all wind turbines within a Wind Energy Facility; provided, however, that pursuant to Section 5.1 of this Article a reduction to the standard setbacks and separation requirements may be permitted if the intent of this Article would be better served thereby.

- 1) Inhabited structures: On a participating parcel, each wind turbine shall be set back from the nearest inhabited structure a distance of no less than 1000 feet. Where a wind energy facility is proposed in the vicinity of a non-participating parcel, each wind turbine shall be set back from

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the nearest residence, school, hospital, church or public library on a non-participating parcel a distance no less than 1500 feet. A lesser setback may be approved pursuant to Section 5.1 of this Article if the intent of this Article would be better served thereby. A reduced setback shall be considered only with written approval from the owner of the inhabited structure.

2) Property line setbacks: Excepting locations of public roads (see below), drain rights-of-way and parcels with inhabited structures, wind turbines shall not be subject to a property line setback. Along the border of the Wind Energy Facility Overlay District, there shall be a setback distance equal to two (2) times the Hub Height of the wind turbine. Wind turbines and access roads shall be located so as to minimize the disruption to agricultural activity and, therefore, the location of towers and access routes is encouraged along internal property lines. Where a turbine location is proposed nearer to an internal property line than one and one-half (1.5) times the Hub Height of the wind turbine, an easement shall be established on the abutting parcel(s).

3) Public Roads: Each wind turbine shall be set back from the nearest public road a distance no less than 400 feet or 1.5 times its Hub Height, whichever is greater, determined at the nearest boundary of the underlying right-of-way for such public road.

4) Communication and electrical lines: Each wind turbine shall be set back from the nearest above-ground public electric power line or telephone line a distance no less than 400 feet or 1.5 times its Hub Height, whichever is greater, determined from the existing power line or telephone line.

5) Tower separation: Turbine/tower separation shall be based on 1) industry standards, 2) manufacturer recommendation, and 3) the characteristics [prevailing wind, topography, etc.] of the particular site location. At a minimum, there shall be a separation between towers of not less than 3 times the turbine (rotor) diameter; and, the Wind Energy Facility shall be designed to minimize disruption to farmland activity. Documents shall be submitted by the developer/manufacturer confirming specifications for turbine/tower separation.

6) Following the completion of construction, the applicant shall certify that all construction is completed pursuant to the Wind Energy Site Permit and, in addition, that appropriate security will be in place to restrict unauthorized access to Wind Energy Facilities.

***D. Wind Turbine/Tower Height (Total Height):*** The total height of a wind turbine shall be the distance to the center of the hub of the wind turbine plus the distance to the tip of the turbine blade at its height point. Generally, the Hub Height shall be limited to 330 feet from existing grade unless modification of this maximum height is approved pursuant to Section 5.1 of this Article. The applicant shall demonstrate compliance with the Michigan Tall Structure Act (Act 259 of 1959, as amended) and FAA guidelines as part of the approval process.

***E. Noise***

1) On participating parcels, audible noise or the sound pressure level from the operation of a WEF shall not exceed 45 dBA or the ambient sound pressure level plus five (5) dBA, whichever is greater, for more than ten percent (10%) of any hour, measured at any residence. On any non-participating parcel, audible noise or the sound pressure level from the operation of the Wind Energy Facility (WEF) shall not exceed 45 dBA, or the ambient sound pressure level plus five

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(5) dBA, whichever is greater, for more than ten percent (10%) of any hour, measured at any residence, school, hospital, church or public library existing on the date of approval of any WEF Site Permit. The applicant shall be able to provide sound pressure level measurements from a reasonable number of sampled locations at the perimeter and in the interior of the Wind Energy Facility to demonstrate compliance with this standard.

2) In the event audible noise from the operation of the Wind Energy Facility contains a steady pure tone, the standards for audible noise set forth in subparagraph 1) of this subsection shall be reduced by five (5) dBA. A pure tone is defined to exist if the one-third (1/3) octave band sound pressure level in the band, including the tone, exceeds the arithmetic average of the sound pressure levels of the two (2) contiguous one-third (1/3) octave bands by five (5) dBA for center frequencies of five hundred (500) Hz and above, by eight (8) dBA for center frequencies between one hundred and sixty (160) Hz and four hundred (400) Hz, or by fifteen (15) dBA for center frequencies less than or equal to one hundred and twenty-five (125) Hz.

3) The ambient noise level absent any and all turbine noise shall be expressed in terms of the highest whole number sound pressure level in dBA, which is exceeded for more than ninety (90) percent of an hour as a function of wind speed. Ambient noise levels shall be measured at a building's exterior of potentially affected existing residences, schools, hospitals, churches and public libraries. Ambient noise level measurement techniques shall employ all practical means of reducing the effect of wind-generated noise at the microphone. Ambient noise level measurements shall be performed when wind velocities at the proposed project site are sufficient to allow wind turbine operations, provided that the wind velocity does not exceed thirty (30) mph at the ambient noise measurement location.

4) Any noise level falling between two whole decibels shall be the lower of the two.

5) In the event the noise levels resulting from the Wind Energy Facility exceed the criteria listed above, a waiver to said levels may be approved provided that the following has been accomplished:

a. Written consent from the affected property owner(s) has been obtained stating that they are aware of the Wind Energy Facility and the noise limitations imposed by this Article, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed; and

b. If the applicant wishes the waiver to apply to succeeding owners of the property, a permanent noise impact easement must be recorded in the Huron County Register of Deeds office which describes the benefited 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.

***G. Minimum Ground Clearance***

The blade tip of any Wind Turbine shall, at its lowest point, have ground clearance of not less than seventy-five (75) feet.

***H. Signal Interference***

No Wind Energy Facility shall 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 Wind Energy Facility 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.

***I. Safety***

- 1) All collection system wiring shall comply with all applicable safety and stray voltage standards.
- 2) Wind Turbine towers shall not be climbable on the exterior.
- 3) All access doors to wind turbine towers and electrical equipment shall be lockable.
- 4) Appropriate warning signs shall be placed on wind turbine towers, electrical equipment, and Wind Energy Facility entrances.

**SECTION 6.0 CERTIFICATION.** Operation of a wind energy facility shall require certification of compliance; a certification report from the wind facility's owner/operator is required within twelve (12) months of the facility's initial operation (start-up) date. The post-construction certification report shall confirm the project's compliance with provisions of this code as well as all other all applicable laws and conformity with wind industry practices.

**SECTION 7.0 INSPECTIONS.** The applicant (owner/operator) shall submit annual reports to the Planning Commission or its designated officer confirming continued compliance with applicable Lake Township codes or ordinances. These requirements shall not preclude the township from undertaking a separate compliance report, where confirmation of data provided by the facility's operator is desired. The cost of a township-sponsored report shall be reimbursed to the township by the facility's owner/operator through an escrow fund established pursuant to the 'schedule of fees for wind energy facilities', adopted from time-to-time by the Board of Trustees.

**SECTION 7.01 COMPLAINT RESOLUTION.** The Michigan Zoning Enabling Act allows a local unit of government to enact through ordinance regulations to achieve specific land management objectives and avert or solve specific land use problems; see MCL 125.3201(3). The Thumb area has been designated as a primary wind zone area and as a result it is anticipated that Lake Township will experience substantial growth in wind energy facilities. In light of the foregoing, the Township has developed a process for the resolution of complaints unique to wind energy systems. A description of a complaint resolution process shall be established by an applicant of a wind energy facility permit as part of its initial application for zoning approval. The process is intended to facilitate resolution of complaints concerning the construction or operation of the wind energy facility from nearby residents and/or property owners. The process may use an independent mediator or arbitrator and shall include a time limit for acting on a complaint. A complaint resolution process approved through a wind energy facility permit shall be prepared utilizing, at a minimum, guidelines which are established by resolution of the Board of Trustees

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after recommendation by the Planning Commission; and, said process shall not preclude the township from pursuing any and all appropriate legal action on a complaint.

**SECTION 8.0 DECOMMISSIONING.** The applicant shall submit a plan describing the intended disposition of the Wind Energy Facilities at the end of their useful life, and shall describe any agreement with the landowner regarding equipment removal upon termination of the lease. A performance bond or equivalent financial instrument shall be posted in an amount determined by the Township (to be utilized in the event the decommissioning plan needs to be enforced with respect to tower removal, site restoration, etc.). The bond shall be in favor of Lake Township, and may be provided jointly as a single instrument for multiple townships within a single wind farm, provided that any such single instrument shall be in an amount of at least \$1 million and shall contain a replenishment obligation.