

(Ord. 224, 3/15/1981, §210; as added by Ord. 850, 5/16/2005)

§27-212. Small Wind Energy Systems.

1. *Intent.* The intent of these regulations is to promote the safe, effective and efficient use of small wind energy systems to reduce the on-site consumption of utility-supplied electricity.

2. *Definitions.*

Flicker - a repeating cycle of changing light intensity.

Guy cable - any cable or wire that extends from a small wind energy system for the purpose of supporting the system structure.

Meteorological tower or met tower - a structure designed to support the gathering of wind energy resource data, and includes the tower, base plate, anchors, guy cables, and hardware, anemometers, wind direction vanes, booms to hold equipment, anemometers and vanes, data logger, instrument wiring, and any telemetry devices that are used to monitor or transmit wind speed and wind flow characteristics over a period of time for either instantaneous wind information or to characterize the wind resource at a given location.

Occupied building - a residence, school, hospital, church, public library or other building used for public gathering that is occupied or in use when a permit application is submitted.

Shadow flicker - the on and off flickering effect of a shadow caused when the sun passes behind the rotor of a wind turbine.

Small wind energy system - a wind energy conversion system which has a rated capacity of up to 100 kilowatts and which is incidental and subordinate to a permitted use on the same parcel. A system is considered a small wind energy system only if it supplies electrical power solely for on-site use, except that when a parcel upon which the system is installed also receives electrical power supplied by a utility company, excess electrical power generated and not presently needed for on-site use may be used by the utility company.

Tower - a monopole, freestanding, or guyed structure that supports a wind generator.

Tower height - the height above grade of the fixed portion of the tower, excluding the wind turbine and blades.

Turbine - the parts of a wind system including the blades, generator, and tail.

Wind energy system - a wind generator and all associated equipment, including any base, blade, foundation, nacelle, rotor, tower, transformer, vane, wire, inverter, batteries and/or other component necessary to fully utilize the wind generator.

Wind generator - equipment that converts energy from the wind into electricity. Includes the rotor, blades, and associated mechanical and electrical conversion components necessary to generate, store, and/or transfer energy.

3. *Review and Permitting.*

A. A small wind energy system shall be permitted as an accessory use on any lot of at least 1 acre in size located in the RA or RR zoning districts, subject to compliance with the following ordinance provisions:

B. A zoning permit shall be required for the installation of a small wind energy system. No more than one small wind energy system may be placed on any lot.

(1) In addition to any other requirements or application procedures, the zoning permit application shall be accompanied by a plot plan that includes the following:

- (a) Property lines and physical dimensions of the property.
- (b) Location, dimensions, and types of existing principal and accessory structures on the property.
- (c) Location of the small wind energy system tower.
- (d) The right-of-way delineation of any public road that is contiguous with the property.
- (e) Any overhead utility lines.
- (f) Any easements.
- (g) Small wind energy system specifications, including manufacturer and model, rotor diameter, tower height, tower type (freestanding or guyed).
- (h) Detailed tower and tower foundation drawings, stamped and sealed by a Pennsylvania licensed professional engineer.
- (i) A map of the 200-foot area surrounding the subject property showing all affected lands and structures at a legible scale.

4. *Tower Height.*

A. Tower heights of not more than 80 feet shall be allowed on parcels between 1 and 2 acres. Properties over 2 and up to 5 acres may have tower heights up to and including 140 feet. For property sizes of 5 acres or more, there is no limitation on tower height except as imposed by FAA regulations, provided that evidence is provided that the proposed height does not exceed the height recommended by the manufacturer or distributor of the system.

5. *Setbacks.*

A. Setbacks for the system tower shall be no closer to the property line than the height of the system and, no part of the system, including guy wires anchors, may extend closer than 10 feet to the property boundary. Additionally, the outer and innermost guy wires must be marked and clearly visible to a height of 6 feet above the guy wire anchors.

6. *Compliance.*

A. Permit applications for small wind energy systems shall be accompanied by a line drawing of the electrical components in sufficient detail to allow for determination that the manner of installation conforms to the National Electrical Code. This information may be supplied by the manufacturer.

B. Permit applications for small wind energy systems shall be accompanied by standard drawings of the wind turbine structure, including the tower, base, and footings. An engineering analysis of the tower showing compliance with the Uniform Building Code and certified by a licensed professional engineer shall also

be submitted. This analysis may be supplied by the manufacturer.

C. Small wind energy systems shall comply with all applicable FAA regulations, including any necessary approvals for installations close to airports.

D. Small wind energy systems shall comply with all applicable State construction and electrical codes. The owner/operator of the small wind energy system must also obtain any permits required by other Federal, State and local agencies/departments prior to erecting the system.

7. *Noise and Interference.*

A. Decibel levels for the system shall not exceed 60 decibels (dBA) measured at the property line, except during short-term events such as utility outages and severe wind storms.

B. The small wind energy system shall not cause any radio, television, microwave, or navigation interference. If a signal disturbance problem is identified, the owner shall correct the problem within 90 days of being notified of the problem.

C. The system owner/operator shall make all reasonable efforts to minimize and/or eliminate shadow flicker to occupied buildings on immediately adjacent properties. The applicant is responsible for identifying problem areas where shadow flicker will interfere with existing or future residences and describe proposed mitigation measures including, but not limited to, a change in siting of the wind energy conversion system, a change in the operation of the wind energy conversion system, or grading or landscaping mitigation measures.

8. *Appearance and Lighting.*

A. The small wind energy system shall maintain a galvanized neutral finish or be painted to conform to the surrounding environment to minimize adverse effects. No small wind energy system shall have any signage, writing, pictures, or decorations placed on it at any time other than warning, equipment, and ownership information. No small wind energy system shall have any flags, streamers, banners, or other decorative items that extend from any part of the system, placed on it at any time.

B. A small wind energy system shall not be artificially lighted unless such lighting is required by the Federal Aviation Administration.

9. *Safety Features.*

A. The small wind energy system shall have an automatic overspeed control to render the system inoperable when winds are blowing in excess of the speeds for which the system is designed, and a manually operable method to render the system inoperable in the event of a structural or mechanical failure of any part of the system.

B. All ground-mounted electrical and control equipment shall be labeled and secured to prevent unauthorized access. The tower shall be designed and installed so as not to provide step bolts, a ladder, rungs, or other publicly accessible means of climbing the tower, for a minimum height of 8 feet above the ground elevation.

C. All electrical wires associated with a small wind energy system shall be located underground when practicable. All wires not located underground including, but not limited to, wires necessary to connect the wind generator to the tower wiring, the tower wiring to the disconnect junction box and the grounding

wires, shall be contained within an appropriate conduit suitable for same.

D. No portion of the small wind energy system blade shall extend within 20 feet of the ground.

10. *Notification.*

A. No small wind energy system shall be installed until evidence has been given that the utility company has been informed of the customer's intent to install an inter connected customer-owned generator. Off-grid systems shall be exempt from this requirement.

B. When application is made for approval of a small wind energy system, notice shall be mailed to the owners of all properties adjacent and within 200 feet of the lot on which the system is to be constructed.

11. *Met Towers.*

A. A met tower shall be permitted under the same standards, permit requirements, and procedures as a small wind energy system.

12. *Removal.*

A. A small wind energy system that is out-of-service for a continuous 12-month period will be deemed to have been abandoned. Non-function or lack of operation may be proven by reports from the interconnected utility. The owner/operator shall make available to the zoning administrator all reports to and from the purchaser of energy from the small wind energy system if requested.

B. If the small wind energy system is determined to be abandoned, the owner of the small wind energy system shall remove the wind generator from the tower at the owner's sole expense within 3 months of notice of abandonment. The owner is solely responsible for removal of the system and all costs, financial or otherwise, of system removal.

13. *Violations.*

A. It is unlawful for any person to construct, install, or operate a small wind energy system that is not in compliance with this Section or any condition contained in a building permit issued pursuant to this Section. Small wind energy systems installed prior to adoption of this Section are exempt.

(*Ord. 224, 3/15/1981, §212; as added by Ord. 917, 1/19/2009, §4*)

§27-213. Riparian Buffer Overlay Zoning District Requirements.

1. *Legislative Intent.*

A. Under the Authority of Article I, §27, of the Pennsylvania Constitution, Act 247, the Municipalities Planning Code, as amended, other Commonwealth and Federal statutes, and in recognition of the fact that natural features contribute to the welfare of residents, the following riparian buffer regulations are enacted to provide reasonable controls governing the restoration, conservation, disturbance, and management of existing riparian corridors by establishing a designated Riparian Buffer Overlay Zoning District.

B. Ferguson Township adoption of these regulations does not grant public access to private property. Any grant of public access remains the prerogative of each individual property owner.