

## ARTICLE 14

### SPECIAL DEVELOPMENT REGULATIONS

#### Section 14.07 Wind Energy Conversion Systems.

This Section is intended to permit the effective and efficient use of wind energy conversion systems (WECS) in a manner that protects the public health, safety, and welfare of neighboring property owners and the residents of the Township. The siting, design, location, and installation regulations of this Section have been determined to be the minimum necessary to meet the intent and purposes of this Section and Ordinance. In no case shall the establishment of this Section guarantee wind rights or establish access to the wind. Wind energy conversion systems (WECS) in the Township shall be subject to the following:

##### A. Agricultural WECS Approval.

Agricultural WECS shall be permitted accessory to a permitted farm or agricultural operation on a lot of record in the Rural Districts, subject to Zoning Inspector approval in accordance with Section 1.07 (Certificate of Zoning Compliance) and the following:

1. The parcel where the agricultural WECS is proposed to be located shall have a minimum lot area of two (2) acres. The number of permitted agricultural WECS per parcel shall be subject to the following:

Minimum Lot Area	Maximum Number of Permitted WECS
2.0 to 40.0 acres	one (1)
Over 40.0 acres	two (2)

2. Agricultural WECS under this subsection shall not exceed a maximum height of 75 feet, measured from the base of the structure to the highest reach of its blade.
3. All agricultural WECS projects shall be set back from lot boundaries, road rights-of-way, and principal building(s) a minimum distance equal to one hundred fifty percent (150%) of the height of the structure.
4. All agricultural WECS project towers or poles shall be protected by anti-climbing devices; such as fences with locking portals at least six feet high; anti-climbing devices 12 feet from base of pole; or anchor points for guy wires supporting tower shall be enclosed by a six-foot high fence or shall be located within the confines of a yard that is completely fenced.
5. The agricultural WECS shall not cause interference with microwave transmissions, residential television reception or radio reception.
6. All agricultural WECS projects shall adhere to all applicable electrical codes and standards, shall remove fuel sources (such as vegetation) from the immediate

vicinity of electrical gear and connections, and shall utilize twistable cables on turbines.

7. The noise level measured at the property line of the property on which the agricultural WECS project has been installed shall not exceed 55 decibels.
8. Agricultural WECS shall be painted a neutral color that minimizes off-site visibility, provided that historical-style agricultural WECS not exceeding 50 feet in height with a fan containing more than twelve (12) blades and not exceeding ten (10) feet in diameter shall be exempted from this requirement.
9. Upon determination by the Zoning Inspector that an application to install agricultural WECS on more than one (1) parcel under common ownership or control meets the "commercial WECS" definition per Section 17.03 (Definitions), the commercial WECS standards and approval process shall apply.

**B. Other WECS Approval.**

All agricultural WECS exceeding 75 feet in height, all private WECS, and all commercial WECS shall require Conditional Use Permit approval in accordance with Article 11.0 (Conditional Uses) and the standards of this Section. The following additional information shall be submitted with any application for WECS approval:

1. Documentation of any potential interference that the proposed WECS may cause with microwave transmissions, residential television reception or radio reception.
2. Documentation of compliance with applicable federal and state regulations for the installation.
3. A plan for the long-term, continuous maintenance of the facility, including who will be responsible for maintenance of the facility, including access, landscaping, screening, and security improvements.
4. Elevation drawings of the proposed WECS and any associated facilities. The drawings shall identify the type, design, materials, and height for the proposed WECS and associated facilities; and the name and location of the WECS manufacturer, if applicable.
5. Written certification shall be provided from a professional engineer licensed by the State of Michigan demonstrating:
  - a. The manner in which the structure will fall in the event of accident, damage or failure, and that the setback area will accommodate the facility and provide an adequate buffer from adjacent parcels;
  - b. That the facility is designed in accordance with applicable dead load and wind pressure standards; and
  - c. That the facility is designed to conform to the State Construction Code and all other applicable building, electrical, and fire codes.

**C. Permitted Locations.**

Wind energy conversion systems shall only be permitted on parcels with a minimum lot area of two (2) acres in the Rural Districts and the PSP (Public/Semi-Public Uses) District.

**D. General WECS Standards.**

The following standards shall apply to private and commercial WECS in the Township:

1. **Design safety certification.** A Professional Engineer registered in the State of Michigan shall certify the safety of the design of all private and commercial WECS towers. The standard for certification shall be included with the permit application.
2. **Controls and brakes.** All private and commercial WECS projects shall be equipped with manual and automatic controls to limit rotation of blades to a speed below the designed limits of the WECS. The Professional Engineer shall certify that the rotor and overspeed control design and fabrication conform to applicable design standards. No changes or alterations from certified design shall be permitted unless accompanied by a Professional Engineer's statement of certification.
3. **Electrical components.** All electrical compartments, storage facilities, wire conduit and interconnections with utility companies will conform to national and local electrical codes.
4. **Compliance with Township ordinances.** All private and commercial WECS projects shall be in compliance with all requirements of this Section and Ordinance, and other applicable Township ordinances.
5. **Setbacks.** All private and commercial WECS projects shall be set back from lot boundaries, road rights-of-way, and principal building(s) a minimum distance equal to one hundred fifty percent (150%) of the height of the structure, measured from the base of the structure to the highest reach of its blade.
6. **Height.** Private WECS projects shall conform to the maximum height standards of the zoning district. Commercial WECS projects shall be exempt from the height requirements of this Ordinance, subject to the provisions of Article 11.0 (Conditional Uses), and compliance with Federal Aviation Administration (FAA) regulations.
7. **Installation certification.** The Professional Engineer shall certify that the construction and installation of the private or commercial WECS project meets or exceeds the manufacturer's construction and installation standards.
8. **Climb prevention.** All private and commercial WECS project towers or poles shall be protected by anti-climbing devices; such as fences with locking portals at least six feet high; anti-climbing devices 12 feet from base of pole; or anchor points for guy wires supporting tower shall be enclosed by a six-foot high fence or shall be located within the confines of a yard that is completely fenced.

9. **Interference.** The private or commercial WECS shall not cause interference with microwave transmissions, wireless communications, residential television reception, or radio reception.
10. **Fire risk.** All private and commercial WECS projects shall adhere to all applicable electrical codes and standards, shall remove fuel sources (such as vegetation) from the immediate vicinity of electrical gear and connections, and shall utilize twistable cables on turbines.
11. **Waste.** All solid wastes, whether generated from supplies, equipment parts, packaging, operation or maintenance of the WECS, including old parts and equipment, shall be removed from the site immediately and disposed of in an appropriate manner. All hazardous waste generated by the operation and maintenance of the WECS, including but not limited to lubricating materials, shall be removed from the site immediately and disposed of in a manner consistent with all local, state, and federal rules and regulations.
12. **Noise levels.** The noise level measured at the property line of the property on which the private or commercial WECS project has been installed shall not exceed 55 decibels.
13. **Liability insurance.** The owner or operator of the private or commercial WECS project shall maintain a current insurance policy with a bond rating acceptable to the Township to cover installation and operation of the WECS project. The amount of the policy shall be established as a condition of Conditional Use Permit approval. For a private WECS projects accessory to a principal residence, proof of homeowner's insurance with specific coverage for the WECS shall satisfy this requirement.

**E. Additional Standards for Commercial WECS Projects.**

The following additional standards shall apply to all commercial wind energy conversion systems in the Township:

1. **Color.** Towers and blades shall be painted a neutral color that minimizes off-site visibility, or as otherwise required by law.
2. **Compliance with FAA.** It shall be the responsibility of the person in charge of the commercial WECS project to complete the proper FAA applications and obtain the proper permits for the WECS project. It shall also be the responsibility of the person in charge of the commercial WECS project to obtain a determination of no significant impact to air navigation from the FAA.
3. **Warnings.** A visible warning sign of high voltage may be required by the Township to be placed at the base of all commercial WECS projects. Such signs shall be located a maximum of 300 feet apart and at all points of site ingress and egress.
4. **Annual inspection.** Every commercial WECS project shall be inspected annually by an Authorized Factory Representative or Professional Engineer to

certify that it is in good working condition and not a hazard to the public. Such records shall be submitted to the Zoning Inspector and considered a part of the continuing Conditional Use Permit approval.

5. **Compliance with additional regulations.** It shall be the responsibility of the person in charge of the commercial WECS project to contact the FCC and FAA regarding additional permits necessary or any other applicable Federal or State regulations for the installation.
6. **Migratory birds.** The Township may require an avian study conducted by a qualified professional to determine any potential impacts the commercial WECS project may present to migratory birds. The study as part of the special use permit shall provide assurances that the WECS project does not negatively impact the path of migratory birds.
7. **Decommissioning plan and escrow.** Commercial WECS projects shall include a Decommissioning Plan to ensure it is properly decommissioned upon the end of the project life or facility abandonment. Decommissioning shall include removal of all structures (including transmission equipment and fencing) and debris to a depth of four (4) feet, restoration of the soil, and restoration of vegetation within 180 calendar days of the end of project life or facility abandonment.

The decommissioning plan shall state how the facility will be decommissioned, the Professional Engineer's estimated cost of decommissioning, the financial resources to be used to accomplish decommissioning, and the escrow agent with which the resources shall be deposited. The decommissioning plan shall also include an agreement between the applicant and the Township that:

- a. The financial resources for decommissioning shall be in the form of a performance guarantee in accordance with the requirements of Section 1.08C (Performance Guarantees).
- b. The Township shall have access to the performance guarantee for the expressed purpose of completing decommissioning if decommissioning is not completed by the applicant within 180 calendar days of the end of project life or facility abandonment.
- c. The Township is granted the right of entry onto the site, pursuant to reasonable notice, to effect or complete decommissioning.
- d. The Township is granted the right to seek injunctive relief to effect or complete decommissioning, as well as the Township's right to seek reimbursement from applicant or applicant successor for decommissioning costs in excess of the amount deposited in escrow and to file a lien against any real estate owned by applicant or applicant's successor, or in which they have an interest, for the amount of the excess, and to take all steps allowed by law to enforce said lien. Financial provisions shall not be so onerous as to make wind power projects unfeasible.