

NOTICE – MONTEREY TOWNSHIP

At the July 5, 2010 meeting the Monterey Township Board approved with immediate effect the following amendment to the Monterey Township Zoning Ordinance.

MONTEREY TOWNSHIP ZONING ORDINANCE

Section 10.41 On-Site and Utility Grid Energy Systems (Wind Energy Conversion Systems)

Purpose The regulation of wind energy conversion systems (WECS), including the height, minimum lot area, and required setbacks of such systems, is intended to provide for an alternative source of power generation while protecting the health, safety, and welfare of Township residents.

Definitions

1. Ambient Noise Level: sometimes called background noise level, is the noise level that exists in the absence of unrelated wind turbine sound and is normally present at least ninety percent (90%) of the time. Ambient noise level shall not be measured during sporadic noise events such as seasonal farming, traffic, or weather events that would distort the establishment of a baseline level representative of the rural environment.
2. ANSI: American National Standard Institute
3. Associated Property: The property on which a large turbine wind energy system is located.
4. dB(A): The sound pressure in decibels.
5. Decibel: The unit of measure used to express the magnitude of sound pressure and sound intensity.
6. IEC: International Electro-technical Commission.
7. ISO: International Organization for Standardization.
8. Non-associated Property: Real property on which there is no large turbine wind energy system.

9. Occupied dwelling (associate and non-associated): An existing single family detached dwelling unit occupied by permanent resident(s). An occupied dwelling shall also include a church and a commercial business conducted in a structure not used for a dwelling unit.
10. Rotor: an element of a wind energy system that acts as a multi-bladed airfoil assembly, thereby extracting rotation, kinetic energy directly from the wind.
11. SCADA Tower: A freestanding tower containing instrumentation such as anemometers that are designed to provide present moment wind data for use by the supervisory control and data acquisition system.
12. Shadow Flicker: Alternating changes in light intensity caused by the moving blade of the wind energy system casting shadows on the ground and stationary objects, such as a window in a dwelling unit.
13. Sound Pressure: The average rate at which sound energy is transmitted through a unit area in a specified direction.
14. Sound Pressure Level: The sound pressure mapped to a logarithmic scale and reported in decibels.
15. Wind Energy Conversion System: A wind energy conversion system which converts wind energy into electricity through the use of wind turbine generator and includes the turbine blades, the tower, and the related electrical equipment. This does not include wiring to connect the wind energy system to the grid.
 - a. A small turbine or on-site system is intended to primarily serve the needs of the customer with a single tower that may or may not be connected to the utility grid.
 - b. A large turbine or utility grid system is designed to generate electricity from one or more towers (within an array) and is intended to serve development within the community or throughout the region.
16. Wind Site Assessment: An assessment to determine the wind speeds at a specific site and the feasibility of using that site for construction of a wind energy system.

Small Turbine or On-site Wind Energy systems with a tower exceeding one hundred (100) feet in height are permitted by a Special Use Permit in the A-1 and R-1 Districts. Installation of an anemometer tower used to assess the feasibility of an on-site wind energy system and exceeding one hundred (100) feet in height shall also be permitted by Special Use Permit. On-site energy

systems with no towers or towers one hundred (100) feet in height or less shall be permitted uses in the A-1 and the R-1 Districts. The maximum height of a small wind turbine tower, including the blade in its most vertical position, shall be one hundred and ninety-nine (199) feet.

Wind energy systems that are subject to a Special Use Permit shall submit the following:

1. A site plan showing the location of the proposed tower(s) on the site meeting a minimum setback from property lines, road rights-of-way, and associated occupied dwelling units of one hundred and fifty percent (150%) of the height of the tower including the blade in its most vertical position.
2. Documentation that the sound pressure is no greater than fifty (50) dBA at non-associated property lines, forty-five (45) dBA at the exterior of an associated occupied dwelling, and thirty-five (35) dBA at the exterior of a non-associated occupied dwelling, existing at the date the special use permit is granted.
3. Proof of the applicant's public liability insurance of \$1,000,000 per incident, per occurrence.
4. Documentation that the wind energy system including towers comply with all construction and electrical codes.
5. Proof that all wind energy systems shall have automatic, governing, or a feathering system to prevent uncontrolled rotation or over-speeding.
6. Demonstration that the tower(s) shall have lightning protection.
7. Demonstration that the minimum vertical blade tip clearance from grade shall be twenty (20) feet for a wind energy system employing a horizontal axis rotor.
8. Demonstration that the tower(s) comply with the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and Federal Aviation Administration (FAA) regulations.

Large Turbine or Utility Grid Wind Energy Conversion Systems are permitted in the A-1 District by a Special Use Permit. In addition to the requirements for an on-site wind energy system, the applicant must provide the following information:

1. A wind site assessment determining the wind speeds affecting the site and the subsequent feasibility of using the site for a wind energy system
2. Copies of the results of modeling and analysis report determining noise and sound pressure levels.
3. Audible noise or sound pressure level from the operation of a WECS shall not exceed fifty (50) dBA at non-associated property lines. Audible noise or sound pressure from the operation of a WECS shall not exceed forty-five (45) dBA measured at the exterior of any associated occupied residence , and thirty-five (35) dBA at the exterior of any non-associated occupied dwelling existing on the date of the approval of any WECS special use permit. The applicant shall be able to provide sound pressure level measurements from a reasonable number of sampled locations throughout a 12 month period at the perimeter and in the interior of the WECS site to demonstrate compliance with this standard. If audible noise exceeds these levels, the offending turbine(s) must be inoperable until repairs are completed or a waiver agreement is obtained from the affected property owner(s).
4. The applicant of wind turbine facility shall pay for all noise monitoring or measurements as required when reasonable need is determined by the Monterey Township Board of Trustees.
5. In the event the noise levels resulting from the WECS exceed the criteria listed herein, a waiver to said levels may be granted by the Township Board provided that written consent from affected property owners has been obtained stating that they are aware of the WECS and noise limitations imposed by this ordinance and that they consent to allow noise levels to exceed the maximum limits otherwise allowed. The noise limitations contained herein may be exceeded during short term events such as severe wind storms and/or utility outages.
6. Visual simulations depicting how the completed project will look from viewable angles. The system shall use tubular towers covered in a non-reflective matte finish color. No lettering, company insignia, advertising, or graphics shall be on any part of the tower(s). The project shall be so designed to have a similar appearance throughout.
7. Copy of an environmental impact analysis. The applicant shall have an independent third party, qualified professional, conduct an analysis to identify and assess any potential impacts on the natural environment, including historical sites and conducted within twelve (12) months of application for a special use permit. The analysis shall also address potential electromagnetic interference with existing transmission systems.

8. Copy of an avian and wildlife impact analysis. The applicant shall have an independent third party qualified professional conduct an analysis to identify and assess any potential impacts on migratory birds, bats, and wildlife. At a minimum the analysis shall include a thorough review of existing information regarding species and potential habitats in the vicinity of the project area. The owner/operator shall produce an avian risk study covering the areas likely to be affected by the project and conducted within twelve (12) months of application for a special use permit. These analyses shall be conducted for each phase of the project.

The Monterey Township Board of Trustees may require additional impact studies conducted by an independent third party, qualified professional to assess potential impacts of any phase of a WECS on avian and wildlife populations once the project or each phase of the project has been completed. The results of these studies shall be evaluated when issuing the renewal(s) of the special use permit issued for the WECS.

9. Copy of a shadow flicker analysis shall be conducted by an independent third party, qualified professional. The analysis shall identify the locations of shadow flicker on adjacent property that may be caused by the project and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. The analysis shall identify problem areas where shadow flicker may affect the occupants of the structures and describe measures to eliminate or mitigate the problems. Under no circumstances shall shadow flicker occur on an associated inhabited dwelling more than thirty (30) hours per year. Under no circumstances shall shadow flicker occur on a non-associated inhabited dwelling, unless a waiver is signed by the affected property owner.
10. Description of a complaint resolution process. The process shall use an independent mediator or arbitrator and shall include a time limit for acting on the complaint. The process shall not preclude government from acting on the complaint.
11. Manufacturers' material safety data sheets describing the type and quantity of all materials used in the operation of all equipment including lubricants and coolants.

Performance Standards for Large Turbine or Utility Grid WECS

1. Vibration. Under no circumstances shall a WECS produce vibrations at a level scientifically proven by an unbiased and peer reviewed report to have a negative impact on the natural and/or human environment.

2. Electromagnetic Interference. No WECS shall be installed in any location where its proximity to existing fixed broadcast, retransmission, or reception antennae for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception unless the owner/operator provides a replacement signal to the affected party that will restore reception to at least the level present before operation of the WECS. No WECS shall be installed in any location within the line of sight of an existing microwave communications link where the operation of the WECS is likely to produce electromagnetic interference in the link's operation unless the interference is insignificant.
3. Waste Management. All solid waste, whether generated from supplies, equipment, parts, packaging as well as operating and maintaining the facility, including old parts and equipment shall be removed from the site in a timely manner consistent with industry standards. All hazardous waste generated by the operation and maintenance of the facility, including but not limited to lubricating materials, shall be handled and disposed of in a manner consistent with federal EPA and state MDNRE regulations.
4. Infrastructure. The owner of the large turbine WECS shall reimburse Monterey Township and/or Allegan County for any and all repairs and reconstruction to public roads, culverts, and natural drainage ways resulting directly from the construction of the facility. Before construction the owner/operator shall secure a permit from the Allegan County Road Commission for the transport and construction of a WECS. Where the construction of a WECS cuts through a private or public drain tile field, the drain tile must be repaired and reconnected to properly drain the site.
5. Decommissioning. The owner/operator shall complete decommissioning of the WECS within twelve (12) months after the end of the useful life for the facility or individual wind turbines. The end of its useful life shall be determined if no electricity is generated for a period of twelve (12) consecutive months.
 - a. Decommissioning shall include the removal of wind turbines, buildings, cabling, electrical components, roads, and foundations unless the property owner agrees in writing that any or all, buildings, roads, and/or foundations remain on the site. This agreement shall be attached to the deed of the property and recorded with the Allegan County Register of Deeds. If the foundations remain, there shall be a minimum of forty-eight (48) inches of soil between the top of the foundation(s) and grade level of the site.

- b. Disturbed earth shall be graded and re-seeded to the satisfaction of the property owner.
 - c. An independent and registered professional engineer shall be retained to estimate the cost of decommissioning (decommissioning costs) without regard of salvage value of the equipment and the cost of decommissioning net salvage value (net decommissioning costs) of the equipment. These costs shall be updated every five (5) years.
 - d. The facility owner/operator shall post and maintain decommissioning funds equal to net decommissioning costs. At no point shall the funds be less than twenty-five percent (25%) of decommissioning costs. The funds shall be maintained in a manner determined by the Township Board of Trustees.
6. Maximum Height. The maximum height of a large WECS tower including the blade in its most vertical position shall be four hundred and fifty (450) feet.
7. Minimum Ground Clearance. The blade tip of any large wind turbine shall, at its lowest point, have a ground clearance of not less than fifty (50) feet.
8. Safety.
- a. All electrical wires and lines connecting each turbine to the next turbine shall be installed underground and comply with all applicable electrical codes. The wires and lines running from the last turbine in a string to any substation connecting to the electric utility shall also run underground.
 - b. Wind turbine towers shall not be climbable from the outside up to fifteen (15) feet above ground level.
 - c. All access doors to wind turbine towers and electrical equipment shall be locked when unattended.
 - d. Appropriate warning signage shall be placed on wind turbine towers and electrical equipment.
 - e. The facility (site and structures) shall have a minimum of an annual inspection report of structural stability, paid for by the owner/operator and filed with the Monterey Township Clerk. Turbines failing inspection or found unsafe shall be repaired, replaced or removed according to the decommissioning guidelines.

- f. The owner/operator shall post and maintain at each facility a 24 hour a day manned telephone number in case of an emergency.
 - g. The owner/operator shall be responsible for the total cost of any incident(s) that occur on or at each facility.
 - h. All towers shall have functioning lightning protection and comply with the Michigan Airport Zoning Act, the Michigan Tall Structures Act, and Federal Aviation Administration (FAA) regulations. All towers shall not exceed the minimum FAA standards for lighting. All tower lighting shall be shielded so as to prevent glare and visibility from the ground.
 - i. All wind energy facilities shall be equipped with a redundant braking system. This includes both aerodynamic overspeed controls and mechanical brakes. Mechanical brakes shall be operated in a failsafe mode. Stall regulation shall not be considered a sufficient braking system for overspeed protection.
9. Insurance. A certificate of insurance with a minimum of \$5,000,000 liability per incidence, per occurrence shall be required at the time of application for a special use permit. Each renewable period will require that a copy of a certificate of insurance be provided to the Monterey Township Clerk. An expired insurance certificate or unacceptable liability coverage amount is grounds for revocation of the special use permit. This insurance shall be in effect during the construction, operation, and decommissioning of the project.

The owner/operator shall defend, indemnify, and hold harmless Monterey Township and its officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever including legal fees arising out of the acts or omissions of the operator concerning the operation of the large turbine WECS without limitation, whether said liability is premised on contract or tort.

10. Setbacks. All WECS towers shall observe a minimum setback of six hundred (600) feet or one hundred and fifty percent (150%) of the tower height including the blade in its most vertical position whichever is greater from any non-associated property line and/or road right-of way. In addition all WECS towers shall observe a minimum setback of one thousand (1,000) feet from any associated occupied dwelling unit and fourteen hundred (1400) feet from non-associated dwelling unit.

11. Waiver agreements: Copies of all waiver agreements, relating to the standards contained in these regulations, executed between the owner/operator or applicant of the WECS and non-associated or associated parties shall be filed with the Monterey Township Clerk.
12. Construction activities. Construction activities shall be organized and timed to minimize impacts on township residents and wildlife from noise, disruption (including disruption of wildlife habitat), and the presence of vehicles and people.
13. Final construction drawings. Upon completion of each and every phase of the WECS, the owner/operator shall provide a final as-built construction drawing to the Monterey Township Clerk as well as to all relevant utility companies. Amendments to the drawings shall also be provided to the Township Clerk and to all relevant utility companies in a timely manner.
14. In addition the standards contained in this Section of the Zoning Ordinance, small and large WECS projects must comply with Section 10.18 of the Zoning Ordinance which governs the issuance of special use permits. Under Section 10.18 Monterey Township may impose other reasonable conditions on a WECS project to protect the health, safety, and welfare of Monterey Township residents. These conditions may include a reasonable expiration of the special use permit to monitor compliance with the specified conditions.

If a WECS project is to be developed in phases, each phase is subject to a separate special use permit.

15. The Township Board shall have the authority to revoke any special use permit if (a) it was granted in part because of material misrepresentation by the applicant or an agent for the applicant; or (b) the holder of the permit violates any term of the permit, including any condition or any applicable requirement of the zoning ordinance. In either event, the Township clerk shall give written notice to the holder of the permit describing the basis of the violations. Upon documented receipt of the notice, the holder shall have thirty (30) days to correct the violations. If the violations are not corrected within the specified time, the Township Board may revoke the permit after a public hearing. The holder of the permit shall reimburse the Township for its costs including expert consulting and attorney fees associated with or resulting from a revocation proceeding.