

Chapter 14 Special Uses

Section 14.05 Permitted Special Uses & Specific Requirements

Special uses are permitted in the various zone districts as provided in Table 14.05A and in accordance with the specific requirements of the corresponding approval standard for each use.

Table 14.05A Permitted Special Uses

NOTE: Add the following text to the end of the table on Page 46:

<u>Special Uses</u>	<u>Approval Standard</u>	<u>A-E</u>	<u>SFR</u>	<u>MFR</u>	<u>MHP</u>	<u>LB</u>	<u>GB</u>	<u>PE</u>	<u>GI</u>
Solar Energy Facilities	24	X							

NOTE: Add the following text to the end of the table on Page 77:

Approval Standard 24 – Applicable Uses & Requirements

Uses: Solar Energy Facilities

Required Conditions:

1. **SPECIAL USE REQUIREMENTS.** The solar energy regulations and standards described in this section pertain to the creation of large-scale ground-mounted solar photovoltaic installations that primarily sell electricity to be used off site. The regulations set forth below apply to the construction, operation, and/or repair of large-scale ground-mounted Solar Energy Facilities and shall only be allowed as a Special Use in the Agricultural Estate District, pursuant to Chapter 14 as to Special Use approvals and the following requirements:
 - a. **Procedure.** The Planning Commission review of a Special Use Permit application for a Solar Energy Facility is a two-step process. The first step is the public hearing and decision by the Planning Commission, per the procedures for review in Chapter 14. The second step, which may occur at a separate meeting for a solar energy facility, is the site plan review process by the Planning Commission as described in Chapter 15. A decision on the Special Use Permit application by the Planning Commission is inclusive of all proposed Solar Energy Facilities, underground electrical lines, sub-station(s), junction boxes, laydown yard(s), and any operations/maintenance building(s).

- b. **Applicant Identification.** Applicant name and address in full, a statement that the applicant is the owner involved or is acting on the owner's behalf, the address of the property involved in the application (substitution may include a legal description or parcel identifications number(s)), and any additional contact information. Each application for a Solar Energy Facility shall also be dated to indicate the date the application is submitted to Portsmouth Township.
- c. **Fee.** An applicant shall remit an application fee and an escrow deposit, in the amount specified by Township policy. This schedule shall be based on the cost of the application review and may be adjusted from time to time. If professional review of plans is required, then such costs shall be paid from the escrow deposit.
- d. **Project Description.** A general description of the proposed project including a legal description of the property or properties on which the project would be located and an anticipated construction schedule.
- e. **Project Design.** A description and drawing of the proposed technology to include type of solar panel and system, fixed mounted compared to solar tracking, number of panels, and angles of orientation.
- f. **Insurance.** Proof of the applicant's public liability insurance with at least \$3,000,000 per occurrence to cover the Solar Energy Facility, the Township, and the landowner.
- g. **Certification.** Certifications that the applicant has complied or will comply with all applicable county, state, and federal laws, regulations, and ordinances, including compliance with the Farmland and Open Space Preservation Program (Part 361 of the Natural Resources and Environmental Protection Act, Public Act 451 of 1994 as amended, more commonly known as PA 116).
- h. **Manufacturers' Data Sheet(s).** Documentation shall include the type and quantity of all materials used in the operation of all equipment.
- i. **Visual Simulations.** Photo exhibits visualizing the proposed solar energy system, with emphasis on visualizing the location of any required fences, landscaping, access roads, and setbacks from adjacent non-participating property.
- j. **Maintenance Plan.** Applicant shall submit a maintenance plan that describes the following:
 - 1) Demonstrates the solar energy facility will be designed, constructed, and operated to minimize dust generation, including provision of sufficient watering of excavated or graded soil during construction to prevent excessive dust.
 - 2) States the manner how unpaved access roads will be treated and maintained, either with a dust palliative or graveled or treated by another approved dust control method to prevent excessive dust.
 - 3) Provisions that will be employed to maintain and promote native vegetation while minimizing the proliferation of weeds during and following construction.

- k. **Emergency Services.** The large scale solar photovoltaic installation owner or operator shall provide a copy of the project summary, electrical schematic, and site plan to the local fire chief. The owner or operator shall cooperate with local emergency services in developing an emergency response plan. All means of shutting down the solar photovoltaic installation shall be clearly marked. The owner or operator shall identify a responsible person for public inquiries throughout the life of the installation.
 - l. **Decommissioning.** Copy of the decommissioning plans and a description of how any surety bond is applied to the decommissioning process.
 - m. **Complaint Resolution.** Description of the complaint resolution process.
2. **SITE PLAN REQUIREMENTS.** The applicant shall submit a site plan in full compliance with Chapter 15 of this zoning ordinance for each Solar Energy Facility and other solar energy appurtenances, including the following requirements:
- a. The project area boundaries,
 - b. The location, height, and dimensions of all existing and proposed structures and fencing,
 - c. The location, grades, and dimensions of all temporary and permanent on-site and access roads from the nearest county or state maintained road,
 - d. Existing topography,
 - e. Water bodies, waterways, wetlands, drainage channels, and drain easements, and
 - f. A site grading, erosion control and storm water drainage plan. At the Township’s discretion, these plans may be reviewed by the Township’s engineering firm.
 - g. All comments from the Bay County Drain Commissioner’s office pertaining to the proposed solar energy facility shall be submitted to the Planning Commission.
 - h. All new infrastructure, both above and below ground, related to the project. This includes inverters and batteries.
 - i. Identification of a construction/set-up/laydown area.
3. **STANDARDS AND REQUIREMENTS.** Solar Energy Facilities shall meet the following standards and requirements:
- a. **Location of Solar Energy Facilities.**
 - i. All Solar Energy Facilities must comply with the requirements established in the Portsmouth Township Zoning Ordinance.
 - ii. All fences and improved areas located on the site shall comply with the applicable setbacks for the district in which it is located. See Chapter 5 of the Zoning Ordinance.

Furthermore, any structures or other improved areas located within the fenced/improved area shall be located at least 30 feet from the fence line/improved area.

Project design and layout will ensure any structures or other improved areas located within the fenced/improved area shall be located a minimum of 100 feet from any residential structure, church, school, family or group child day-care home, and bed and breakfast establishments.

iii. Solar panels and associated racking is limited in height to 18 feet. All other structures shall comply with the height requirements of Chapter 5.

iv. Minimum lot size? (For AE it is 1 acre, but the minimum for a farm or farm building is 10 acres) (Also say that maximum lot coverage of 30% does not apply?)

b. Design and Installation Standards

- i. All proposed facilities shall comply with all applicable local, state, and federal standards and requirements, including electrical, building, and drain codes.
- ii. A copy of the application to the utility company that will be purchasing electricity from the proposed site shall be provided to the Planning Commission.
- iii. All electrical connection systems and lines from the Solar Energy Facility to the electrical grid connection shall be located and maintained at a minimum depth of six feet underground.
- iv. The design and construction of Solar Energy Facilities shall not produce electrical emissions that would interfere with aircraft communications systems or navigation equipment.
- v. If the Solar Energy Facility consists of batteries or storage of batteries, adequate design must be provided to ensure all local, state and federal requirements regulating outdoor battery storage have been met.
- vi. The applicant must obtain a driveway permit from the Bay County Road Commission or MDOT, as applicable.
- vii. The applicant must obtain any drain permits from the Bay County Drain Commission or MDEQ, as applicable
- viii. The design of landscape buffers for Solar Energy Facilities shall use materials, colors, textures, screening and landscaping that will blend the facility into the natural setting and existing environment.
- ix. Lighting shall be consistent with local, state, and federal law, and shall be limited to that required for safety and operational purposes. Lighting shall be reasonably shielded from abutting properties.

- x. Compliance with any applicable airport overlay zoning requirements and the ability to comply with FAA regulations pertaining to hazards to air navigation must be demonstrated.
 - xi. If a Solar Energy Facility ownership changes, the new owner/operator must meet with the Portsmouth Township Planning Commission to review the conditions of the Special Use Permit within 60 days of the change in ownership.
- c. **Noise.** No additional noise over the existing ambient level shall be heard at the property lines of the project. If noise complaints occur, the owner/operator may be required to complete a noise study and mitigate any additional noise that is found.

d. Light and Glare

- i. All Solar Energy Facilities shall be placed such that solar glare does not project onto nearby inhabited structures or roadways and be considered a nuisance.
- ii. The applicant has the burden of proof that any glare produced does not have an adverse effect on neighboring or adjacent uses through siting and mitigation. If the solar panel systems do produce a glare, the applicant shall be responsible for mitigation, and will provide a mitigation plan.
- iii. The design and construction of Solar Energy Facilities shall not produce light emissions, either direct or indirect (reflective), that would interfere with pilot vision and/ or traffic control operations.

e. Landscaping

- i. Applicant shall submit a landscape plan detailing all proposed changes to the landscape of the site, including temporary or permanent roads or driveways, grading, vegetation clearing, and planting.
- ii. All Solar Energy Facilities shall have a minimum landscape buffer depth of 20 feet. The buffer shall contain evergreen trees or bushes planted no more than eight feet apart and at least four feet tall at time of planting. Trees and bushes planted in the buffer shall obtain a height of 10 feet within three growing seasons. The trees or bushes may be trimmed but can be no lower than a height of 10 feet.
- iii. Land clearing of natural vegetation shall be limited to that which is necessary for the construction, operation, and maintenance of the Solar Energy Facility pursuant to practices of best management of natural areas or good husbandry of the land or forest other prescribed by applicable laws, regulations, and bylaws.

- iv. Each owner/operator of a Solar Energy Facility shall utilize good husbandry techniques with respect to said vegetation, including but not limited to, proper pruning, proper fertilizer, and proper mulching, so that the vegetation will reach maturity as soon as practical and will have maximum density in foliage. Dead or diseased vegetation shall be removed and must be replanted at the next appropriate planting time. Plants or grasses not part of landscaping shall be maintained by the facility operator not to exceed twelve inches in height.
- v. Applicant must provide a detailed maintenance plan for the proposed solar energy system, and surrounding area, including provisions that will be employed to maintain and promote native vegetation while minimizing the proliferation of weeds during and following construction.

f. Security

- i. The manufacturers or installer's identification and appropriate warning sign shall be posted on or near the panels in a clearly visible manner; furthermore, an information sign shall be posted and maintained at the entrance(s), which shall list the name and phone number of the operator
- ii. Solar energy facilities may be surrounded by a chain link fence in accordance to Section 2.08. The fence shall be designed to restrict unauthorized access.
- iii. No portion of the Solar Energy Facility shall contain or be used to display advertising. The manufacturers' name and equipment information or dedication of ownership shall be allowed on any equipment of the solar energy system provided they comply with the prevailing sign regulation.

5. ABANDONMENT AND DECOMMISSIONING.

- a. Abandonment: A Solar Energy Facility that ceases to produce energy on a continuous basis for 12 months will be considered abandoned unless the current responsible party (or parties) with ownership interest in the Solar Energy Facility provides substantial evidence (updated every 6 months after 12 months of no energy production) to the Planning Commission or its designee of the intent to maintain and reinstate the operation of that facility. It is the responsibility of the responsible party (or parties) to remove all equipment and facilities and completely restore the property to its condition prior to development of the Solar Energy Facility.
 - i. Upon determination of abandonment, the Zoning Administrator shall notify the party (or parties) responsible that they must remove the Solar Energy Facility and restore the site to its condition prior to development of the Solar Energy Facility within six months of notice by the Planning Commission or its designee.
 - ii. If the responsible party (or parties) fails to comply, the Township or its designee, may remove the Solar Energy Facility, sell any removed materials, and initiate

judicial proceedings or take any other steps legally authorized against the responsible parties to recover the costs required to remove the Solar Energy Facility and restore the site to a nonhazardous predevelopment condition.

- b. Decommissioning: A decommissioning plan signed by the party responsible for decommissioning and the landowner addressing the following shall be submitted prior to the issuance of the zoning permit, which shall include:
 - i. The anticipated life of the project;
 - ii. The estimated decommissioning costs net of salvage value in current dollars;
 - iii. The method of ensuring that funds will be available for decommissioning and restoration, to include but not limited to:
 1. Complete removal of all non-utility owned equipment, conduit, structures, fencing, roads, solar panels and foundations, and
 2. Complete restoration of property to condition prior to development of the Solar Energy Facility;
 - iv. The anticipated manner in which the project will be decommissioned and the site restored.
 1. Decommissioning shall include the removal of each Photovoltaic Panel, all electrical components, and associated facilities within the footprint of the Solar Energy Facility to a depth of four feet below grade.
 2. All access roads to the Solar Energy Facility shall be removed, cleared, and graded by the facility owner, unless the property owner requests, in writing, a desire to maintain the access road. The Township will not be assumed to take ownership of any access road and such remaining roads will not be considered public roads.
 3. The site and any disturbed earth shall be stabilized, graded, and cleared of any debris by the owner of the Solar Energy Facility or its assigns. If the site is not to be used for agricultural purposes following removal, the site shall be seeded to prevent soil erosion, and restored to its condition existing prior to any construction activities, unless the property owner(s) requests, in writing, the land surface areas not be restored.
 - v. A provision to give notice to the Township one year in advance of decommissioning.
 - vi. A surety bond to assure payment of the cost of decommissioning shall be required. To ensure proper removal of the structure when it ceases to be used for a period of one year or more, any application for a new Solar Energy Facility shall include a description of the financial security

guaranteeing removal of the Solar Energy Facility which will be posted prior to receiving a building permit for the facility. The security shall be a: 1) cash bond; 2) irrevocable bank letter of credit; or 3) performance bond in a form approved by the Township Board of Trustees. The amount of such guarantee shall be no less than the estimated cost of removal and may include a provision for inflationary cost adjustments. When determining the amount of such required security, the Township Board of Trustees may also require future meetings at pre-set intervals, to establish corrected values for decommissioning. The financial security instrument shall be adjusted to each determined corrected value.

- vii. The estimate shall be prepared by the engineer for the developer and shall be approved by the Township Board of Trustees.
- viii. The timeframe for completion of decommissioning activities.
- ix. A condition of the Surety Bond shall be notification by the surety company to the Township Zoning Administrator 30 days prior to its expiration or termination.

6. COMPLAINT RESOLUTION.

- a. The Solar Energy Facility Applicant shall submit a detailed, written complaint resolution process developed by the Solar Energy Facility Applicant to resolve complaints concerning the construction or operation of the Solar Energy Facility. The complaint resolution process must be approved by the Planning Commission as a condition of approval of the Special Use permit application.
- b. The Planning Commission shall be kept apprised of all complaints and shall receive a report outlining the issues, the progress, and the resolution of each such complaint. Such report shall be presented every six months by the applicant to the Planning Commission.

7. CONFLICTING PROVISIONS. In the event of a conflict between any provision in this section and any other section of this Zoning Ordinance with regard to Solar Energy Facilities, the provisions of this section shall control.

Chapter 5: A-E, Agricultural Estate District

NOTE: Add the following text to Section 5.03 – Special Land Uses:

U. Solar Energy Facilities

Definitions:

NOTE: Add the following text to Chapter 23:

SOLAR ENERGY FACILITY. An energy facility or an area of land principally used to convert solar energy to electricity, which includes, but is not limited to, the use of one or more solar energy systems. This definition shall only include those facilities that primarily sell electricity to be used off site.

Chapter 14 Special Uses

Section 14.05 Permitted Special Uses & Specific Requirements

Special uses are permitted in the various zone districts as provided in Table 14.05A and in accordance with the specific requirements of the corresponding approval standard for each use.

Table 14.05A Permitted Special Uses

<u>Special Uses</u>	<u>Approval Standard</u>	<u>A-E</u>	<u>SFR</u>	<u>MFR</u>	<u>MHP</u>	<u>LB</u>	<u>GB</u>	<u>PE</u>	<u>GI</u>
Utility-Grid Wind Energy System	23	X							

Approval Standard 23 – Applicable Uses & Requirements

Uses: Utility-Grid Wind Energy System

Required Conditions:

1. Wind Site Assessment
 - a. Prior to construction of a Utility-Grid Wind Energy System, a wind site assessment is conducted to determine the wind speeds and the feasibility of using the site. Installation of anemometer (“Met”) towers shall be considered a special use.
 - b. Prior to the installation of the tower, applications for Site Plan Review and a Special Use permit shall be filed with the Portsmouth Township Clerk according to the procedure set forth in Chapter 15 of this zoning ordinance. An application for a zoning permit shall be completed and submitted to the Zoning Administrator, as described in Chapter 20, and shall include the following information in addition to the information requested on the zoning permit application:
 - (1) Applicant identification
 - (2) Site plan
 - (3) Copy of that portion of the applicant’s lease, easement, or other agreement with the land owner granting authority to install the Met tower and requiring the applicant to remove all equipment and restore the site after completion of the wind site assessment
 - c. The distance from the center of a Met tower and the property lines between the leased property and the non-leased property shall be at least the height of the Met tower. Leased property can include more than one piece of property and the requirement shall apply to the combined properties. Exceptions for adjacent property are allowed with the written consent of those property owners.

2. Utility-Grid Wind Energy System Special Use Permit Application

A Utility-Grid Wind Energy System is designed and built to provide electricity to the electric utility grid. Prior to the installation of a Utility-Grid Wind Energy System, applications for a zoning permit (Chapter 20), Site Plan Review (Chapter 14), and a Special Use permit (Chapter 14) must be filed and approved by the Portsmouth Township Planning Commission and shall include the following:

- a. Applicant Identification: Applicant name, address, and contact information.
- b. Project Description: A general description of the proposed project including a legal description of the properties on which the project would be located.
- c. Site Plan: The site plan shall include maps showing the physical features and land uses of the project area, both before and after construction of the proposed project. The site plan shall include all required information described in Section 15.02 of the Portsmouth Township zoning ordinance. In addition, the site plan shall include the following information:
 - (1) Project area boundaries,
 - (2) The location, height, and dimensions of all existing and proposed structures and fencing,
 - (3) Storage location of all equipment and materials associated with the construction and maintenance of a Utility-Grid Wind Energy System,
 - (4) The location, grades, and dimensions of all temporary and permanent on-site and access roads, including width and surface material, from the nearest county or state maintained road,
 - (5) Water bodies, waterways, wetlands, and drainage channels,
 - (6) Existing infrastructure and utilities that is located underground and above-ground, and
 - (7) All new infrastructure that is located underground and above-ground related to the project.
- d. Fees: An applicant shall remit an application fee in the amount specified in the fee schedule adopted by the Portsmouth Township Board of Trustees. This schedule shall be based on the cost of the application review and may be adjusted from time to time.
- e. Engineering Data: Engineering data concerning construction of the wind turbine tower and bases or foundations, which must be engineered and constructed in such a manner that upon removal of said towers, the soil will be restored to its original condition to a depth of three (3) feet.
- f. Maintenance Schedule: Anticipated construction schedule, and description of operations, including anticipated regular and unscheduled maintenance.
- g. Consent Documents: Copies of any written waivers from adjacent property owners.
- h. Sound Pressure Level: Copy of the modeling and analysis report.
- i. Certifications: Certification that the applicant has complied or will comply with all applicable state and federal laws and regulations. Copies of all such permits and approvals that have been obtained or applied for at time of the application.

- j. Visual Impact: Visual simulations of how the completed project will look from four viewable angles.
 - k. Environmental Impact: Copy of the Environmental Impact analysis.
 - l. Avian and Wildlife Impact: Copy of the Avian and Wildlife Impact analysis.
 - m. Shadow Flicker: Copy of the Shadow Flicker analysis.
 - n. Manufacturers' Material Safety Data Sheet: Documentation shall include the type and quantity of all materials used in the operation of all equipment including, but not limited to, all lubricants and coolants.
 - o. Decommissioning: Copy of the decommissioning plan.
 - p. Complaint Resolution: Description of the complaint resolution process.
 - q. Map of Electromagnetic Interference.
3. The Utility-Grid Wind Energy System project shall meet the following standards and requirements:
- a. Property Setback:
 - (1) The distance between a wind turbine within a Utility-Grid Wind Energy System and the property lines of adjacent non-leased properties shall be 800 feet, measured from the centerline of the base of the wind energy tower to the property line of adjacent non-leased properties.
 - (2) The distance between a wind turbine within a Utility Grid Wind Energy System and internal property lines of leased property lines shall be at least 1.10 times the height of the wind energy system tower including the top of the blade in its vertical position.
 - (3) The distance between a wind turbine within a Utility-Grid Wind Energy System and public rights-of-ways and roads shall be at least 1.50 times the height of the wind turbine, measured from the top of the blade in its vertical position to the centerline of its base, to the nearest edge of the public right-of-way or road.
 - (4) Where property is leased on both sides of a public right of way, excluding roads, a wind energy system may be placed no closer than one rotor radius from the closest edge of the right of way. Leased property can include more than one piece of property and the requirement shall apply to the combined properties.
 - (5) SCADA (supervisory control and data acquisition) or meteorological (Met) towers shall also comply with the property setback requirement. The setback shall be at least the height of the SCADA or Met tower.
 - (6) An Operations and Maintenance Office building, a sub-station, and/or ancillary equipment shall comply with any property set-back requirement that may be applicable to that type of building or equipment.
 - (7) Overhead transmission lines and power poles shall comply with the setback requirements applicable to public utilities.

- (8) Exceptions for adjacent property or public rights of way are allowed with the written consent of those property owners. Written consent letters must be submitted at the time of the public hearing for the special use permit.

b. Other Required Setbacks:

- (1) The distance between a wind turbine within a Utility-Grid Wind Energy System and a habitable structure on leased property shall be at least 1.5 times the height of the wind energy system tower including the top of the blade in its vertical position, measured from the centerline of the base of the wind energy tower to the nearest edge of the habitable structure. Exceptions for adjacent property owners are allowed with the written consent of those property owners. In these cases, the distance between a wind turbine within a Utility Grid Wind Energy System and a habitable structure on leased property shall be at least the height of the wind energy system tower including the top of the blade in its vertical position, measured from the centerline of the base of the wind energy tower to the nearest edge of the habitable structure. Written consent letters must be submitted at the time of the public hearing for the special use permit.
- (2) Turbine/tower separation shall be based on: Industry standards, manufacturer recommendation, and the characteristics of the particular site location. At a minimum, there shall be a separation between towers of not less than three (3) times the rotor diameter, and Utility Grid wind energy system shall be designed to minimize disruption to farmland activity. Separation between turbines with different rotor sizes shall be not less than three (3) times the diameter of the smaller rotor. Documents shall be submitted by the applicant confirming specifications for turbine/tower separation.
- (3) A wind turbine in a Utility-Grid Wind Energy System that is proposed to be located upon a shared property boundary may be exempt from the side and rear setbacks requirements of Section 5.04 if the site plan submittal contains appropriate documentation demonstrating that a legally-binding easement agreement between the owners of the property with the shared boundary has been recorded with the Bay County Register of Deeds. This exemption applies only to leased property that is part of a Utility-Grid Wind Energy System. Distances from habitable structures as required under "Other Required Setbacks" (Section 14.04(j)3.b.(1) from above) shall be maintained.

c. Sound Pressure Level:

- (1) The sound pressure level generated by a Utility Grid wind energy system shall not exceed 55 dB(A) measured at the property lines between leased and non-leased property. Exceptions to this requirement are allowed with the written consent of property owners. This sound pressure level shall not be exceeded for more than three (3) minutes in any hour of the day. If the ambient sound pressure level exceeds 55 dB(A), the standard shall be ambient dB(A) plus five (5) dB(A).
- (2) As part of the application and prior to installation, the applicant shall provide modeling and analysis that will confirm that the Utility Grid Wind

Energy System will not exceed the maximum permitted sound pressure levels.

- (3) Modeling and analysis shall conform to IEC 61400 and ISO 9613.
- (4) After installation of the Utility Grid Wind Energy System, sound pressure level measurements shall be done by a third party, qualified professional according to the procedures in the most current version of ANSI S12.18. All sound pressure levels shall be measured with a sound meter that meets or exceeds the most current version of ANSI S1.4 specifications for a Type II sound meter.
- (5) Documentation of the sound pressure level measurements shall be provided to the Portsmouth Township Planning Commission within sixty (60) days after construction is completed on the wind energy system project.

d. Construction Codes, Towers, and Interconnection Standards:

- (1) Utility Grid wind energy systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements, stamped and sealed by a professional engineer registered in the State of Michigan.
- (2) Utility Grid wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Zoning Enabling Act (Public Act 110 of 2006, as amended), the Michigan Tall Structures Act (Public Act 259 of 1959), and local jurisdiction airport overlay zone regulations.
- (3) The minimum FAA lighting standards shall not be exceeded. All tower lighting required by the FAA shall be shielded to the extent possible to reduce glare and visibility from the ground. The tower shaft shall not be illuminated unless required by the FAA.
- (4) Utility Grid Wind Energy Systems shall comply with applicable utility, Michigan Public Service Commission, and Federal Energy Regulatory Commission interconnection standards.

e. Safety:

- (1) All Utility Grid wind energy systems shall be designed to prevent unauthorized access to electrical and mechanical components and shall have access doors that are kept securely locked at all times when service personnel are not present.
- (2) All spent lubricants and cooling fluids shall be properly and safely removed in a timely manner from the site of the wind energy system.
- (3) A sign shall be posted near the tower or Operations and Maintenance Office building that will contain emergency contact information. Signage placed at the road access shall be used to warn visitors about the potential danger of falling ice.
- (4) The minimum vertical blade tip clearance from grade shall be 35 feet for a wind energy system employing a horizontal axis rotor.

f. Visual Impact:

- (1) Utility Grid Wind Energy System projects shall use tubular towers and all turbines in a project shall be finished in a single, non-reflective matte finished color.
- (2) A project shall be constructed using turbines of similar design, size, operation, and appearance throughout the project.
- (3) No lettering, company insignia, advertising, or graphics shall be on any part of the tower, hub, or blades. Nacelles may have lettering that exhibits the manufacturer's and/or owner's identification.
- (4) The applicant shall avoid any state or federal scenic areas and significant visual resources listed in planning documents adopted by Portsmouth Township.

g. Environmental Impact:

- (1) The applicant shall have a third party, qualified professional conduct an analysis to identify and assess any potential impacts on the natural environment including, but not limited to wetlands and other fragile ecosystems, historical and cultural sites, and antiquities. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.
- (2) The applicant shall comply with applicable parts of the Michigan Natural Resources and Environmental Protection Act (Act 451 of 1994, MCL 324.101 et seq.) including but not limited to Part 31 Water Resources Protection (MCL 324.3101 et seq.), Part 91 Soil Erosion and Sedimentation Control (MCL 324.9101 et seq.), Part 301 Inland Lakes and Streams (MCL 324.30101 et seq.), Part 303 Wetlands (MCL 324.30301 et seq.), Part 323 Shoreland Protection and Management (MCL 324.32301 et seq.), Part 325 Great Lakes Submerged Lands (MCL 324.32501 et seq.), and Part 353 Sand Dunes Protection and Management (MCL 324.35301 et seq.).
- (3) The applicant shall be responsible for making repairs to any public roads damaged by the construction of the Utility Grid Wind Energy System. In addition, the applicant shall submit to Portsmouth Township and the appropriate Bay County office(s):
 - i. A description of the routes to be used by construction and delivery vehicles
 - ii. Any road improvements that will be necessary in Portsmouth Township to accommodate construction vehicles, equipment or other deliveries
 - iii. An agreement or bond which guarantees the repair of damage to public roads and other areas caused by construction of the Utility Grid Wind Energy System

h. Avian and Wildlife Impact:

- (1)** The applicant shall have a third party, qualified professional conduct an analysis to identify and assess any potential impacts on wildlife and endangered species. The applicant shall take appropriate measures to minimize, eliminate or mitigate adverse impacts identified in the analysis. The applicant shall identify and evaluate the significance of any net effects or concerns that will remain after mitigation efforts.
- (2)** Sites requiring special scrutiny include bird refuges and other areas where birds are highly concentrated, bat hibernacula, wooded ridge tops that attract wildlife, sites that are frequented by federally listed endangered species of birds and bats, significant bird migration pathways, and areas that have landscape features known to attract large numbers of raptors.

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. Where appropriate, surveys for bats, raptors, and general avian use should be conducted. The analysis shall include the potential effects on species listed under the federal Endangered Species Act and Michigan's Endangered Species Protection Law

The analysis shall indicate whether a post construction wildlife mortality study will be conducted and, if not, the reasons why such a study does not need to be conducted. Power lines should be placed underground, when feasible, to prevent avian collisions and electrocutions. All above-ground lines, transformers, or conductors should comply with the Avian Power Line Interaction Committee (APLIC, <http://www.aplic.org/>) published standards to prevent avian mortality.

i. Electromagnetic Interference:

- (1)** No Utility Grid Wind Energy system shall be installed in any location where its proximity with existing fixed broadcast, retransmission, or reception antenna for radio, television, or wireless phone or other personal communication systems would produce electromagnetic interference with signal transmission or reception unless the applicant provides a replacement signal to the affected party that will restore reception to the level present before operation of the wind energy system.
- (2)** No Utility Grid wind energy system shall be installed in any location within the line of sight of an existing microwave communications link where its operation is likely to produce electromagnetic interference in the link's operation unless the interference is insignificant.

j. Shadow Flicker:

- (1)** The applicant shall conduct an analysis on potential shadow flicker at occupied structures.
- (2)** The analysis shall identify the locations of shadow flicker that may be caused by the project and the expected durations of the flicker at these locations from sun-rise to sun-set over the course of a year.

- (3) The analysis shall identify problem areas where shadow flicker may affect the occupants of the structures and describe measures that shall be taken to eliminate or mitigate the problems.
- k. **Decommissioning.** The applicant shall submit a decommissioning plan. The plan shall include:
- (1) The anticipated life of the project.
 - (2) The estimated decommissioning costs net of salvage value in current dollars.
 - (3) The method of ensuring that funds will be available for decommissioning and restoration.
 - (4) The anticipated manner in which the project will be decommissioned and the site restored.
- l. **Storage of Equipment:** All materials and equipment associated with construction and maintenance of a Utility Grid Wind Energy System shall be stored in an enclosed structure designated for the purposes of storing said equipment.
- m. **Performance Guarantee:** To ensure compliance with the provisions of the Portsmouth Township zoning ordinance and any conditions imposed, a cash deposit, certified check, irrevocable bank letter of credit, or surety bond acceptable to the Township covering the estimated cost of improvements associated with a Utility-Grid Wind Energy System project shall be deposited with the clerk of the Township to ensure faithful completion of the improvements. The performance guarantee shall be deposited at the time of the issuance of the permit authorizing the project. Deposit of the performance guarantee is not required prior to the issuance of said permit. The Township may return any unused portion of the cash deposit to the applicant in reasonable proportion to the ratio of work completed on the required improvements as work progresses.
- n. **Complaint Resolution:**
- (1) The applicant shall develop a process to resolve complaints from nearby residents concerning the construction or operation of the project and submit for review to Portsmouth Township.
 - (2) The process shall not preclude Portsmouth Township from acting on a complaint.
 - (3) During construction, the applicant shall maintain a telephone number during business hours where nearby residents can reach a project representative.
- o. **Utility-Grid Wind Energy Exclusion Zone:** All proposed wind turbines that are part of a Utility-Grid Wind Energy System are subject to the Exclusion Zone.
- (1) It is the intent and purpose of the Utility-Grid Wind Energy Exclusion Zone to provide residents of Portsmouth Township relief in specified areas from wind turbines. Portsmouth Township permits Utility-Grid Wind Energy Systems as a special use requiring a Special Use Permit in the Agricultural Estate District (A-E) only. Utility-Grid Wind Energy Systems are further restricted from all property in the Exclusion Zone as depicted on the Utility-Grid Wind Energy Exclusion Zone Map, regardless of the zoning district.
 - (2) The boundaries of the Utility-Grid Wind Energy Exclusion Zone are hereby defined and established as shown on the map, shown below, which accompanies this zoning ordinance and which map, with all

explanatory matter thereon, is hereby made a part of this zoning ordinance.



- (3) Where uncertainty exists with respect to the boundaries on the Utility Grid Wind Energy Exclusion Zone map, the following rules shall apply:
- i. Boundaries indicated as approximately following the streets or highways shall be construed to be such boundaries.
 - ii. Boundaries indicated as approximately following Township boundary lines or following lot lines shall be construed as following said lines.
 - iii. Boundaries indicated as approximately parallel to the center lines of streets or highways shall be construed as being parallel thereto and at such distance therefrom as indicated by given distance or scaled dimension.

Chapter 23

Definitions

Ambient Sound Level – The amount of background noise at a given location prior to the installation of a wind turbine which may include, but not be limited to, traffic, machinery, lawnmowers, human activity, and the interaction of wind with the landscape. The ambient sound level is measured on the dB(A) weighted scale as defined by the American National Standards Institute.

Anemometer – A temporary wind speed indicator constructed for the purpose of analyzing the potential for utilizing a wind energy turbine at a given site. This includes the tower, base plate, anchors, cables and hardware, wind direction vanes, booms to hold equipment, 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.

Decibel – A unit of measure used to express the magnitude of sound pressure and sound intensity. Decibels shall be measured on the dB(A) weighted scale as defined by the American National Standards Institute.

Decommissioning – The process of terminating operation and completely removing a wind turbine and all related buildings, structures, foundations, access roads, and equipment.

Habitable Structure – Any structure usable for living or business purposes, which includes but is not limited to working, sleeping, eating, cooking, recreation, office, office storage, or any combination thereof. An area used only for storage incidental to a residential use, is not included in this definition.

Hub Height – When referring to a wind turbine, the distance measured from ground level to the center of a wind turbine hub.

IEC – International Electrotechnical Commission. The IEC is the leading global organization that prepares and publishes international standards for all electrical, electronic and related technologies.

ISO – International Organization for Standardization. ISO is a network of the national standards institutes of 156 countries.

Nacelle – The protective casing of a wind turbine, covering the gearbox, generator, blade hub, and other parts.

Occupied Building – A building that has people within its premises or within the structure daily or from time to time. An occupied building may include a home, a business, a pole building, or a building similar in nature.

Rotor – An element of a wind energy turbine that acts as a multi-bladed airfoil assembly, thereby extracting through rotation, kinetic energy directly from the wind.

SCADA Tower – A freestanding tower containing instrumentation such as anemometers that is designed to provide present moment wind data for use by the supervisory control and data acquisition (SCADA) system.

Shadow Flicker – Alternating changes in light intensity caused by the moving blade of a wind energy turbine casting shadows on the ground and stationary objects, such as a window at a dwelling.

Sound Pressure – Average rate at which sound energy is transmitted through a unit area in a specified direction. The pressure of the sound measured at a receiver.

Sound Pressure Level – The sound pressure mapped to a logarithmic scale and reported in decibels (dB).

Tip Height – When referring to a wind turbine, the distance measured from ground level to the furthest vertical extension of the rotor.

Utility-Grid Wind Energy Exclusion Zone – A designated area in Portsmouth Township, shown on a map in Chapter 14 of this zoning ordinance, where wind turbines that are part of a Utility-Grid Wind Energy System are restricted from all property regardless of the underlying zoning district designation.

Utility-Grid Wind Energy System – A system of wind turbines that is designed and built to provide electricity to the electric utility grid.

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 turbine.