

**BERLIN CHARTER TOWNSHIP
ZONING ORDINANCE AMENDMENT
Ordinance No. 03-17; Date of Adoption: _____**

An Ordinance to amend the Berlin Charter Township Zoning Ordinance by modifying Article II – Definitions and Article XV – General Provisions.

THE TOWNSHIP BOARD OF THE TOWNSHIP OF BERLIN HEREBY ORDAINS:

Section 1. Title.

This Ordinance shall be known and referred to as Berlin Charter Township Zoning Ordinance Amendment No. 03-17 revising Article II – Definitions and Article XV – General Provisions.

Section 2.

Berlin Charter Township Zoning Ordinance is hereby amended by revising Article II – Definitions and Article XV – General Provisions as follows:

Section 18-21. – Interpretation

Wind Energy conversion System (WECS): Any device such as a turbine, windmill, or charger that converts wind energy to a usable form of energy.

1. ***On-Site Wind Energy Conversion System:*** A WECS which is used only by the primary residence or residences in a cooperative effort, business or agricultural operation and not sold or transferred to the electrical grid for commercial profit.
2. ***Commercial Wind Energy Conversion System:*** Any WECS that is designed and built to provide electricity to the electric utility’s power grid as an on-going commercial enterprise or for commercial profit.

Section 18-325. – Wind Energy Conversion Systems.

- A. **Purpose.** It is the intent of the Township to permit these systems by regulating the siting, design, and installation of such systems to protect the public health, safety, and welfare, and the ensure compatibility of land uses in the vicinity of WECS.
- B. **Approval Required.** It shall be unlawful to construct, erect, install, alter, or locate any WECS within the Township except in compliance with this Section.
- C. **Accessory Use.** On-Site WECS are allowed as an accessory use in the AG, Agriculture zoning district and shall meet the following standards and requirements:

1. **Minimum Lot Area.** The minimum lot area shall be ten (10) acres.
2. **Limitations.** One (1) on-site WECS shall be allowed as an accessory use per property.
3. **Property Setbacks.** The distance between a WECS and the nearest property line shall be at least one and one-half (1.5) times the height of the WECS. No part of the WECS structure, including guy wire anchors, may extend closer than ten (10) feet to the owner's property line.
4. **Other Required Setbacks.** The distance between a WECS and a road or a public right-of-way shall be at least one and one-half (1.5) times the height of the WECS.
5. **Site Grading / Driveways.** All access driveways shall be subject to Monroe County Road Commission approval. Site grading and driveways shall not block the flow of water from adjacent parcels.
6. **Height.** The height of an on-site WECS shall be less than one hundred fifty (150) feet in height. Height shall be measured from the existing grade to the tip of the turbine blade at its highest point.
7. **Noise.** Audible noise or the sound pressure level of an On-Site WECS shall not exceed fifty-five (55) dB(A) at the property line closest to the WECS. This sound pressure level may be exceeded during short-term event such as utility outages and/or severe wind storms.
8. **Shadow Flicker.** The applicant shall conduct an analysis of potential shadow flicker. The analysis shall identify the locations of shadow flicker that may be caused by the WECS and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. The analysis shall identify impacted areas where shadow flicker may affect occupants or users of the structures or properties in the impacted area. The analysis shall describe measures that will be taken to eliminate or mitigate negative impacts.
9. **Construction Codes, Towers, and Interconnections Standards.**
 - (a) Every WECS shall comply with all applicable state construction codes and local building permit requirements.
 - (b) Every WECS shall comply with Federal Aviation Administration requirements, the Airport Zoning Act, the Tall Structure Act (PA 259 of 1959), and any other applicable state or federal laws or regulations.

- (c) An On-Site WECS that is tied to the electrical grid shall comply with Michigan Public Service Commission and utility interconnection requirements. Off-grid WECS are exempt from this requirement.

10. **Safety.**

- (a) **Design Safety Certification.** The safety of the design of every WECS shall be certified by the applicant's professional engineer registered in the State of Michigan and reviewed by the Township. If WECS construction is approved, the professional engineer shall certify that the construction and installation of the WECS meets or exceeds the manufacturer's construction and installation standards, and any applicable state and federal laws and regulations prior to operation.
- (b) **Controls and Brakes.** Every WECS shall be equipped with manual and automatic controls to limit rotation of blades to a speed not to exceed the design limits of the WECS. The applicant's professional engineer must 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 approved by the Township.
- (c) **Lightning Protection.** Every WECS shall have lightning protection.
- (d) **Guy Wires.** If an On-Site WECS is supported by guy wires, the wires shall be clearly visible to a height of at least six (6) feet above the guy wire anchors.
- (e) **Grade Clearance.** The minimum vertical blade tip clearance from grade shall be twenty-five (25) feet from any WECS employing a horizontal axis rotor.
- (f) **Interference.** Every WECS shall be designed and operated to minimize or mitigate interference with existing electromagnetic communications, such as radio, telephone, microwave, or television signals.
- (g) **Color.** Towers and blades shall be painted a non-reflective neutral color designed on the application and approved by the Township or as otherwise required by law.
- (h) **Climb Prevention.** Every WECS must be protected by anti-climbing devices such as:

1. A perimeter chain-link fence to restrict unauthorized access. Such fencing shall be secured to the ground to prevent underground access, as well as six (6) feet in height with a one (1) foot extension arm consisting of a minimum of three (3) strands of barbed-wire placed above the fencing and slanting outward as measured from the natural grade of the fencing perimeter; or
2. Anti-climbing devices twelve (12) feet from the base of pole including anti-climb panels, anti-climb brackets, and other similar devices.

(i) **Removal of Abandoned On-Site WECS.** In the event an On-Site WECS is abandoned or unused for a period of one hundred and eighty (180) days, or if an On-Site WECS is damaged, the owner of the tower or the land shall promptly remove the tower and all related equipment. Failure to remove the tower and related equipment in accordance with the foregoing shall subject the owner to fines established by the Township Board. In addition, by accepting a permit for the On-Site WECS, the applicant agrees that in the event the tower and equipment is not removed as required, after thirty (30) days' notice from the Township, the Township may undertake such removal and bill the costs to the applicant plus an administrative fee of fifteen percent (15%) which, if not paid within thirty (30) days, shall be assessed against the land on which the tower and equipment is located and collected in the same manner as delinquent taxes.

D. **Application Required.** An application for On-Site WECS shall be submitted to the Township for review and approval by the Township Building Official, and shall include the following information:

1. Name, address, and contact information.
2. A general, written description of the proposed project as well as a legal description (property identification number) of the property on which the WECS would be located.
3. A plan showing a map with the physical features and land uses of the project area, both before and after construction of the proposed WECS. The plan shall include:
 - (a) The project area boundaries.
 - (b) The location, height, and dimensions of all existing and proposed structures, and fencing.

- (c) Distance of proposed WECS from all property lines and permanent structures.
 - (d) The location, grades, and dimensions of all temporary and permanent On-Site WECS access roads.
 - (e) Existing topography.
 - (f) Water bodies, waterways, wetlands, and drainage ditches (county drains).
 - (g) All new infrastructure related to the project.
 - (h) The location of all overhead utility wires.
4. Proof of the applicant's liability insurance covering the WECS.
 5. Documentation of the manufacturer's designed sound pressure levels (decibels) for the unit to be installed).
 6. The applicant shall provide evidence of ownership of the land which the WECS is to be located.

Section 3. Repeal.

All Ordinances in conflict with this Ordinance are, to the extent of such conflict, hereby repealed.

Section 4. Severability.

This Ordinance and the various parts, sentences, paragraphs, sections, subsections, phrases and clauses thereof are declared to be severable and if any of them are adjudged unconstitutional or invalid, it is hereby provided that the remainder of the Ordinance shall not be affected.

Section 5. Effective Date.

This Ordinance shall become effective seven days after adoption and publication in a newspaper having general circulation in the Charter Township of Berlin, Monroe County, Michigan.