Township of Lamotte Zoning Ordinance Amendment 14-1 Utility Grid Wind Energy Systems

An ordinance to amend the Lamotte Township Zoning Ordinance, to provide for wind energy systems which provide electricity to the electric utility grid.

The Township of Lamotte ordains:

Article XII

Definitions

Section 12:11 Specific Terms: The following defined terms are hereby added to Section 21.01:

Ambient Sound Level: The amount of background noise at a given location prior to the installation of a wind energy system 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.

ANSI: American National Standards Institute.

Commission: the Lamotte Township Zoning and Planning Commission.

dB(A): the equivalent sound pressure level (Leq) in decibels. Refers to the "a" weighted scale defined by ANSI. A method for weighting the frequency spectrum to mimic the human ear.

Decibel: The unit of measure used to express the magnitude of sound pressure and sound intensity.

Decommissioning: the process of use termination and removal of all or part of a wind energy system by the owner or assigns of the Utility-Grid Wind energy System.

Habitable or Inhabited Structure: Any permanent structure usable for human 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, or any barn, farm outbuilding, hunting blind, ice fishing shanty or other similar structure, is not included in this definition.

Hub Height: When referring to a Wind Energy System, the distance measured from ground level to the center of a wind turbine hub.

1

IEC: International Electro-technical 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.

MET Tower: A meteorological tower used for the measurement of wind speed and other data.

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

Noise Mitigation: (alternatively known as noise abatement) is a set of strategies to reduce unwanted environmental sound.

Non-Participating Property or Non-Leased Property: Any parcel of property that is not included in a proposed Utility-Grid Wind Energy System, or has no wind energy system or related facilities on it, or is not under easement or lease to the applicant or owner.

Participating Property or Leased Property: Any parcel of property that has a signed lease or easement with the owner of the proposed Utility-Grid Wind Energy System, or has a wind energy system or related facilities on it, or is under easement or lease to the applicant or owner.

Rotor: An element of a wind energy system 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: The moving shadow created by the sun shining through the rotating blades of a wind energy system. The amount of shadow flicker created by a wind energy system is calculated by a computer model that takes into consideration turbine location, elevation, tree cover, location of all structures, wind activity, and sunlight.

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 Leq sound pressure mapped to a logarithmic scale and reported in decibels (dB).

Total Height: When referring to a wind turbine, the distance measured from ground level to the blade extended at its highest point. When referring to a MET Tower or SCADA Tower, the distance measured from ground level to the highest point of the tower's structure.

Use Termination: The point in time at which a Utility-Grid Wind energy System owner provides notice to the Lamotte Township Commission that the Utility-Grid Wind energy System or individual wind turbines are no longer used to produce electricity unl4ess due to repairs. Such notice of use termination shall occur no less than 30 days prior to actual use termination.

Utility-Grid Wind energy System: A wind energy system that is designed and built to provide electricity to the electric utility grid, inclusive of wind turbines, underground electrical lines, any sub-stations, lay down and storage yards, and any operations and maintenance buildings.

Waiver Agreement: A signed statement between the owner and Non-Participating Property Owner or Participating Property Owner releasing rights of this ordinance relating to, but not limited to, Noise Restrictions, Setbacks and Shadow Flicker restrictions.

Wind Energy System: An energy conversion system which converts wind energy into electricity through the use of a wind turbine generator and includes the turbine, blades, and tower as well as related electrical equipment. This does not include wiring to connect the wind energy system to the grid.

Wind Site Assessment: An assessment to determine the wind speeds at a specific site and the feasibility of suing that site for construction of a wind energy system.

Wind Turbine: A wind energy conversion system, which converts wind energy into electricity through the use of a wind turbine generator, and includes the turbine, blade, tower, base and pad transformer.

Article XII

Section 12.11 (D) Utility-Grid Wind Energy Systems in the District

The following regulations shall apply to all Utility-Grid Wind Energy System facilities and accessory uses hereinafter constructed or developed within Lamotte Township. As used in this section, the term "operator" refers to the person or entity that operates a Utility-Grid Wind Energy System and the term "owner" refers to the person or entity who owns a Utility-Grid Wind Energy System.

- 1. Application for a Utility-Grid Wind Energy System shall be submitted to the Township Zoning Administrator with the following information:
 - a. The name, address, legal corporate status and telephone number of the applicant responsible for the accuracy of the application and site plan.
 - b. The name, address, legal corporate status and telephone number of the owner of the proposed Utility-Grid Wind Energy System.
 - c. A signed statement indicating that the applicant has legal authority to construct, operate, and develop the Utility-Grid Wind Energy System(s) under state, federal and local laws and regulations, including Federal Aviation Administration (FAA), the Michigan Tall Structures Act (Act 259 of 1959), the Airport Zoning Act (Act 23 of 1950), and state and local building codes, if applicable. The FAA will issue a signed statement when the precise location has been determined. Building permits, if applicable, will not be issued prior to receiving all signed statements, but a use permit may be granted.

- d. A description of the number and kind of Utility-Grid Wind Energy System(s) to be installed.
- e. A description of the Utility-Grid Wind Energy System(s) height and design, including a cross section, elevation, and diagram of how the wind energy system will be anchored to the ground.
- f. A site plan, drawn to scale of up to 1 inch to 100 feet, showing the parcel boundaries and a legal description, 2 foot contours for the subject site and 100 feet beyond the subject site, support facilities, access, proposed landscaping or fencing.
- g. Photo exhibits visualizing the proposed Utility-Grid Wind Energy System.
- h. A statement from the applicant that all Utility-Grid Wind Energy System(s) will be installed in compliance with manufacturer's specifications, and a copy of those manufacturer's specifications.
- i. A copy of the lease, easement, or recorded document, with the landowner if the applicant does not own the land for the proposed Utility-Grid Wind Energy System.
- j. Certifications: Certification that 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 the time of the application. Note: Land enrolled in Michigan Farmland Preservation Program through Part 361 of the Natural Resources and Environmental Protection Act, 1994 Act 451 as amended, more commonly known as PA 116, must receive approval from the Michigan Department of Agriculture to locate a WECS on the property prior to construction.
- k. A copy of any applicable Waiver Agreements shall be recorded at the County Registrar of Deeds.
- I. A copy of Shadow Flicker Analysis.
- m. A copy of Avian Impact.
- n. A copy of Noise Study.
- o. A statement indicating what hazardous materials will be used and stored on the site and how that material will be stored.
- p. Construction Codes, Towers, and Interconnection Standards: Utility-Grid Wind Energy Systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. Utility Grid Wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, MCL 259.431 et seq.), the Michigan Tall Structures Act (Public Act 259 of 1959, MCL 259.481 et seq.), and local jurisdiction airport overlay zone regulations. 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. Utility-Grid Wind Energy Systems shall comply with applicable utility, Michigan Public Service Commission, and Federal Energy Regulatory Commission interconnection standards.
- q. An applicant shall remit an application fee in the amount specified in the fee schedule adopted by the Lamotte Township Board. 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 those costs shall be borne by the applicant and paid in full prior to approval of any applications or permits being granted or approved.
- 2. Application for a permit for MET tower(s) and/or SCADA tower(s) shall be submitted to the Lamotte Township Zoning Administrator with the following information:

- a. The name, address, legal corporate status and telephone number of the applicant responsible for the accuracy of the application and site plan.
- b. The name, address, legal corporate status and telephone number of the owner of the proposed MET tower(s) and/or SCADA tower(s).
- c. A signed statement indicating that the applicant has legal authority to construct and operate the MET tower(s) and/or SCADA tower(s) under state, federal and local laws and regulations, including Federal Aviation Administration (FAA), the Michigan Tall Structures Act (Act 259 of 1959), the Airport Zoning Act (Act 23 of 1950), and state and local building codes. The FAA will issue a signed statement when the precise location has been determined.
- d. A description of the number and kind of MET tower(s) and/or SCADA tower(s) that will be installed.
- e. A description of the MET tower's and/or SCADA tower's height and design, including a cross section, elevation, and diagram of how the MET tower(s) and/or SCADA tower(s) will be anchored to the ground.
- f. A site plan, drawn to a scale of up to 1 inch to 100 feet, showing the parcel boundaries and a legal description, 2 foot contours for the subject site and 100 feet beyond the subject site, support facilities, and access.
- g. A statement from the applicant that all MET tower(s) and/or SCADA tower(s) will be installed in compliance with manufacturer's specifications, and a copy of those manufacturer's specifications.
- h. A copy of the lease, or recorded document, with the landowner if the applicant does not own the land for the MET tower(s) and/or SCADA tower(s).
- i. A copy of any applicable Waiver Agreements.
- j. A statement indicating how the MET tower(s) and/or SCADA tower(s) will be lit, if applicable. Lighting as required by the FAA and as required by the Michigan Tall Structures Act.
- k. An applicant shall remit an application fee in the amount specified in the fee schedule adopted by the Lamotte Township Board. 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 those costs shall be borne by the applicant and paid in full prior to approval of any applications or permits being granted or approved.
- 3. A site grading, erosion control and storm water drainage plan will be submitted to the Zoning Administrator prior to issuing a land use permit for a Utility-Grid Wind Energy System. At the township's direction, these plans may be reviewed by the Township's engineering firm. The cost of the review will be the responsibility of the Owner of the Utility-Grid Wind energy System, and paid in full prior to approval of any applications or permits being granted or approved.
- 4. The applicant shall acquire all other applicable permits, including permits for work done in right-of-ways prior to construction.
- 5. Utility-Grid Wind Energy Systems, MET tower(s) and/or SCADA tower(s) may not include offices, vehicle storage, or other outdoor storage. One accessory storage building may be permitted per wind turbine. The size and location of any proposed accessory building shall be shown on the site plan. No other structure or building is permitted unless used for the express purpose of the generation of electricity.
- 6. An applicant may submit one use permit application for an entire Utility-Grid Wind Energy System project covering multiple parcels of land located in Lamotte Township, provided that a detailed map identifying parcel locations for all proposed wind turbines is provided to the township of Lamotte at the time a use application is submitted.

- 7. A certificate of insurance with a minimum of \$1,000,000 liability coverage per wind turbine tower and per occurrence. Utility-Grid Wind Energy Systems with more than one wind turbine tower may provide a single insurance certificate covering multiple wind turbine towers. Each renewal period will require a copy of certificate of insurance be provided to Lamotte Township. An expired insurance certificate or an unacceptable liability coverage amount is grounds for revocation of the use permit at any time. In lieu of a certificate of insurance, an applicant or owner may be self-insured, provided that it has a secured bond rating of at least BBB+ from Standard and Poors, or its equivalent.
- 8. Within a reasonable time after the applicant submits an application, and in good faith, the Lamotte Township Planning Commission will determine whether the application is complete and advise the applicant accordingly.
- 9. Within sixty (60) days after an application is determine to be complete, the Planning Commission will schedule a public hearing. The applicant shall participate in the hearing and be afforded an opportunity to present the project to the public and municipal officials, and answer questions about the project. The public shall be afforded an opportunity to ask questions and provide comment on the proposed project.
- 10. Within a reasonable time, and in good faith, the Planning Commission will make a decision whether to issue or deny the permit application.
- 11. Throughout the permit process, the Applicant shall promptly notify the Planning commission in a written statement of any changes to the information contained in the permit application.
- 12. Changes to the pending application that do not materially alter the initial site plan may be adopted without renewed public hearing.
- 13. A Utility-Grid Wind Energy System use permit shall expire unless construction is started within twelve (12) months of use permit issuance and completed with twenty-four (24) months of use permit issuance, or in accordance with a timeline approved by the Lamotte Township Planning Commission. Upon written request of an applicant, and for good cause, the Lamotte Township Planning commission may grant an extension of time.
- 14. The Lamotte Township Planning Commission reserves the right to review any use permits granted under this ordinance from time to time as the Lamotte Township Planning Commission deems appropriate to ensure that all conditions of the permit are being followed.
- 15. If a Utility-Grid Wind Energy System ownership changes, the new owner/operator must meet with the Lamotte township Planning Commission to review the conditions of the current use permit within sixty (60) days of the change in ownership.
- 16. Design and Installation Standards:
 - a. Wind turbines shall be painted a non-reflective, non-obtrusive color, such as grey, white, or off-white.
 - b. To the extent possible applicants shall use measures to reduce the visual impact of the Utility-Grid Energy System (wind turbines with similar appearance; reasonable uniformity in overall size and geometry).
 - c. At Utility-Grid Wind Energy System sites, the design of the building and related structures shall, to the extent possible, use materials, colors, textures, screening, and landscaping that will blend the Utility-Grid Wind Energy System to the natural setting and existing environment.
 - d. Construction Codes, Towers, and Interconnection Standards: Utility-Grid Wind Energy Systems including towers shall comply with all applicable state construction and electrical codes and local building permit requirements. Utility Grid Wind energy systems including towers shall comply with Federal Aviation Administration requirements, the Michigan Airport Zoning Act (Public Act 23 of 1950, MCL 259.431 et seq.), the Michigan Tall Structures Act (Public Act 259 of

1959, MCL 259.481 et seq.), and local jurisdiction airport overlay zone regulations. 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. Utility Grid wind energy systems shall comply with applicable utility, Michigan Public Service Commission, and Federal energy Regulatory Commission interconnection standards.

- e. No form of advertising shall be allowed on the pole, turbine, blades, or other buildings or facilities associated with the use, except for reasonable identification of the manufacturer, operator or owner of the Utility-Grid Wind energy System. No graffiti will be allowed, removal will be the responsibility of the owner.
- f. All wind turbines shall comply with the International electro-technical Commission (IEC), or successor organization, standards.
- g. To the extent applicable, the Utility-Grid Energy System shall comply with all applicable building codes and standards.
- h. Electrical controls, control wiring, and power lines shall be wireless or to the maximum extent practicable, be placed underground.
- i. All electrical components of the Utility-Grid Wind Energy System shall conform to relevant and applicable local, state, and national codes, or relevant and applicable international standards.
- j. The owner of a Utility-Grid Wind energy System shall defend, indemnify, and hold harmless Lamotte Township and their officials from and against any and all claims, demands, losses, suits, causes of action, damages, injuries, costs, expenses, and liabilities whatsoever including attorney fees arising out of the acts or omissions of the operator concerning the operation of the Utility-Grid Wind Energy System or arising out of the issuance of the use permit hereunder. The owner shall provide a written and signed affirmation of this obligation to the Township.
- k. Prior to beginning construction, the applicant shall enter into a road use agreement with the Sanilac County road Commission containing the following conditions:
 - Responsibility for making repairs to any public roads that experienced damages during the construction of the Utility-Grid Wind Energy System or damages experienced after the construction that related to the operation of the system.
 - 2. A description of the routes to be used by construction and delivery vehicles.
 - 3. Any road improvements that will be necessary in Lamotte Township to accommodate construction vehicles, equipment or other deliveries.
 - 4. 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. The agreement or bond guarantee shall be an amount that is agreed upon by the applicant and the Sanilac County Road Commission, to pay for repair or damage to public roads.
 - 5. Failure of the applicant to comply with the road use agreement in any material respect may result in the termination of the use permit.
- I. Where Utility-Grid Wind Energy System construction cuts through a private or public drain tile field, the drain tile must be repaired and reconnected or other remedial measures performed to properly drain the site to the satisfaction of the landowner if a private drain, or if a public drain, the Sanilac County Drain Commission and Lamotte Township.

- m. Any recorded access easement across private lands to a Utility-Grid Wind Energy System shall in addition to naming the Utility-Grid Wind Energy System owner as having access to the casement also permit Lamotte Township access to the easement for purposes of inspection or decommission with 24 hour advance notice to the property owners and Utility-Grid Wind Energy System owner.
- Any wind energy turbine or facility that does not produce energy for a continuous period of twelve (12) months shall be considered abandoned and shall be removed in accord with the removal and decommissioning provisions of Section 27 of this ordinance. Upon a showing of good cause, the Planning Commission may grant the owner/operator an additional twelve (12) month period of nonproduction.
- The Utility-Grid Wind Energy System owner and operator shall maintain a phone number and identify a responsible person for the public to contact with inquiries and complaints throughout the life of the project. This information will be supplied to the Lamotte Township clerk and the Sanilac County Clerk.
- p. Wires—<u>Overhead</u> or <u>underground</u> transmission and distribution lines are required to obtain a separate special land use permit from the Township. Underground and/or overhead collection lines or collection line systems are required to obtain a separate special land use permit from the township. Surface markers shall be placed to indicate the location of the wires and a map will be placed on the tower indicating same. Membership and participation in the MISS DIG Systems, Inc. of Michigan shall be required. Proof of membership shall be provided upon request. Any new substation shall be located at a distance of no less than one thousand three hundred twenty (1,320) feet from the nearest residence, school, hospital, church or public library. A lesser setback may be approved if the intent of this Ordinance would be better served thereby. A lesser setback shall be considered only with written approval from the owner of the inhabited structure.
- 17. Construction bond and permit
 - a. Applicant, construction company, or other acceptable third party shall file a Construction Performance Bond or other agreement acceptable to the parties in an amount determined by the Township, to ensure that, in the event that the project is not completed, the project site and other affected private or governmental properties (ie. Roads, ditches, bridges, etc.) will be restored to pre-construction condition.
 - b. This bond shall be terminated upon timely completion of construction and activation of the facility.
 - c. Any application to construct a Wind Energy Facility within a Wind Energy Overlay zone shall require the approval of the Sanilac County Construction Department.
- 18. Setbacks for Utility-Grid Wind Energy Systems, MET Towers and SCADA Towers: All setbacks herein shall be measured from the center point of the wind turbine or MET tower.
 - a. Inhabited Structures.
 - 1. Each Utility-Grid Wind Energy System wind turbine, MET tower and/or SCADA tower shall be set back from the nearest inhabited structure a distance of no less than two (2) times the total height of the tower or turbine, but in no case less than one thousand-three hundred twenty (1,320) feet.
 - 2. The Lamotte Township Planning Commission may grant a waiver to this requirement for a participating and/or non-participating landowner to decrease the setback, provided the following provisions have been accomplished.
 - a. The affected Property Owner signs a Waiver Agreement setting forth the applicable setback provisions and the proposed changes.

- b. The Waiver Agreement shall notify the affected Property Owner of the setback required by this Ordinance, describe how the proposed Utility-Grid Wind Energy System, MET tower(s) and/or SCADA tower(s) are not in compliance, and state that consent is granted for the Utility-Grid Wind Energy System, MET tower(s) and/or SCADA tower(s) to not be set back as required by this Ordinance.
- b. Non-Participating Property Lines.
 - 1. Each wind turbine, MET tower and/or SCADA tower shall be set back from the nearest non-participating property line a distance no less than one and a half times the total height of the tower or turbine, but in no case less than five hundred (500) feet.
 - 2. The Lamotte Township Planning Commission may grant a waiver to this requirement for a non-participating landowner to decrease the setback, provided the following provisions have been accomplished.
- c. Participating Property Lines. There shall be no setback requirement from the property lines between Participating Property parcels.
- d. Public Road, Overhead and Utility Pole Setbacks. Each wind turbine, MET tower and SCADA tower shall be set back from the nearest public road right-of-way a distance no less than one and a half (1.5) times its total height.
- e. Communication and electrical lines. Each wind turbine shall be set back from the nearest above-ground public utility transmission line a distance no less than one and a half (1.5) times its hub height, determined from the existing power line or telephone line.
- f. Tower separation
 - 1. Turbine/tower separation shall be based on industry standards, manufacturer recommendation, and the characteristics of the particular site location.
 - 2. At a minimum, there shall be a separation between towers of not less than two (2) times the turbine (rotor) diameter.
 - 3. The Wind Energy Facility shall be designed to minimize disruption to farmland activity.
 - 4. Record documents (ie "as-built" drawings) shall be submitted to the Township by the developer/manufacturer confirming specifications for turbine/tower separation.
- g. Village or City Limits. Where wind turbines, MET tower(s) and/or SCADA tower(s) are located in the vicinity of a city or village, a setback of two (2) times its total height from the city/village limits shall be required, but in no case less than one thousand-three hundred twenty(1,320) feet.
- 19. Noise and Vibration
 - a. The sound pressure level generated by a wind turbine shall not exceed the greater of 45 dB(A) equivalent sound level ("Leq") or the ambient Leq sound pressure level plus 5 dB(A) for more than 6 minutes in any hour (10% of any hour) at any inhabited structure existing on the date of approval. The Leq is determined according to the Acoustical Society of America, American National Standard ANSI S12.18-1994.

Sound pressure level monitoring to demonstrate compliance with this requirement shall use a ANSI Type 1 sound level analyzer (as defined by the Acoustical Society of America, American National Standard ANSI S1.4-1983) which has been calibrated according to a National Institute of Standards and Technology acoustic standard within the previous 12 months and shall be field-calibrated with an ANSI Type 1 calibrator. Measurements shall exclude invalid samples that are contaminated by extraneous noise sources other than the wind turbines.

Monitoring shall not be done during precipitation events or extreme weather conditions. Compliance shall be demonstrated by taking forty (40) valid 15-second Leq sound level readings, excluding the two highest 15-second readings (5% of the monitoring period), and forming the arithmetic average of the remaining 15-second Leq sound readings. In the event of high, steady background sound levels, including wind background noise, the background Leq sound level (without wind turbine sound) shall be established either by monitoring with the nearby wind turbines turned off, or by sound level monitoring of Leq at a similar location unaffected by the wind turbine sound, and that background level shall then be subtracted (on an energy basis) from the measurement of the wind turbine to obtain the wind turbine only sound pressure level.

- b. 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.
- c. A test plan for documentation of the sound pressure level measurements shall be provided to the Planning Commission within 60 days after construction is complete on the wind energy project. Post-construction sound testing shall be performed within 90 days after delivery of the test plan provided the environmental conditions will allow for appropriate sound measurements.
- d. Certifications and Compliance:
 - The Planning Commission must be notified with thirty (30) days of closing of a change in ownership of a Utility-Grid Energy System. This notification will include the name and address of a contact person related to the new ownership.
 - The Planning Commission reserves the right to inspect the Utility-Grid Wind Energy System annually in order to ensure compliance with the Zoning Ordinance. The reasonable cost of the inspections shall be paid by the owner/operator of the Utility-Grid Wind Energy System.
 - 3. In addition to the Certification & Compliance requirements listed previously, the Utility-Grid Wind Energy System shall also be subject to the following:
 - A sound pressure level analysis shall be conducted from a reasonable number of sampled locations, as set forth in the post-construction test plan submitted to demonstrate compliance with the requirements of this Ordinance. Proof of compliance with the noise standards is required within thirty (30) days after completion of the post-construction sound testing. Sound shall be measured by a third-party, qualified professional.
 - b. The Utility-Grid Wind Energy System Owner(s) or Operator(s) shall provide the Zoning Administrator with access to review the facility's yearly maintenance inspection records.
- e. If audible noise exceeds the limits set forth in (a.) above, the owner/operator must take action to mitigate the noise levels for the offending turbine, and if unable to satisfactorily mitigate the noise levels, then the offending wind turbine must be inoperable until repairs are completed, or a waiver agreement is obtained from affected property owners.
- f. In the event the noise levels resulting from the Utility-Grid Wind Energy System exceed the criteria listed above, a waiver to said levels may be granted by the Lamotte Township board provided that written consent from the affected property owners has been obtained stating that they are aware of the Utility-Grid Wind Energy System and noise limitations

imposed by this Ordinance, and that consent is granted to allow noise levels to exceed the maximum limits otherwise allowed.

- 20. The blade tip of any wind turbine shall, at its lowest point, have ground clearance of no less than seventy-five (75) feet.
- 21. Electro-magnetic Interference: No Utility-Grid Wind Energy System shall be installed in any location where its proximity to existing fixed broadcast, retransmission, or reception antennae for global positioning system corrections systems (RTK), 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 at least the level present before operation of the wind energy system. No Utility-Grid Wind Energy System shall be installed in any location within the line of sight of an existing microwave communications link where operation of the wind energy system is likely to produce electro-magnetic interference in the link's operation unless the interference is insignificant.
- 22. Shadow Flicker: The applicant shall conduct an analysis of potential shadow flicker created by each proposed wind turbine at all inhabitable structures with direct line-of-sight to a wind turbine. Such analysis shall be documented in a shadow flicker modeling report to be submitted as part of the Special Land Use Permit Application to the Planning Commission. The analysis shall identify the locations of shadow flicker created by each proposed wind turbine and the expected durations of the flicker at these locations from sunrise to sunset over the course of a year. Site plans shall depict a contour around each proposed wind turbine that represents the predicted thirty (30) hours per year shadow flicker generated by the modeling software used in the report. The analysis shall identify all areas where shadow flicker may affect the occupants of the inhabitable structures and describe measures that shall be taken to eliminate or mitigate the problems. A shadow flicker mitigation plan shall also be submitted with the shadow flicker modeling report. Any shadow flicker complaint shall be addressed by the applicant and be mitigated.
- 23. Avian and Wildlife Risk
 - a. The Utility-Grid Wind Energy System owner/operator shall make reasonable efforts to minimize avian mortality from the operation of a Utility-Grid Wind energy System.
 - b. The Lamotte Township Planning Commission must require an avian risk study prior to issuance of a use permit for a Utility-Grid Wind energy System. The owner/operator of the Utility-Grid Wind Energy System may submit an Avian Risk Study from another community in the state as long as the avian populations are similar and the similarity of the avian population can be substantiated to the Planning Commission's satisfaction.
 - c. Wind energy systems should be located in a manner that minimizes significant negative impacts on rare animal species in the vicinity, including but not limited to bird and bat species.
- 24. Groundwater and Environmental Impact. The Utility-Grid Wind Energy System owner/operator shall make reasonable efforts to minimize adverse impacts on water quality and soil erosion during construction phase of the wind energy system.
- 25. Waste Management.
 - a. All solid waste, whether generated from supplies, equipment, parts, packaging, or operating or maintenance of the facility, including old parts and equipment, shall be removed from the site in a timely manner consistent with industry standards.
 - b. All hazardous waste generated by the operation and maintenance of the facility, including, but not limited to lubricating materials, shall be handled in a manner consistent with all local, state, and federal rules and regulations.

- c. If any hazardous waste is spilled the Zoning Administration must be notified within twenty-four (24) hours.
- 26. Safety.
 - a. All electrical wires and lines connecting each turbine to the next turbine shall be installed at least seventy-two (72) inches underground, to the maximum extent practicable.
 - b. Wind turbine tower exteriors shall not be climbable 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, electrical equipment, and Utility-Grid Wind Energy System entrances.
 - e. The owner/operator of the Utility-Grid Wind Energy System shall post and maintain at each facility a 24 hour a day manned telephone number in case of an emergency.
 - f. The owner/operator of the Utility-Grid Wind Energy System shall provide a company representative to accompany the local Fire Department Chief/Inspector during site visits. The owner/operator of the Utility-Grid Wind Energy System shall comply with all applicable laws regarding those inspections.
- 27. Surety Bond and Decommissioning Requirements
 - a. The applicant shall submit a plan describing the intended disposition of the Utility-Grid Wind Energy System at the end of its useful life and shall describe any agreement with the landowner regarding equipment removal upon termination of the lease. Prior to the start of construction, a surety bond or equivalent financial instrument ("Surety Bond") shall be posted and maintained as set forth in section (f) below.
 - b. The Utility-Grid Wind Energy System owner shall complete decommissioning within twenty-four (24) months after the end of the useful life of the Utility Grid wind energy System or within twenty-four (24) months of not correcting a default or other event of noncompliance. Upon request of the owner(s) or the assignee of the Utility-Grid Wind Energy System, and for good cause, the Township Board may grant a reasonable extension of time in which to accomplish decommissioning. The Utility-Grid Wind Energy System will be presumed to be at the end of its useful life if no more than 10% of its cumulative nameplate capacity in commercially viable electricity is available for generation for a continuous period of twelve (12) months. All decommissioning expenses shall be the responsibility of the owner(s).
 - c. Decommissioning shall include the removal of each wind turbine, all electrical components, and associated facilities (such as MET towers) within the footprint of the wind turbine foundation to a depth of seventy-two (72) inches below original grade. Any foundation shall be removed to a minimum depth of seventy-two (72) inches below original grade, or to the level of bedrock if less than seventy-two (72) inches below original grade, provided, however, that the land owner may submit a request allowing concrete foundations to be left for other uses, subject to the approval of the township Zoning Administrator. Following removal, the location of any remaining turbine foundation shall be identified on a map as such and recorded with the deed to the property with the Sanilac County Register of Deeds.
 - d. All access roads to the Utility-Grid Wind Energy System shall be removed, cleared and graded by the facility owner(s), unless the property owner(s) 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.
 - e. The site and any disturbed earth shall be stabilized, graded and cleared of any debris by the owner of the Utility-Grid Wind Energy System or its assigns. If the site is not to be used for agricultural practices following removal, the site shall

be seeded to prevent soil erosion, and restored to its condition existing prior to any construction activity, unless the property owner(s) requests in writing that the land surface areas not be restored.

- f. In addition to the requirements listed previously, the Utility-Grid Wind Energy System shall also be subject to the following:
 - 1. If the Utility-Grid Wind Energy System owner fails to complete decommissioning within the period prescribed above including any extensions, the Township may designate a contractor to complete decommissioning with the expense thereof to be charged against the decommissioning Surety bond.
 - An independent and certified professional engineer shall be retained by the Owner(s) to estimate the total cost of decommissioning ("Decommissioning Costs"). These estimates shall be submitted to the Township Zoning Administrator prior to the start of construction and every fifth year thereafter and the Surety bond amount shall be adjusted accordingly.
 - Prior to the start of construction of the Utility-Grid Wind Energy System, the applicant shall post and maintain decommissioning funds in an amount equal to one and a quarter to one and a half times the Net Decommissioning Costs, as determined by the certified professional engineer pursuant to number 2 above.
 - 4. Decommissioning funds shall be in the form of a Performance Surety Bond or equivalent financial instrument made out to the Township and determined to be acceptable by the Township Board.
 - A condition of the Surety Bond shall be notification by the surety company to the Township Zoning Administrator thirty (30) days prior to its expiration or termination.
 - 6. Failure to keep the Surety Bond in effect while Utility-Grid Wind Energy System is in place shall constitute a violation of the permit. If a lapse of the Surety Bond occurs, the Township may take action up to and including requiring cessation of operation of the Utility-Grid Wind Energy System until the Surety Bond is restored.
 - 7. The surety company shall pay over to the Township the decommissioning funds when the Township has demonstrated that decommissioning has not been satisfactorily completed as required herein.
 - The Surety Bond shall be terminated when the owner(s) has demonstrated and the Township concurs that decommissioning has been satisfactorily completed in accordance with the plan submitted under section 27 (a) above.
- 28. Complaint Resolution. Should an aggrieved property owner allege that the Utility-Grid Wind Energy System is not in compliance with either the noise or the shadow flicker requirements of this Zoning Ordinance, the procedure shall be as follows:
 - a. Noise Complaint
 - 1. Both the Utility-Grid Wind Energy System Owner(s) and the Lamotte Township Planning commission shall be notified in writing regarding concerns about noise level.
 - 2. If the complaint is deemed sufficient by the Planning commission to warrant an investigation, the Planning Commission shall notify the Utility-Grid Wind Energy System Owner(s) and shall make a recommendation that the Board of Trustees will require the aggrieved property owner to put down a deposit of \$250.00 with the balance due when the noise level test has been conducted by an independent qualified acoustic technician approved by Lamotte Township to determine compliance with the requirements of this Zoning Ordinance. Such testing shall be performed in accordance with the requirements of Subsection 19 herein and advance notice of such testing will be provided to

the Owner(s). Nothing in this subsection shall be construed as prohibiting the Owner(s) from performing its own noise level tests as part of its investigation into said noise complaint.

- 3. If the test indicates that the noise level is within Zoning Ordinance noise requirements, the Board of Trustees will use the deposit to pay for the test.
- 4. If the test indicates that the Utility-Grid Wind Energy System Owner(s) is in violation of the Zoning Ordinance noise requirements, the Owner(s) shall be provided with a copy of the test results and be allowed to perform their own noise level test prior to reimbursing the board of Trustees for the noise level test. The Owner(s) may present their findings to the Planning Commission for a final determination of compliance or violation. If the Planning Commission finally determines that a violation exists then the Owner(s) shall take immediate action to bring the violating turbine(s) within the Utility-Grid Wind Energy System into compliance which may include ceasing operation of said turbine(s) until Zoning Ordinance violations are corrected or the impact has been mitigated to the complainant's satisfaction. The Board of Trustees will refund the deposit to the aggrieved property owner upon the final determination of violation.
- b. Shadow Flicker Complaint.
 - 1. Both the Utility-Grid Wind Energy System Owner(s) and the Lamotte Township Planning Commission shall be notified in writing regarding concerns about the amount of shadow flicker.
 - 2. If the complaint is deemed sufficient by the Planning Commission to warrant an investigation, the Planning Commission shall notify the Utility-Grid Wind Energy System Owner(s) and shall make a recommendation that the Board of Trustees require the Owner(s) to provide a shadow flicker analysis of the turbine as constructed to determine compliance with the requirements of this Zoning Ordinance.
 - 3. If the Utility-Grid Wind Energy System Owner(s) is in violation of the Zoning Ordinance shadow flicker requirements, the Owner(s) shall take immediate action to bring the turbine(s) into compliance which may include ceasing operation of said turbine(s) until the Zoning Ordinance violations are corrected or the impact has been mitigated to the complainant's satisfaction, see subsection 22.
- c. The Township Board shall appoint a three-member Complaint Resolution Committee to oversee and participate in all complaint resolution discussions or meetings between the Township property owner or resident and the Wind Energy Facility Owner and/or Operator. The Complaint Resolution Committee shall consist of one (1) member of the Township Board, one (1) member of the Township Planning Commission, and one (1) qualified elector chosen from the Lamotte Township community.

The undersigned Supervisor and Clerk of the township of Lamotte hereby certify that this Zoning Ordinance Amendment was duly adopted by the Township board at a meeting held on the 15th day of December 2014, and was published in the Sanilac County News on the 24th day of December, 2014. This Zoning Ordinance Amendment shall take effect seven (7) days after said date of publication.

James L D'Arcy, Township Supervise

J Boyd King, Township Clerk